

# The association between internal audit department characteristics and IFRS compliance

Abdulaziz Alzeban

*Department of Business Administration, Community College,  
King Abdulaziz University, Jeddah, Saudi Arabia*

## Abstract

**Purpose** – The purpose of this paper is to analyze whether internal audit (IA) influences the successful implementation of the International Financial Reporting Standards (IFRS). From January 2017, listed companies in Saudi Arabia have been mandated to adopt the IFRS. Conducted in the 2014–2016 years before this deadline, the study investigates the readiness of IA departments in the Kingdom to adopt the IFRS in their totality, as required, by January 2017.

**Design/methodology/approach** – Data were collected for the period 2014 and 2016, two years after the announcement of the intended adoption of the standards, and hence, two years into the five-year preparation period. Data obtained from 78 chief internal auditors from listed companies in Saudi Arabia, and the extraction of information from companies' annual reports.

**Findings** – Results of regression analysis show a significant association between the readiness for IFRS adoption and IA size and IA staff training. In firms that adopted the IFRS in the period before the mandatory implementation, IA is weak in the role of monitoring. In this connection, it is demonstrated that the adoption and implementation of the IFRS are likely to be more effective when IA reports directly to the audit committee rather than to management. Further, the results reveal that the Hausman test is not significant for the IA characteristics. Hence, there is implication that the measurement instruments used in the study are exogenous and do not associate with the error term.

**Originality/value** – The new insights into the impact of IA on IFRS adoption, gained from studying this issue within the oil-based Saudi Arabian economy, represent a contribution to the IA literature. The results of this study provide new insights to several stakeholders. First, to academia, which can benefit from new IA knowledge and understanding in the specific context of the Kingdom of Saudi Arabia (KSA), which can be representative of the Gulf region and the wider Arab World. Second, to policy-makers and practitioners in the KSA and other Middle-Eastern, Asian and developing countries that share similar cultural predispositions, socio-economic institutions and/or general socio-economic environments. Additionally, it offers insights for small- to medium-sized companies that have not thus far, adopted the IFRS.

**Keywords** Saudi Arabia, IFRS adoption, Internal audit, Internal audit role, Internal audit size

**Paper type** Research paper

## 1. Introduction

The role played by internal audit (IA) in the effective adoption and implementation of the International Financial Reporting Standards (IFRS) is believed to be crucial. IA is essential in securing good corporate governance (Chen and Rezaee, 2012; Gramling *et al.*, 2004), which, in turn, demands clear and sufficient disclosure of the financial information, as required by the IFRS. As a set of globally-recognized benchmarks for the reporting of financial matters, the IFRS contribute to the mix of factors that promote good corporate governance. Hence, there seems to be an inherent link between these three issues – the internal audit function (IAF), the proper application of the IFRS and good corporate governance. However, in the switch from any national generally accepted accounting principles (GAAP) to the IFRS, the IAF must be capable of championing and delivering those standards. Therefore, researchers need to establish the state of readiness of a country's audit profession to step into this role when a country decides to embrace the IFRS. The Kingdom of Saudi Arabia (KSA) decided to adopt the IFRS in response to several external forces, which have pointed to the need for consistency between the country's financial reporting and other major economies.



Major motivators for the KSA in this respect are the facts that, in 2005, European listed companies were compelled by a European Union (EU) Directive to implement the IFRS as a means of securing comparability of financial reporting across the Union, and thereby to enhance the reporting standards. In December of the same year, the KSA became a member of the World Trade Organization (WTO), reflecting the Kingdom's long transactional relationship with the international economy through its oil sector. The KSA is the biggest stock market in the Middle East and features many listed companies, which have subsidiaries in other countries, and likewise, several international companies have begun to establish subsidiaries in the KSA in response to its attempt to attract more foreign direct investment (FDI). Hence, the KSA's economy has become strongly connected to other economies in the world. The petrochemicals giant Saudi Arabia Basic Industries Corporation, for instance, operates in more than 50 countries, with innovation hubs in five key regions – the USA, Europe, Middle East, South East Asia and North East Asia. In GDP terms, the KSA is ranked 20th worldwide, and 6th in Asia. The Kingdom clearly stands as a significant player in the global economy.

Very little is known about IA in the oil rich Arabian Gulf region. This may be the result of certain cultural characteristics within the region, such as the strongly hierarchical nature of the social structure, the essential role of kinship, belief, and its influence on business life, the meanings of professionalism and the nature of some socio-economic institutions. Some of these cultural characteristics prevent the scrutiny of operations from achieving the same extent as in non-Arab countries.

However, since the announcement that KSA's listed companies would be mandated to adopt and fully implement the IFRS by January 2017, a distinct effort to prepare for this substantial change has been made by most of these companies. Some have tried to prepare by introducing all of the new standards before the due deadline, others have adopted an incremental approach, complying with some of the new standards alongside the Saudi national GAAP, while yet others have done little to prepare for the switch. Consequently, there is a need for some insight into the motivations in this respect, and the literature as it stands does not provide this.

Indeed, the majority of the studies so far conducted on the subject of IFRS implementation have concentrated on comparisons between capital markets and financial reporting before and after the adoption of the new standards (e.g. Bayerlein and Al Farooque, 2012; Armstrong *et al.*, 2010; Daske *et al.*, 2008; Goodwin and Ahmed, 2006). However, more recent research efforts have concentrated on the association between the strength of corporate governance and IFRS adoption in compliance with the EU Directive of 2005 (e.g. Aksu and Espahbodi, 2016; Kabir and Rahman, 2016; Verriest *et al.*, 2013). Other scholars are interested in the influence on the audit fees determined by IFRS adoption (e.g. Khelif and Achek, 2016; Cameron and Perotti, 2014; Redmayne and Laswad, 2013; Griffin *et al.*, 2009), recognizing that the IFRS requires greater disclosure. As a result, the external audit may become more (or less) complicated. These different investigations contribute to the continuing discussion on the benefits of implementing the IFRS. However, the precise impact of IA in facilitating the adoption and subsequent application of the IFRS and its ability to rise to this challenge remains unexplored. The present study aims at addressing this gap in the existing literature.

To this end, it seems appropriate to distinguish between adoption and implementation. In this study, "adoption" will refer to the act of substituting the IFRS for the national GAAP, and the KSA mandates this as from January 2017. "Implementation" will refer to the actual process of applying the IFRS within the listed companies. Given the cultural predispositions already referred to, it is possible that, despite being mandated to adopt the IFRS, some firms may resist. In this situation, the IAF may find itself in the position of trying to persuade management to comply with the regulators and "adopt" the new accounting standards.

Where companies are complying with this mandate, the issue may be whether the standards are being properly complied with, and this is referred to as "implementation." Addressing the role of IA in the effective adoption and implementation of IFRS, the present study explores the impact of three of its: the size of IA, the training of its staff and the IA reporting line (whether this be to the audit committee (AC) or to general management). The first two features depend on the organizational resources accorded to the IAF, and in turn the organizational resources allocated in this respect are the outcome of the strength of the AC which can be seen in several ways, one of them being whether it requires the IA to report directly to it rather than to general management.

This study aims to extend the findings of earlier studies by improving the understanding of how those characteristics might facilitate the implementation of the IFRS (e.g. Aksu and Espahbodi, 2016; Khelif and Achek, 2016; Verriest *et al.*, 2013; Chen and Rezaee, 2012; Kim *et al.*, 2012; Chen and Cheng, 2007). Findings of this study will contribute to various strands of the literature. To the best of researcher's knowledge, this study is one of the first efforts to explore whether a direct causal link exists between IA and the successful implementation of the IFRS. Likewise, in its examination of IA staff training and size, and of the IA reporting line as factors influencing IFRS implementation, it can also be regarded as a pioneer. Moreover, it will contribute to the literature relating to the role played by the IFRS in promoting good corporate governance, exploring the role of IA as an essential ingredient. Additionally, the results of this study will be of interest to policy-makers and regulators in countries where the decision to incorporate these standards as part of the national auditing practice has not yet been mandated. In this regard, the present study responds to the arguments from Chen *et al.* (2002) and Kent and Stewart (2008) that regulators should be more vigorous in facilitating IFRS adoption and monitoring the adherence to these standards.

