

# What drives intellectual capital reporting? Evidence from Kuwait

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intellectual  
capital  
reporting?

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Received 5 July 2016  
Revised 9 November 2016  
12 January 2017  
6 February 2017  
Accepted 11 February 2017

## Abstract

**Purpose** – Motivated by the increased attention on intellectual capital reporting (ICR) from regulatory bodies, practitioners, and researchers and the recent calls for companies to supplement and complement their traditional financial statements with intellectual capital (IC) disclosure, the purpose of this paper is to investigate the drivers of ICR among the companies listed on the Kuwait Stock Exchange (KSE).

**Design/methodology/approach** – Content analysis was applied to the annual reports of all companies listed on the KSE in 2013. A multiple regression analysis was employed to explore the ICR drivers.

**Findings** – Despite the growing importance of ICR in capital markets, the study findings reveal an overall relatively low level of ICR among KSE-listed companies. In addition, the level of ICR varies significantly between companies. The results show that the level of ICR for all KSE-listed companies in 2013 ranged from 0 to 96 percent and the mean was 28 percent. The multiple regression analysis suggests that older, highly leveraged, larger, and profitable KSE-listed companies are associated with higher levels of ICR. Industrial sector is a partial driver.

**Practical implications** – Surprisingly, many of the KSE-listed companies do not disclose any IC information in their annual reports. Given the increasingly important role that IC information plays in capital markets, regulatory bodies should encourage, stimulate, and guide companies to report IC information. The findings offer insights as to the drivers of ICR that should improve efforts to develop recommendations that push for greater IC disclosure in corporate annual reports.

**Originality/value** – The study is the first examination of ICR drivers in Kuwait. It contributes to the literature by providing empirical evidence about ICR in a market with specific economic, social, and cultural characteristics. It enhances our understanding of ICR by revealing some of its drivers.

**Keywords** Content analysis, Drivers, Disclosure, Annual reports, Intellectual capital

**Paper type** Research paper

## 1. Introduction

Over the past few decades, intellectual capital (IC) has become a key source of wealth creation and sustainable competitive advantage for companies (Chahal and Bakshi, 2016). For example, Guthrie *et al.* (2006) argue that IC represents a significant proportion of total company value. The importance of IC resources in value creation has consistently increased due to the shift from industrial-based economies to knowledge-based economies (Orens *et al.*, 2009). This trend has increased interest in IC and stimulated demand for disclosure and measurement (Liao *et al.*, 2013). However, the problem of identifying and measuring IC means that traditional financial reporting often fails to include its value (Guthrie *et al.*, 2006; Branco *et al.*, 2010). The increased importance of IC information to the economy has led international accounting regulatory bodies to call for companies to voluntarily disclose such information in their corporate reporting (Oliveira *et al.*, 2006). For example, in 2010 the International Accounting Standards Board issued a non-binding framework including IC reporting for the presentation of narrative reporting as a supplement and complement to traditional financial statements (IASB, 2010). Although many companies have already complied with the request, in order to improve transparency between management and stakeholders (Yi and Davey, 2010), complete disclosure remains nascent (Kamath, 2008).

The importance of IC information has become the subject of a growing body of literature in the past 15 years (Whiting and Woodcock, 2011). While still very much in its infancy, the related study of intellectual capital reporting (ICR) is beginning to emerge as an independent discipline



International Journal of  
Productivity and Performance  
Management  
Vol. 67 No. 3, 2018  
pp. 571-589  
© Emerald Publishing Limited  
1741-0401  
DOI 10.1108/IJPPM-07-2016-0132

(Singh and Van der Zahn, 2007) and numerous empirical studies have been carried into ICR practices worldwide (e.g. Guthrie and Petty, 2000; Bozzolan *et al.*, 2003; Abeysekera and Guthrie, 2005; Guthrie *et al.*, 2006; Oliveira *et al.*, 2006; Brügggen *et al.*, 2009; Branco *et al.*, 2010; Oliveira *et al.*, 2013; Li and Mangena, 2014; Chahal and Bakshi, 2016).

Although the ICR literature provides significant insights, studies tend to focus on its extent and report on differences between companies and countries. For example, Abeysekera (2007) documents differences in ICR practice between developing and developed countries, noting that economic, political, and social issues can drive these differences. Li and Mangena (2014) argue that ICR is a complex process that is affected by a broad set of factors. Many researchers focus on the drivers of variation in ICR levels and several recent studies have taken an empirical approach. The drivers that have been identified to date include company characteristics such as size, profitability, auditor type, industrial sector, growth, financial performance, and age (see, e.g. White *et al.*, 2007; Brügggen *et al.*, 2009; Branco *et al.*, 2010; Whiting and Woodcock, 2011; Ousama *et al.*, 2012; Alcaniz *et al.*, 2015; Too and Yusoff, 2015).

Despite the growing empirical literature about the drivers of ICR, to the best of author's knowledge, no studies examine the drivers of ICR in frontier markets – such as Kuwait. Differences in the economic, social, political, and cultural settings could mean that drivers identified in other contexts do not apply. Motivated by the lack of research on ICR in Kuwait and the increased attention on ICR from regulatory bodies, practitioners, and researchers, this study investigates the drivers of ICR practices among the companies listed on Kuwait Stock Exchange (KSE). This study contributes to the understanding of the ICR practice, a crucial element of voluntary disclosure, by investigating the drivers of that disclosure practice in a frontier capital market.

Six hypotheses were developed, namely that the level of ICR increases with company age, leverage, size, performance, or being audited by a Big Four auditing firm, or that it varies as a function of industrial sector. Data were collected for all companies listed on the KSE in 2013. A content analysis measured the level of ICR disclosure. The framework for the analysis was developed by Sveiby (1997) and modified by Guthrie *et al.* (2004). This classical framework is one of the most widely used frameworks in the ICR literature. It classifies IC into three main components: internal capital, external capital, and human capital. Following Guthrie *et al.* (2004), this study develops a set of 24 IC indicators.

