

## Corporate governance, audit committee and the internet reporting of strategic information by UAE non-financial listed firms

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**Abstract:** The study examines the effect of internal governance mechanisms on the Internet Reporting of Strategic Information (IRSI) in an emerging market economy, the United Arab Emirates (UAE) It relies on the agency theory and the innovation diffusion theory to generate testable hypotheses and augment the explanation behind the empirical results. The study applies a multiple regression on a sample of 37 non-financial firms listed on Abu Dhabi and Dubai financial markets to test the association between audit committee, independent non-executive directors, frequency of board meetings, type of external auditor and IRSI while controlling for firm size, level of risk, firm complexity and firm profitability. The empirical findings show that IRSI is positively and significantly associated with audit committee quality, firm size, level of risk and firm complexity. The findings also show that IRSI is negatively and significantly correlated with the frequency of board of directors meetings. These empirical findings assist UAE regulators and international business community with insights concerned with governance-IRSI relationship. The findings also reveal that board directors and members in audit committee may contribute to the diffusion of innovative disclosure practices such as IRSI. The study is one of few studies that combine the agency theory and innovation diffusion theory to examine the relationship between internal governance mechanisms, particularly audit committee, and the IRSI in an emerging market economy such as the UAE.

**Keywords:** audit committee, governance, agency theory, innovation diffusion theory, online reporting, “strategy” disclosure, UAE

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## **1. Introduction**

Despite the existence of several studies that examine internet reporting in different Western and European countries (e.g. Debreceny *et al.*, 2002 in the USA; Abdelsalam *et al.*, 2007 in the UK; Marston, 2003 in Japan; Marston & Polei, 2004 in Germany; Oyelere *et al.*, 2003 in New Zealand; Xiao *et al.*, 2004 in China; Boubaker *et al.*, 2011 in France): few studies paid attention to the internet reporting of strategic information (Santema & Rijt, 2001; Santema *et al.*, 2005; Garcia-Sanchez *et al.*, 2011) In the context of emerging economies, some studies investigate the internet reporting in Gulf and Middle East countries such as (Hussainey & Al-Nodel, 2008 in Saudi Arabia; Ezat & El-Masry, 2008 in Egypt; Al-Htaybat, 2011 in Jordan; Oyelere & Kuruppu, 2012 in the UAE) Yet there is a paucity of research that examines the internet reporting of strategic information in emerging market economies such as the UAE. In the context this shortage, this paper, assesses the extent to which UAE non-financial listed firms voluntarily communicate strategic information over the internet and, second, examines the influence of internal governance mechanisms and other firm-specific characteristics on the extent of that disclosure.

This study contributes to the existing literature on corporate communication using online reporting (e.g. Xiao, *et al.*, 2004; Capriotti & Moreno, 2007; Garcia-Sanchez *et al.*, 2011; Hashim *et al.*, 2014) Xiao *et al.* (2004) investigated the relationship between corporate characteristics and the online reporting of the content of annual reports for a sample of Chinese firms. Capriotti and Moreno (2007) examined the presence and the organization of corporate responsibility on the websites of firms listed on Spanish stock market. These studies do not underscore the communication of strategy related information over the internet. They also overlook the influence of corporate governance on the online reporting. In filling this gap, Garcia-Sanchez *et al.* (2011) and Hashim *et al.* (2014) examined the association between corporate governance and IRSI for samples of Spanish firms and Malaysian firms respectively. Yet both studies do not examine the effect of the audit committee on the IRSI as the case of the current study. In the context of the UAE, Oyelere and Kuruppu (2012) explored whether UAE firms operate websites to communicate financial information to different stakeholders. Hence, the influence of audit committee, as one of governance mechanisms, on the online reporting in emerging economies is under researched, the matter that makes the issue of corporate governance and the IRSI worth an examination in the UAE.

Furthermore, many of internet reporting studies rely on the economic-based theories – such as agency theory, signaling theory and political cost theory – to examine the association between internet reporting and firm-specific characteristics such as firm size, profitability and leverage (e.g. Craven & Marston, 1999; Ettredge *et al.*, 2002; Debreceny *et al.*, 2002; Oyelere *et al.*, 2003) This study utilizes a

multi-theoretic perspective to study the association between internal governance mechanisms, firm-specific characteristics and the IRSI in UAE. The study uses a complementary perspective that cross-fertilizes ideas from economic-based theories, known as Positive Accounting Theory (PAT) and innovation diffusion theory. The use of such a multi-theoretic approach is recommendable to explain the empirical findings in an emerging market economy such as the UAE.

The UAE provides an appropriate context to this study for several reasons. First, the UAE enacted a corporate governance code that mandatorily requires the formation of audit committees (ACs) that follow world-wide AC “best practice” (2007 amended 2009) Second, the UAE has pumped huge investment in the Information Technology (IT) infrastructure whereby the country is ranked as the 24 of 142 countries in IT developments (The Global Information Technology Report 2010-2011 Report; World forum, 2011) Therefore, it is worth examining the association between various dimensions of governance and the IRSI in UAE. Finally, the study findings are in the interest of the UAE policymakers and regulators as well as other countries, especially the Gulf Cooperation Council and Middle East countries because they share similar social, political and economic contexts.

The study is organized in seven sections. After this introduction, section two defines the Internet Reporting of Strategic Information (IRSI) Section three discusses the study theoretical framework. Section four presents the UAE institutional context. Section five discusses the hypotheses development. Section six discusses the study methodology. Section seven discusses and explains the empirical findings, before the conclusion section.

## **2. Internet Reporting of Strategic Information (IRSI)**

IRSI is defined as the integration of technology, especially the internet, in the reporting activities related to the firm’s strategies, policies, plans, market position, products and customers (Santema *et al.*, 2005; Garcia-Sanchez *et al.*, 2011) Most firms make significant investments on their websites to: 1) improve the communication with investors; 2) publish information on timely basis, 3) enable information users to obtain complete information and consequently, 4) enhance investors’ judgment and decision-making process (Debrecey *et al.*, 2002; Marston, 2003; Marston & Polei, 2004; Oyelere *et al.*, 2003; Xiao *et al.*, 2004) Owing to these benefits, the IRSI is becoming an important corporate practice (Ibid.) The IRSI reduces agency costs expressed in preventing managers from using their discretion to pursue their own interests. Yet it may lead to significant competitive disadvantages since the firm may disclose what it intends to do in the future. (Lim *et al.*, 2007)

Although there is no definitive framework for the IRSI, several scholars indicated elements of what they termed as “strategy” related information. For example, Lim *et al.*, (2007) argue that non-financial information, such as corporation’s missions, visions, goals, outcomes, types of customers, different markets and products, is the most notable type of information when the firm managers communicate with the firm stakeholders. Corporate managers’ ultimate goal of publishing this type of “strategic” information is to distinguish their corporations from their competitors (Santema & Van de Rijt, 2001) Likewise, the AICPA reports underlying themes encourage the firm managers to disclose information about their firms’ plans, opportunities, strategies, and other non-financial measures of key business processes in an attempt to align firms’ annual reports with the needs of the financial reports’ users (AICPA, 1994; The Jenkins Committee Report published in 1994) Corporate managers are encouraged to supply what Santema *et al.* (2005, p. 35) define as “strategy disclosure” “*The revelation of information an organization decides to share with its stakeholders on the strategy it is pursuing and going to pursue in the future*”. Hence, the IRSI is a special type of voluntary disclosure that a firm may use to disseminate information about its future plans and strategic goals.

“Strategic” related information can be published through the firm’s annual reports or the firm’s websites. Although the importance the firm’s annual report as means of information disclosure has been well documented in the academic literature (Hassan, 2008; 2012; 2014): Lodhia *et al.* (2004) argue that technological developments together with the emergence of network communication undermined the traditional annual report disclosure communication. This is because the annual reports disclosure has become less timely, less interactive and less accessible in comparison to internet reporting. Accordingly, internet reporting, and the IRSI is no exception, has become a powerful force to evolve traditional disclosure because it is expected to provide a remedy for the recent principal problems of printed annual reports. (Xiao *et al.*, 2002; Jones & Xiao, 2003)

### **3. Theoretical framework**

The economic-based theories suggest that accounting disclosure, and the IRSI is no exception, is likely to reduce cost of capital, reduce information asymmetry and highlight (signal) certain information to stakeholders (Healy & Palepu, 2001; Gallego-Alvarez *et al.*, 2008; Cormier *et al.*, 2005; Lim *et al.*, 2007; Boubaker *et al.*, 2012) Corporate managers are likely to disclose “strategy” information over the internet when the benefits of that disclosure exceed its total costs. Reducing information asymmetry is another motive behind the disclosure of strategic information (Lim *et al.*, 2007; Gallego-Alvarez *et al.*, 2008; Boubaker *et al.*, 2012) Managers disclose strategic information over the internet to reduce the information

asymmetry between informed and uninformed investors and consequently enhance their firms communication processes (Gallego-Alvarez *et al.*, 2008; 2011; Garcia-Sanchez *et al.*, 2011) Corporate managers also use the IRSI to make different stakeholders aware of their managerial ability (Healy and Palepu, 2001; Chalmers and Godfrey, 2004) The provision of “strategy” related information on the firm website not only signals a good corporate image but also avoid misevaluation of the management actions. According to signaling theory, the IRSI is one of the means for corporate managers to distinguish themselves and their firms from others on dimensions such as quality, performance and expected future expansion (Gallego-Alvarez *et al.*, 2008; 2011; Garcia-Sanchez *et al.*, 2011; Boubaker *et al.*, 2012)

