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Article

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Journal of Accounting and Management Information Systems (JAMIS)

Provided in Cooperation with:

The Bucharest University of Economic Studies

Suggested Citation: Gamra, Souha Ben; Hamza, Fadhila; Borgi, Hela (2022) : The Impact of IFRS Adoption and Corporate Governance Mechanisms on Audit Report Lag: Evidence from An Emerging Country, Journal of Accounting and Management Information Systems (JAMIS), ISSN 2559-6004, Bucharest University of Economic Studies, Bucharest, Vol. 21, Iss. 4, pp. 604-630, <https://doi.org/10.24818/jamis.2022.04006>

This Version is available at:

<https://hdl.handle.net/10419/310845>

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The impact of IFRS adoption and corporate governance mechanisms on audit report lag: evidence from an emerging country

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Abstract

Purpose: The purpose of this paper is to investigate the impact of the International Financial Reporting Standards (IFRS) adoption and corporate governance mechanisms (e.g., Board characteristics and Audit Committee (AC) characteristics) on Audit Report Lag (ARL) in an emerging country, named Saudi Arabia.

Methodology: We use a sample of 616 firm-year observations from the Tadawul Stock Exchange in Saudi Arabia for the period 2016-2019. Panel regressions were used.

Findings: The results indicate that ARL has significantly increased after the IFRSs' adoption. This result may imply that IFRS adoption leads to a need of adaptation process. It may support the need for more training and IFRS education in Saudi Arabia. Additionally, both AC diligence and AC financial expertise significantly reduce ARL. It may support the Saudi regulatory requirement to equip audit committees with at least one member with accounting and financial expertise. However, the results show that AC size and Board characteristics (board size, board independence and board meetings) are not significantly associated with ARL.

Contribution: Our study fills the gap in the existing literature by examining the impact of the IFRSs' adoption and the corporate governance characteristics on ARL, whose results remain mixed and rare in Saudi Arabia, an emerging and under-studied context.

Keywords: Audit Report Lag, Corporate governance, Saudi Arabia, IFRS.

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JEL codes: M40, M41, M42, M48

1. Introduction

Audit report lag (ARL) signifies “the number of calendar days from fiscal year-end to the audit report date” (Ashton *et al.*, 1987: 657). Research on the determinants of ARL has taken great interest for two main reasons: First, the ARL is considered to be one of the few proxies for audit efficiency (Bamber *et al.*, 1993; Knechel & Payne, 2001, Habib, 2015). According to Habib (2015: 1), “more efficient auditors will likely perform more timely audits”. Bamber *et al.* (1993) argued that a deep understanding of the aspects affecting the ARL can offer more clarifications into audit efficiency. Second, the IASB's Conceptual Framework for Financial Reporting 2018 defines the timely information as the information which is “available to decision-makers in time to be capable of influencing their decisions”.

Since the time engaged by the external auditor to finish the audit process affects the timely publication of financial information (Leventis *et al.*, 2005), the latter will therefore influence the information relevance of the annual financial statements (Whitworth & Lambert, 2014). “Timeliness is deemed as a mirror that reflects the quality and reliability of financial information and its transparency” (Lajmi & Yab, 2021: 3). According to Abernathy *et al.* (2014: 286) “ARL is an important measure of reporting timeliness because it provides an objective measure of the rapidity with which an organization can publish its audited financial statements and captures, among other factors, the audit committee's (AC's) ability to facilitate the audit and financial reporting process”.

Sultana *et al.* (2015) argued that the ARL, which is a fundamental component of the timeliness of financial reporting, improves the information content, affects the firm value, and consequently, increases the importance of the examination of ARL determinants. In fact, the usefulness of financial information is negatively affected by the time it takes the communication of financial reports to the public (Al-Ajmi, 2008). According to Bamber *et al.* (1993), any delay in the issue of financial reports can arise the information asymmetry in the financial market and “affect the level of uncertainty associated with decisions based on the reported information” (Ashton *et al.*, 1987: 275). According to Habib *et al.* (2019), external users view audit reports to be of great value, and consequently the ARL becomes an important factor for stakeholder's decision-making. This situation would be even more critical in the emerging capital markets where the financial statements represent the main source of information provided to shareholders (Al-Ajmi, 2008; Kaaroud *et al.*, 2020) and where the information disclosure has a longer time lag (Afify, 2009).

Many studies investigated the potential determinants of ARL, categorized by Habib *et al.* (2019) into (a) factors related to auditor and audit engagement, (b) factors associated to corporate governance system, and (c) factors related to firm characteristics. Durand (2020) performed a meta-analysis including 68 published studies, including companies from 14 different countries and examining the determinants of ARL. She found that the corporate governance and the auditor characteristics, haven't been sufficiently explored, compared to the other variables, and would benefit from future research. Durand suggested that the relationship between the corporate governance quality obtained from the AC and the board of directors and ARL still vague and should benefit from additional research. Other studies investigated the impact of IFRSs' adoption on ARL (Habib & Bhuiyan, 2011 and Walker & Hay, 2013). However, these studies remain rare. Consequently, this research try to fill the gap in the current literature by examining the relation between some of the corporate governance mechanisms (Board characteristics (board size, board independence and board meetings), AC characteristics (AC size, AC diligence, AC expertise), the International Financial Reporting Standards (IFRS)s' adoption and ARL. The study used a sample of 616 firm-year observations from the Tadawul Stock Exchange in Saudi Arabia for the period 2016-2019 since Saudi listed companies have to adopt IFRS for financial years starting on or after 01/01/2017.

The evidence provided regarding the determinants of ARL will be particularly important given that, in the Saudi capital market, financial reports represent the primary reliable source of information available to investors. Moreover, the majority of studies related to this topic have been conducted in developing countries (Mutawa & Suwaidan, 2022).

This paper is structured as follows: The section 2 discusses corporate governance regulations for Saudi listed companies; section 3 is reserved to the literature review and the hypotheses development; the research method and finding discussion is developed, respectively, in the section 4 and 5; finally, the section 6 summarizes and concludes the paper.