Descriptive statistics show that the mean level of ICR for all KSE-listed companies in 2013 was 28 percent. However, values range from 0 to 96 percent, which raises the question of the drivers of this variation. The study found a significant positive correlation between ICR and several company characteristics – specifically age, leverage, size, and performance. This suggests that older, highly leveraged, larger, and more profitable companies are associated with higher levels of ICR. Furthermore, the industrial sector was a partial driver. This paper contributes to the literature by providing empirical evidence on ICR in frontier markets with particular economic, social, and cultural characteristics. It enhances our understanding of ICR by revealing some of its drivers.

The remainder of this paper proceeds as follows. Section 2 reviews the theoretical and empirical literature and develops the hypotheses. Section 3 details the research methodology. Section 4 presents the empirical results. Finally, some conclusions are drawn in Section 5, together with the implications and directions for future research.

## 2. Theoretical framework, previous work, and hypotheses

### 2.1 Theoretical framework

In the new economy (aka. the knowledge economy), the source of companies' economic value no longer depends on tangible assets; it depends on the creation and manipulation of intangible assets (Brügggen *et al.*, 2009; Ousama *et al.*, 2012). Studies show that in the world's

knowledge-based economies only 6-30 percent of the company's value is related to the tangible assets, while intangible assets – IC – generate the remainder (Berezinets *et al.*, 2016; Fuller, 2002). Although the definitions of IC vary, the literature broadly defines it as the difference between the company's market value and its book value (Ordóñez de Pablos, 2003; Haji and Ghazali, 2013). Berezinets *et al.* (2016) claim that governing bodies and stakeholders, who may not be under contract to the company in the traditional sense, such as partners, advisory councils, strategic allies, suppliers, and volunteers, generate a company's IC, as well as its staff.

Although there are no specific ICR guidelines or regulations, Brügger *et al.* (2009) argue that there are several good reasons for companies to disclose IC information. First and foremost is a reduction in information asymmetry between a company and its stakeholders (Brügger *et al.*, 2009). According to the agency theory (Jensen and Meckling, 1976), there is an agency relationship between shareholders (principals) and managers (agents). The separation of ownership and control means that shareholders must rely on managers to provide services on their behalf, which requires a delegation of decision-making authority. However, agents may not always act in the best interests of principals. The conflict of interest between shareholders and managers increases as the parties act in their own self-interest, causing agency costs because managers are the agents whose interests do not align with those of the shareholders (principals).

The conflict of interest between shareholders and managers creates monitoring costs for shareholders and bonding costs for managers. Information asymmetry is one of the causes of agency problems and companies have an incentive to reduce it. One way to do so is by providing as much relevant information as possible. Evidence suggests IC is a crucial driver for companies in the knowledge-based economy. For example, An *et al.* (2011) argue that shareholders highly value IC information and that therefore its disclosure reduces information asymmetry between shareholders and managers, leading to reduced agency costs. In addition, stakeholders might use externally reported IC information to reduce uncertainty about the future performance of the company and predict future performance (Zigan *et al.*, 2007).

ICR can also be evaluated using a cost-benefit framework. From this perspective, companies have an incentive to increase ICR when they perceive the benefits of additional ICR outweigh the associated costs (Branco *et al.*, 2010). For example, Botosan and Plumlee (2002) make an empirical assessment of the benefits of increased disclosure in annual reports and show that it is associated with lower equity capital costs. Similarly, Sengupta (1998) extends the benefits of disclosure to reducing the cost of debt capital.

Prior work has used stakeholder theory as a theoretical framework (see. e.g. An *et al.*, 2011). Guthrie *et al.* (2006, p. 256) note that:

[...] according to stakeholder theory, an organization's management is expected to undertake activities deemed important by their stakeholders and to report on those activities back to the stakeholders [...] stakeholder theory highlights organizational accountability beyond simple economic or financial performance.

Freeman (1984) defines a stakeholder as “any group or individual who can affect or is affected by the achievement of the company objectives.” In their comprehensive theoretical framework for interpreting IC disclosure, An *et al.* (2011) note that the principal concepts of stakeholder theory are: that the company is a part of the broader social system in which it operates; and that the company should be clearly accountable to stakeholders (e.g. shareholders, employees, customers, suppliers). The disclosure of corporate information is considered to be an important way for companies to meet their responsibilities. Similarly, ICR is considered as a strategic initiative that promotes communication with stakeholders and helps to foster success (Oliveira *et al.*, 2013). Hence it is reasonable to assume that it can mitigate information asymmetry between the company and its stakeholders, and as a consequence improve the relationship between them (An *et al.*, 2011).

Signaling theory (Morris, 1987) is another potential theoretical framework for ICR studies. This theory suggests that the party in a market with greater information than the others can address problems of information asymmetry through signaling. A signal can be an observable structure or action, which highlights the hidden characteristics of the signaller (An *et al.*, 2011). Hughes (1986) views disclosure as a signal of corporate value in a situation of high information asymmetry between a company and its investors. She argues that managers can use corporate disclosure to signal the company's value to investors. These signals are credible as the company's quality can be easily observed, and fraudulent disclosures are quickly penalized. The same study shows that information asymmetry incites managers to signal company value through disclosure, in order to differentiate their company from those of poorer quality. Prior ICR research shows that signaling IC information in the annual report has a number of potential benefits, such as attracting investors, improving corporate image, and improving relationships with stakeholders (Rodgers, 2007; An *et al.*, 2011).

In summary, the theoretical literature on ICR practices has drawn upon several frameworks to explain why companies disclose IC information. In general, these theories show that companies may benefit from providing stakeholders with additional IC information when disclosure benefits exceed costs (in terms of lower capital or debt cost), improve corporate image, and attract potential investors. Given these benefits, it is reasonable to assume that companies will be motivated to maximize ICR.