Many researchers in the field of corporate governance (e.g. Krismiaji *et al.*, 2016; Muller, 2014; George *et al.*, 2013; Chen and Rezaee, 2012; Kim *et al.*, 2012) have identified several links between governance and the IFRS adoption. Considering these findings from a holistic perspective, it seems logical to argue that there is an association between the nature of IA and whether or not the IFRS are implemented. The findings of Aksu and Espahbodi (2016) and Verriest *et al.* (2013) suggest that corporate governance structures orient firms toward the adoption of the IFRS, and the IA is one such structures. Likewise, Cohen *et al.* (2002) have documented the enhanced attention paid to internal control systems by corporate governance imperatives. Internal control mechanisms, as invoked by IA, imply that the IAF has a complete overview of all the business processes undertaken by the organization and is well placed to supervise risk management systems, push for effective communication, education and training within the overall control scenario, and hence, perceive the value of IFRS implementation. Being aware of such value, the IAF would seem, therefore, well positioned to support with authority moves toward IFRS adoption. In many companies, such a recommendation might be unwelcome given the additional work and resources required, but an effectively-resourced IA (implying sufficient capabilities) should be able to provide both advice and help with implementation. It can be argued that, where a culture of good corporate governance exists, there will be an effective IA department and a culture of IA such that international standards are seen as the means to achieve transparent financial reporting. As a result, IA will seek to adopt the IFRS. The mandated use of the IFRS introduced in the EU in 2005 provides an excellent opportunity to explore the above-mentioned relationship.

This study focuses on IA size and the training accorded to IA staff in respect of the IFRS (measured in hours), and it constructs hypotheses regarding the relationship between these variables and IFRS adoption and implementation. Additionally, it explores the IA reporting line to determine whether a direct connection with the AC is beneficial to that adoption.

The hypotheses are tested using data gathered from 78 companies listed on the KSA's Stock Exchange through regression models. The findings of this study emphasize the importance of professional associations, in particular, the Saudi Organization for Certified Public Accountants (SOCPA) and Institute of Internal Auditors (IIA) in the KSA. Both institutions are thought to play a strong supportive role toward IA departments willing to support the adoption of the IFRS in their organizations and to be effective in their implementation. Further, as part of the analysis, the potential for endogeneity concerning IA characteristics and IFRS adoption was controlled for, and the findings remained consistent. Hence, it is concluded that the existence of a relationship between IA and IFRS adoption is logical and reasonable. Specifically, the study shows that the strengthening of the specific IA characteristics of size and competence is essential in promoting and enabling the adoption and effective implementation of the IFRS. This is confirmed in the robustness tests that show the interaction between corporate governance and IA size and training. At the same time, it is demonstrated that where the IA reporting line is directly to the AC as opposed to general management, there is enhanced adoption and implementation of the IFRS. Overall, therefore, it is shown that the presence of an IA department of an appropriate size, that provides relevant training and that has a reporting line to the AC contributes to good corporate governance via their promotion of the IFRS.

In terms of the study's contribution to knowledge and practice, it is evident that the results provide new insights to several stakeholders. First, a contribution to academia is made in as much as benefits are added from the new IA knowledge and understanding of the very particular context of the KSA, which can be representative of the Gulf region and the wider Arab World. Second, as far as policy-makers and practitioners are concerned, the results are applicable in the KSA and other Middle-Eastern, Asian and developing countries that share similar cultural predispositions, socio-economic institutions and/or general socio-economic environments. The implications for policy-makers lie in the knowledge that there is a need to professionalize the IA community and to require certain levels of qualification and training for IAs rather than leaving the expertise that IAs possess to chance. Policy-makers should also recognize the need for an IAF which is of a size as to be able to properly perform its role, and again there should be requirements of all listed companies concerned with the provision of IA to a specified standard.

The background to the study has been outlined in this section. Section 2 will provide more detailed information about the Saudi context and will address the development of the above-mentioned hypotheses. In Section 3, the details of the research design are given, and in Section 4, the results are presented and are followed by a discussion. In Section 5, a conclusion of the study is offered.

## 2. Background and hypotheses development

### 2.1 *The adoption of IFRS in the KSA*

The SOCPA devised a Convergence Plan known as "SOCPA Project for Transition to International Accounting & Auditing Standards" in 2012, five years before the deadline for all listed companies in the KSA to adopt the IFRS. In addition to the requirements for such firms, unlisted entities were declared entitled to opt for an early adoption of the IFRS – also from January 2017, although they are not mandated to implement the standards until 2018. Currently, the SOCPA is in the process of adopting the IFRS for small and medium-sized companies in preparation for their use in 2018 by non-publicly accountable entities. Unlisted companies were given one extra year to comply with the accounting and auditing practices required of the 176 listed companies in the Kingdom. In reality, the mandated use of the IFRS for listed companies from January 2017 did not require a complete switch in accounting standards, since insurance companies and banks are regulated by the Saudi Arabian Monetary Authority (SAMA) and were already required to comply with the IFRS. All other companies in the

Kingdom traditionally followed the standards issued by the SOCPA (the national GAAP), but were asked to prepare in 2012 for the switch in January 2018, at the latest. The rationale was that the adoption of the IFRS would bring Saudi accounting in line with global accounting standards. Cohesion is thought to benefit investors since, apart from providing information, it would also send signals about the quality of corporate governance, which is an important determinant of investment.

Since joining the WTO, in 2005, and upon the EU Directive requiring all EU Members to adopt the IFRS, there have been calls for the KSA to move toward the same direction. However, that pressure grew when the Kingdom acquired the membership into the Group of Twenty Finance Ministers and Central Bank Governors (G20), in 2009. Since then, the adoption of the IFRS was viewed as an important milestone in the KSA's future economic development, and the country began to work toward this end.

However, IFRS reporting is significantly more onerous than the Saudi GAAP since the application of the new standards requires additional disclosures intended to provide better information to users. This represents a change and a possible burden for which IAF departments are not prepared; that is to say, their state of readiness may not be sufficient for the correct implementation of the IFRS.

Nonetheless, as a member of the G20, the KSA is committed to IFRS implementation. It has no option but to apply these high-quality accounting standards to facilitate the economic decision-making of the various participants in the world's capital markets. Indeed, the country should enjoy many benefits from the introduction of the IFRS such as increased FDI, enhanced quality reporting, transparency and comparability. These changes are expected to contribute to the Kingdom's move to reduce its dependency on oil and attract new investors.

Indeed, the public and regulators, in particular, focused on the need for more robust corporate governance after the outbreak of various financial scandals and the global financial crisis. Not surprisingly, the response from regulators has been to require more transparency and greater disclosure, a condition which, in turn, has demanded improved internal control and risk management as part of an overall plan to assure effective corporate governance structures. Such assurance is best placed in the hands of the IAF since it has the potential to bypass management and report directly to the board, protecting the interests of investors. These beliefs are confirmed in many studies (e.g. Coram *et al.*, 2008).

## 2.2 IFRS adoption and corporate governance

Focusing on the relationship between IFRS adoption and the strength of corporate governance in the EU after the introduction of the new international standards, Verriest *et al.* (2013) aggregated various corporate governance characteristics, such as the independence of the board, board functioning and the effectiveness of the AC, discovering some interesting patterns. Essentially, they revealed that firms with a stronger governance structure were significantly more likely to become early IFRS adopters, were more compliant with the IFRS, disclosed more on both mandated and voluntary items, presented more transparent IFRS restatements, and used the carve-out provision in IAS 39 much less opportunistically than firms with weaker governance. The same perspective emerged in the work of Chen and Rezaee (2012), who found strong internal governance to promote the use of the IFRS, and, consequently, to deliver better quality financial information. These observations are confirmed in the Saudi context, where, in the five years before the mandatory IFRS adoption, organizations approached differentially their preparation to meet this requirement, with some, as said earlier, rising quickly to the challenge to switch from the national GAAP immediately, others taking a more incremental approach and yet others (presumably not enjoying a strong corporate governance framework) putting off their efforts in this respect.