2. IFRS adoption and corporate governance regulations for listed companies in Saudi Arabia

The year 2009 was a key date for Saudi Arabia since it joined the G20, the convergence to IFRS has been considered as a key factor in the country's economic growth, and it has employed resources and efforts to achieve this goal ever since. The Kingdom considered the importance to benefit from the globalizations' opportunities, and thus, the Saudi Organization for Chartered and Professional Accountants (SOCPA) approved the IFRS Convergence Scheme, called the

“SOCPA Project for Transition to International Accounting and Auditing Standards” which started in 2012 (Rizvi & Hussain, 2022).

Under the convergence plan, Saudi listed companies have to adopt IFRS for financial years starting on or after 01/01/2017, and other organizations for financial years starting on or after 01/01/2018. Non-listed companies may choose the early adoption of IFRS for financial reporting with effect from January 1, 2017. SOCPA has adopted the IFRS for Small and Medium-Sized Enterprises (SMEs) in 2018 for use by non-publicly accountable companies. In this context, Nurunnabi *et al.* (2020) concluded that the majority of Saudi companies support the IFRS adoption and consider that this will lead to an improvement in the financial reporting quality by enhancing the transparency and the comparability of financial reports. These findings were confirmed by Nurunnabi *et al.* (2022) who demonstrated that IFRS adoption has improved the financial reports relevancy as well as the financial reporting process of Saudi companies.

Similarly, for the corporate governance (CG), the Capital Market Authority (CMA) has agreed new regulations called “Saudi Arabia Regulations on corporate governance (SRCG) 2017” in April 2017 in order to guarantee convergence with the international CG practices, and to ensure the country’s openness for the foreign direct investment (FDI).

To ensure transparency, SRCG 2017 covers several corporate governance issues such as those related to the board of directors (BOD), CEO and committees. First, it strongly outlined the importance of independence assurance through clearly expressing the new requirements of selection, membership, responsibilities and training of BOD members, CEO and different committees’ members.

Accordingly, the board independence has to be assessed annually and it is prohibited to associate simultaneously the board chairman position with any other managerial position in the company, and, the selected CEO cannot be selected in the first-year consequent to the end of his function as Board chairman (Rizvi and Hussain, 2022). It was also stated that the majority of the board members must be independent and non-executive, and, in order to ensure directors’ well performance, they have to satisfy some conditions related to professional qualifications, skills and competences.

Similarly, the new law updated some requirement regarding the audit committee membership and responsibilities. SRCG 2017 specified that at least one member of the board should have a knowledge and competence in finance, at least one who is independent, and exclude from the committee members involved in other auditing or finance functions during the last two years. (Articles 16 to 41).

Additionally, the board must comply with new regulations related to information disclosure and provide a reliable board and audit committee’s report. Annual reports

should disclose information on board composition, remuneration and benefits of members, committees formed of the BOD and provide report on internal audit effectiveness (Rizvi & Hussain, 2022).

3. Literature review and hypotheses development

The main theory underlying the hypotheses development is the agency theory introduced by Jensen and Meckling (1976) which considers that, given the agents-principals deviation of interest, managers may not always act in the best interest of shareholders. This situation creates agency conflicts such as information asymmetry. The agency theory states that the development of a well-structured corporate governance system can reduce the principal-agent problem. From the agency perspective, monitoring mechanism such as an audit committee, can ameliorate the quality of financial reporting. Furthermore, according to Watts and Zimmerman (1983, 1986), the external audit represents a crucial part of the corporate governance structure since the external auditor's reputation can be built by ensuring an independent opinion on the financial statements.

The timeliness of corporate reporting is also considered as a key component of effective corporate governance characteristics since it reduces the asymmetric information (AlAjmi, 2008; Abdelsalam & Street, 2007). Many studies have investigated the likely corporate governance mechanisms that could affect the ARL (Abdullah, 2006; Afify, 2009; Ika & Ghazali, 2012; Oussii & Taktak, 2018; Mathuva *et al.*, 2019; Baatwah *et al.*, 2019). In this study, we are mainly interested in investigating the impact of the IFRSs' adoption, Board characteristics and AC characteristics on the ARL.

3.1 The adoption of International Financial Reporting Standards

Few studies investigated the impact of the IFRSs' adoption on ARL. The literature review conducted by Khelif and Achek (2016) revealed that ARL has increased significantly after the IFRSs' adoption (Habib & Bhuiyan, 2011; Walker & Hay, 2013). However, Habib and Bhuyan (2011) specified that this increase is mostly confined to non-specialist auditors. Habib (2015) investigated the association between the ARL and the adoption of the new Chinese accounting standards (CAS), introduced in 2007 and based on the fair value accounting system. He found that the ARL has significantly increased following that transition for all clients except those audited by large audit firms.

According to Khelif and Achek (2016: 343), "the ARL would be the result of two components: management delay when preparing financial statements and auditors delays when auditing them". Concerning the management delay, Bonson-Ponte *et al.* (2008) suggested that the IFRS adoption implies change in the old models of

financial reporting and necessitates that the preparation and presentation of the financial information be adapted to the new accounting standards. As for the auditors' delays, Habib (2015) suggested that the IFRS adoption induces an increase of audit risks. According to Marden and Brackney (2009), this increase is due to the fact that, after the IFRSs' adoption, auditors are required to appreciate more managers' personal judgments because of the standard-setting approach based on accounting principles pursued by the IASB.

Habib and Bhuiyan (2011: 40) suggested that "this increased risk will require more audit effort and time and hence a longer audit delay". In addition, according to Walker and Hay (2013: 40), "IFRS is expected to increase ARL since it increases the amount of work auditors have to do to ensure compliance with the new standards, due to the complexity of IFRS". In this context, Azzali *et al.* (2021) investigated the effect of IFRS adoption on audit effort and concluded that, after the Italy adopted IFRS, audit hours increased, suggesting an increase of the audit effort. These assertions join those of (Habib & Bhuiyan, 2011: 37) who suggested that "first time reporting under IFRS is expected to increase the ARL, as it will increase the amount of work auditors have to do to ensure compliance with the new standards". Walker and Hay (2013) confirmed that suggestions by asserting that, the complexity of IFRS implies that the amount of work required to ensure compliance with these standards will increase which in turn causes an increase in the ARL. Based on this debate, the first hypothesis is as follows:

H1: *There is a positive association between the IFRSs' adoption and ARL.*

3.2 Board characteristics

The meta-analysis conducted by Durand (2020) demonstrated that the number of studies investigating board characteristics (size and independence) and published in top-tier or AAA section journals or in the US subsample is very limited. In the context of the current study, we are interested in three board characteristics: board size, board independence and board meetings.