Lodhia *et al.*, (2004) argue that technological developments together with the emergence of network communication undermined the traditional annual report disclosure communication. This is because the annual reports disclosure has become less timely, less interactive and less accessible in comparison to internet reporting. Accordingly, internet reporting has become a powerful force to evolve traditional disclosure because it is expected to provide a remedy for the recent principal problems of printed corporate reporting (Xiao *et al.*, 2002; Jones & Xiao, 2003) In the context of IRSI, these benefits are contrasted to the competitive disadvantages because firms may disclose what they intend to do in the future (Lim *et al.*, 2007) These unique features of the IRSI not only render the costs and benefits of adopting this type of disclosure uncertain but also suggest that the adoption of this technology-based innovation involves complex tradeoffs beyond the economic factors introduced under the banner of economic-based theories. Consequently, the literature on the innovation diffusion theory can enrich the explanation behind the extent of the disclosure of “strategic” information over the internet.

The innovation diffusion theory complements economic-based theories explanations of accounting disclosure by highlighting the role of agents in the diffusion of the IRSI. The diffusion of IRSI is defined as a process by which information about that technological-based reporting is communicated across different companies over time. Diffusion occurs when people possessing the knowledge about that technological-based disclosure moves from one specific social context - usually a firm- to another firm (Bao & Bao, 1989: 304; BjØrnenak, 1997: 4) Some of the organizational members may have the knowledge about a certain accounting innovation and diffuse (i.e. share) this information with other organizational members. (Hussein, 1981) The firm’s auditor, the independent non-executive directors and regulators are different groups that contribute in the diffusion of an innovation such as the IRSI (Clarke *et al.*, 1999) BjØrnenak (1997) argues that these groups are defined as change agents. These agents’ main role is to promote for new ideas such as the IRSI.

Carpenter and Feroz (2001) argue that firms adopt some practices, like the IRSI, because of social pressures exist in the society through the firm stakeholders such as auditors, regulators and innovation change agents. Accordingly, firms' managers comply with these pressures in order to obtain social legitimacy (Touron, 2005; Hassan, 2008) DiMaggio and Powell (1983) argue that innovation is diffused through coercive, normative and mimetic isomorphic mechanisms. Coercive isomorphism is illustrated by the influence of the state or government agencies on firms through the enactment of legislation. It is the process by which a firm is pressured by powerful external organizations, such as the government and providers of capital, to adopt an innovation irrespective of its benefit to the firm. Normative isomorphism stems primarily from the professions. The professional associations' rule of conduct exerts pressure to adopt certain practices, like the IRSI, across different firms operating in the same field. Finally, mimetic isomorphism reflects the desire to mirror others' practices that are recognized as both successful and worthy adopting.

#### **4. The UAE institutional context**

The UAE is one of six countries constituting the Arabian Gulf region (i.e. Bahrain, Oman, Qatar, Saudi Arabia, UAE and Kuwait) The country is a member of Gulf Confederation Council (GCC) and geographically located in the western region of Asia. Like other Gulf region counties, the UAE's major economic resource is crude oil, which constitutes almost 10% of the world's reserves (Aljifri & Khasharmeh, 2006) Although Gulf region countries share similar characteristics in terms of culture, customs, religion and language, they are not homogeneous in terms of their levels of corporate governance and institutional developments (Baydoun *et al.*, 2013; Shehata, 2015) Each country has its unique mixture of intra-country specific legal, economic, social and political institutions (Hassan, 2008; 2014) Each country has its uniqueness and the UAE is no exception. The UAE has witnessed a remarkable socio- economic growth over the last few years and therefore, the country has become a key focus for personal and institutional investors (Obay, 2009)

The UAE actively established commercial partnerships with Western and European countries in order to benchmark international best practices in different fields. It maintained a strategy of "marketing the country as an attractive destination for business as well as residence" (Irvine, 2008; Hassan, 2014) As an emerging capital market with ambitious plans to be recognised internationally, the UAE engaged in huge developments in various sectors. One aspect of these developments is that the UAE has mobilized the country different sectors to apply the latest Information Technology (IT) The country officials consider that IT is an essential element for a repaid development and for benchmarking international best practices. For

example, the government funded Dubai Internet City which is a free trade zone created specifically for e-commerce. The UAE government also funded Dubai Silicon Oasis which is a free trade zone and integrated technology park (The Global Information Technology Report 2010-2011 Report). These projects have ranked the UAE as the 24 of 142 countries. (World Forum, 2011)

The UAE also established Information Communication and Technology (ICT). Fund by mid of 2005. The underlying aim of that fund is to use advanced communication technology in promoting a culture of entrepreneurship. The Fund's key objective is to strengthen the UAE global leadership position through IT-based investing ideas that contribute to the intellectual growth of the sector. (UAE ICT Fund Report, 2011) These technological developments were executed concurrently with the country institutional developments related to the adoption of proper corporate governance standards. (Hassan, 2012; 2014)

As part of the UAE strategy towards harmonizing the country governance practices with that of international best practices, the country established the Hawakama (Governance) Institute in 2006 in association with a number of international agencies such as Organization of Economic Cooperation and Development (OECD) (Baydoun *et al.*, 2013) Since that time, the UAE has attempted to develop its regulatory environment while harmonizing different national legislations and guidelines with the requirements of international best practices of corporate governance (Hassan, 2012) In early 2007, the country successfully aligned its legal and statutory requirements with international best practices of governance under the banner of the UAE code of corporate governance (ES&CMA decision R/32 of 2007) This code comprehensively refines and delineates elements of corporate governance fragmentally introduced by the UAE Corporation Act of 1984, the UAE central bank guidelines and the ES&CMA decision no. 3 of 2000 concerning transparency and disclosure.

Similar to other GCC countries (Baydoun *et al.*, 2013; Shehata, 2015): The UAE code outlines specific and detailed corporate governance requirements that corporations must comply with in order to meet what the code states "institutional governance discipline criteria". The code also requires listed corporations to prepare, as an integral part of annual reports, a governance report. This report should outline, as the code states, information about board of directors' duties, composition, structure, and the selection process of directors. The report should also include information about board committees, internal control systems, directors' remuneration, risk management, shareholders rights and rules governing the appointment and discharging of the external auditors. (Hassan, 2012) The UAE set a timeframe to implement and enforce its code of governance across the UAE listed corporations. The country specified a transitional period until May 2010 in which all listed UAE corporations must comply with the code of governance requirements otherwise penalties are charged in case of non-compliance

(ES&CMA decision no 518 of 2009). The UAE code is, therefore, the strictest one across Gulf region countries since it uses comply/penalize approach while other GCC countries apply comply/explain approach. (Shehata, 2015)

In 2009, the UAE amended its code of governance in the light of practical problems encountered during the transition period. One of these problems is that most of Gulf corporations, and UAE corporations are no exception, are highly controlled by a few controlling shareholders or dominated by family ownership (Baydoun, *et al.*, 2013). Therefore, there is a rarely any separation between the ownership and management. This particular institutional characteristic undermines the importance of monitoring and controlling via non-executive directors. Compared to Western and European countries wherein diverse shareholders exist and consequently managers-owners conflict of interest is resolved via monitoring and controlling mechanisms such as non-executive and independent directors, the Gulf region institutional feature mobilizes corporations to overlook that issue due to the high level of family ownership and consequently the lack of conflict of interest between ownership and management. (Baydoun, *et al.*, 2013)

Another major problem facing the implementation of corporate governance codes in GCC countries is the underdevelopment of capital markets in these countries (Hassan and El-Kelish, 2012; Shehata, 2015). Despite the importance of capital markets as an external governance mechanism leading to enhancing wealth creation for shareholders and improving the control over the management opportunistic behaviour, GCC countries capital markets are still in their early stages. Compared to other GCC countries, the UAE has three capital markets: the Abu Dhabi Stock Market (ADX), Dubai Financial Market (DFM) and the Dubai International Financial Stock Exchange (DIFX) currently known as NASDAD Dubai (Oyelere & Kuruppu, 2012; Hassan & El-Kelish, 2012; Shehata, 2015).