Clearly, there is a relationship between the existence of strong or weak corporate governance and the eagerness of the IFRS adoption before the mandatory shift to the new standards, as is the case in this study, where the focus is on the state of readiness of listed companies to fully implement the IFRS in January 2017. And it is accepted that IA plays an integral role in the degree of corporate governance evident, complementing and interacting with the efforts of both the AC and the Board of Directors (Regoliosi and d'Eri, 2014; Davies, 2009). Indeed, this particular role is in itself expected, it being stipulated by the IIA standards (IIA, 2017), that the IAF is responsible for evaluating organizational performance and advancing recommendations for its improvement. This stipulation comes after many studies (see, for example, Brown *et al.*, 2003) observed that business ethics and corporate integrity are strengthened by the active involvement of internal auditors.

In discharging its obligations in this respect, IA is found to formulate a risk-based audit plan with input from the AC, as part of an overall quality assurance and improvement effort (e.g. Sarens *et al.*, 2012). IA assists in the wider monitoring, maintenance and enhancement of corporate governance by acting as a resource for all other parties involved in the same function (Gramling *et al.*, 2004) and works in close collaboration with the AC in this respect (Alzeban and Sawan, 2015). However, the IAF must be efficient to guarantee effective results, and the interaction between the IAF and other governance mechanisms works better in this case (e.g. Khelil *et al.*, 2016; Sarens and Beelde, 2006; Raghunandan *et al.*, 2001). Hence, there seems to be a specific need for IA quality, which is the outcome of several interacting variables.

A good quality IAF helps establish the culture required to promote robust corporate governance (Brown *et al.*, 2003) by operating a *sui generis* consultative role. IA is a fundamental ingredient within any organization that takes its reputation seriously, and, in such circumstances, it logically becomes a stimulus for early IFRS adoption where there is a choice to be made between implementing the standards or not. As mentioned before, the strength of the IAF determines the vigor with which such recommendations are pursued. In this study, that strength is investigated using IA size and IA competence as explanatory variables.

### 2.3 IA size as a determinant of the ability to implement the IFRS

Size is believed to be a fundamental determinant in the degree to which an IA department can be effective. In this respect, it is stressed by the IIA (IIA, 2017) that the CAE has the responsibility to assure that the resources allocated to the IAF are sufficient, and indeed appropriate. Furthermore, a well-resourced IA department can be involved in the monitoring of the enterprise's routine and special transactions, and the more it can operate as a monitor, the greater the opportunity for detection and discouragement of management opportunism (Prawitt *et al.*, 2009). Several studies empirically substantiated these observations. For instance, a clear relationship is found between IA size, competency and financial reporting quality (FRQ) (measured by abnormal accruals) by Prawitt *et al.*, 2009. Similarly, a positive association was reported between the features of IA (including size and competency) and its impact on the audit of financial statements by Mat *et al.* (2006) and Felix *et al.* (2001). The logical conclusion to be drawn is that where the IAF is not well resourced, its efforts to achieve internal control are likely to be ineffective, thereby causing a drop in the overall reporting of financial information (Al-Shetwi *et al.*, 2011) as well as the inability to assure robust corporate governance.

### 2.4 IA competence as a determinant of the ability to implement the IFRS

The IIA underlines the importance of both a sufficient number of IAs and the competence of people in that job (IIA, 2017). The issue of competence among IA staff has attracted significant attention among scholars. Abbott *et al.* (2016) document that the impact on the FRQ is higher when the IA is characterized by a high level of competence. Prawitt *et al.* (2009)

show that greater competency among IAs enables greater understanding of the issues leading to management bias in financial reporting and discuss how such bias can be detected. Likewise, a positive relationship is found between IA features, including size and staff expertise in auditing, and FRQ by Mat *et al.* (2006). Christ *et al.* (2015) observe that, when IAs rotate, the FRQ drops, suggesting a greater chance of fraudulent reporting when such a practice is in place.

Competence is, therefore, imperative. The IIA (2009) emphasizes the responsibility of IAs to be knowledgeable about emerging issues in the field of accounting and finance. In this respect the IIA (2009) states that it is the obligation of the CAE to ensure that he/she is fully up to date on matters pertaining to the IFRS, be knowledgeable about the impact of their adoption on a company, and ensure that IFRS adoption as a special project is incorporated within the formal IA plan (IIA, 2009). This implies that the CAE is properly equipped to fulfill his/her role and possesses a recognized auditing qualification. Indeed, Sarens *et al.* (2009) find that CAEs who are appropriately qualified are proactive in ensuring good corporate governance. Therefore, an IAF headed by a knowledgeable and qualified CAE plays a major role in the IFRS adoption since the proper implementation of the standards will have a pervasive impact on all internal control mechanisms.

However, the IAF cannot be effective in its operations if it lacks resources (Endaya and Hanefah, 2016; Mat *et al.*, 2006), and this implies the need for staff with expertise both in accounting and auditing to ensure the quality of the organization's financial reporting (Lee and Park, 2016). Internal auditors exposed to the IFRS for the first time, as in the KSA when the announcement regarding the mandatory adoption of the standards was made, in 2012, may find these rules entirely alien to them and, thus, require greater education and training, possibly in environments where the IFRS are already fully implemented.

### *2.5 The overall role of IA in implementing the IFRS*

IAs have organization-wide knowledge extending to all business processes and possess the expertise to advise business units on how to apply the IFRS, provided they have sufficient understanding of their application. IAs are also able to provide advice on the changes required to assure compliance with the standards. The IAF plays a major role in preparing organizations to adopt the IFRS. However, there must be proper planning and support by senior management to allow the IA department to reassess and refine its capabilities such that full compliance with all aspects of the IFRS can be guaranteed. In these cases, IA can assume the role of consultant and monitor, working with various business units within the organization, connecting with the senior executive team, and using the expertise and support of the AC. In this position, the IA can function as a business consultant as well as the conduit to the AC. It can appraise resistance within the organization in terms of complying with requests to supply the types of information not previously demanded by the national GAAP but which are an absolute requirement of the IFRS. The IA can also provide feedback to senior management regarding the organizational culture changes needed to facilitate the IFRS compliance. That said, the culture within any organization does not change overnight, and a reasonable lead-in period when new systems can be operationalized and tested is necessary, as has been the case in KSA.

In its consultative activities, IA can provide advice on all aspects of such new systems as are implemented in readiness for IFRS adoption, assisting in the design of the actual implementation plan, pinpointing opportunities and risks and suggesting mechanisms to mitigate potential pitfalls. IA can clarify what should be achieved as well as what it is reasonable to believe can be achieved in the current condition of the company. IA can also adopt a monitoring role as the implementation strategy is operationalized to ensure that no vital processes are omitted. At Last, IA can assume a development role by formulating and testing new controls before they are introduced as part of the adoption strategy.

For instance, the IFRS may require changes to the level of disclosure ordinarily made by an organization, and this implies the need to introduce additional systems, which are best designed by IA. With a clear focus on the controls required to meet the demands of the IFRS, the IA department can more effectively support ongoing improvements in the audit realm, ultimately contributing to the acquisition of a competitive advantage in the investment world when a company complies with the IFRS.

Kim *et al.* (2012) show that the IFRS adoption implies a greater complexity and more effort, more knowledge, particular information systems that allow for the standards to be implemented, ensuring that there are no material misstatements within the financial documentation required to comply with the IFRS. Bonson-Ponte *et al.* (2008) highlight that the traditional financial reporting models are not appropriate when complying with the IFRS and that management must adapt to their processes to apply the new standards and present their companies' financial information as stipulated. The implication of such changes is that financial statements may be delayed in reaching auditors.

Jermakowicz and Gornik-Tomaszewski (2006) evidence increased anxieties among firms that have adopted the IFRS about the tremendous changes in the preparation demanded to satisfy the new reporting regime. Such concerns must be considered in the preparation stage for IFRS adoption. As discussed above, not all KSA's listed companies were prepared for the system changes needed for a formal adoption of IFRS in January 2017, which confirms the existence of organizations' concerns in this respect. The recent literature (see Cameran and Perotti, 2014) confirms that these arguments increased auditor effort as a natural outcome of the adoption of the IFRS. These increases in overall effort and complexity can be seen as resulting from two main factors. The first, as mentioned earlier, is the need for IAs to become familiar with the IFRS to ascertain whether they are being properly implemented. To acquire this new knowledge and expertise, the IAF would require budget increases to underpin the employment of additional staff and to fund training to improve the competence of existing IAs. The second factor is the increased focus on improving the quality of internal controls to remove the potential for misstatements in the financial reporting required by the IFRS[1].