3.2.1 Board size

The association between board size and ARL has been the subject of few studies with mixed results. Some studies found a significant negative relationship (Nehme *et al.*, 2015; Alfraih, 2016). Nehme *et al.* (2015) suggested that the diversity of backgrounds in large boards improves communication with auditor and therefore implies an effective auditing and a shorter ARL. Moreover, larger boards have the possibility to distribute and therefore to reduce their responsibilities, which implies greater precision in the performance of their functions and facilitates the audit procedure.

Contrary to these results, other studies have concluded for the existence of a significant positive association between board size and ARL (Hassan, 2016; Mathuva *et al.*, 2019; Asiriuwa *et al.*, 2021). This result is consistent with the agency theory suggesting that large board may create communication and coordination problems. According to Jensen (1993: 44), "Keeping boards small can help improve their performance. When boards get beyond seven or eight people they are less likely to function effectively and are easier for the CEO to control". These coordination problems increase the time to attain an agreement with the auditor on some matters and consequently involve longer audit report delays (Hassan, 2016). However, Aksoy *et al.* (2021) and Al Mutawa and Suwaidan (2022) concluded that the association between board size and ARL was insignificant. In the context of the current study, the following hypothesis is formulated:

H2: *A larger board of directors is associated with a shorter ARL.*

3.2.2 Board independence

Most of studies that investigate the association between the board independence and the ARL report mixed results. Some studies found a significant negative association (Abdullah, 2006; Abdelsalam & Street, 2007; Afify, 2009; Alfrah, 2016). The Meta-analyzes conducted by Habib *et al.* (2019) and Durand (2020) confirmed these results. Habib *et al.* (2019) suggested that this could be used to justify the mandatory requirements to have independent board members. However, Durand (2020) specified that care must be taken when interpreting this association since the result of her meta-analysis is driven by one of the studies with a much larger sample size than all the others. In addition, this association is not significant in the post-SOX period subsample and when the dependent variable is untransformed.

Contrary to these results, Mathuva *et al.* (2019) and Asiriuwa *et al.* (2021) concluded for a significant positive association between the board independence and the audit report delays. Mathuva *et al.* (2019) suggested that board independence leads to more scrutiny of financial reporting and oversight, which increases the audit report delays.

On another side, many authors concluded that board independence, is not significantly associated with the ARL (Nehme *et al.*, 2015; Kaaroud *et al.*, 2020; Lajmi and Yab, 2021; Aksoy *et al.*, 2021 and Al Mutawa and Suwaidan, 2022). In the context of the current study, the following hypothesis is formulated:

H3: *A more independent board is associated with a shorter ARL.*

3.2.3 Board meetings

Few studies investigated the impact of the Board meetings on ARL. The findings of Mathuva *et al.* (2019) revealed that financial board meetings is associated with

longer audit report delays. The authors suggested that an increase in the number of board meetings implies an increase in the time required to make decisions, resulting in a longer delay in the audit report. These results are contrary to those of Chan *et al.* (2016) and Lajmi and Yab (2021) who concluded that the number of board meetings, affects negatively the ARL. Chan *et al.* (2016, p. 152) suggested that "a more independent board that has more frequent board meetings will oversee the financial reporting process more closely and ensure a more timely submission of financial statements".

However, other studies found that the association between board of directors' frequency of meetings and ARL is statistically insignificant (Nehme *et al.*, 2015; Asiriwa *et al.*, 2021 and Al Mutawa and Suwaidan, 2022). Similarly, the Meta-analysis conducted by Habib *et al.* (2019) concluded that there is no significant relationship between board meeting and ARL. Moreover, the findings showed a diversity in the results of the different studies that the authors explained by the differences in board demographic characteristics, especially between Asian countries and the USA. In the context of the current study, the following hypothesis is proposed to investigate the association between board meetings and ARL:

H4: *A high number of board meetings is associated with a shorter ARL.*

3.3 Audit committee characteristics

Abernathy *et al.* (2017) summarized the literature on ARL and its determinants. Their findings provided mixed results on AC characteristics, thus, producing opportunities for future research. These assertions have been confirmed by Durand (2020). Her meta-analysis showed that few studies have investigated the impact of AC quality on ARL, and that their results remain inconclusive. These studies used different measures of AC quality as determinants of ARL (such as committee size, financial reporting experience, frequency of meetings and independence) and have produced mixed results; thus still providing opportunities for future research.

According to Bedard and Gendron (2010: 181), "ACs can improve the quality of information directly by overseeing the financial reporting process and indirectly through its oversight of internal control and external auditing". This result supports the agency theory suggesting that the AC can play an important role in the monitoring process. In this study, we were interested in 3 AC characteristics: the AC size, the AC diligence, the AC expertise.

3.3.1 Audit committee size

According to Bedard and Gendron (2010: 193), "the number of directors appointed on the AC is often perceived by regulators as an important factor which influences its effectiveness. The objective is to have a committee not so large as to become

unwieldy, but sufficiently large to ensure appropriate monitoring". The research on the impact of the AC size on financial reporting quality provided mixed results. Studies that have concluded for a negative impact suggest that a large AC is likely to be less effective since it can lead to a lack of cohesion in decision-making and low participation rates, which may negatively affect the fluidity and efficiency of decision-making (Jensen & Tang, 1993).

Conversely, studies that have concluded for a positive impact of the AC size on financial reporting quality suggest that a large AC has sufficient resources to appoint members with multiple qualities which improves the evaluation of the external auditor's role, responsibilities and work (Pucheta Martinez & De Fuentes, 2007; Turley & Zaman, 2007 ; DeZoort *et al.*, 2002) and enable a better mediation efforts to resolve the financial statements conflicts in a timely manner and consequently, shortens ARL (DeZoort *et al.*, 2003).

On the other side, Bedard and Gendron (2010) attested that "the high rate of negative association suggests that the incremental costs associated with larger groups might outweigh the benefits" (Bedard & Gendron 2010: 194). The authors suggested that AC size need to be more investigated in order to assess the adequacy of regulations related to AC size.