The Emirates Securities and Commodities Market Authority (ES&CMA) regulate both the ADX and the DFM, yet the DIFX has a separate and independent regulator – the Dubai Financial Services Authority (DFSA). The ES&CMA enforces the application of best governance practices on all listed non-financial companies, yet DFSA enforces the compliance with principles of good governance on the financial sector, mainly - banks, insurance companies, asset management and investment companies ([www.dfsa.ae](http://www.dfsa.ae)). The existence of three capital markets is a sign of progressive market operations, yet investors can observe that the ES&CMA did not pass a formal code governing the takeover processes, the matter that may expose distressed non-financial firms to pressures from rivals to merge together – i.e. hostile takeover. By contrast, there is a takeover code which applies to listed firms on the NASDAD Dubai (Hassan & El-Kelish, 2012).

Although GCC countries codes of governance are similar (Shehata, 2015): the survey results by Boydoun *et al.* (2013) show variations in practicing these codes across GCC countries. Boydoun *et al.* (2013) surveyed the practice of corporate governance underlying principles of: 1) shareholder rights and obligations, 2) internal processes including board composition, reward system and board committees and 3) transparency including disclosure and external audit. The survey shows that the UAE earned the highest score in terms of shareholder rights and obligations, yet it scored lower, the third, in terms of internal process and transparency.

Like other GCC countries, one of the key aspects of the UAE code is that it pays attention to the composition of the board of directors. In addition to separating the chairman role from the CEO role, the UAE code states that the majority of board members must be non-executive directors, one third of the board members must be independent directors; and the remainder of the board may be executive members (UAE corporate governance code, 2009). In the UAE, finding qualified, experienced independent and/or non-executive directors is a major issue because of the small population of potential directors, the matter that makes it difficult to find an individual who is genuinely independent and significantly contributes to governance processes. (Baydoun *et al.*, 2013: 17) Nevertheless, both independent directors and non-executive directors can be working in other firms and therefore they may possess the knowledge about new innovations such as the IRSI. Accordingly, they can act as change agents promoting for new ideas.

The UAE code defines both the non-executive directors and independent directors. The non-executive director is a director who is not dedicated on a full time basis to the management of the firm or does not receive a monthly or annual salary from the firm. The independent director is a director who neither himself/herself, his/her spouse nor first-degree relative is a member of the executive management of the firm during the last two years or has a relationship that creates financial deals with the firm, parent firm, sister firm or allied firm during the last two years if the total amount of these transactions exceeds 5% of the paid-up capital of the firm or five millions Dirhams – i.e. UAE currency. Compared to other GCC countries except Bahrain, one of the unique feature of UAE code is that it defines material business relationship for board member independency in financial terms whereas most GCC countries require independence of board members in terms of being former employees or senior managers. (Shehata, 2015: 328)

The UAE code also stipulates that the board of directors shall form an audit committee consisting of non-executive board members, provided that majority of the committee's members shall be independent members. The Committee shall consist of at least three members, of whom a member shall be an expert in accounting affairs. The code requests that the audit committee shall meet at least once on a quarterly basis or whenever necessary. Like other GCC countries, the

UAE code delineates audit committee duties in terms of monitoring the integrity of the financial statements, the effectiveness of the internal control function, the appointment of external auditor and overseeing the risk management systems. (Shehata, 2015)

This study examines the effect of internal governance mechanisms on the IRSI and has faced several challenges. One of these challenges is that it examines the governance-IRSI association for a sample of annual reports published by December 2010, a few months after the completion of the UAE specified transitional period (i.e. May 2010). The matter that had some implications in achieving a coherent set of data related to the classification of independent directors and non-executive directors. Reading the UAE firms' corporate governance report shows that some firms reported three categories of board members: non-executive, independent and executive directors. While other firms reported two categories: executive and independent non-executive directors, since the independent directors can also be non-executive directors according to the UAE code. Some firms reported the following categories of board members: independent non-executive, executive and independent directors. This inconsistency may lead to financial statement users' confusion and casts doubt on the quality of published information particularly it is hard to think of a situation in which an independent director is not a non-executive one.

Since the study underlying assumption is that both independent and non-executive directors have connections with other firms and can act as change agents promoting for new ideas such as the IRSI, the use of independent non-executive directors as a category seemed appropriate since it fits with the study objectives and helps in creating a coherent set of data for statistical analysis. Nevertheless, one must recognize that the quality of governance information published in the UAE firms' annual reports has improved compared to the quality of information published during the transition period to enforce the UAE code of governance. (see Hassan, 2012)

Another challenge is the operationalization of the audit committee as an internal governance mechanism. This is because the UAE adopted a comply/penalize approach to enforces its code of governance. Under this a stringent approach the examination of a single characteristic of audit committee such as the composition or independence may not be adequate since the possibility of variation across firms is low. Therefore, the study operationalizes the audit committee though developing an audit committee quality index which will explain later in section 6.2.

## 5. Hypotheses development

### Independent non-executive directors

The literature well documents that board members' independence is an important element in monitoring the corporate financial accounting process. (Klein, 2002; Hanniffa & Cooke, 2005; Garcia-Sanchez *et al.*, 2011) For example, Beasley (1996) provides evidence that the proportion of independent directors is positively related to the board's ability to influence disclosure decisions. Chen and Jaggi (2000) find a positive relationship between the proportion of independent non-executive directors and the firm disclosure by Hong Kong listed firms. Ajinkya *et al.* (2005: 371) provide evidence on the positive relation between board independence and level of disclosure. Cheng and Courtenay (2006) provide further evidence that firms with a higher proportion of independent non-executive directors have significantly higher levels of voluntary disclosure than those firms with balanced boards. Xiao *et al.* (2004) also conclude that online reporting is positively associated with the proportion of independent non-executive directors. The innovation diffusion theory also supports such an expectation by seeing independent non-executive directors as change agents. Since those directors would be working in other firms and may have prior experience of IRSI, they can suggest the adoption of the IRSI. Therefore, the study hypothesizes:

*H1: The extent of IRSI is positively associated with the proportion of independent non-executive directors on the board.*

### Board meetings

According to agency theory, the frequency of board meetings is expected to have a positive effect on the strategic disclosure (Garcia-Sanchez, 2011) Frequent meetings provide a meaningful forum of communication. Therefore, corporate directors and managers would be having a sufficient time to exchange ideas and discuss issues of strategic nature. Garcia-Sanchez *et al.* (2011: 478) argue that active boards are those who meet most frequently in order to fulfill their duties. Lipton and Lorsch (1992) argue that frequent meetings signal the vigilance of the board whereby more time is devoted for consultation and the implementation of the corporate strategy. The innovation diffusion theory also supports such an expectation. Since one third of the board members must be independent directors (UAE code of governance, 2009): the more frequent board meetings will lead to better chances for those independent directors to promote for new ideas such as the IRSI. Therefore, the study hypothesizes:

*H2: The extent of IRSI is positively associated with the frequency of the board of directors' meetings.*

### **The type of auditor**

Big audit firms are expected to maintain more independent auditing service and more strict in complying with audit standards than smaller audit firms (DeAngelo, 1981; Malone *et al.*, 1993) Since big audit firms have greater incentives to demand higher quality disclosure, corporations appoint these firms in an attempt to signal their desires to abide by the demand of higher quality disclosure (Healy & Palepu, 2001) Several studies provide empirical evidence confirming that the level of disclosure is positively related to firms employing big audit firms (Inchausti, 1997; Klein, 2002) Likewise, Xiao *et al.* (2004) and Debreceeny *et al.* (2002) argue that compared to domestic auditors, large auditors especially the Big 4 international audit firms are more likely to facilitate the diffusion of innovative practice such as the IRSI. They add that auditors' reputation provides creditability of that type of reporting. Extending this line of reasoning to the IRSI, the study hypothesizes:

**H3:** *The extent of IRSI is greater among firms audited by the Big-4 audit firms than by non-Big4 audit firms.*

### **Audit Committee Quality**

Barua *et al.* (2010) argue that the audit committee (AC) enhances the reporting processes and reduces information asymmetries between management and stakeholders. Li *et al.* (2012) add that AC plays an important role in enhancing the board of directors' effectiveness in monitoring the firm management. Empirical evidence suggests that the AC composition has a positive effect on the quality of disclosure. For example, the existence of independent members and financial experts in the AC is found to be positively associated with the perceived financial reporting quality (Jamil and Nelson, 2003; Ika *et al.* 2012) Prior literature also suggests that AC characteristics influences the committee's ability to effectively execute its duties (Abbott *et al.*, 2003; Carcello & Neal, 2003; Kelton & Yang, 2008) Li *et al.* (2012) argue that independent ACs are more likely to be free from management influence and therefore these committees ensure the quality and credibility of the reporting process. Likewise, accounting experts have also been associated with higher quality financial reporting (Barua *et al.*, 2010) Kelton and Yang (2008) find a positive association between a more diligent AC (measured by size, frequency of meetings, independence, number of members with financial expertise) and internet reporting.