## 2.2 Previous work

*Levels of ICR.* The empirical literature on IC shows that companies around the world increasingly recognize that ICR enhances the value of their products or services (Goh and Lim, 2004). For example, Abeyssekera and Guthrie (2005) document an increase in ICR among the listed companies in Sri Lanka over a two-year period. Similarly, Sonnier *et al.* (2008) assess ICR levels in publicly traded companies in the USA and document an increase over time. Branswijck and Everaert (2012) find that company prospectuses contain more ICR than annual reports. Haji and Ghazali (2013) investigate ICR trends in Malaysian companies and observe an increase. The same study reveals a large variation of both the extent and quality of ICR among the largest companies in Malaysia, possibly due to the absence of detailed ICR guidelines in Malaysia. Comparing ICR practices in the Netherlands, Sweden, and the UK, Vandemaele *et al.* (2005) find that that companies operating in Sweden have the highest rate of ICR. They also observe an upward trend in the average level of ICR in all three countries over the period of observation. In contrast to earlier work that documents significant levels of ICR in annual reports, Kamath (2008) finds negligible levels in Indian companies and concludes that they lag far behind American and European companies. Similarly, Abhayawansa and Azim (2014) observe a lack of consistency in reporting IC information among companies operating in Bangladesh as the extent and subcategories of IC disclosures varied notably among companies. They argue that a possible reason for the observed inconsistency could be the lack of knowledge on the part of the company on how to measure, manage, and report IC information. Therefore, Abhayawansa and Azim (2014) suggest that regulatory bodies should play a key role in stimulating and guiding companies to report IC information.

*Internal drivers of ICR.* Various research works have investigated the influence of company-specific characteristics on the level of ICR. These studies have been carried out in both developed and developing countries. Too and Yusoff (2015) argue that company-specific characteristics have a direct influence on the extent of ICR level. Company-specific characteristics that have been identified include company characteristics such as size, profitability, auditor type, industrial sector, growth,

financial performance, and age. For example, Brügger *et al.* (2009) explore company-specific characteristics that influence the decision to disclose IC information in annual reports of publicly traded Australian companies and reveal that industry sector and company size plays a key role as determinant for the disclosure of intellectual information in the annual reports. In contrast to earlier research and theoretical predictions of the role of voluntary disclosure in mitigating information asymmetry, Brügger *et al.* (2009) do not find empirical evidence to support the theoretical and traditional argument that the level of information asymmetry is related to the level of IC disclosure.

Using data from an emerging market, Ousama *et al.* (2012) examine company-specific characteristics for correlations with ICR practices among Malaysian-listed companies. Their study shows that firm size, profitability, and industry type are significantly associated with ICR practices, while leverage and type of audit firm are not. White *et al.* (2007) argue that external debt providers demands to disclose IC information rarely motivate small companies; in contrast external debt providers seem to bring pressure upon large companies to make voluntary disclosures about IC information. Whiting and Woodcock (2011) investigate the effect of auditor type on ICR by Australian companies and reveal that companies with large Big Four auditing firms show more extensive ICR than those without Big Four auditors. They explain their study finding by noting that because large auditing firms have a reputation to preserve they encourage their clients to provide more IC information than smaller firms.

*External drivers of ICR.* Some studies examined the potential drivers of ICR practices other than company characteristics. For example, in an attempt to examine the influence corporate governance on ICR practices, Haji and Ghazali (2013) explore the relationship between ICR and corporate governance attributes among top-listed companies in Malaysia and reveal that corporate governance attributes (board size, independent directors, board effectiveness, and position of the chairman) and ownership structure (director ownership and government ownership) were significant in explaining the extent and quality of ICR practices of Malaysian public-listed companies. Their study findings suggest that corporate governance and ICR are connected and that governance mechanisms improve the monitoring quality of companies toward enhanced ICR practices. Similarly, White *et al.* (2007) document that board independence is significantly related to the level of ICR.

*Presentation and composition of ICR.* In an interesting study, Li and Mangena (2014) explore the presentation format of ICR (text, numerical information, or graphs/images) in the annual reports of listed British companies. They find that reports follow text most of all, followed by a numerical presentation, and make little use of graphs or images. By contrast, in an examination of New Zealand companies' communication of IC information in their annual reports, Steenkamp and Hooks (2011) show that images dominate ICR. Their study finding that employees and brands dominate ICR may indicate the importance of these IC items.

Liao *et al.* (2013) assess ICR practices in the Chinese and English language versions of the annual reports of listed Chinese companies and find significant differences. Chinese versions tend to include more internal capital information (especially information about infrastructure and subsidiaries), while the English version tends to include more external capital information (especially information about goodwill and customers). Abhayawansa and Guthrie (2014), examining the ICR by a selection of Australian listed companies, find that different types have different weights in company valuation. ICR concerning relational capital and company management appears most frequently, while ICR related to employees, the working environment, and structural capital appears least frequently.

*Impact of ICR.* Based on a co-operative setting, Khan *et al.* (2016) examine the impact of IC on the Malaysian co-operatives organizations and reveal a strong positive relationship between IC and the co-operatives' performance. They highlight that even though tangible

assets are important for a co-operative to perform and manage its operation, intangible assets such as IC are vital for the success of a co-operative because they determine the quality of services delivered to the customers. As results, Khan *et al.* (2016) suggest that co-operatives should focus on managing and promoting continuous development of their IC, which could lead to the success of the co-operatives.

In summary, the ICR literature provides significant insights into practices worldwide. Studies find noticeable differences in the levels between companies and countries. These findings have motivated empirical investigations of the drivers of these variations, which have been found to include company characteristics such as size, profitability, auditor type, industrial sector, growth, performance, and age. Although growing empirical evidence reveals what drives ICR practices, to the best of author's knowledge there are no studies of ICR practices and their drivers in Kuwait specifically. It is possible that the drivers identified in other studies do not have the same effect in Kuwait, due to differences in the economic, social, political, and cultural settings of Kuwait as a frontier market.