Focusing more particularly on the study of the impact of AC size on the ARL, several studies concluded for a non-significant relationship (Sultana *et al.*, 2015; Oussii & Taktak, 2018; Kaaroud *et al.*, 2020; Lajmi & Yab (2021). Kaaroud *et al.* (2020) explained this insignificant influence by the fact that AC size is mandatory, and more than 90 per cent of the institutions have complied with this requirement.

However, Mohamad-Nor *et al.* (2010) concluded that the AC size have a significant negative impact on ARL. The authors suggested that "larger ACs are more likely to be able to devote adequate time and effort to ensure that the information disclosed in the financial statements is accurate and timely and hence increase the quality of financial reporting"(Mohamad-Nor *et al.*, 2010: 23).

Contrary to these results, Nehme *et al.* (2015) and Chalu (2021) concluded for a positive significant relationship between AC size and ARL. Nehme *et al.* (2015) explained that, greater AC size induces poorer communication, coordination, involvement, and decision-making, which hinders the audit process and leads to a greater audit lag. In the context of the current study, the following hypothesis is proposed to investigate the relationship between AC size and ARL:

H5: *A larger AC is associated with a shorter ARL.*

3.3.2 Audit committee diligence

According to (DeZoort *et al.*, 2002: 45), "diligence refers to the willingness of committee members to work together as needed to prepare, ask questions, and pursue

answers when dealing with management, external auditors, internal auditors, and other relevant constituents". According to Krishnan and Visvanathan (2007), the AC diligence increase the probability to detect and report internal control weaknesses and decrease the probability of issuing fraudulent and misleading statements, and using discretionary accruals to manage earnings. DeZoort *et al.* (2002: 59) argued that "the most common proxy for AC diligence: the number of AC meetings per year". DeZoort *et al.* (2002) suggested that there is a negative association between meeting frequency and reduced incidence of financial reporting problems. However, there is a positive association between meeting frequency and greater external audit quality.

However, Bedard and Gendron (2010) concluded that the association between the AC meetings and the AC effectiveness is non-significant. They argue that "the number of meetings may be a crude indicator of diligence; meeting more frequently does not necessarily translate into effective monitoring" (Bedard & Gendron, 2010: 196). On the contrary, it would reflect a lack of effectiveness.

Several studies have investigated the impact of AC meetings on ARL and the majority of them concluded for a non-significant relationship (Sultana *et al.*, 2015; Oussii & Taktak, 2018; Habib *et al.*, 2019; Durand, 2020; Chalu, 2021).

Contrary to these results, many authors found a significant positive relationship (Nehme *et al.*, 2015; Kaaroud *et al.*, 2020; Lajmi & Yab, 2021). Kaaroud *et al.* (2020) argue that the frequency of meetings may reflect AC's diligence in carrying out its responsibilities. Furthermore, such a significant positive impact could result from the committee's difficulties in responding to certain financial problems encountered. According to Lajmi and Yab (2021), an increase in the number of meetings implies the raising and discussion of more questions concerning the financial statements quality, which implies a delay in the publication of the audit report.

Contrary to these results, Mohamad-Nor *et al.* (2010) concluded that the AC with at least four meetings have a significant negative impact on ARL. They suggested that the frequent AC meetings help the AC to find solutions to financial problems and consequently, lead the auditors to publish the report timely. In the context of the current study, the following hypothesis is proposed to examine the relationship between AC diligence and ARL:

H6: *A high level of AC diligence is associated with a longer ARL.*

3.3.3 Audit committee expertise

According to agency theory, the presence of members with financial expertise improve the AC's ability to ensure the external audit quality, understand audit judgements and appreciate and arbitrate disagreements between the auditor and

company management (Sultana *et al.*, 2015). Ika and Ghazali (2012) argue that knowledge and competencies of financial experts allow them to identify and ask questions that confront management and external auditors, and thus, enhance the quality of financial reporting.

Several studies investigated the impact of the AC member's financial expertise on ARL. The majority of them found evidence of a significant negative association (Abernathy *et al.*, 2014; Sultana *et al.*, 2015; Oussii & Taktak, 2018; Baatwah *et al.*, 2019; Kaaroud *et al.*, 2020). Abernathy *et al.* (2014) found a positive association between AC accounting financial expertise and financial reporting timeliness which refers to the timely provision of information to users. Thus, a variable that reduces ARL is a variable that increases the financial reporting timeliness. Abernathy *et al.* concluded that there is a positive association between the AC accounting expertise acquired through public accounting experience and timely financial reporting; however, the association with accounting expertise acquired through CFO experience is not significant.

These results led them to support the regulatory requirement to provide ACs with at least one member with accounting and financial expertise, thus improving corporate governance. Sultana *et al.* (2015) concluded that the AC member's financial expertise, prior AC experience and member independence are negatively associated with ARL. These results enabled them to confirm the effectiveness of legislation mandating AC financial expertise and independence in enhancing the financial reporting timeliness. These results were confirmed by Oussii and Taktak (2018) who found that, for Tunisian listed companies, the higher the proportion of directors with financial expertise on ACs, the more financial reports are provided in time. The authors suggested that AC financial expertise improves the AC effectiveness and, therefore, can significantly reduce external audit delay. Baatwah *et al.* (2019) presented similar findings by concluding that an AC chair with accounting expertise reduces significantly the audit delay. Habib *et al.* (2019) explained that the AC member's financial expertise improve assurance in negotiation and reduce the time required to conduct a successful discussion with external auditors, which leads to a decrease in ARL. According to Kaaroud *et al.* (2020), these results supported the expectation of agency theory, since the agency problem (i.e. ARL) could be reduced if the majority of AC members have a financial and/or accounting background, which could enhance the AC effectiveness over the financial process.

Contrary to these results, other studies found that the financial expertise of AC members affects positively the ARL (Nehme *et al.*, 2015; Mathuva *et al.*, 2019; Lajmi & Yab, 2021). According to Lajmi and Yab (2021), having a good financial and accounting knowledge, the audit committee experts are more interested in the financial information quality and discuss more points relating to the financial statements quality which delays the publication of the audit report. Nehme *et al.* (2015) suggested that a higher proportion of AC members with financial expertise

are susceptible to examine auditor's suggestions before attaining a compromise on the issues raised by the auditor which causes an increase in ARL. According to DeZoort *et al.* (2003), AC financial experts are more resistant to comply with the auditor's suggestions. These results join those of Bedard and Gendron (2010) who concluded that the association between AC competencies (financial and governance) and effectiveness is not significant. The authors suggested that the risk is to have more AC financial competencies at the expense of other competencies. In fact, given the role of the AC in risk assessment, knowledge of the industry and competencies in general management and corporate law may promote effectiveness.