Against this background and discussion, hypotheses are formulated as follows:

- H1. There is a positive association between IA size and adoption and implementation of the IFRS.
- H2. There is a positive association between IA staff training and adoption and implementation of the IFRS.

## 2.6 IA independence

The need for IA to be independent in discharging its role is enshrined within IIA (2017) recommendations. In this respect, the CAE should report to an organizational structure that does not interfere negatively with the IA department's efforts to ensure transparent accounting. Johnson (2006) notes the potential for conflict of interest when the IA reporting line is to the CFO and/or other top executives, and other scholars (Balkaran, 2007; Norman *et al.*, 2010) observe the undermining of IA independence when the reporting line bypasses the AC in favor of senior management. Indeed, senior management is found by James (2003) to offer little protection to the organization in respect of the incidence of fraudulent reporting since this level of management operates to restrict the scope of various IA procedures. Certainly, James (2003) argues that fraudulent reporting is only combatted when the IA has a sole and direct reporting line to the AC. The relationship between the AC and IA has been explored by Goodwin and Yeo (2001) who conclude that this may well have a bearing on the degree of independence enjoyed by IA to properly discharge its role. Indeed, the IA standards



go on to specific that only when the CAE reports functionally to the AC or the board, can organizational independence be achieved. Clearly, the AC operates to strengthen the IAF through its ability to keep it free from executive interference, and thus allow it to remain independent and objective in its judgment. In that position of independence, the IAF is able to promote the adoption and implementation of the IFRS, and to introduce the various requirements via systems and control that are needed to enforce their implementation. Reporting directly to the AC enables IA to effect such implementation, and to provide truthful feedback regarding the internal control structure. Consequently, it can be argued that IA independence gained through a direct reporting line to the AC is an important factor in the adoption and implementation of the IFRS. The third hypothesis is therefore offered:

*H3.* There is a positive association between the direct reporting by IA to the AC, and the adoption and implementation of the IFRS.

### 3. Research method

#### 3.1 Sample selection

To address the readiness of the KSA's listed companies for formal adoption of the IFRS in January 2017, data were collected for the period 2014 and 2016, two years after the announcement of the intended adoption of the standards, and hence, two years into the five-year preparation period. The method of data collection involved a questionnaire survey, and the extraction of information from companies' annual reports. First, chief internal auditors were targeted as survey respondents, in common with much previous research in the area (e.g. Arena and Azzone, 2009; Carcello *et al.*, 2005). The survey instrument was designed to gather various information regarding the organization's IAF, including some demographic data pertaining to the respondent, the staff within the IA department, the resources allocated to IA, its relationship with the AC, the IA reporting line, its role in terms of IFRS adoption and AC characteristics. Concerning the role of the IA, respondents were asked to agree (or not) with a list of items using a rating scale from "1" strongly disagree to "5" strongly agree. These items reflected the notion that the variable *IA ROLE* includes: reviewing the organization's IFRS project plan; including the IFRS project in the IA plan; monitoring the IFRS adoption program risks; monitoring the IFRS adoption program efficiency and effectiveness; evaluating the risk inherent within the adoption process; monitoring the IFRS adoption impact on internal controls; working closely with external auditors during the IFRS adoption process; and providing assurance that internal controls are working properly when preparing financial statements under the IFRS.

All companies listed on the KSA Stock Exchange, except for banks and insurance companies, which, as previously mentioned, were already implementing the IFRS in compliance with SAMA's directive, received the questionnaire. This group of companies numbered 124 in total, and from the distribution, 69 responses were received. A further nine responses were obtained after some follow-up by the researcher, thereby producing a final number of 78 questionnaires, all of which were suitable for analysis. The nine late respondents were considered as an indicator for non-respondents. In fact, no significant differences emerged in the comparison of early and late respondents, on all variables, and the inclusion of a dummy variable in the regression analysis brought no change to this outcome, meaning that no problem of non-response bias was evident. To supplement the empirical data gathered via the questionnaire survey, the annual reports of the participating companies were consulted and appropriate data extracted. It is worth noting that the response rate of 62.9 percent, whilst good in comparison with many other surveys, can be interpreted differently in the context of the nature of the research. Since all listed companies should have been making preparations to adopt the IFRS, one would expect that companies improving their readiness to adopt the standards to be pleased to publicize this

achievement, if only to the researcher. Consequently, it is not unfair to assume that non-respondents had nothing positive to report.

The second data source was companies' annual reports. The data were collected from the questionnaires and the official websites of the responding companies, specifically from their published accounts.

### 3.2 Dependent variable

As indicated earlier, the term "adoption" is used in this study to denote whether or not the responding companies had chosen to adopt the IFRS in preparation for the mandated time frame (January 2017) and whether they had decided to continue using the Saudi GAAP or adopt some of the new IFRS standards, implementing them alongside the old Saudi GAAP. In all cases, the SOCPA is responsible for setting the standards.

Stockholder equity is taken as the basis for the adoption measure, since this reflects the change in total assets and is also influenced by net income. Consequently, it provides a comprehensive indicator of the difference between the local GAAP and the IFRS.

Then, the process developed by Chen and Rezaee (2012), Chen and Cheng (2007) and Chen *et al.* (2002) is followed for determining the difference in stockholder equity according to three sets of accounting standards, employed as a measure of the degree of IFRS adoption. The extent of the adoption was established by a two-step process involving, first, the calculation of the difference between the requirements of the Saudi GAAP (SOCPA) and those of the IFRS, and second the difference between the new level of stockholder equity and the IFRS, as shown in the following equation:

$$ADOPT_i = (Old_i - IFRS_i) - (New_i - IFRS_i), \quad (1)$$

where  $ADOPT_i$  indicates the degree of IFRS adoption for firm  $i$ ;  $Old_i$ , measurement of stockholder equity of firm  $i$  arranged under the old SOCPA standards;  $New_i$ , the stockholder equity of firm  $i$  under the new SOCPA; and  $IFRS_i$ , the stockholder equity of firm  $i$  under IFRS. A positive value of  $ADOPT$  shows that compared with the old SOCPA, the new SOCPA are more associated with IFRS.

### 3.3 Test variables

Test variables are IA size ( $IASIZE$ ) and IA training ( $IATRIN$ ). In line with the methods used by other researchers (e.g. Lenz *et al.*, 2014; Yasin and Nelson, 2012; Arena and Azzone, 2009; Sarens, 2009), IA size and competency are considered as proxies of IA characteristics.  $IASIZE$  is measured by the number of IAs in the department. Also, following the work of other researchers (e.g. Pizzini *et al.*, 2015; Prawitt *et al.*, 2009),  $IATRIN$  is used as a proxy to measure IA competencies and is based on the average number of hours IAs spent in learning the IFRS and how to comply with them throughout the year.

Regression model was employed to test the relationship between the dependent variable, IFRS adoption ( $ADOPT$ ), and  $IASIZE$  and  $IATRIN$ . The model used has been previously introduced and found to be suitable for the analysis. A set of variables was added to the model to control for their potential to influence  $ADOPT$ :

$$ADOPT = b_0 + b_1IASIZE + b_2IATRIN + b_3BOARD + b_4ACIND + b_5ACEXP + b_6BIG4 + b_7SIZE + b_8LEVERAGE + b_9ROE + Industry + Year + \varepsilon. \quad (2)$$

With regard to the third hypothesis, IA reporting line to the AC ( $IAREPORTLINE$ ) is used as a proxy for IA independence to examine the effect on IFRS adoption and implementation. Hence, IA reporting line is included in the model to test the association between IA reporting line to AC and  $ADOPT$ . Additionally, the model is extended to test the effect of IA reporting to the CEO and CFO on IFRS  $ADOPT$ .  $IAREPORTLINE$  is measured by using a

rating scale from “1” strongly disagree to “5” strongly agree. Likewise, a rating scale from “1” strongly disagree to “5” strongly agree is also used to measure the two additional variables IA reporting to CEO (*IAREPORTCEO*) and CFO (*IAREPORTCFO*). The following model is estimated:

$$\begin{aligned} ADOPT = & b_0 + b_1IASIZE + b_2IATRAN + b_3IAREPORTLINE + b_4IAREPORTCEO \\ & + b_5IAREPORTCFO + b_6BOARD + b_7ACIND + b_8ACEXP + b_9BIG4 \\ & + b_{10}SIZE + b_{11}LEVERAGE + b_{12}ROE + Industry + Year + \varepsilon. \end{aligned} \quad (3)$$