### 2.3 Hypotheses

Following previous work, this study examines six company characteristics: age, leverage, size, performance, audit type, and industrial sector. The following sections examine these characteristics and present the related hypotheses.

*Age.* The literature suggests that age makes it more likely that a company will have the necessary resources to produce and distribute corporate information (Demir and Bahadir, 2014). Thus, older, more established companies have higher levels of IC disclosure. Prencipe (2004) argues that a lack of experience in gathering, processing, and disseminating corporate information means that younger companies tend to incur higher proprietary costs than older companies (Prencipe, 2004). Petty and Cuganesan (2005) suggest that the level of ICR in annual reports increases over time, as companies copy each other's reporting practices. On the other hand, Alcaniz *et al.* (2015) suggest a negative relationship between age and IC disclosure, arguing that younger companies must provide more information to investors because they are less familiar.

Empirical evidence of the relationship between age and ICR is mixed. For example, using an Australian sample, White *et al.* (2007) document a significant positive correlation between ICR and age. In contrast, Li *et al.* (2008) observe a significant negative correlation between age and ICR in their British sample. Finally, both Jindal and Kumar (2012) and Haniffa and Cooke (2002) observe a positive, but non-significant correlation in their Indian and Malaysian sample.

The descriptive statistics presented in Panel A of Table III show a notable variation in the age of KSE-listed companies. Some companies were founded as long ago as 1952, while others were launched as recently as 2010. Given that older companies tend to have established information systems and experienced staff who are familiar with the production and distribution of corporate information, this study will investigate the following hypothesis:

*H1.* The level of ICR is positively correlated with a company's age.

*Leverage.* Agency theory has been used to explain why managers of highly leveraged companies have an incentive to increase disclosure – specifically, in order to reduce agency costs arising from conflicts of interests between debt holders and shareholders (Morris, 1987). Increased agency costs reflect both a reduction in the company's value and higher monitoring costs. Jensen and Meckling (1976) note that high costs in particular affect highly leveraged companies because of the risk that wealth is transferred from the debt holders to shareholders, which motivates managers to reduce them. One method is to

increase corporate disclosure (Morris, 1987), which helps to reassure creditors that the company will respect their covenant claims (Ali *et al.*, 2004).

Empirical studies have found mixed results regarding the correlation between leverage and ICR. For example, White *et al.* (2007), Abdul Rashid *et al.* (2012), and Haji and Ghazali (2013) document a significant positive correlation, which supports the notion that highly leveraged companies increase disclosure to minimize debt-related agency costs. In contrast, Oliveira *et al.* (2013) observe a negative correlation. The results from other studies are inconclusive (e.g. Oliveira *et al.*, 2006; Eddine *et al.*, 2015).

In Kuwait, listed companies typically rely on banks to provide funding. Listed companies seeking debt finance are expected to provide detailed information (including IC information), to lower the cost of debt and satisfy the informational needs of debenture holders. Consequently, this study investigates the following hypothesis:

*H2.* The level of ICR is positively correlated with a company's leverage.

*Size.* The ICR literature has documented the significant influence of company size in shaping ICR. Because larger companies have higher visibility and are more exposed to political attack, they tend to protect their reputation and avoid government intervention by releasing more information than smaller companies (García-Meca *et al.*, 2005; Demir and Bahadir, 2014). Watts and Zimmerman (1983) argue that larger companies face higher agency costs, given their larger number of shareholders. Managers seek to reduce these costs through increased corporate disclosure. Healy and Palepu (2001) document that as proprietary costs rise, companies have less incentive to disclose information that may affect their competitive position, even if this increases the cost of raising equity, that is, there is a cost-benefit trade-off. However, Verrecchia (1983) notes that proprietary costs related to the competitive disadvantages of additional disclosure tend to fall as company size increases. In addition, Branco *et al.* (2010) argue that the cost of gathering, processing, and disseminating detailed corporate information tends to be lower for larger companies, due to their greater resources and expertise.

Although overall, the empirical literature observes a significant positive correlation between company size and ICR (see e.g. Bozzolan *et al.*, 2003; Guthrie *et al.*, 2006; Oliveira *et al.*, 2006; White *et al.*, 2007; Li *et al.*, 2008; Branco *et al.*, 2010; Jindal and Kumar, 2012), a few studies have found a significant negative correlation (see e.g. Singh and Van der Zahn, 2008; Too and Yusoff, 2015). Finally, the results of other studies are inconclusive (see e.g. Bukh *et al.*, 2005; Abdul Rashid *et al.*, 2012).

Given that the cost of gathering, processing, and disseminating IC information tends to be lower in larger companies, together with the potential benefits of providing more IC information, this study investigates the following hypothesis:

*H3.* The level of ICR is positively correlated with a company's size.

*Performance.* Theoretical models of corporate disclosure propose that disclosure and performance correlates positively in the face of adverse selection (Oliveira *et al.*, 2006). Highly profitable companies are thought to be more likely to disclose information in order to avoid the undervaluation of their shares (Too and Yusoff, 2015). Based on agency and signaling theories, Singhvi and Desai (1971) claim that managers are more likely to disclose detailed information when profitability is high, in order to signal their ability to maximize shareholder value, secure their position, and justify their level of compensation. In contrast, unprofitable firms are less inclined to release information in order to hide their poor performance. Finally, Too and Yusoff (2015) note that since corporate information is costly to gather, process, and disseminate, profitable companies are more willing to absorb these costs.

Empirical evidence on the relationship between performance and ICR is mixed. For example, El-Bannany (2008), and Appuhami and Bhuyan (2015) find a significant positive correlation. In contrast, Too and Yusoff (2015) find a significant negative

correlation. They attribute this finding to the possibility that unprofitable companies try to enhance their image by increasing disclosure. Finally, Firer and Williams (2003) fail to find any significant negative or positive correlation.

Despite these mixed results, more profitable KSE-listed companies are expected to be more likely to disclose detailed IC information. They would make such disclosures in order to maximize the shareholder value, increase managers' job security, and justify managers' level of compensation. Consequently, this study investigates the following hypothesis:

*H4.* The level of ICR is positively correlated with a company's performance.