Based on this discussion, the following hypothesis is proposed in investigating the relationship between AC financial expertise and ARL:

H7: A high level of AC financial expertise is associated with a shorter ARL.

4. Methodology and research design

4.1 Sample and data

The sample of our research consists of 204 listed firms on Tadawul Stock Exchange between 2016-2019. The selected years of this study were the most recent ones for which annual reports were obtainable when we start conducting the empirical study. The initial sample was 816 firm-year observations. From this sample, we excluded all firms that belong to financial industry as they have special regulations and more sophisticated accounting structure (180). We also excluded firms that have incomplete data (20). The final sample of our research is 616 firm-year observations. Data were obtained through Bloomberg database² and hand-collected data from annual reports. Table 1 reports the process of sample selection.

Table 1. the sample selection process

Criteria	Firm-year observations
Initial sample	816
Less: Firms that belong to financial industry	(180)
Less: Firms with missing and incomplete data	(20)
Final sample	616

4.2 Description of proxies

The main dependent variable

To test our hypotheses, we followed previous studies dealing with ARL (Abernathy *et al.*, 2014; Abdillah *et al.*, 2019; Baatwah *et al.*, 2019; Baatwah *et al.*, 2015; Borgi

² Bloomberg database provides some variables that are useful for the current study such as: total assets, total debts, total equity and net income.

et al., 2021; Kaaroud *et al.*, 2020; Oussi & Taktak, 2018). We consider ARL as the number of days that the external auditor needed for the examination and checking of the firm accounts after 31 December of each year (Carslaw & Kaplan, 1991; Bamber *et al.*, 1993). More particularly, we capture this time by counting the number of days after the financial year-end up to the date the audit report is signed by the external auditor. Accordingly, a shorter number of days reflect a smaller lag and consequently, a greater timeliness.

Independent variables

To test our hypotheses, we considered the implementation of IFRS (IFRS) as a binary variable taking 1 for the period starting from 2017 and 0 otherwise³. We also referred to size, diligence and expertise of the audit committee to measure the impact of AC characteristics on ARL. The audit committee size (ACS) is calculated by the number of AC members and the AC diligence (ACD) is calculated by the number of meetings held by the AC during the year which is considered by DeZoort *et al.* (2002) as the most common proxy for this variable. To measure AC accounting financial expertise (ACE), we followed Cohen *et al.* (2013), Mnif and Borgi (2020) and Borgi *et al.* (2021) and assigned AC members into accounting financial expertise categories based on the hand-collected and available information disclosed on annual reports and firms' websites. AC members are considered as accounting financial experts if they have an accounting/financial qualification. Accordingly, we measured the ACE through the proportion of accounting financial experts in the AC. Further, we referred to size, independence and diligence of the board of directors (BD) to measure the effect of Board of directors on ARL. The board size (B_Size) is calculated by the number of directors on the board. The board independence (B_Ind) is calculated by a ratio of independent directors to the total number of directors on the board. The board diligence (B_Dilig) is calculated by the number of meetings held by the BD during the year.

Control variables

The selection of the control variables is based on prior studies dealing with ARL (Abernathy *et al.*, 2014; Abdillah *et al.*, 2019; Baatwah *et al.*, 2019; Baatwah *et al.*, 2015; Borgi *et al.*, 2021; Kaaroud *et al.*, 2020; Oussi and Taktak, 2018). By including control variables in our research model, we may increase the predictive ability of our research model and reduce the effect of the variables we omitted (Knechel & Sharma, 2012).

Following previous studies investigating ARL (Abernathy *et al.*, 2014; Abdillah *et al.*, 2019; Baatwah *et al.*, 2019; Baatwah *et al.*, 2015; Borgi *et al.*, 2021; Kaaroud *et al.*, 2020; Oussi & Taktak, 2018), we included audit opinions (AUD_OP) as a dummy variable scored by one if the auditor expresses a qualified opinion in the audit report for the financial statements of the firm "i" at the end of time period "t";

³ In fact, before 2017, the early adoption of IFRS was not allowed in KSA.

and zero otherwise. According to Habib *et al.* (2019) and (Bamber *et al.*, 1993), an auditor's qualified opinion is more likely to be issued after substantial time and effort has been spent on further audit procedures that require a longer audit completion period. Thus, we expected that qualified opinions are associated with an increase in ARL.

Previous studies suggest that big audit firms are associated with shorter ARL as they may have greater resources and more specialists to draw upon (Sultana *et al.*, 2015). We expect that a big four audit firm is associated with shorter ARL because it may likely to attract experienced workers, to train employees to utilise such resources, and to involve more powerful technologies, which may reduce the time of audit work (Owusu-Ansah & Leventis, 2006). Accordingly, we controlled for audit firm size; the variable BIGF takes one when the external auditor belongs to one of the big four audit firms (i.e., Deloitte, Ernst and Young, KPMG, or PriceWaterhouseCoopers); and zero otherwise.

Also, we included the control variable Profitability (PROF) following Borgi *et al.*, (2021) and Abdillah *et al.*, (2019). In fact, we expect that negative profitability is associated with longer ARL as auditors may proceed more cautiously when there are negative earnings because it may rise the likelihood of financial distress or corporate failure or management fraud later. Reporting losses may also be related to distress risk, which could urge auditors to make deeper examination to confirm that the company is a going concern. Accordingly, auditors are exposed to higher levels of audit risks for loss-making firms (e.g., Bamber *et al.*, 1993; Whittred, 1980), which is displayed in arise in ARL, among other effects. We refer to the return on equity to measure PROF which is equal to the net income divided by the total equity of firm "i" in time period "t".

Furthermore, we included the leverage level of the firm according to most previous studies (Haw *et al.*, 2003; Knechel & Sharma, 2012; Shin *et al.*, 2017; Borgi *et al.*, 2021). In fact, highly leveraged firms are more likely to push an auditor to pay more attention when verifying financial statements which may lead to longer ARL (Sultana *et al.*, 2015). Financial misreporting and financial failure are significantly influenced by a firm's debt structure (Krishnan, 2005). Thus, auditors will be less likely to trust financial statements from firms with poor internal control systems caused by high leverage. We expect that a high level of leverage is associated with an increase of ARL. The variable leverage (LEV) is calculated by the ratio: total liabilities divided by total assets of firm "i" at the end of time period "t".