### 3.4 Control variables

These control variables were identified as board of directors and AC as prior studies highlight the association between corporate governance and IFRS adoption. This practice is in line with other studies (e.g. Bepari and Mollik, 2015; Verriest *et al.*, 2013; Chen and Rezaee, 2012; Chen and Cheng, 2007). Following prior studies, the variable *BOARD* is measured by the percentage of non-executive members on the board (e.g. Zhang *et al.*, 2007; Stewart and Kent, 2006; Krishnan, 2005), while *ACIND* is an indicator equal to “1” if all AC members are independent, and “0” otherwise (e.g. Barua *et al.*, 2010; Goh, 2009; Abbott *et al.*, 2004). *ACEXP* takes a value equal to “1” if there is at least one expert in accounting or finance on the AC, and “0” otherwise. Moreover, the variable *BIG4* is included as an indicator, and it takes value “1” if the company is audited by a Big 4 company, and “0” else. *LEVERAGE* is total liabilities divided by total assets. The natural logarithm of total assets is used as the measurement for the company *SIZE*. Return on equity (*ROE*) is net income divided by stockholder equity. Moreover, industry and year are included to control for industry and year fixed effects. Table I shows the description of the variables.

## 4. Results

The descriptive statistics are shown in Table II. It can be seen that the role of IA in the adoption of the IFRS is low, as the mean score is below the mid-point on the five-point scale for the item “IA has sufficient resources to perform its tasks related to IFRS adoption” (2.4). This outcome might not be too surprising given that auditing in the KSA remains in its infancy. However, additional explanations may lie in the fact that respondents lacked experience in their particular roles, and, while the IFRS were adopted by the organization, the IA department itself had not been involved in the adoption plan or had had only limited participation. Low scores were also found for the involvement of IA in reviewing the IFRS project plan and liaising with the external auditor throughout the entire adoption process. Additionally, the results revealed that training for the IFRS is not a priority since the average number of hours of IFRS training given to IAs throughout the year was 4.9, a small figure. Some respondents complained that IFRS training was expensive and, if the allocated budget for training did not cover such costs, it was not possible for IAs to attend.

The correlation between the variables appears in Table III, which shows that *ADOPT* is positively and significantly associated with *IASIZE* and *IATRAN* ( $p < 0.01$ ). Except for *LEVERAGE* and *ROE*, all other variables are also correlated with *ADOPT*. Furthermore, *IASIZE* and *IATRAN* are significantly associated with *ACIND* and *SIZE* ( $p < 0.01$ ), and *BOARD* and *ACEXP* ( $p < 0.05$ ).

The results of the regression analysis appear in Table IV. Panel 1 presents the results of Model 2 which tests the relationship between IFRS adoption (*ADOPT*), and *IASIZE* and *IATRAN* ( $H1$  and  $H2$ ). The overall model is significant at ( $p < 0.001$ ) with adj.  $R^2$  0.531. The values of the variance inflation factor (VIF) are all between 1.1 and 1.6, reflecting good

Variable	Definition
<i>ADOPT</i>	Calculation of the difference between the requirements of the previous standards (SOCPA) and those of the IFRS, as well as the difference between the new level of stockholder equity and the IFRS, as shown in the following equation: $ADOPT_i = (Old_i - IFRS_i) - (New_i - IFRS_i)$
<i>IASIZE</i>	Size of IA is determined by two indicators: the number of IAs in the department; scale 1–5, five members and less equals to “1,” and 21 members and more equals to “5”; and natural log of IA budget
<i>IATRAN</i>	Training is the average number of IFRS training hours per year that IA staff attends
<i>IAREPORTLINE</i>	IA reporting line to the AC. Five-point scale from “1” strongly disagree to “5” strongly agree
<i>IAREPORTCEO</i>	IA reporting to CEO is rated from “1” strongly disagree to “5” strongly agree
<i>IAREPORTCFO</i>	IA reporting to CFO is rated from “1” strongly disagree to “5” strongly agree
<i>BOARD</i>	Percentage of outside director on the board
<i>ACIND</i>	An indicator equals 1 if all AC members are independent, 0 otherwise
<i>ACEXP</i>	An indicator equals 1 if AC has at least one expert in accounting or finance, 0 otherwise
<i>BIG4</i>	An indicator 1 if a company is audited by BIG4, 0 otherwise
<i>SIZE</i>	Company size, natural logarithm of total assets
<i>LEVERAGE</i>	Total liabilities divided by total assets
<i>ROE</i>	Return on equity is net income divided by stockholder equity
<i>ROLE</i>	IA role for IFRS adoption.
<i>EDUC</i>	Statements are measured by rating scale from “1” strongly disagree to “5” strongly agree
<i>CERT</i>	Education is measured as “1” if the major is business, and “0” otherwise
<i>CERT</i>	Certification is measured as “1” if at least one professional certification is held (e.g. CIA and CPA), and “0” otherwise
<i>Industry</i>	Industry dummy variables
<i>Year</i>	Year dummy variables

**Table I.**  
Variable description

positioning and confirming that multicollinearity is not an issue in the study. It can be seen in Panel 1 that *IASIZE* is positively and significantly related to *ADOPT* ( $p < 0.01$ ), thereby suggesting that in organizations where sufficient resources are supplied to IA, and the correct amount of training on the IFRS is provided for the IAs, there is more alignment with the standards. This outcome provides support for *H1* and *H2* ( $p < 0.01$ ) and confirms that IA departments that have knowledgeable staff regarding the IFRS can effectively contribute to the IFRS adoption process. Furthermore, the results also indicate that, except for *LEVERAGE* and *ROE*, all control variables are positively and significantly associated with *ADOPT*.

The relationship between *ADOPT* and IA reporting line (*H3*) is shown in Panel 2, from which it is seen that *H3* is supported since a positive and significant association between *ADOPT* and *IAREPORTLINE* ( $p < 0.01$ ) is documented. This confirms that the effective implementation of the IFRS is promoted in the scenario where IA reports directly to the AC. There is, however, a significantly negative relationship between *ADOPT* and *IAREPORTCFO* ( $p < 0.01$ ), confirming that the IFRS are not promoted when IA reports to the CFO. This also suggests that in the situation where IA does report to the CFO, there is less opportunity for the IA to conduct an evaluation of the IFRS adoption, and/or to offer recommendations regarding the internal control mechanisms. Conversely, where IA reports to the AC, there is a greater probability that management will implement IA recommendations concerning the adoption of the IFRS, than when it reports to senior management.

These findings confirm the results of other studies. In particular, they mirror those of Verriest *et al.* (2013), for example, who document a positive association between AC effectiveness and IFRS restatement transparency, as well as a positive relationship between disclosure and compliance with IFRS. IA effectiveness is enhanced or depressed by the level of expertise possessed by staff members, and the overall quality of IA is influenced by the power of the AC. The findings are also in line with those obtained by Bryce *et al.* (2015), who

Item	Min.	Max.	Mean	Median	SD
<i>ADOPT</i> <sup>a</sup>	-526.1	1,622.4	211.6	190.8	326.2
<i>IASIZE</i>	2	35	9.8	9	1.13
<i>IATRAN</i>	0.00	15	4.9	5	0.32
<i>IAREPORTLINE</i>	3	5	4.22	4	0.53
<i>IAREPORTCEO</i>	1	5	2.5	2	0.86
<i>IAREPORTCFO</i>	2	5	3.88	4	0.81
<i>BOARD</i>	0.61	0.89	0.79	0.80	0.51
<i>ACIND</i>	0.00	1	0.89	1	0.37
<i>ACEXP</i>	0.00	1	0.67	1	0.42
<i>BIG4</i>	0.00	1	0.83	1	0.25
<i>SIZE</i>	9.17	16.11	10.64	10.40	1.74
<i>LEVERAGE</i>	0.00	0.74	0.31	0.41	0.22
<i>ROE</i>	-11.2	49.18	9.21	7.2	9.83
IA has sufficient resources to perform its tasks related to IFRS adoption	1	4	2.4	2	0.49
IA reviews the organization's IFRS project plan	1	4	2.8	2	0.52
CAE include IFRS project into internal audit plan	1	5	3.2	3	0.67
IA monitors IFRS adoption program risks	1	5	3.3	3	0.71
IA monitors IFRS adoption program efficiency and effectiveness	1	4	2.9	3	0.54
IA evaluates the risk inherent the adoption process	1	4	3.1	3	0.62
IA monitors IFRS adoption impact on internal controls	1	5	3.2	3	0.64
IAs work closely with external auditors during the IFRS adoption process	1	4	2.7	2	0.59
IAs provides assurance that internal control working properly when preparing financial statements under IFRS	1	5	3.4	3	0.68