Since the majority AC members are likely to be independent directors (UAE code of governance 2009): the innovation diffusion theory also supports Audit Committee Quality (ACQ)-IRSI positive relationship. The existence of those independent directors in the AC is expected to facilitate the diffusion of innovative practice such as the IRSI since those directors may have prior knowledge of IRSI from working in other firms. In line with the international trend, the UAE code

(2009) instates a regime wherein listed firms must form diligent and vigilant ACs that apply, what Rainsbury *et al.* (2008) call, “best practices AC”. The UAE code of corporate governance sets principles of AC “best practices”. These principles state that ACs should: 1) comprise of non-executive directors, 2) have a majority of independent directors, and (3) have a member who is an accounting expert. As part of these best practices, the code requests AC to hold a minimum of four meetings a year and be comprised of at least three members. Therefore, the study hypothesizes that:

**H4:** *The extent of IRSI is positively associated with the firm AC quality.*

## **6. Methodology**

### **6.1 Sample**

The study relies on a sample of 37 non-financial firms listed on Dubai and Abu Dhabi financial markets for the year ending December 31 2010. Despite being a small sample size, this sample represents 88 percent of UAE non-financial listed firms. Due to the weak websites, and insufficient published information on these websites, some firms were removed. To achieve the study objectives, data was collected from three main sources: 1) firms’ websites, 2) firms’ annual reports published by the end of 2010, and 3) firms’ corporate governance reports published by the end of 2010. Firms’ websites were checked against the IRSI index (appendix 1) which was crafted solely to measure the variation in that type of disclosure across UAE non-financial listed firms. The website of each firm was printed and checked against the IRSI index over a period spanning over May 2011 - August 2011. The underlying point, here, is that both board members and members of AC discuss, recommend and make decisions regarding the IRSI during 2010, yet the results of their discussions are put into effect on later dates. In other words, there will be a time lag between directors’ recommendations and the implementation of these recommendations. Accordingly, board members and ACs perform their tasks during 2010 but the effect of their recommendations is expected to be during 2011.

### **6.2 Research design and variables measurements**

The study applies a cross-sectional regression analysis. It tests the relationship between the IRSI, as a dependent variable, and two sets of independent variables: first, AC quality variables, board independence variables and, second, firm-specific characteristics variables. The following subsections discuss how the study’s variables are measured.

*6.2.1 The dependent variable: the IRSI index*

The study uses content analysis to craft an index that quantifies the qualitative IRSI disclosure. It codifies firms' websites textual information into different categories recommended by prior studies. The study undertakes an extensive review of prior studies to craft an IRSI index and to develop a list of IRSI index items (i.e. sentences) (Santema *et al.*, 2005; Garcia-Sanchez *et al.*, 2011; Padia & Yasseen, 2011; Santema & Van de Rijt, 2001; Hashim *et al.*, 2014) Although, the use of sentence, as a unit of analysis, is reliable than using word, such a use was supported by examining the thematic content of each sentence since the same idea of a strategic disclosure item may be described using different sentences (Hasseldine *et al.*, 2005; Hassan, 2014) Then the total number of sentences (i.e. items) is used to quantify the disclosure volume. The index is crafted solely for the purpose of measuring differences in IRSI levels across listed non-financial firms. In other words, the index is a yardstick to measure the level of "strategy disclosure". Appendix 1 outlines the IRSI items.

Following to the review of prior studies, 11 items were determined and checked against firms' websites. This checking process modified the index's items while harmonizing the index with the UAE context. The modification processes led to: first, eliminating some items (2 items) and, second, adding new items (6 items) accordingly, the maximum score includes 15 items. The added six items are: 1) published in firms' websites, 2) "strategy" related items and 3) broadly scored by prior studies that indirectly addressed the issue of strategy disclosure (White, 1996; Depoers, 2000; Petersen & Plenborg, 2006; Lim *et al.*, 2007; Gallego Álvarez *et al.*, 2008; 2011) The matter which establishes a credibility and reliability of the IRSI disclosure index since it is being developed after looking at numerous previous studies in various countries while considering the UAE context. (see Appendix 1)

The inclusion/exclusion of an item in the maximum score is based on the ground that it is disclosed by at least two firms in the sample. In other words, an item that is not disclosed by all firms, or only by one firm, is excluded from the expected score. Therefore the inclusion of the six items, scored during checking process, seems appropriate an approach to harmonize the IRSI on index-based prior studies with the UAE context. The IRSI index coincides with other studies that quantify the extent of voluntary disclosure. (e.g. Barako *et al.*, 2006; Hassan, 2009; 2012)

One of the important issues during crafting the IRSI index is whether some items should be weighted more heavily (i.e. important) than others. In accounting research, both weighted and un-weighted disclosure indexes are used (e.g. Hassan; 2009; 2012) On the one hand, the use of weighted disclosure index has been criticized because it involves a bias towards a particular user group. On the other

hand, the un-weighted index, known as dichotomous scores where 0 is awarded for non-disclosed items and 1 is awarded for disclosed items, has been criticized on its assumption that all index items have equal importance. Nevertheless, various studies argue that the use of un-weighted or weighted indices do not significantly affect the results and considered as highly subjective (Al-Razeen & Karbhari, 2004; Alsaeed, 2006; Lopes & Rodrigues, 2007) For the purpose of this study the un-weighted index was chosen. This is because the study does not focus on one particular user group but rather all users of the IRSI. Therefore, there is no need to confer different importance levels to the disclosure items. The contents of each firm's website are compared to the items listed in Appendix 1 and coded as 1 if thematically disclosed or 0 if not disclosed.

### *6.2.2 The statistical model and independent variables*

The relationship between independent variables, i.e. ACQ, board independence, firm-specific variables, and the IRSI is tested through the model presented below:

$$IRSIindex = \beta_0 + \beta_1 INED + \beta_2 BODMeeting + \beta_3 AUD + \beta_4 ACQ + \beta_5 SIZE + \beta_6 OrgCom + \beta_7 RISK + \beta_8 profitability$$

The study relies on prior studies to measure ACQ, board independence and firm-specific characteristics variables (e.g. Gul & Leung, 2004; Haniffa & Cooke 2002, 2005; Cerbioni & Parbonetti, 2007; Li *et al.*, 2008; 2012; Cheng & Courtenay, 2006; Kelton & Yang, 2008; Garcia-Sanchez *et al.*, 2011; Gallego-Alvarez *et al.*, 2008; 2011; Cormier *et al.*, 2005; Lim *et al.*, 2007; Boubaker *et al.*, 2012; Xiao *et al.*, 2004; Chen & Jaggi, 2000; Hashim *et al.*, 2014) Table 1 summarizes the definition, measurement, source of information and predicted sign of all variables utilized in this study. Some of governance variables were not considered because of data unavailability. For example the information about managerial ownership, ownership diffusion/concentration and the presence of shareholder representative on the board was not easy to score. This confirms Baydoun *et al.*, (2013: 17) survey results which found that UAE scores less in in disclosure relating to ownership interests in comparison to other GCC countries.

Although board the size is one of the governance mechanisms, it was not incorporated in the study original regression model for two reasons. First, the board size has been considered in using the percentage of independent non-executive directors divided to the board size to measure the board independency. Second, the study pays close attention to examine the association between change agents promoting new ideas, such as the IRSI, through their connections with other firms and the extent of that disclosure. Therefore, the original regression model includes outside directors, external auditor and the audit committee (wherein the majority are outside directors) as change agent promoting new ideas such as the IRSI.

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Nevertheless, the study incorporates board size in a robustness test in order to corroborate the empirical findings as shown in section 7.4

**Table 1. Variables definition and measurement**

Variables	Predicted sign	Measurement	Sources of information
<b>Dependent variable</b>			
The Internet Reporting of Strategic Information (IRSI)		Un-weighted Index	Firms' websites
<b>Independent variables</b>			
Independent Non-Executive Directors (INED)	+	% of INED to Total # of Board of Directors	Governance Report
Board Meetings (BOD Meetings)	+	Total # of board meeting per year	Governance Report
External Auditor (AUD)	+	Dummy variables: 1 if the auditor is a Big 4 and 0 otherwise	Governance Report
Audit Committee Quality (ACQ)	+	ACQ score (see below)	Governance Report
<b>Control variables</b>			
Firm size (SIZE)	+	Logarithm of the total assets	Annual reports
Firm Complexity (Complexity)	+	Total # of products	Firms' websites
Risk (Risk)	+	Total debt divided to total assets	Annual reports
Profitability (Return on Assets) (ROA)	+/-	Net Income divided to Total Assets	Annual reports
<b>Robustness test</b>			
Board Size (BOD Size)	+/-	Total # of Board of Directors	Governance Report

*6.2.2.1 Audit Committee Quality Measurement*

By mid of 2007, the UAE security market passed a corporate governance code that mandatory requires the formation of ACs that apply best practice. The UAE adopts the US model in which corporate governance rules are mandatory applied. The country does not adopt the UK "comply or explain" approach to corporate governance. This mandatory requirement reduces the likelihood of greater variation in corporate governance structure and practices by UAE listed firms. In this context, the examination of a single characteristic of AC such as the composition or independence may not be adequate to assess the quality of an AC. Therefore, the study utilizes a number of criteria to develop ACQ index. This approach seems an appropriate one to apply because of the UAE stringent corporate governance requirements.