Most of previous studies suggested a negative relationship between ARL and firm size (Sultana *et al.*, 2015; Abernathy *et al.*, 2014; Abdillah *et al.*, 2019; Baatwah *et al.*, 2019; Baatwah *et al.*, 2015; Borgi *et al.*, 2021; Kaaroud *et al.*, 2020; Oussi & Taktak, 2018). In fact, larger firms are more likely to complete audits sooner than smaller ones (Afify, 2009) as they have more resources to complete their work or

the audit firms may be under greater pressure to complete the audit work more quickly (Sultana *et al.*, 2015). To control for firm size, we measure the variable (FSIZE) by the natural logarithm of total assets of firm "i" at end of time period "t".

Table 2. Dependent, Independent and control variables: description and measurement

Variables' names	Expected sign	Definition and measurement	References
Dependent variable			
ARL		The number of days between the financial year-end up and the date the audit report is signed by the external auditor.	Baatwah <i>et al.</i> (2016) Afifi (2009) Dellaportas <i>et al.</i> (2012)
Independent variables			
IFRS	-	The implementation of IFRS (IFRS) is a binary variable taking 1 for the period starting from 2017 and 0 otherwise.	Borgi <i>et al.</i> (2021)
ACS	-	The audit committee size (ACS) is measured by the total number of audit committee members.	Nehme <i>et al.</i> (2015) Oussii and Taktak (2018) Sultana <i>et al.</i> (2015)
ACD	-	The audit committee diligence (ACD) is measured by the number of meetings held by the AC during the year.	Nehme <i>et al.</i> (2015) Oussii and Taktak (2018) Sultana <i>et al.</i> (2015)
ACE	-	The proportion of audit committee accounting financial expertise (ACE) is measured by the proportion of accounting financial experts in the AC.	Cohen <i>et al.</i> , (2013) Mnif and Borgi (2020)
B_Size	-	The board size (B_Size) is measured by the total number of directors on the board.	Mnif and Borgi (2020) Nehme <i>et al.</i> (2015)
B_Ind	-	The board independence (B_Ind) is measured by a ratio of independent directors to the total number of directors on the board.	Mnif and Borgi (2020) Oussii and Taktak (2018) Nehme <i>et al.</i> (2015)
B_Dilg	-	The board diligence (B_Dilg) is measured by the number of meetings held by the BD during the year.	Mnif and Borgi (2020) Nehme <i>et al.</i> (2015)

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Variables' names	Expected sign	Definition and measurement	References
Control variables			
AUD_OP	-	Is a dummy variable equal to 1 if the audit report for the financial statements of firm "i" for period "t" is qualified; and zero otherwise	Borgi <i>et al.</i> (2021) Nehme <i>et al.</i> (2015) Oussii and Taktak (2018)
BIGF	-	Is a dummy variable scored 1 if the auditor of firm j in fiscal year "t" is a Big 4 audit firm; otherwise scored 0	Borgi <i>et al.</i> (2021) Nehme <i>et al.</i> (2015) Oussii and Taktak (2018)
PROF	-	the return on equity measured by the net income divided by the total equity of firm "i" in time period "t";	Borgi <i>et al.</i> (2021) Nehme <i>et al.</i> (2015)
LEV	+	Ratio of total debt of firm j for year t to total equity of firm j for year "t"	Borgi <i>et al.</i> (2021) Nehme <i>et al.</i> (2015)
FSIZE	-	Natural logarithm of total assets of firm j for year "t"	Borgi <i>et al.</i> (2021) Nehme <i>et al.</i> (2015)

4.3 Empirical model

We used multiple regression technique to test our hypotheses and we estimated the following regression model:

$$ARL_{it} = a + \beta_1 IFRS_{it} + \beta_2 ACS_{it} + \beta_3 ACD_{it} + \beta_4 ACE_{it} + \beta_5 B_Size_{it} + \beta_6 B_Ind_{it} + \beta_7 B_Dilg_{it} + \beta_8 Control\ Variables_{it} + \varepsilon_{it} \dots \dots \dots EQ1$$

Where "i" represents firm, and "t" represents year and " ε_{it} " is the associated error. All variables are defined in Table 2.

5. Results and discussion

5.1 Descriptive and correlation results

Table 3 presents the descriptive results. It reports the mean, standard deviation, minimum, and maximum, skewness and curtosis of all variables. The ARL is between 10 days and 320 days with an average of 65 days which is slightly higher than Baatwah *et al.* (2016) in Oman (60 days). This result is lower than Afifi (2009) in Egypt (67 days) and Dellaportas *et al.* (2012) in Indonesia (98 days). From the

sampled firms, we notice that 15 firms publish their annual reports on the website of Tadawul stock exchange beyond the deadline of the national regulation (90 days).

Table 3. Descriptive results

Variable	Mean	Std. Dev.	Min	Max	skewness kurtosis
ARL	65.46	25.33	10	320	1.534 20.343
IFRS	0.76	0.42	0	1	-1.282 2.644
ACS	3.47	0.72	2	7	1.228 3.858
ACD	5.70	2.21	0	22	1.926 12.087
ACE	0.43	0.28	0	1	0.265 2.399
B_Size	8.16	1.51	4	12	0.243 2.911
B_Ind	0.48	0.15	0	1	0.745 3.394
B_Dilg	5.06	1.85	1	17	1.744 9.062
AUD_OP	0.10	0.31	0	1	2.538 7.442
BIGF	0.43	0.49	0	1	0.281 1.079
PROF	0.01	0.56	-10.09	1.12	-13.280 215.641
LEV	0.41	0.23	0.01	0.93	0.148 2.062
FSIZE	15.01	2.17	9.85	21.59	1.152 4.268

Table 4 presents the matrix of correlation coefficients for the variables used in our empirical model. The maximum value reported in the table 4 is 0.387 which is inferior to 0.8, suggesting that there is no multicollinearity threat (Hair *et al.*, 1995; Gujarati, 2004). Furthermore, the Variance Inflator Factor (VIF) is presented in the same table and the maximum value reported in the table is 1.51 which is inferior to 3, suggesting that multicollinearity is not a severe problem (Johnston, 1984).