**Notes:** <sup>a</sup>An example to determine the differences in stockholder equity under three standards (IFRS, old and new standards) is:  $ADOPT_i = (Old_i - IFRS) - (New_i - IFRS)$ ; Where: *Old* is stockholders equity under old Saudi national GAAP (old SOCPA); *New* is stockholders equity under new Saudi standards (new SOCPA); *IFRS* is the stockholder equity under IFRS;  $1,174 = (159,294 - 157,535) - (158,120 - 157,535)$ . The divergence of stockholders equity of firm "i" under the new standards is less than the old standards - indicating more implementation of the IFRS. This table reports the descriptive statistics of the variables. *ADOPT* is a calculation of the difference between the requirements of the previous local standards and those of the IFRS, as well as the difference between the new level of stockholder equity and the IFRS; *IASIZE* is the number of IAs in the department; *IATRAN* is the average number of IFRS training hours per year that IA staff attends; *IAREPORTLINE* is IA reporting to the AC; *IAREPORTCEO* is IA reporting to CEO; *IAREPORTCFO* is IA reporting to CFO; *BOARD* is percentage of outside director on the board; *ACIND* is an indicator equals "1" if all AC members are independent, 0 otherwise; *ACEXP* is an indicator equals 1 if AC has at least one expert in accounting or finance, 0 otherwise; *BIG4* is indicator "1" if a company is audited by *BIG4*, "0" otherwise; *SIZE* is company size; *LEVERAGE* is total liabilities divided by total assets; *ROE* is return on equity

**Table II.**  
Descriptive statistics

showed that ACs maintain accounting quality more effectively when the IFRS are employed. The known relationship between IA and AC lends weight to the argument that IA has an impact on IFRS restatement and transparency and is influential in encouraging disclosure and compliance with the standards.

It is recognized by the IIA (2009) that IA has an essential role to play in the IFRS adoption process, and consequently, additional examination of the data was undertaken by extending Models 2 and 3 and running the regression including the IA variable (*ROLE*). The regression models are expressed in Equations (4) and (5) as follows:

$$\begin{aligned}
 ADOPT = & b_0 + b_1IASIZE + b_2IATRAN + b_3BOARD + b_4ACIND + b_5ACEXP \\
 & + b_6BIG4 + b_7SIZE + b_8LEVERAGE + b_9ROE + b_{10}ROLE \\
 & + Industry + Year + \varepsilon,
 \end{aligned}
 \tag{4}$$

Item	1	2	3	4	5	6	7	8	9	10	11	12	13
1 ADOPT	1												
2 IASIZE	0.39**	1											
3 IA TRAIN	0.31**	0.40**	1										
4 IAREPORTLINE	0.36**	0.48**	0.43**	1									
5 IAREPORTCEO	-0.18*	-0.01	0.05	0.04	1								
6 IAREPORTCFO	-0.41**	-0.18*	-0.22*	-0.02	0.05	1							
7 BOARD	0.44**	0.48**	0.28**	0.19*	-0.06	-0.17*	1						
8 ACIND	0.39**	0.39**	0.39**	0.45**	-0.14	-0.25*	0.23*	1					
9 ACEXP	0.28**	0.31**	0.33**	0.41**	-0.11	-0.19*	0.27*	0.09	1				
10 BIG4	0.34**	-0.09	-0.11	-0.03	0.07	0.12	0.39**	0.21*	0.19*	1			
11 SIZE	0.34**	0.59**	0.43**	0.29**	0.04	-0.10	0.38**	0.16	0.07	0.21*	1		
12 LEVERAGE	-0.07	0.08	0.03	-0.06	-0.02	-0.09	0.13	-0.03	-0.14	-0.08	0.23*	1	
13 ROE	0.09	-0.03	-0.08	-0.01	0.10	0.14	-0.03	-0.04	-0.11	0.17*	0.19*	-0.03	1

Notes: n = 78. \*\*Significant at the 0.05 and 0.01 levels, respectively

Table III. Correlation of the variables

Variable	Exp. sign.	Coefficient	Panel 1		Panel 2		VIF
			t	VIF	Coefficient	t	
<i>IASIZE</i>	+	0.388	4.32**	1.611	0.385	4.71**	1.692
<i>IATRAIN</i>	+	0.337	3.21**	1.528	0.329	3.94**	1.577
<i>BOARD</i>	+	0.277	2.88**	1.126	0.264	2.95**	1.108
<i>ACIND</i>	+	0.228	2.61**	1.185	0.261	2.78**	1.266
<i>ACEXP</i>	+	0.204	2.31*	1.318	0.211	2.42*	1.305
<i>BIG4</i>	+	0.293	3.02**	1.460	0.288	3.31**	1.439
<i>SIZE</i>	+	0.156	2.24*	1.283	0.182	2.36*	1.241
<i>LEVERAGE</i>	+	0.092	1.60	1.336	0.109	1.63	1.322
<i>ROLE</i>	+	0.137	1.73	1.493	0.131	1.69	1.461
<i>IAREPORTLINE</i>	+				0.304	3.62**	1.627
<i>IAREPORTCEO</i>	-				-0.138	-1.78	1.216
<i>IAREPORTCFO</i>	-				-0.274	-3.01**	1.128
Year dummy	?		Yes			Yes	
Industry dummy	?		Yes			Yes	
<i>n</i>			78			78	
Adj. <i>R</i> <sup>2</sup>			0.531			0.581	
<i>p</i>			< 0.001			< 0.001	

**Notes:** *IASIZE* is the number of IAs in the department; *IATRAIN* is the average number of IFRS training hours per year that IA staff attends; *BOARD* is percentage of outside director on the board; *ACIND* is an indicator equals “1” if all AC members are independent, 0 otherwise; *ACEXP* is an indicator equals 1 if AC has at least one expert in accounting or finance, 0 otherwise; *BIG4* is indicator “1” if a company is audited by BIG4, “0” otherwise; *SIZE* is company size, and measured by natural logarithm of total assets; *LEVERAGE* is total liabilities divided by total assets; *ROLE* is return on equity and measured by net income divided by stockholder equity; *IAREPORTLINE* is IA reporting to the AC; *IAREPORTCEO* is IA reporting to CEO; *IAREPORTCFO* is IA reporting to CFO; *Industry* is dummy variables; *Year* is dummy variables. \*,\*\*Significant at < 0.05 and 0.01, respectively

**Table IV.**  
Regression analysis –  
Models 2 and 3

$$\begin{aligned}
 ADOPT = & b_0 + b_1 IASIZE + b_2 IATRAIN + b_3 IAREPORTLINE \\
 & + b_4 IAREPORTCEO + b_5 IAREPORTCFO + b_6 BOARD + b_7 ACIND \\
 & + b_8 ACEXP + b_9 BIG4 + b_{10} SIZE + b_{11} LEVERAGE + b_{12} ROLE \\
 & + b_{13} ROLE + Industry + Year + \epsilon.
 \end{aligned}
 \tag{5}$$

Panels 1 and 2 in Table V present the results of Models 4 and 5 which test the association between *ADOPT* and *IA ROLE*. The overall models are significant at ( $p < 0.001$ ). It can also be seen that multicollinearity is not an issue as the VIF values are between 1.1 and 1.7. The results also demonstrate that *ROLE* is positively and significantly associated with *ADOPT* in both models. When these variables are comprised in the equation, the results remain robust ( $p < 0.001$ ), with adj.  $R^2$  of 0.572 and 0.602, respectively, thereby indicating that *IA's ROLE* plays a key part in IFRS adoption. It also signals the need to involve *IA* in the adoption process and to incorporate the entire adoption project within the *IA* plan. Interestingly, the results also suggest that, if *IA* can play an effective role, the gap between the Saudi national GAAP and the IFRS can be reduced and the potential difficulties in the transition ameliorated.