The UAE code of governance states that ACs should: 1) comprise of non-executive directors whereby the majority of these directors are classified as independent directors, 2) have a member who is an accounting expert, 3) AC should hold a minimum of four meetings a year and 4) AC should be comprised of at least three members. The code compels listed firms to form diligent ACs that apply what Rainsbury *et al.*, (2008; 2009) call “best practices” AC. Following Rainsbury *et al.* (2008, 2009) approach, the study relies on the UAE corporate governance principles of “best practices” AC to craft an index that captures ACQ. Therefore the study investigates ACs quality expressed in terms of: 1) the existence of non-executive directors, 2) the percentage of independent directors, 3) the existence of members with accounting expertise, 4) the frequency of meetings and 5) the size of the AC. The ACQ index, therefore, identifies different measures that are consistent with the UAE code of governance.

The first ACQ measure is the existence of NED. As discussed earlier, the UAE firms' corporate governance report shows that some firms reported three categories of AC members: non-executive, independent and independent non-executive, while other firms reported two categories: independent and independent non-executive directors. The study assigns the value of 1 if the AC composition clearly includes and states the category of non-executive director or 0 otherwise. In other words, the study assigns a value of 0 if the firm reported the AC is comprised of independent directors only. The study applied a stringent approach to score this item because the more categories of directors the AC include the better the decisions it takes (Rainsbury *et al.*, 2008, 2009)

The second AC quality measure is AC independence. In this regard, the index assigns a value of 1 if 51% of the AC members or more is independent directors and 0 otherwise. The third ACQ measure is the existence of accounting expertise. The index assigns a value of 1 if the audit committee includes a member who possesses accounting expertise or 0 otherwise. One of the underlying issue, here, is the definition of “accounting expertise” (DeFond *et al.*, 2005; Davidson *et al.*, 2004; Naiker & Sharma, 2009; Barua *et al.*, 2010) Barua *et al.*, (2010) argue that accounting expertise is a controversial issue since some scholars conflates between “auditing expertise” and “financial expertise”. Rainsbury *et al.*, (2009) add that the term “financial/accounting expertise” can be broadly or narrowly interpreted. They argue that the SOX Act adopts a broad definition to avoid the exclusion of qualified presidents and chief executive officers, with non-accounting background, to be appointed as experts. In line with the UAE code of governance, the study adopts a narrow definition of accounting expertise. This is because of a lack of consistency in the disclosures of directors' backgrounds in firms' corporate governance reports in the UAE. Therefore, the ACQ index assigns a value of 1 if the AC includes a member with accounting background or 0 otherwise.

The fourth ACQ measure is the frequency of AC meetings. Several studies argue that more diligent ACs appear to have frequent meetings (Abbott *et al.*, 2003, Barua *et al.* 2010) Kelton and Yang (2008) found a positive association between the number of audit committee meetings and internet reporting. Li *et al.*, (2012) argue that ACs that meet more frequently would have more time to perform the role of monitoring the corporate reporting process efficiently. They add that adequate meeting time by the ACs sends a signal of the committee's intention to remain informed and vigilant. In line with Barua *et al.* (2010): the study uses the number of AC meetings per year as a proxy for the diligence of the AC. Furthermore, more meetings facilitate the diffusion of IRSI since meetings enable a thorough discussion of innovative ideas such as IRSI. In this regard, the UAE code of governance states that "AC shall meet at least once on a quarterly basis". Since more meetings means more vigilant and diligent ACs and the UAE firms' ACs are required to hold a minimum of four meetings a year, the ACQ index assigns a value of 1 if the number of meetings is more than four and 0 otherwise.

The fifth ACQ measure is the size of AC. Bédard *et al.* (2004) argue that the larger the AC, the more likely it resolves potential problems in the financial reporting process because it is likely to provide diversity of expertise ensuring effective monitoring. One can argue that since AC is mostly comprised of outsiders (independents and NED) directors with diverse views, knowledge and expertise of due to their prior experiences in different firms, they may benchmark best practices such as the IRSI to the firm where they sit on its AC. In other words, ACs members may act as change agents in the diffusion process of IRSI across different firms. The UAE code of governance states that "AC shall consist of at least three members". Since the UAE firms' ACs are required to be comprised of three members, the ACQ index assigns a value of 1 if the number of AC members is more than three and 0 otherwise.

#### *6.2.2.2 Firm-specific characteristics measurements*

Prior studies provided extensive empirical work articulating firm-specific characteristics to the extent of internet reporting (e.g. Cerbioni & Parbonetti, 2007; Cheng & Courtenay, 2006; Hanifia & Cooke, 2002; Kelton & Yang, 2008; Garcia-Sanchez *et al.*, 2011; Gallego-Alvarez *et al.*, 2008; 2011; Boubaker *et al.*, 2012; Xiao *et al.*, 2004) Building on these studies, the study measures firms-specific variables such as firm size (SIZE): complexity (Complexity): risk (Risk): and profitability (ROA).

Size: Lopes and Rodrigues (2007: 32) argue that larger firms are expected to have economics of scale and therefore additional disclosure is less costly in comparison to smaller ones. Watts and Zimmerman (1978) argue that larger firms have higher information asymmetry between managers and shareholders. Therefore, larger

firms are likely to disclose more information to reduce agency costs related to information asymmetry. Following this line of reasoning, several studies provided evidence supporting the influence of the firm size on the level of disclosure on the internet (e.g. Oyelere *et al.*, 2003; Marston & Polei, 2004; Ashbaugh *et al.*, 1999; Craven & Marston, 1999; Pirchegger & Wagenhofer, 1999; Ettredge *et al.*, 2002; Xiao *et al.*, 2004; Gallego-Alvarez *et al.*, 2008) Accordingly, the paper controls for the firm size since IRSI-firm size might be positively correlated.

Organization complexity: Bushman *et al.*, (2004) argue that firms, with diversified locations and diversified products, are likely to have more activities. They add that these firms are more complex and therefore more information disclosure is necessary in order to encourage potential investors to make investment decisions. Complex firms need to disclose more strategic information since nondisclosure could signal bad news that adversely affect the firm's share price. Likewise, Hanifia and Cooke (2002) argue that the firm complexity may explain the variation in level of disclosure. The firm complexity has different dimensions including geographical locations, geographical concentrations, number of production lines, type of the industry and number of products (Bushman *et al.*, 2004; Hanifia & Cooke, 2002) For example, Gallego-Alvarez *et al.*, (2011) test firm complexity-online reporting relationship for a sample of Spanish universities. They measured complexity by the number of faculties. Their underlying assumption is that more complex universities will disclose a larger level of information on their websites compared to less complex universities. Extending that line of reasoning to IRSI, encourages to control for organizational complexity since IRSI and organizational complexity might be positively correlated.

Level of Risk: Several empirical studies suggest that higher leverage levels lead to higher agency costs, therefore high levels of disclosure can be used to reduce these costs (Lopes & Rodrigues, 2007; Hassan, 2009; Gallego-Alvarez *et al.*, 2008; Garcia-Sanchez *et al.*, 2011) One can argue, therefore, that firms with higher levels of risk will disclose greater amounts of strategic information because corporate managers are willing to explain how they will manage their corporations' debt levels. The literature also suggests corporate managers have personal interest to disclose strategic information in order to signal to wider stakeholders how they efficiently prepare the required resources to pay for debts (Debreceeny *et al.*, 2002; Boubaker *et al.*, 2012) In this regard, Garcia-Sanchez *et al.* (2011) add that the disclosure of strategic information may signal or, as they claim, directs investors to the corporation's strengths. Based on the above, we control for the effect of firm leverage on IRSI.

Profitability: One of the possible motives that drive corporate managers to supply strategic information over the internet is to reduce cost of capital. Profitable firms have the incentive to distinguish themselves from less successful ones in order to raise capital at the lowest possible cost (Kelton and Yang, 2008; Gallego-Alvarez

*et al.*, 2008; 2011; Garcia-Sanchez *et al.*, 2011; Boubaker *et al.*, 2012) One way to achieve this is through internet reporting (Marston & Polei, 2004) According to signaling theory, investors generally perceive the absence or poorly disclosed information as an indication of “bad news” about the corporation. Nevertheless, some empirical studies found no association between the firm’s profitability and internet reporting (Ashbaugh *et al.*, 1999; Ettredge *et al.*, 2002; Oyelere *et al.*, 2003) Because of the inconclusiveness of empirical findings, the paper controls for the firm profitability.