*Audit type.* Although the managerial team is entirely responsible for preparing the annual report, an external audit firm can significantly influence the quantity and quality of information it contains (Barako *et al.*, 2006). Wallace *et al.* (1994) argue that an audit by one of the Big Four international firms are more likely to provide more detailed information than companies audited by local firms, because the Big Four firms offer more expertise. According to the agency theory, well-known auditing firms play a crucial role in minimizing opportunistic managerial behavior (Jensen and Meckling, 1976). Given the risk to their reputation capital, in uncertain situations, the Big Four audit firms encourage more and higher-quality disclosure. Furthermore, DeAngelo (1981) argues that larger auditing firms seek to protect their reputation and have more to lose if they fail to report a breach, make an error, or misrepresent their clients' financial position. Similarly, Oliveira *et al.* (2006) argue that large, well-known auditing firms encourage companies to disclose more IC information as they seek to preserve their own reputation, develop their IC disclosure expertise, and ensure that they retain their clients.

The findings from prior empirical studies of the correlation between the type of auditing firm and ICR are mixed. For example, Ahmed and Courtis (1999) find that the type of the external auditing company correlates significantly and positively with disclosure. Similarly, Oliveira *et al.* (2006) and Whiting and Woodcock (2011) show that companies audited by Big Four firms provide more extensive IC information than others. In contrast, Ousama *et al.* (2012) observe that the type of the audit firm does not significantly influence ICR.

Given that the agency theory suggests a positive correlation between audit firm type and corporate disclosure, and because the Big Four firms have greater expertise, this study investigates the following hypothesis:

*H5.* The level of ICR is positively correlated with having been audited by a Big Four firm.

*Industrial sector.* Owusu-Ansah (1998) argues that corporate disclosure practices are likely to vary across industrial sectors because of their specific characteristics, namely their nature or importance to either investors or the national economy. Bozzolan *et al.* (2003) argue companies that operate in sectors with an uncertain future tend to demand greater information. Oliveira *et al.* (2006) argue that sectors have different characteristics that include the type of private information, the threat of new companies entering the market, and competition. These characteristics motivate companies in some sectors to disclose more information than others. For example, technology-based or knowledge-intensive industries tend to have higher levels of IC disclosure than others that rely on their physical assets.

In general, empirical findings support the theoretical notion that corporate disclosure practices vary as a function of industrial sector. For example, Oliveira *et al.* (2006) show that ICR is significantly correlated with the industrial sector, while Branco *et al.* (2010) find that the industrial sector only partially explains ICR. In analyzing IC disclosure of listed Italian companies, Bozzolan *et al.* (2003) find that industrial sector is not important in determining the content of IC disclosure; however, sectors are relevant in explaining the amount of information disclosed.



Given that different industries have different characteristics that influence ICR, this study investigates the following hypothesis:

H6. The level of ICR varies as a function of industrial sector.

### 3. Methods

#### 3.1 Sample selection and data

The sample consists of all companies listed on the KSE on 31 December 2013 for which annual reports were available – 182 out of 195 listed companies. The sample was divided into the following five industrial sectors: 17 financial institutions, 40 investment, 33 manufacturing, 56 services, and 36 real estate companies. The 2013 corporate annual reports were the most recent data available at the time of the analysis, while the need for manual data collection and the analytic effort meant that the study period was limited to 2013. Data were collected from two sources: the company's 2013 annual report and the official website of the KSE ([www.kse.com.kw](http://www.kse.com.kw)). Annual reports were collected either from the company's website or its corporate headquarters.

#### 3.2 Assessing the level of ICR in annual reports

Consistent with Guthrie and Petty (2000), Abeysekera and Guthrie (2005), Bukh *et al.* (2005), Branco *et al.* (2010), Li and Mangena (2014), and many other IC disclosure studies, a content analysis was used to measure the ICR. Guthrie *et al.* (2004, p. 287) describe this technique as “codifying qualitative and quantitative information into pre-defined categories in order to derive patterns in the presentation and reporting of information.” Krippendorff (1980) defines it as a systematic replicable research technique for making valid inferences from texts or other meaningful matter to the contexts of their use. Content analysis is a systematic, objective, and reliable way to analyze printed information (Guthrie *et al.*, 2004). Krippendorff (1980, p. 51) claims that “content analysis research is motivated by the search for techniques to infer from symbolic data what would be either too costly, no longer possible or too obtrusive by the use of other techniques.”

The study uses the framework developed by Sveiby (1997), considered to be one of the classical frameworks in the IC literature. Sveiby (1997) divides IC into internal structure, external structure, and employee competence. IC studies have widely adopted the classification, with minor modifications (e.g. Guthrie and Petty, 2000; Guthrie *et al.*, 2004, 2006; Li *et al.*, 2008; Haji and Ghazali, 2013). Guthrie *et al.* (2004) divide IC components into three main components: internal capital, external capital, and human capital. The authors state that “internal capital includes the systems, policies, culture and other ‘organizational capabilities’ developed to meet the market requirements. External capital covers the connections that people outside the organization have with it, and human capital includes the know-how, capabilities, skills, and expertise of the employees” (Guthrie *et al.*, 2004, p. 286). This study adopts the Guthrie model and develops a list of 24 IC indicators. To confirm the completeness and comprehensiveness of the adopted model to Kuwaiti business environment, an academic and two experienced professionals who specialize in financial reporting and disclosures in Kuwait reviewed the model. There are eight indicators for each subcategory, as follows.

Internal capital:

- (1) intellectual property;
- (2) corporate culture;
- (3) patents/copyrights/trademarks;
- (4) information systems;
- (5) networking systems;

- (6) management process;
- (7) management philosophy; and
- (8) financial relations.