#### 4.1 Robustness checks and further analysis

A number of robustness tests were performed to ensure the validity and stability of the results. In corporate governance research, problems of endogeneity and causality often arise (Bhagat and Bolton, 2008). The Hausman test is a useful tool for identifying endogeneity.

Variable	Exp. sign.	Coefficient	Panel 1		Panel 2		VIF
			<i>t</i>	VIF	Coefficient	<i>t</i>	
<i>IASIZE</i>	+	0.362	4.61**	1.701	0.396	4.78**	1.715
<i>IATRAIN</i>	+	0.317	3.83**	1.593	0.352	4.03**	1.605
<i>BOARD</i>	+	0.261	2.97**	1.119	0.295	3.01**	1.106
<i>ACIND</i>	+	0.201	2.59**	1.203	0.273	2.84**	1.275
<i>ACEXP</i>	+	0.185	2.41*	1.310	0.207	2.44*	1.314
<i>BIG4</i>	+	0.285	3.29**	1.452	0.301	3.32**	1.447
<i>SIZE</i>	+	0.137	2.18*	1.291	0.191	2.38*	1.288
<i>LEVERAGE</i>	+	0.095	1.49	1.341	0.117	1.71	1.327
<i>ROE</i>	+	0.118	1.59	1.480	0.136	1.76	1.463
<i>IAREPORTLINE</i>	+				0.312	3.69**	1.639
<i>IAREPORTCEO</i>	-				-0.141	-1.81	1.219
<i>IAREPORTCFO</i>	-				-0.291	-3.07**	1.123
<i>ROLE</i>	+	0.393	4.89**	1.522	0.398	4.91**	1.520
Year dummy	?		Yes			Yes	
Industry dummy	?		Yes			Yes	
<i>n</i>			78			78	
Adj. <i>R</i> <sup>2</sup>			0.572			0.602	
<i>p</i>			< 0.001			< 0.001	

**Notes:** *IASIZE* is the number of IAs in the department; *IATRAIN* is the average number of IFRS training hours per year that IA staff attends; *BOARD* is percentage of outside director on the board; *ACIND* is an indicator equals "1" if all AC members are independent, 0 otherwise; *ACEXP* is an indicator equals 1 if AC has at least one expert in accounting or finance, 0 otherwise; *BIG4* is indicator "1" if a company is audited by BIG4, "0" otherwise; *SIZE* is company size; *LEVERAGE* is total liabilities divided by total assets; *ROE* is return on equity; *IAREPORTLINE* is IA reporting to the AC; *IAREPORTCEO* is IA reporting to CEO; *IAREPORTCFO* is IA reporting to CFO; *ROLE* is IA's role for IFRS adoption; *Industry* is dummy variables; *Year* is dummy variables. \*,\*\*Significant at < 0.05 and 0.01, respectively

**Table V.**  
Regression analysis – Models 4 and 5

From the Hausman test, it is established that all IVs are exogenous, meaning that within the study there is no problem of endogeneity.

This test offers no indication of endogeneity bias concerning IA. The results reveal that the Hausman test is not significant for the IA characteristics (*p*-value 0.17). Hence, there is implication that the measurement instruments used in the study are exogenous and do not associate with the error term.

To ensure the validity of the results after controlling for the industry effect, the regression was re-run. In the specific context of IFRS adoption, it is important to conduct such a robustness check as information relating to how different industries approach IFRS adoption is valuable (Goodwin *et al.*, 2008). In this case, no significant association emerged between the level of adoption (standard deviation of adoption) and different types of industry, revealing that adoption for certain industries had on significant on the results.

Second, to provide more comprehensive information regarding the competence of IA staff, the regression analysis was performed after including two additional variables as indicators of IA competence: education and certification of IAs (*EDUC* and *CERT*, respectively). In addition, the size of the IA budget is included as an alternative proxy for IA size. Moreover, the total number of training hours is used as another indicator of *IATRAIN* for the robustness test.

Additionally, the association between corporate governance and the adoption of the IFRS was tested since scholars (see, for example, Verriest *et al.*, 2013; Chen and Rezaee, 2012) have reported that strong governance via independence of the board and the AC, and the subsequent effective discharge of the AC role, makes for early IFRS adoption and implementation. Hence, regression was performed to enable a more comprehensive analysis,



which would allow the exploration of how the effect of IA size and competence is moderated by corporate governance.

For these purposes, Model 5 is extended to include: IA budget (as an alternative proxy for IA size), *EDUC* and *CERT* to examine their impact on *ADOPT*; and how corporate governance (measured by *BOARD* and *ACIND*) moderates the effect of *IASIZE* and *IATRAN*. Hence, the following regressions (Equations (6) and (7)) are estimated:

$$\begin{aligned} ADOPT = & b_0 + b_1IASIZE + b_2IATRAN + b_3IAREPORTLINE \\ & + b_4IAREPORTCEO + b_5IAREPORTCFO + b_6BOARD + b_7ACIND \\ & + b_8ACEXP + b_9BIG4 + b_{10}SIZE + b_{11}LEVERAGE + b_{12}ROE + b_{13}ROLE \\ & + b_{14}EDUC + b_{15}CERT + b_{16}IASIZE \times BOARD \\ & + b_{17}IATRAN \times BOARD + Industry + Year + \varepsilon, \end{aligned} \quad (6)$$

$$\begin{aligned} ADOPT = & b_0 + b_1IASIZE + b_2IATRAN + b_3IAREPORTLINE \\ & + b_4IAREPORTCEO + b_5IAREPORTCFO + b_6BOARD + b_7ACIND \\ & + b_8ACEXP + b_9BIG4 + b_{10}SIZE + b_{11}LEVERAGE + b_{12}ROE \\ & + b_{13}ROLE + b_{14}EDUC + b_{15}CERT + b_{16}IASIZE \times ACIND \\ & + b_{17}IATRAN \times ACIND + Industry + Year + \varepsilon. \end{aligned} \quad (7)$$

The results (Table VI Panel 1 and 2) reveal that *IATRAN* is positively and significantly related at ( $p < 0.01$ ), suggesting that the results are robust after considering the total number of training hours. Further, *IASIZE* is positively correlated at ( $p < 0.01$ ) indicating that well-resourced IA, in terms of budget allocated to the IA, is essential to perform tasks related to IFRS adoption. Also, *CERT* and *EDUC* are significantly correlated at  $p < 0.01$  and  $p < 0.05$ , respectively. These results confirm that IA competence (measured by training, education, and professional certification) is linked with the adoption and implementation of the IFRS.

Furthermore, Table VI (Panel 1 and 2) reports whether corporate governance moderates the effect of *IASIZE* and *IATRAN*. First, the results in Panel 1 show a significant and positive coefficient for both interactions between *IASIZE*  $\times$  *BOARD* and *IATRAN*  $\times$  *BOARD* (coefficient: 0.392,  $t$ : 4.81 and coefficient: 0.422,  $t$ : 5.03, respectively) – suggesting that *IASIZE* and *IATRAN* have greater impact on IFRS adoption and implementation when they are combined with *BOARD* independence. Second, the results in Panel 2 also report significant and positive coefficients for the interaction between *IASIZE*  $\times$  *ACIND* and *IATRAN*  $\times$  *ACIND* (coefficient: 0.439,  $t$ : 5.29 and coefficient: 0.404,  $t$ : 4.96, respectively) with an adj.  $R^2$  0.621. These results indicate that the interaction between *IASIZE*, *IATRAN* and corporate governance (independence of board of directors and AC independence) is crucial for effective the IFRS adoption and implementation. In addition, they suggest that companies with strong interaction between corporate governance and *IASIZE* and *IATRAN* are more likely to have better adoption and implementation rates in respect of the IFRS.