## **7. Results and discussion**

### **7.1 Descriptive statistics**

Table 2 summarizes the frequency level for each item of strategic information disclosure among listed UAE non-financial firms. Table 3 presents descriptive statistics of the model variables<sup>1</sup>. It shows that the IRSI index has a mean value of 7.45 which indicates that on average UAE non-financial firms tend to disclose 7 items out of 15 items (or 47%) of strategic information. Compared to Spanish firms’ average of (25%) (Garcia-Sanchez *et al.*, 2011): the UAE non-financial firms’ amount of IRSI is quite moderate like Malaysian firms (Hashim *et al.*, 2014)

**Table 2. Frequency level for each strategic disclosure item**

<b>Strategic Disclosure Items</b>	<b>No. of firms disclosing</b>	<b>Percentage (%) of firms disclosing</b>	<b>Item rank</b>
1. Objectives, mission and company’s philosophy	22	59.46	4
2. Strategic alliances	11	29.73	13
3. Strategic position of company in its sector (leader,2 <sup>nd</sup> .etc)	21	56.76	5
4. Company strategic planning (projects of expansion into other markets, products, regions)	20	54.05	7
5. Company annual planning/performance against targets/graphs	16	43.24	10
6. Description of the competition context	19	51.35	8
7. Risk Control and management - Governance	27	72.97	2
8. Information on risks (financial, commercial, technical)/	14	37.84	11
9. Information on production processes	12	32.43	12
10. Strategic Business Unit –deleted	1	02.70	16
11. Weakness and Threats –deleted	1	02.70	16

Strategic Disclosure Items	No. of firms disclosing	Percentage (%) of firms disclosing	Item rank
12. Information on quality certification - added	29	78.38	1
13. Information on cost effective strategy -added	10	27.03	14
14. Information on innovative approaches - added	10	27.03	14
15. Health, Safety and Environment Strategy -added	21	56.76	5
16. Strategy towards workforces and their benefits -added	18	48.65	9
17. The firm's customer groups– added	26	70.27	3

Table 2 shows that the highest frequency level for “quality certification” with 29 firms (87.38%) have disclosed the item on the internet. The second place of high frequency item is “risk control and management – governance” with 27 firms (72.97%) followed with the item “the firm customer groups” with 26 firms (70.27%) The item of “objectives, mission and company’s philosophy” scored the fourth in rank with 22 firms (59.36%) disclosing this item. Yet this item is the highest disclosed item by Spanish firms (Garcia-Sanchez *et al.*, 2011) and Malaysian firms (Hashim *et al.*, 2014) “Strategic position of the company” and “health, safety and environment strategy” disclosure items scored the same level and therefore ranked as fifth with 21 firms (56.76%) disclosing these items. Yet the former item is the second most frequently disclosed item by Spanish firms (Garcia-Sanchez *et al.*, 2011) and the lowest disclosed item by Malaysian firms (Hashim *et al.*, 2014).

Table 2 shows that items commonly disclosed are as follow: “company strategic planning” with 20 firms (54.05%): “description of competitive context” with 19 (51.35%): “strategy towards the workforce” with 18 firms (48.65%): “company annual planning” with 16 firms (43.24%) and “information on different risks” with 14 firms (37.84%) Like Spanish firms (Garcia-Sanchez *et al.*, 2011): the UAE non-financial firms have a moderate disclosure of “company strategic planning” item, yet the extent of disclosing this item is inconsistent with the Malaysian case which reported that time as the least disclosed one (Hashim *et al.*, 2014) The “company annual planning” item was the least disclosed one by the Spanish firms (7.7%) and Malaysian firms (29.07%) (Garcia-Sanchez *et al.*, 2011; Hashim *et al.*, 2014): yet 43 percent of UAE non-financial firms disclose such an item.

Both the “information on risks” and “description of competitive context” items are disclosed more by UAE firms in comparison to Spanish firms (Garcia-Sanchez *et al.*, 2011): yet they are less disclosed by UAE firms in comparison to Malaysian firms (Hashim *et al.*, 2013) Table 2 also shows that the lower disclosed items are

“information on production processes” with 12 firms (32.43%): “strategic alliance” with 11 firms (29.73%) and “information in cost effectiveness and innovation strategy” with 10 firms (27.03%) The least disclosed items are “strategic business unit” and “weakness and threats” with 1 firm (02.70%) each and therefore there were removed from the IRSI index.

**Table 3. Descriptive Statistics of all variables**

	N	Range	Minimum	Maximum	Mean	Std. Deviation
<b>IRSI</b>	37	12.00	2.00	14.00	7.4595	3.19370
<b>% INDED</b>	36	0.55556	0.33333	0.88889	0.6565617	0.18149
<b>BoD Meetings</b>	35	5.000	4.000	9.000	6.05714	1.23534
<b>AUD</b>	37	1	0	1	0.78	0.417
<b>ACQ Score</b>	37	5.00	0.00	5.00	2.7297	1.12172
<b>Size (Log of Assets)</b>	37	7.66912	17.80824	25.47736	21.6372522	1.65014
<b>Complexity (# Products)</b>	33	20.00	1.00	21.00	5.6364	4.70915
<b>Risk (Debt to Assets)</b>	37	0.82980	0.03890	0.86870	0.4125054	0.21379
<b>Profitability</b>	37	0.536665	-.288588	0.248077	0.04478365	0.07916
<b>BOD Size</b>	37	12	5	17	7.97297	2.386146

Table 3 shows that the ACQ index has a mean value of 2.73 which indicates that on average UAE non-financial firms tend to have reasonable “best practices” ACs by end of 2010. The following percentages of firms in the sample were given the following scores for ACQ measures: 0 (2.7% per cent); 1 (8.1 per cent); 2 (32.43 per cent); 3 (32.43 per cent); 4 (19.92 per cent); and 5 (5.4 per cent) According to the underlying assumption of the crafted ACQ index, the ACs comply with the UAE code basic requirements which are mandatorily required and, at the same time, voluntarily exceed these requirements. ACs voluntarily practice 2.7 measures out of 5 measures of ACQ described earlier in section 6.2. Table 4 summarizes the frequency level for each ACQ measure among listed UAE non-financial firms.

**Table 4. Frequency level for each ACQ item**

ACQ items	No. of firms practicing	% of firms practicing
The existence of NED	26	0.70
51% of or more of AC members are independent	33	0.89
The existence of an accounting expertise	19	0.51
Held more than four meetings per the year	13	0.35
Comprised of more than three members	10	0.27

Table 4 reports a similar pattern of ACQ measures found in the Australian firms by end of 2001 (Baxter, 2010) The cause behind this similarity is that the year 2001 was a time period in which there was no mandatory audit committee regulation in Australia other than the requirement to disclose the existence or otherwise of an audit committee. Accordingly, Baxter (2010) study examined the voluntary adoption of ACQ measures by Australian firms. Although the UAE applies a stringent approach regulating every aspect of ACQ measures, the crafted ACQ index underlying assumption is to score the ACQ measure if it is voluntarily practiced beyond the basic mandatory requirements.

**Table 4. Pearson Correlations among all variables**

	IRSI	% INED	BOD Meet	AUD	ACQ Score	Log of TA	# Products	Risk DA	Profitability	BOD Size
IRSI	1									
% INED	0.004	1								
BOD Meetings	0.007	0.022	1							
AUD	-0.048	0.016	0.111	1						
ACQ Score	0.284	0.068	0.021	-0.069	1					
Size (Log of Assets)	0.499**	0.166	0.099	0.347*	0.177	1				
Complexity (# Products)	0.387*	-0.218	0.173	0.062	0.078	0.145	1			
Risk (Debt to Assets)	0.485**	0.155	0.066	0.084	-0.22	0.441**	0.246	1		
Profitability	-0.109	0.205	0.019	0.024	0.016	-0.25	0.217	-0.087	1	
BOD Size (Robustness)	0.366*	-0.074	0.144	0.329*	0.142	0.320	0.159	0.093	-0.079	1

\* Correlation is significant at the 0.05 level (2-tailed)  
 \*\* Correlation is significant at the 0.01 level (2 tailed)

## 7.2 Assessing the validity of the model

Table 3 shows that the IRSI index and explanatory independent variables have considerable dispersion in the scores, as represented by the minimum, maximum, and the standard deviation. Yet some variables were not reported by firms and therefore the number of observations of these variables is less than the study sample of 37 firms. Since the model incorporates different explanatory independent variables, it is of importance to check the existence of multicollinearity (Alsaeed, 2006; Barako *et al.* 2006; Oliveira *et al.*, 2006, Hassan 2009).

Two different approaches are used to test the existence of the multicollinearity problem; first, the correlation matrix; second, the variance inflation factor (VIF). (Mangena & Taurigana, 2007; Hassan, 2009) The correlation matrix provides an idea of the relationship between explanatory variables. Although, there is no agreement among researchers regarding the cut-off correlation percentage, scholars suggest that correlation greater than 70% may create the multicollinearity problem and therefore considered harmful. (Alsaeed, 2006; Mangena & Taurigana, 2007) Table 5 presents Pearson correlation coefficients among the independent variables.

Table 5 shows that the multicollinearity problem does not exist among the model independent variables and therefore regression analysis can be applied with

confidence. Nevertheless, Field (2000) suggests that even when the correlations between the independent variables are not very high, some degree of multicollinearity can still exist. Therefore, the paper uses Variance Inflation Factor (VIF) as another effective means to test multicollinearity among variables. The paper computes the VIF for each independent variable as shown in table 6.