Table 4. Pearson correlation matrix of variables and VIF values

Variables	IFRS	ACS	ACD	ACE	B Size	B Ind	B Dila	AUD OP	BIGF	ROE	debt	FSIZE	VIF
IFRS	1.000												1.04
ACS	-0.002*	1.000											1.26
ACD	-0.027*	0.192**	1.000										1.17
ACE	0.078***	-0.036	0.021	1.000									1.06
B Size	-0.050**	0.381**	0.262**	0.040	1.000								1.37
B Ind	-0.102	-0.103	-0.004	-0.064	-0.185**	1.000							1.14
B Dila	0.049	0.180	0.265**	-0.048	0.066	-0.033	1.000						1.20
AUD OP	0.026**	-0.083	0.027	-0.054	-0.093	0.018	0.153*	1.000					1.14
BIGF	-0.057*	0.128**	0.118*	0.063	0.212**	-0.214**	0.072	-0.192**	1.000				1.25
ROE	-0.058	0.060	0.003	0.051	0.117**	-0.028	-0.191**	-0.161*	0.138**	1.000			1.15
Debt	0.011**	0.081	-0.019	0.158**	0.094	-0.230**	0.097	0.041	0.159*	-0.142*	1.000		1.22
FSIZE	0.018**	0.315***	0.134*	0.008	0.378***	-0.195***	0.112*	-0.245**	0.387**	0.188**	0.263*	1.000	1.56

***significant at 1% level, ** significant at 5% level, and * significant at 10% level

5.2 Multivariate analysis

Table 5 reports the regression results for the effect of the implementation of IFRS, the AC characteristics, and the board characteristics on ARL. We perform multiple regression for our panel data. As robustness tests, we run our model three more times by including, each time, only one category of our independent variables. Column 1 presents results where ARL is a function of *IFRS* (IFRS implementation) and control variables. Column 2 presents results where ARL is a function of audit committee characteristics and control variables. Column 3 presents results where ARL is a function of board characteristics and control variables. Column 4 presents results where ARL is a function of IFRS implementation, AC characteristics, board characteristics and control variables.

Table 5. Main results

VARIABLES	Column (1) ARL Coefficient (t-statistic)	[95% Conf. Interval]	Column (2) ARL Coefficient (t-statistic)	[95% Conf. Interval]	Column (3) ARL Coefficient (t-statistic)	[95% Conf. Interval]	Column (4) ARL Coefficient (t-statistic)	[95% Conf. Interval]
IFRS	12.34*** (12.23)	10.36 14.32					13.63*** (8.83)	9.04 18.19
ACS			-0.76 (-0.34)	-3.20 3.67			-0.32 (-0.16)	-4.29 3.65
ACD			1.23*** (2.75)	0.35 2.11			0.45* (1.67)	-0.261 1.12
ACE			-13.45*** (-2.51)	-23.97 -2.93			-12.73*** (-1.98)	-25.33 -0.12
B_Size					-1.68* (-1.66)	-3.66 0.30	-1.23 (-1.57)	-3.007 0.53
B_Ind					-6.56 (-0.62)	-26.35 13.62	2.93 (0.30)	-16.38 22.24
B_Dig					-0.33 (-0.48)	-1.71 1.03	-0.60 (-0.89)	-1.93 0.72
AUD_OP					12.07*** (2.27)	1.65 22.49	12.55*** (2.37)	2.16 22.95
BIGF	8.70*** (4.30)	4.73 12.67	11.62* (1.84)	-0.754 24.01	0.31 (0.60)	-9.34 9.96	2.45 (0.47)	-7.73 12.64
PROF	-1.20 (-0.86)	-3.93 1.53	-1.16 (-0.28)	-9.429 7.10	-1.55 (-0.77)	-5.50 2.40	-0.76 (-0.56)	-4.92 3.39
LEV	-1.15 (-1.29)	-2.90 0.59	-1.12 (-0.44)	-6.15 3.90	4.03 (0.43)	-14.43 22.49	5.01 (0.57)	-12.57 22.77
FSIZE	14.03*** (4.57)	8.01 20.06	13.48* (1.76)	-1.57 28.55	-0.11 (-0.1)	-2.34 2.11	-0.51 (-0.54)	-2.61 1.48
Constant	-0.957*** (-2.41)	-1.73 -0.17	-1.57* (-1.65)	-3.44 0.29	82.33*** (7.10)	60.40 106.66	74.12*** (4.62)	42.68 105.56
Observations	66.25*** (11.44)	54.90 77.59	83.53*** (7.10)	60.40 106.66	616	49.83 114.82	616	42.68 105.56
R-squared	0.102		0.0825		0.081		0.1225	
F statistic (sig.)	8.89***		5.32***		5.30***		8.89***	

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

Our findings reported in table 5, show that our empirical models are globally significant (F statistic are significant at 1% level in all instances).

In terms of IFRS implementation, the coefficient of *IFRS* is positive and significant at 1 % level. This result supports our hypothesis 1 and is consistent with Habib (2015), Khlif and Achek (2016) and Walker and Hay (2013) who concluded that ARL has significantly increased after the IFRSs' adoption. This result may imply that IFRS adoption leads to a need of adaptation process in terms of presentation of financial information and application of the new accounting standards. It may also suggest that auditors will need more time to verify increased managerial judgments due to the principles-based standard-setting approach.

In terms of audit committee characteristics, the coefficient of *ACS* is negative but non-significant. This result does not support our hypothesis 2. However, it is in line with Sultana *et al.* (2015), Oussii and Taktak (2018) and Kaaroud *et al.* (2020) who found that there is no significant relationship between AC size and ARL. This may be explained by the fact that AC size is legalized through the KSA regulation on corporate governance, and consequently, all institutions merely follow the requirement.

The coefficient of *ACD* is positive and significant at 1% level. This result, which supports our hypothesis 3, is consistent with Kaaroud *et al.* (2020) who found a significant positive relationship between the meetings held by the AC and the ARL. This result suggests that AC may face some problems to respond to certain financial issues which lead the auditors to take more time to issue their reports.