A third robustness test, principal components analysis (PCA), was conducted to determine the particular factor capturing IA characteristics (*IASIZE*, *IATRAN*, *IAREPORTLINE*, *EDUC* and *CERT*). The factor loadings of these five items ranged from 0.586 to 0.838, and all five loaded on the same factor IA characteristics (*IACHARACT*). One factor (PCA1) emerged as accounting for 58.89 percent of the total variance. Regression was then performed to examine the prediction of *ADOPT* based on the factors obtained from the PCA. The model was significant at ( $p < 0.001$ ) with an adj.

Variable	Exp. sign.	Coefficient	Panel 1		Panel 2		VIF
			<i>t</i>	VIF	Coefficient	<i>t</i>	
<i>IASIZE</i>	+	0.306	3.36**	1.355	0.331	3.51**	1.482
<i>IATRAIN</i>	+	0.366	4.17**	1.621	0.375	4.33**	1.643
<i>BOARD</i>	+	0.299	3.11**	1.114	0.296	3.05**	1.117
<i>ACIND</i>	+	0.271	2.82**	1.316	0.278	2.95**	1.341
<i>ACEXP</i>	+	0.213	2.47*	1.308	0.210	2.41*	1.320
<i>BIG4</i>	+	0.305	3.25**	1.442	0.311	3.35**	1.436
<i>SIZE</i>	+	0.195	2.35*	1.282	0.183	2.32*	1.289
<i>LEVERAGE</i>	+	0.128	1.78	1.324	0.122	1.69	1.325
<i>ROE</i>	+	0.141	1.81	1.465	0.139	1.77	1.460
<i>IAREPORTLINE</i>	+	0.315	3.77**	1.642	0.341	3.95**	1.677
<i>IAREPORTCEO</i>	-	-0.127	-1.66	1.215	-0.113	-1.59	1.228
<i>IAREPORTCFO</i>	-	-0.314	-3.22**	1.107	-0.294	-3.14**	1.121
<i>ROLE</i>	+	0.371	4.32**	1.507	0.383	4.37**	1.527
<i>EDUC</i>	+	0.169	2.31*	1.271	0.185	2.34*	1.269
<i>CERT</i>	+	0.255	2.65**	1.328	0.260	2.73**	1.303
<i>IASIZE</i> × <i>BOARD</i>	+	0.392	4.81**	1.151			
<i>IATRAIN</i> × <i>BOARD</i>	+	0.422	5.03**	1.191			
<i>IASIZE</i> × <i>ACIND</i>	+				0.439	5.29**	1.549
<i>IATRAIN</i> × <i>ACIND</i>	+				0.404	4.96**	1.655
Year dummy	?		Yes			Yes	
Industry dummy	?		Yes			Yes	
<i>n</i>			78			78	
Adj. <i>R</i> <sup>2</sup>			0.609			0.621	
<i>p</i>			< 0.001			< 0.001	

**Notes:** *IASIZE* is natural log of IA budget; *IATRAIN* is the total number of training hours; *BOARD* is percentage of outside director on the board; *ACIND* is an indicator equals “1” if all AC members are independent, 0 otherwise; *ACEXP* is an indicator equals 1 if AC has at least one expert in accounting or finance, 0 otherwise; *BIG4* is indicator “1” if a company is audited by BIG4, “0” otherwise; *SIZE* is company size; *LEVERAGE* is total liabilities divided by total assets; *ROE* is return on equity; *IAREPORTLINE* is IA reporting to the AC; *IAREPORTCEO* is IA reporting to CEO; *IAREPORTCFO* is IA reporting to CFO; *ROLE* is IA’s role for the IFRS adoption; *EDUC* is education and measured as “1” if the major is business, and “0” otherwise; *CERT* is certification and measured as “1” if at least one professional certification is held (e.g. CIA and CPA) and “0” otherwise; *Industry* is dummy variables; *Year* is dummy variables. \*,\*\*Significant at < 0.05 and 0.01, respectively

**Table VI.** Regression analysis – models 6 and 7

*R*<sup>2</sup> 0.613. The results (untabulated) also show that *IACHARACT* is positively and significantly related to *ADOPT*. Overall, the PCA1 results demonstrate the reliability of the analysis, and confirm that (*IASIZE* – *CERT*) captures all the essential information to explain the variability in *ADOPT*.

## 5. Conclusion

Being aimed at exploring the position of IA in relation to IFRS adoption, this study has illuminated the influence of three main variables, these being: IA size, competence, and reporting line, and subsequently on how these three variables combine to allow the IAF to play a role in persuading senior management of the need to adopt the IFRS earlier than mandated and in implementing the standards. The relative absence of research on the role of IA in encouraging and supporting IFRS adoption and its implementation motivated this study, given the position of KSA at the time of data collection, and hence, the findings expand the small body of existing knowledge in this respect, mostly generated by Chen and Rezaee (2012) and Hodgdon *et al.* (2009). This study is also unique in exploring the association between IA characteristics and IFRS adoption and provides

insights that are useful both to regulators in countries planning to adopt the IFRS and to other stakeholders in corporate governance, whose understanding of IA's potential to enhance the adoption of the IFRS and contribution toward good governance would be improved.

However, the results reveal that IA currently plays a small part in IFRS adoption since neither SOCPA nor the listed companies have recognized the value to be offered by IA involvement in this project. This should be acknowledged by the SOCPA, and the Saudi IIA as they can promote IA as a valuable resource during the IFRS adoption process. Indeed, the SOCPA and the Saudi IIA should not only disseminate such information but also provide support for the required training and professional development facilities required within IA departments to underpin full compliance with the IFRS. This level of support is necessary to indicate to companies the importance of involving IA in the IFRS adoption and the requirement to do that in the interests of transparent auditing and good corporate governance.

From the empirical work undertaken in this study, support is found for the assertion that a properly-resourced IA can play, and indeed should play, an important role in IFRS adoption. This implies the need for adequate investment in the resources necessary to underpin an IA department of sufficient size, and with auditors who are properly trained in the implementation of the standards. The study not just confirms the results reported by other researchers (e.g. Verriest *et al.*, 2013; Chen and Rezaee, 2012; Hodgdon *et al.*, 2009), but also adds to the findings of previous studies by applying its results in the context of the KSA. In particular, it confirms the relationship between IFRS adoption and the role of IA in a new cultural environment, with a special focus on IA size and IA staff training. Additionally, the findings confirm the relationship between the board, AC, and IA size and training, noting that IA is much more likely to find support from a board and AC that are strong (independent), and consequently, to be in a better position to identify and monitor the risks in adopting the IFRS and give overall supervision to their implementation. With this level of support, the IA can ensure that companies' accounting and auditing practice is in better alignment with the IFRS.

It also emerges from the study that a direct reporting link between IA and the AC promotes IFRS adoption and implementation, whereas in the scenario where IA reports to general management, the opposite is true. Hence, the positive influence of AC oversight and facilitation of IA work is important for organizations wishing to introduce the IFRS and experience a smooth implementation.

The study does suffer from certain limitations, which are noted as directions for future research. In particular, it has not been able to focus on certain variables known to influence change to accounting and auditing practice. In this respect, it should be noted that Alzeban (2015) and Alzeban and Gwilliam (2014), among others, have identified several cultural factors, for example, history, beliefs and societal attitudes, that have and continue to have an effect upon the way IA is developing in the KSA; and the point is made by Al-Akra *et al.* (2016) that there is a need to consider such societal influences when establishing regulations. This suggests the need to expand the current study by including these factors to determine how and to what extent, they wield influence on IFRS adoption. Another area worth exploring is that concerning the challenges facing companies, auditors and regulators alike in adopting the IFRS. One such challenge, for example, could be the lack of qualified auditors who are familiar with the IFRS and have the confidence to apply them, and the influence to command others within their organizations to comply with their information requests. Another challenge is the national language, Arabic, since this has been the required form of communication in the days of the Saudi GAAP. Another challenge is the fact that in some cases it is necessary to comply with laws (Sharia'), which the IFRS may not readily accommodate.

**Note**

1. Studies have shown that IA is a key player in ensuring that there are no financial misstatements. This is done by IA's efforts to upgrade the quality of internal controls (e.g. Krishnan, 2005), but, as noted by Abbott *et al.* (2010), such action invariably requires more resources.

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**Corresponding author**

Abdulaziz Alzeban can be contacted at: [aalthebyan@kau.edu.sa](mailto:aalthebyan@kau.edu.sa)

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