Although there is no hard rule about what VIF value at which to multi-collinearity causes a problem, scholars suggest the VIF of 10 is a good value at which to worry (Naser *et al.*, 2006; Alsaeed, 2006) The VIFs should not exceed the critical value of 10 (Field, 2000) The largest VIF factor observed for the full models was 2.142 (SIZE) and the VIFs of all other independent variables are below 2.00. In line with prior studies, VIF results support the lack of presence of multi-collinearity in the regression models (e.g. Ho & Wong, 2001; Naser *et al.* 2006; Mangena & Tauringana, 2007) Therefore, the regression analysis results can be interpreted with a greater degree of confidence.

Furthermore, Table 6 shows Durbin-Watson statistic for the regression model. This statistic is used to test the non-existence of autocorrelation (i.e. the assumption of independent errors) Field (2000) suggests that Durbin-Watson value which is less than 1 or greater than 3 should pose a problem. He adds that the closer to 2 the value is the better the model. Therefore, Durbin-Watson values, shown in Table 6, are acceptable and consequently the problem of autocorrelation is not significant.

### 7.3 Multiple regression results

Table 6 present multiple regression model results. Table 6 shows that %INED, BOD meetings, AUD, ACQ, Firm Size, Number of Products, Risk and Profitability explain 50.3% of the variation IRSI ( $F = 4.675$ ,  $Sig. = 0.002$ ) These results imply that independent variables explain 50 percent of the variation in IRSI at significant level of 0.05. Below is a discussion and comments on the multiple regression results.

**Table 6. Model Coefficients +**

	Predicted sign	$\beta$	Std. Error	Beta	t	Sig.	VIF
(Constant)		-10.778	6.090		-1.770	0.091	
% INED	+	-1.812	2.795	-0.103	-0.648	0.524	1.471
BOD Meetings	+	-1.212	.477	-0.419	-2.542	0.019**	1.590
AUD	+	-1.011	1.036	-0.141	-0.976	0.340	1.228
ACQ	+	1.083	.452	0.353	2.397	0.026**	1.269
Firm Size	+	0.994	.351	0.543	2.834	0.010**	2.142
Complexity	+	0.188	.102	0.283	1.839	0.080*	1.379
Risk	+	5.144	2.327	0.351	2.211	0.038**	1.469
Profitability	+/-	-2.441	6.068	-0.063	-0.402	0.692	1.420

Predicted sign	$\beta$	Std. Error	Beta	t	Sig.	VIF
F-statistics				4.675		
Sig.				0.002**		
Durbin-Watson				1.785		
R <sup>2</sup>				0.640		
Adjusted R <sup>2</sup>				0.503		
N				37		

1. \*\*Level of significant is 0.05.

2. \* Level of significant is 0.10.

3. + Dependent variable is IRSI.

Table 6 shows that frequency of board of directors meetings (BOD Meetings): ACQ, firm size (Size) and firm risk (Risk) are statistically significant with IRSI at a level of 0.05. It also shows that firm complexity (Complexity) is statistically significant with IRSI at a level of 0.10. As predicted, the regression model significant variables are positively correlated IRSI except for frequency of board of directors meetings (BOD Meetings) accordingly, the empirical findings support H4. The empirical findings document a significant BOD meetings-IRDI relationship yet in an opposite direction to the study prediction. Table 6 also shows that board independence (%INED): auditor type (AUD): and firm profitability (ROA) are not statistically significant with IRSI at a level of 0.05.

The (%INED) result contradicts with prior studies that document a significant positive relationship between the proportion of independent non-executive directors and firms' disclosure quality (Xiao *et al.*, 2004; Cheng & Courtenay, 2006) Yet this result is consistent with other studies that find no relationship between level of disclosures and independent non-executive directors (Cullen & Christopher, 2002; Ho & Wong, 2001; Haniffa & Cooke, 2002; 2005; Hashim *et al.*, 2014) Therefore one can suggest that INEDs may not be able to exert sufficient influence to enforce or diffuse a better IRSI. They either lack the superior information possessed by inside directors or they are under time constraints as a result of multi-directorship as independent outside director appointments. Furthermore, outside directors are usually part timers and it is more difficult for them to understand the complexities of the firm where they site as INED. The non-significant impact of independent non-executive directors on the IRSI can also be attributable to their less concern with voluntary disclosure such as IRSI compared to their concern with mandatory disclosure (Hashim *et al.*, 2014)

The corporate profitability (ROA) is not statistically significant. This result is consistent Xiao *et al.* (2004) and Boubaker *et al.* (2012) findings. Xiao *et al.* (2004, 2014) conclude that the ROA-Online reporting non-significant association is a reflection to the lack of emphasis on accounting-based performance or because of the existence of earning management behavior in China. One can suggest the same

in the UAE since firms' profitability has no influence on the IRSI. Another possible explanation is that the IRSI is driven by the competitiveness among firms operating in the same industry, therefore profitable firms are reluctant to publish information, on their websites, describing future plans, strategies and market position. This reluctance is simply to avoid revealing information that may encourage other rival firms to enter into the market (Garcia-Sanchez *et al.*, 2011)

The (AUD) result contradicts with prior studies' findings that confirm a relationship between high profile auditing firms and high levels of disclosures (Xiao *et al.*, 2004; Chalmers & Godfrey, 2004; Kelton & Yang, 2008; Boubaker *et al.*, 2012) One possible explanation here is that big audit firms do not offer a guarantee against the information published on corporations' websites. Another explanation is that auditors only take notice of legal and professional matters/responsibilities specified in their code of conducts and laws. Since IRSI is not an issue subject to external auditors checking and verification, external auditors do not influence that type of disclosure. A further explanation for this result can be the way in which the internet reporting was defined. Both Xiao *et al.* (2004) and Kelton and Yang (2008) describe internet reporting in terms of the content and presentation while this study describes internet reporting in terms of an index that capture "strategy" disclosure over the internet.

Unexpectedly, the frequency of board of directors meetings (BOD Meetings) is negatively correlated with IRSI at level of 0.05. This is inconsistent with what the study had envisioned earlier at the hypothesis formulation and with Hashim *et al.*, (2014) study which shows no association between board meetings and IRSI for a sample of Malaysian firms. Nonetheless, result is consistent with Garcia-Sanchez *et al.* (2011) study that shows a BOD Meetings-IRSI negative association for a sample of Spanish firms. One of the possible explanations for this unexpected result can be that BOD suggests limited disclosure that can cause competitive disadvantages or negative response in stock prices. In this sense, an active BOD which meets frequently opposes disclosing strategic information that may impair the competitive position of the firm if known by the firm rivals. In contrast to Gallego-Alvarez *et al.*, (2011): the empirical findings show that the firm complexity (Complexity) is positively associated with the IRSI at level of 0.05.

As predicted, the Audit Committee Quality (ACQ) is a significant variable influencing IRSI at level of 0.05%. On the one hand, the audit committee may play a monitoring role encouraging the corporate management to produce financial information on the internet. On the other hand, the AC may become change agents disseminating knowledge about IRSI. Due to their multi-directors membership in different corporations, they may diffuse ideas about IRSI across firms. The significant relationship between ACQ and IRSI may also be interpreted as the existence of AC in UAE is not for window dressing, i.e. ritualistic, but is effective

in enhancing the firm image in terms of transparency. One can argue that the AC's role is not only about the financial reporting process, but it extends to the reporting of non-financial information including IRSI.

In accordance with the predict direction, firm size (Size) is found significantly correlated to IRSI at level of 0.05. Size-IRSI relationship result agrees with prior literature that suggests a size-disclosure significant relationship (e.g. Oyelere *et al.*, 2003; Marston & Polei, 2004; Ashbaugh *et al.*, 1999; Craven & Marston, 1999; Ettredge *et al.*, 2002; Xiao *et al.*, 2004; Gallego-Alvarez *et al.*, 2008; Boubaker *et al.*, 2012) There are several reasons to explain these results. First, managers of larger firms utilize IRSI to attract demotic investors and foreign investments. They are also willing to explain the size of their firms and consequently avoid political sensitivity either nationally or internationally. Second, large firms benefit from economies of scale and therefore for them it is less costly to supplement traditional financial information reported in annual reports with IRSI. In accordance with the predict direction, firm risk is found significantly correlated to IRSI at level of 0.05. This result is consistent with Garcia-Sanchez *et al.*, (2011): yet it disagrees with Gul and Leung (2004): Oyelere (2003) and Alvarez *et al.* (2008)

#### **7.4 Robustness test**

The regression model, reported in table 6, excludes the board size (BOD Size) as one of the governance variables. Table 6 governance variables were chosen because they are aligned with the study underlying assumption that outside directors and external auditor can act as change agents promoting for new ideas such as IRSI while enhancing the monitoring capability of the board. Since executive directors may act as non-executive ones in other firms, they may bring new ideas from the firms in which they serve as non-executive directors. In order to address that issue and to corroborate the regression results, the study ran a multiple regression test while adding the board size.