External capital:

- (1) brands;
- (2) customers;
- (3) company name;
- (4) customer satisfaction;
- (5) customer loyalty;
- (6) distribution channels;
- (7) business collaboration; and
- (8) licensing agreements.

Human capital:

- (1) education;
- (2) know-how
- (3) work-related knowledge/competencies;
- (4) academic qualifications
- (5) professional qualifications;
- (6) human capital/resources;
- (7) training; and
- (8) entrepreneurial spirit, innovativeness, proactive, and reactive abilities, changeability.

Consistent with the ICR literature (see e.g. Guthrie and Petty, 2000; Li *et al.*, 2008; Haji and Ghazali, 2013), the IC indicators adopted here were identified from the annual reports of KSE-listed companies. Each indicator is assigned the same weight and coded as 1 if it appears in the annual report and 0 if it does not. Scores are based on a careful review of the complete annual report.

### 3.3 Drivers of ICR

This study aims to determine the drivers of ICR, which is the dependent variable. Company characteristics (independent variables) are assumed to be the potential drivers. Table I shows the definition, measurement, and source of dependent and independent variables.

### 3.4 Regression model

Once the extent of ICR has been determined, the next step is to explore its drivers. The multiple regression model uses the level of ICR as the dependent variable. To test *H1-H6*, company characteristics (age, leverage, size, performance, audit type, and industrial sector) are used as independent variables. The equation to be tested is specified as:

$$ICR = \beta_0 + \beta_1 Age + \beta_2 Leverage + \beta_3 Size + \beta_4 Performance + \beta_5 Audit + \beta_6 Financial + \beta_7 Investment + \beta_8 Manufacturing + \beta_9 Services + \epsilon_i \quad (1)$$

**Table I.**  
Definition and measurement of dependent and independent variables

Variable	Acronym	Operationalization	Source of data
<i>Dependent variable</i>			
Intellectual capital reporting	<i>ICR</i>	Number of IC indicators in the annual report, divided by the maximum possible (24)	Annual reports
<i>Independent variables (company characteristics)</i>			
Age	<i>Age</i>	Number of years that have passed since the company was founded and the end of 2013	KSE's official website
Leverage	<i>Leverage</i>	The ratio of total debt to total shareholder equity at the end of 2013	Annual reports
Size	<i>Size</i>	Total assets at the end of 2013	Annual reports
Performance	<i>Performance</i>	The ratio of net income to total assets at the end of 2013	Annual reports
Audit type	<i>Audit</i>	A dummy variable coded 1 if a Big Four firm audited the company's financial statements, and 0 otherwise	Annual reports
Financial institutions sector	<i>Financial</i>	A dummy variable that equals 1 for companies in the financial institutions sector, and 0 otherwise	KSE's official website
Investment sector	<i>Investment</i>	A dummy variable that equals 1 for companies in the investment sector, and 0 otherwise	KSE's official website
Manufacturing sector	<i>Manufacturing</i>	A dummy variable that equals 1 for companies in the manufacturing sector, and 0 otherwise	KSE's official website
Services sector	<i>Services</i>	A dummy variable that equals 1 for companies in the services sector, and 0 otherwise (real estate is omitted as it is the default if all other sectors are 0)	KSE's official website

## 4. Results

### 4.1 Descriptive statistics and correlation analysis

Panel A of Table II presents descriptive statistics for the ICR index. The mean ICR score for all KSE-listed companies in 2013 was 28 percent. However, the minimum was 0 percent and the maximum was 96 percent. These results suggest that levels of ICR among the 182 companies were highly variable. Panel B of Table II presents the frequency distribution of ICR scores. Surprisingly, 28 percent of companies did not disclose any IC information in their annual reports. On the other hand, 23 percent of companies scored between 1 and 20 percent; 31 percent scored between 21 and 60 percent; and 16 scored between 61 and 90 percent. Only 2 percent achieved scores above 90 percent. These results suggest that ICR levels were widely distributed, which motivated the examination of the key drivers for this variation.

Table III presents the descriptive statistics for independent continuous and dummy variables. Panel A of Table III shows that the age of companies ranges from 3 to 61 years, with a mean of 24.99. Leverage ranges from 0.02 to 0.89, with a mean of 0.37. Company size varies widely, from Kuwaiti Dinar (KD) 1.68 million to KD18,600.14 million, with a mean of KD533.25 million. Performance, measured by profitability, varies from -0.25 to 0.23, with a mean of 0.03. The non-normality in size was largely corrected with the natural logarithm transformation of the variable.

Panel B of Table III presents the distribution of companies audited by Big Four and non-Big Four firms. The results reveal that 59 percent of firms were audited by Big Four companies, while 41 percent were not. Finally, Panel B of Table III shows the number of companies in each industrial sector.

Table IV reports Pearson's correlation between company characteristics (independent variables) and ICR (the dependent variable). Positive and significant correlations between age, leverage, size, profitability, and ICR are consistent with expectations. Furthermore, Table IV

**Table II.**  
Descriptive statistics  
for intellectual capital  
reporting (ICR)

<i>Panel A: Descriptive statistics for ICR</i>							
Dependent variable	<i>n</i>	Mean	SD	Min.	Max.	Skewness	Kurtosis
ICR	182	0.28	0.22	0.00	0.96	0.77	-0.43
<i>Panel B: Frequency distribution of ICR</i>							
ICD range	Frequency	Percentage	Cumulative percentage				
= 0.00	51	28	28				
0.01-0.20	41	23	51				
0.21-0.40	37	20	71				
0.41-0.60	21	11	82				
0.61-0.80	23	13	95				
0.81-0.90	6	3	98				
0.91-0.96	3	2	100				
Total	182	100					