The coefficient of *ACE* is negative and significant at 5% level. This result confirms our hypothesis 4 and supports the agency theory arguments, as the agency problem (here, the ARL) may be mitigated by having a majority of AC members with financial accounting background, which would improve the effectiveness of AC function over the financial process. This finding is consistent with Oussii and Taktak (2018) who found that a higher proportion of directors with financial expertise on ACs, is associated with more timely financial reporting of Tunisian listed companies. It is also in line with Habib *et al.* (2019) who suggested that the AC member's financial expertise improves assurance in negotiation and decrease the necessary time for conducting an effective discussion with external auditors, which in turn will decrease the ARL. This result may imply that financial accounting knowledge and skills of AC members lead to AC effectiveness and, in turn, may be able to considerably decrease ARL. This finding supports the Saudi regulatory requirement to provide audit committees with at least one member with accounting and financial expertise.

In terms of board characteristics, the coefficients of *B_Size* is negative and significant at 10% level in model number 3 but non-significant in model 4. This

result support partially hypothesis 5. The result for the board size is in line with the findings of Durand (2020) who suggested that the relationship between ARL and the size of the board is negative but only partially significant. According to Durand (2020), the result for this variable is released by a single study with a large sample size. The author added that when this research is excluded from the meta-analysis, this variable turns into non-significant.

For *B_Ind* and *B_Dilg*, the variables are non-significant. These results do not support hypotheses 6 and 7. The result for the board independence is consistent with the findings of Nehme *et al.* (2015) and Kaaroud *et al.* (2020) who concluded that there is no association between board independence and ARL. This result for the board diligence is in line with the findings of Nehme *et al.* (2015) who found that the association between board of directors' frequency of meetings and ARL is statistically insignificant. This result is also confirmed by the Meta-analysis conducted by Habib *et al.* (2019) who found no significant relationship between board meeting and ARL. Overall, the meta-analysis of Durand (2020) found that board characteristics do not play a key role in affecting ARL.

For control variables, the coefficient of *AUD_OP* is positive and significant at 1% level in model 1, at 5 % level in model 4 and at 10 % level in the other models. This result is consistent with our expectation asserting that qualified opinions are associated with an increase in ARL. This finding is in line with the findings of Habib *et al.* (2019) and Bamber *et al.* (1993) who suggested a positive relationship between qualified opinions and ARL. They explained this result by the fact that qualified opinions are more likely to be issued when an auditor has spent substantial time and efforts in carrying out further audit procedures which requires a longer audit completion period. The coefficient of *BIGF* is non-significant. This result is against our expectation but in line with the findings of the meta-analysis conducted by Abernathy *et al.* (2017) who concluded that about 53% of the results showed non-significant coefficients on the Big 4 variable, despite the persuasive theoretical arguments that Big 4 auditor type reduces ARL.

The coefficient of *PROF* is non-significant. This result is not in line with our expectation but is consistent with Borgi *et al.* (2021) who suggested that there is so significant relationship between profitability and financial reporting timeliness in Saudi Arabia. The coefficient of *LEV* is positive and significant at 10% level. This result is consistent with our expectation and with the findings of Sultana *et al.* (2015) who suggested that highly leveraged firms are more likely to push an auditor to pay more attention when verifying financial statements which may lead to longer ARL. The coefficient of *FSIZE* is negative and significant at 10% level. This is consistent with our expectation and with the findings of most of previous studies (Sultana *et al.*, 2015; Abernathy *et al.*, 2014; Abdilllah *et al.*, 2019; Baatwah *et al.*, 2019; Baatwah *et al.*, 2015; Borgi *et al.*, 2021; Kaaroud *et al.*, 2020; Oussi and Taktak, 2018). In fact, this finding may suggest that large firms may complete the audit work

earlier than smaller ones (Afify, 2009) as they have more resources to enable the completion of a swifter audit or may be able to assert greater pressure on audit firms to complete the required audit work faster (Sultana *et al.*, 2015).

5.3 Robustness check

In this section, we perform an additional robustness check through using an alternative measurement of the dependent variable. Following Baatwah *et al.* (2016), Borgi *et al.* (2021) and Dellaportas *et al.* (2012), we captured the time taken by the company to issue the audited annual reports to the public as a new dependent variable called earnings announcements (EA). This variable is calculated by the number of days that lags between the date of year-end and the date of disclosing the annual reports to the public on the capital market website. The untabulated results report that essential findings of our analyses are unchanged.

6. Conclusion

In this paper, we investigated the impact of the IFRSs' adoption and some of the corporate governance mechanisms (Board characteristics and AC characteristics) on ARL using a sample of 616 firm-year observations from the Tadawul Stock Exchange in Saudi Arabia for the period 2016-2019.

The main findings show that the mean of ARL for Saudi listed companies is 65 days and that ARL ranged from a minimum of 10 days to a maximum of 320 days. Furthermore, the results indicate that ARL has significantly increased after the IFRSs' adoption. Additionally, both AC diligence and AC financial expertise significantly affect ARL. However, the results show that AC size and Board characteristics (board size, board independence and board meetings) are not significantly associated with ARL. Moreover, for control variables, the auditor opinion, the firm leverage and the firm size significantly affect ARL. However, the auditor affiliation and the firm profitability are not significantly associated with ARL.

Regarding academic literature, our study fills a gap in the existing literature examining the impact of the IFRSs' adoption and the corporate governance characteristics on ARL, whose results remain mixed despite being rare (Khelif, 2016; Habib *et al.*, 2019; Durand, 2020). Furthermore, our findings provide several important implications regarding the benefits and costs associated with the IFRSs' adoption and the corporate governance regulations. More specifically, our results support the need for more training and IFRS education in Saudi Arabia. The results may also inform regulators in contexts planning to adopt IFRS in the future. Additionally, our findings support the Saudi regulatory requirement to equip audit committees with at least one member with accounting and financial expertise since

their knowledge and competencies allow them to ask appropriate questions and to improve the negotiation process with external auditors, thus leading to a reduction in the ARL.

Future research can investigate other corporate governance mechanisms, which are not comprehensively pursued in this study such as board ownership. Furthermore, the relationship between timeliness and market reactions in the Saudi context is worth studying. The results will be particularly important given that audited financial statements represent the only reliable source of information available to investors in the Saudi capital market.

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