The regression results, presented in Table 7, show similar results to the original model results, presented in table 6, except that the firm complexity (Complexity) becomes insignificant and the audit committee quality (ACQ) becomes significant at level of 0.10. Consistent with prior studies (Ezat & El-Masry, 2008 (Egypt); Garcia-Sanchez *et al.*, 2011 (Spain); Hashim *et al.*, 2014 (Malaysia)): table 7 shows that the board size (BOD Size) has a significant positive association with IRSI at a level of 0.10. The robustness test, to large extent, substantiates the original regression model results.

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**Table 7. Model Coefficients +**

	$\beta$	Std. Error	Beta	t	Sig.	VIF
(Constant)	-9.429	5.807		-1.624	.120	
% INED	-1.251	2.661	-0.071	-0.470	0.643	1.490
BOD Meetings	-1.004	0.465	-.348	-2.161	.043**	1.687
AUD	-1.342	0.996	-.188	-1.347	0.193	1.268
ACQ	0.832	0.448	.271	1.855	.078*	1.396
Firm Size	0.783	0.351	.427	2.231	.037*	2.393
Complexity	0.151	0.099	.227	1.529	0.142	1.438
Risk	5.348	2.204	.365	2.427	0.025	1.473
Profitability	-2.496	5.741	-.064	-.435	0.668	1.420
BOD Size	0.358	0.193	.278	1.861	.077*	1.460
F-statistics				5.028		
Sig.				0.001**		
Durbin-Watson				1.811		
R <sup>2</sup>				0.694		
Adjusted R <sup>2</sup>				0.556		
N				37		

\*\*Level of significant is 0.05.

\* Level of significant is 0.10.

+ Dependent variable is IRSI.

## 8. Conclusion

The study examines internal governance mechanisms impact on corporate transparency expressed in terms of the IRSI. It examines the influence of audit committee, board independence and firm-specific characteristics on the IRSI a special type of voluntary disclosure that a firm may use to disseminate information about its strategies, policies, plans, market position, products and customers. The study findings highlight that UAE non-financial firms publish strategic information over the internet. The mean average of the UAE non-financial firms disclosure of strategy related information is 47% which is higher than Spanish firms (mean = 25%) (García-Sánchez *et al.*, 2011) and close to the Malaysian firms (mean = 50.1%) (Hashim *et al.*, 2014) The UAE non-financial firms seem to use IRSI to obtain a competitive position while avoiding competitive disadvantages.

In order to obtain a competitive position, the most frequently items being disclosed are “quality certification”, “risk control and management – governance”, “the firm customer groups” “objectives, mission and company’s philosophy”, “strategic position of the company” and “health, safety and environment strategy”. The disclosure of these items encourages domestic and international investors to invest on the UAE because it helps investors’ financial analysts to make informed decisions. It also assists different stakeholders because they are able to identify the

uniqueness or the strength elements of the firm. Hence, the UAE non-financial firms utilize IRSI as an opportunity to promote themselves and disseminate information to stakeholders beyond those information published in regulated annual reports.

In order to avoid competitive disadvantages, the UAE non-financial firms disclose other strategy related information at lower level. Some of these items are moderately disclosed such as “company strategic planning”, “description of competitive context”, “strategy towards the workforce” “company annual planning” and “information on different risks” while other items are less frequently disclosed such as “information on production processes”, “strategic alliance” and “information in cost effectiveness and innovation strategies”. The UAE firms seem to consider these items as having high privacy level in order to compete in the challenging business environment and minimize the risk of competitive disadvantages.

The study findings highlight whether the UAE listed non-financial firms transformation towards the establishment of “best practice” AC is ritualistic or otherwise. In this regard, Baydoun *et al.* (2013: 15) highlight that although the UAE code of governance includes a provision relating to audit committee, a fundamental concern is the gap between the law and the actual practice. Baydoun *et al.* (2013: 15) reinforce their idea by quoting the Dubai Chamber of Commerce and Industry survey results which state that “awareness of corporate responsibility of governance at management levels is high [...] however, it becomes increasingly apparent that companies are saying one thing and doing another” (DCCI, 2006, p. 10 cited in Baydoun, 2013: 15) The paper results show that most of UAE listed non-financial firms have Audit Committees that apply “best practices” in alignment with the UAE code of governance requirements.

Nevertheless, interpreting the study results in the light of Baydoun *et al.* (2013) findings raises questions about the management position regarding their firms’ alignment with the UAE code of governance. In this regard, Trabelsi *et al.* (2004) argue that the management position can be either opportunistic or ritualistic. They add that opportunistic position involves an active role of managers in their attempt to seek specific advantages and consequently reap benefits of applying new practices. To recall, the establishment of AC seems to legitimate the UAE to international best practices introduced by international governance institutions such as OECD. The active role of managers can also be expressed in terms of their role as change agents diffusing knowledge about innovative disclosure practices such as IRSI.

In contrast, ritualistic position describes manages uncritical adherence to prescribed regulations. Accordingly, the role of managers is passive since they just comply with rules without necessary believe in the importance of these rules. In other

words, managers comply with the code of governance requirements, particularly the formation of ACs, without necessarily believe in the role of these ACs. To claim that the UAE listed non-financial firms' ritualistically form ACs requires a more in-depth investigation that relies on case-based studies of individual firms. This investigation goes beyond the scope of the current paper and therefore represents an area of future research.

The study is expected to add value to researchers, practitioners and policymakers in UAE. For researchers, the study extends on previous internet reporting studies by examining the influence of audit committee quality on the IRSI which is becoming a critical matter in the UAE. For practitioners, the study is concerned with one of the most critical aspects of corporate governance, i.e. AC, and therefore it highlights aspects of internal governance that is in the interest of both investing community and accountancy profession. One of these aspects is multi-directorship issue in which a board member is becoming increasingly busy and therefore spends insufficient time on board work to be properly informed on firm matters and prepare for board discussions. Likewise, Baydoun *et al.* (2013) highlight the difficulty of finding genuinely independent directors in small countries, such as the UAE, which in turn prevents from making a significant contribution to corporate governance. Future research is recommended to explore these issues further.

The OECD Principles of Corporate Governance underscores the importance of internet to disseminate information (Oyelere & Kuruppu, 2012) Therefore, regulatory agencies and policymakers in the UAE need to develop a regulatory framework that encourages internet reporting while regulate the form and content of this reporting. The UAE regulatory agencies may also need to put heavier emphasis on sensitive information, such as "strategy" disclosure, and subject this information to close monitoring and checking. These issues go beyond the scope of the current study and therefore represent area of future research.

The study findings must be interpreted in the light of a number of limitations. First, the study measures the ACQ based on information available in each firm's corporate governance report published by end of 2010. The development of the ACQ index is based on aspects of the "best practice AC" framework suggested by Rainsbury *et al.* (2008; 2009) Yet other aspects, such as AC authority and AC resources, have not been addressed in this study (DeZoort *et al.*, 2002) This issue needs future research that addresses these missing aspects to develop a comprehensive ACQ index. Second, sample size is small. Yet, what mitigates this limitation is that the study sample represents 88% of UAE listed non-financial firms that disclose strategy related information on the internet. Third, the timeframe of the study is one year. Therefore, further studies may perform a longitudinal analysis to examine the impact of the governance mechanisms on the IRSI. Finally, the paper measures the IRSI via an un-weighted disclosure checklist

that examined the website of UAE non-financial listed firms at a single point in time (December 2010) Future research may take two points of time to improve the study results.

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**Appendix 1 (sources of IRSI index items)**

Strategic Disclosure Items	Directly address the issue of IRSI					Indirectly address the issue of IRSI					
	Garcia-Sanchez et al. (2011)	Santema et al. (2005)	Padia and Yasseen (2011)	Santema and Rijt (2001)	Hashim et al. (2014)	Lim et al. (2007)	Gallego Alvarez (2008)	Gallego Alvarez (2011)	Depoers (2000)	White (1996)	Petersen, and Pleborg (2006)
1. Objectives, mission and company's philosophy	X	X	X	X	X	X	X	X			X
2. Strategic alliances	X				X	X	X	X			
3. Strategic position of company in its sector (leader, 2 <sup>nd</sup> , etc.)	X				X	X	X	X			
4. Company strategic planning (projects of expansion into other markets, products, regions)	X		X	X	X	X	X	X			X
5. Company annual planning/ performance against targets/graphs	X		X	X	X		X	X			X
6. Description of the competition context	X				X		X	X	X		X
7. Risk Control and management - Governance	X	X	X		X	X	X	X		X	X
8. Information on risks (financial, commercial, technical)	X				X		X	X			X
9. Information on production processes	X				X		X	X	X		X
10. Strategic Business Unit - deleted		X	X		X						
11. Weakness and Threats - deleted		X							X		
12. Information on quality certification - added							X	X		X	X
13. Information on cost effective strategy - added							X	X	X		X
14. Information on innovative approaches - added							X	X			X
15. Health, Safety and Environment Strategy - added						X	X	X			X
16. Strategy towards workforces and their benefits - added											X
17. The firm's customer groups - added		X							X		X

<sup>i</sup> The paper uses SPSS software in order to perform the statistical analysis

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