**Table III.**  
Descriptive statistics  
for independent  
variables

<i>Panel A: Independent variables – continuous variables</i>						
Variable	Mean	SD	Minimum	Maximum	Skewness	Kurtosis
Age	24.99	13.61	3	61	0.53	-0.84
Leverage	0.37	0.24	0.02	0.89	0.31	-0.79
Size (KD million)	533.25	207.45	1.68	18,600.14	6.75	50.55
Size (transformed)	18.28	1.58	14.34	23.65	0.79	1.32
Performance	0.03	0.06	-0.25	0.23	-0.62	1.39
<i>Panel B: Independent variables – dummy variables</i>						
Variable	Yes	Percentage				
Audit type						
Big Four audit firm	108	59				
Non-Big four audit firm	74	41				
Industrial sector						
Financial institutions	17	9				
Investment	40	22				
Manufacturing	33	18				
Services	56	31				
Real estate	36	20				

**Table IV.**  
Bivariate correlations  
between variables

Variable	ICR	Age	Leverage	Size	Performance
ICR	1.00				
Age	0.29***	1.00			
Leverage	0.11***	-0.01	1.00		
Size	0.30***	0.39***	0.11***	1.00	
Performance	0.12***	0.05	-0.08	0.01***	1.00

**Note:** \*\*\*Pearson's correlation is significant at  $\leq 0.01$  level (two-tailed)

reveals that although variables are correlated, no pair-wise coefficient exceeds 0.8, suggesting that multicollinearity is not a concern. Finally, diagnostic statistics based on the variance inflation factor test were found to be well within the acceptable limits.

#### 4.2 Regression results

A multiple regression model was used to analyze the extent of ICR as a function of company age, leverage, size, performance, audit type, and industrial sector.

Table V shows the results of estimating the model, and shows that company characteristics are highly significant in explaining ICR ( $F = 13.071, p < 0.01$ ). Collinearity diagnostics reveal that tolerance and variance inflation factors (VIF) for all independent variables are within the acceptable range (tolerance  $> 0.1$ ; VIF  $> 10$ ), suggesting that multicollinearity is unlikely to be a problem (Pallant, 2013). The adjusted  $R^2$  indicates that company characteristics explain approximately 38 percent of the variation in ICR. The standardized coefficient  $\beta$  reveals that the company size has the greatest impact on ICR, followed by the financial institutions sector, the services sector, and profitability. Finally, the coefficient shows that audit type and the manufacturing sector have the least effect.

Consistent with hypothesis  $H1$ , Table V shows that company age (*Age*) is a significant predictor of variation in ICR disclosure ( $p < 0.10$ ). This suggests that older, more mature companies are more likely to have well-established information systems and can produce detailed information more easily than younger companies. This finding is consistent with White *et al.* (2007), who find a significant positive correlation between ICR and company age in Australia. However, it is inconsistent with Li *et al.* (2008), who report a negative correlation between ICR and company age in the UK.

In Kuwait, listed companies typically rely on banks for funding.  $H2$  predicts that listed firms seeking finance provide more detailed IC information to lower the cost of debt and satisfy the informational needs of debenture holders. Table V shows that ICR is positively and significantly correlated with leverage (*Leverage*) ( $p < 0.10$ ). This result is consistent with the notion that highly leveraged companies have a greater need to reduce agency costs and satisfy information needs. Detailed disclosure responds to this need. This finding is consistent with White *et al.* (2007), Abdul Rashid *et al.* (2012), and Haji and Ghazali (2013); however, it contradicts the findings of Oliveira *et al.* (2013).

Variable	Predicted sign	Unstandardized coefficient		Standardized coefficient	<i>t</i> -statistic	Probability	Collinearity Statistics	
		<i>B</i>	SE	$\beta$			Tolerance	VIF
Intercept		-1.063	0.225		-4.725	0.000***		
<i>Age</i>	+	0.002	0.001	0.119	1.738	0.084*	0.743	1.345
<i>Leverage</i>	+	0.048	0.300	0.101	1.657	0.099*	0.945	1.058
<i>Size</i>	+	0.063	0.013	0.353	4.837	0.000***	0.656	1.525
<i>Performance</i>	+	0.006	0.003	0.141	2.293	0.023**	0.925	1.081
<i>Audit</i>	+	0.022	0.036	0.039	0.616	0.539	0.861	1.162
<i>Financial</i>	?	0.316	0.072	0.330	4.412	0.000***	0.625	1.601
<i>Investment</i>	?	0.058	0.052	0.086	1.117	0.265	0.589	1.697
<i>Manufacturing</i>	?	-0.008	0.056	-0.011	-0.144	0.886	0.608	1.645
<i>Services</i>	?	0.138	0.049	0.226	2.836	0.005***	0.552	1.813
<i>n</i>		$R^2$		Adj. $R^2$	<i>F</i> -statistic	<i>p</i> -value ( <i>F</i> -statistics)		
182		0.410		0.379	13.071	0.000		

**Notes:** *ICR* is the number of ICR indicators found in the annual report divided by the maximum possible; *Age* is number of years that have passed since the company was founded and 2013; *Leverage* is the ratio of total debt to total shareholder equity at the end of 2013; *Size* is total assets at the end of 2013; *Performance* is the ratio of net income to total assets at the end of 2013; *Audit* is a dummy variable that is coded 1 if a Big Four audit firm audits the company's financial statements, 0 otherwise; *Financial* is a dummy variable that equals 1 for companies in the financial institutions sector, and 0 otherwise; *Investment* is a dummy variable that equals 1 for companies in the investment sector, and 0 otherwise; *Manufacturing* is a dummy variable that equals 1 for companies in the manufacturing sector, and 0 otherwise; *Services* is a dummy variable that equals 1 for companies in the services sector, and 0 otherwise (real estate is omitted as it is the default if all other sectors are 0). \*, \*\*, \*\*\*Significant at 0.10, 0.05, and 0.01 levels, respectively (two-tailed)

**Table V.** Regression analysis of ICR drivers

Given that the cost of gathering, processing, and disseminating IC information tends to be lower for larger companies, and given the potential benefits of providing more IC information, *H3* predicts that ICR is positively correlated with company size. Table V confirms that size (*Size*) is a significant predictor of ICR ( $p < 0.01$ ). This result supports the argument that larger firms are more willing to disclose information in order to reduce political costs, limit litigation, and discourage government intervention. In addition, the cost of accumulating information is lower for larger firms, because of their extensive internal reporting systems. Smaller firms are more likely to conceal sensitive information because full disclosure could jeopardize their competitive position (Chavent *et al.*, 2006). This finding is consistent with several earlier studies (e.g. Bozzolan *et al.*, 2003; Guthrie *et al.*, 2006; Oliveira *et al.*, 2006; White *et al.*, 2007; Li *et al.*, 2008; Branco *et al.*, 2010; Jindal and Kumar, 2012).

*H4* predicts that companies with better performance are more likely to disclose detailed IC information, as a signal of their ability to maximize shareholder value. Consistent with this prediction, Table V shows that ICR is positively and significantly correlated with performance (*Performance*), measured by return on assets ( $p < 0.05$ ). This finding supports the argument that managers are more likely to disclose detailed information when profitability is high as it increases their job security and justifies compensation levels. In contrast, companies may disclose less information when performance is poor in order to hide the reasons for the decline. This finding is consistent with El-Bannany (2008) and Appuhami and Bhuyan (2015); however it is inconsistent with Too and Yusoff (2015).

Given the level of expertise provided by Big Four auditing firms compared to other firms, *H5* predicts a positive correlation between the type of the audit firm and ICR. Consistent with this prediction, Table V shows that although the correlation with audit type (*Audit*) was positive, it was not significant at any conventional level. This finding is consistent with Ousama *et al.* (2012), who observe that audit firm type does not significantly influence ICR. However, the finding presented here is inconsistent with the results of Oliveira *et al.* (2006) and Whiting and Woodcock (2011).

Based on the argument that different industries have different characteristics, Hypothesis *H6* predicts that ICR will vary as a function of industrial sector. Mixed results are observed. Table V shows that the financial institution (*Financial*) and service (*Service*) sectors are significantly different from the real estate sector ( $p < 0.01$ ). In contrast, the investment (*Investment*) and manufacturing (*Manufacturing*) sectors are not. These findings partially support *H6*.

## 5. Discussion and conclusion

Motivated by the increased attention to IC disclosure from regulatory bodies, practitioners, and researchers and the recent calls for companies to supplement and complement their traditional financial statements with IC disclosure, the objective of this empirical study is to investigate the drivers of ICR among the companies listed on the KSE. Six hypotheses were developed as to the influence of company characteristics on the level of ICR in companies listed on the KSE in 2013. ICR was hypothesized to increase with company age (*H1*), leverage (*H2*), size (*H3*), performance (*H4*), and type of auditor (*H5*) and vary as a function of industrial sector (*H6*).

The study uses the classical framework developed by Sveiby (1997) and modified by Guthrie *et al.* (2004) to evaluate the IC disclosure. The framework is most widely used in the ICR literature and divides IC into three main components: internal capital, external capital, and human capital. An equal weight disclosure index of 24 IC indicators was developed based on the adopted framework. To validate the completeness and comprehensiveness of the constructed IC disclosure to the Kuwaiti business environment, the index was reviewed by academic and experienced professionals. To determine the extent of ICR, content analysis was applied to the 2013 annual reports of all companies listed on the KSE.

After determining the level of IC disclosure, the next step was to investigate the association between the level of ICR and a company's attributes to explain why companies differ in their IC disclosure levels. The ICR level obtained from the IC disclosure index is used as the dependent variable and a company's attributes are used as independent variables in a multiple regression model.

Despite the growing importance of IC disclosure in capital markets, the study findings reveal an overall relatively low level of ICR among KSE-listed companies. The mean level of IC disclosures for all 182 KSE-listed companies in 2013 was 28 percent, with a range of 0-96 percent. However, a notable variation in companies' levels of disclosure is observed, which encourages an examination of the company characteristics that affect the level of IC disclosure. The results of the regression analyzes support the hypotheses that company age, leverage, size, and financial performance influence the ICR. Industrial sector was found to be a partial driver. No significant correlation was found with the type of auditor. Consequently, these results suggest that older, highly leveraged, larger, and more profitable KSE-listed firms generally have higher levels of ICR. The study results support the findings of prior IC studies that these characteristics correlate with IC disclosure.

The findings have several important implications. This is the first empirical investigation of the drivers of ICR in the frontier market of Kuwait, and it shows that the level of disclosure of IC information is low. This may reflect lack of knowledge on the part of KSE companies as to how to measure, manage, and report IC information. A recent study by Ernst & Young on the use of nonfinancial corporate information in investment decisions found that 80 percent of respondents considered such information to be essential or important (EY, 2015). Given the increasing importance of IC information in capital markets, regulatory bodies should encourage, stimulate, and guide companies in Kuwait and other frontier markets to report IC information. These findings offer insights as to the drivers of ICR that should improve efforts to develop recommendations that push for greater IC disclosure in corporate annual reports – particularly for companies that are not otherwise motivated to disclose such information.

While the study contributes to our understanding of the drivers of ICR, there are caveats. For example, although the sample included all KSE-listed companies, its size could be considered a limitation. Another limitation relates to the use of content analysis and scoring the level of IC disclosure. Analyzing the corporate reports based on a list of terms related to IC may not provide the whole picture of ICR behavior. The subjectivity inherent in constructing and scoring the IC disclosure is a concern in this and previous IC studies. I sought to address this limitation by using several approaches to make the analysis more objective, as previous IC studies have. Furthermore, data collection is limited to the annual reports from a single year. A longitudinal study based on a larger sample would provide more comprehensive insights into the pattern of ICR in Kuwait and make the results more generalizable. Furthermore, only company characteristics were considered as the potential ICR drivers. An interesting area for future research would be to investigate other drivers, such as corporate governance mechanisms and ownership structures. Nevertheless, this pioneering study remains the first empirical investigation of ICR drivers in the frontier market of Kuwait and it offers crucial insights to drive such future research.

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