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Matters may matter: The disclosure of key audit matters in the Middle East

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Abstract: The main objective of this research is to investigate the extent of the disclosure of key audit matters (KAMs) and the factors that affect the level of KAMs' disclosure in the audit reports of the Middle East (ME) region. A disclosure index approach is employed to consider eight KAMs generated from the International Standard on Auditing (ISA) 701 and a fixed effect regression run on a sample of 281 firms from four countries (Oman, the UAE, Bahrain, and Jordan) for four years (2017–2020), comprising 1124 observations. The findings show that the overall KAMs' disclosure is approximately 56% across all countries. The study takes into consideration the positive and significant correlation between the leverage, audit committee characteristics, financial industry, audit firm, client size, profitability, liquidity, and KAMs' disclosure in most sampled countries. This research contributes to our understanding of the level of KAMs' disclosure and the factors specific to the ME region, which enhances policymakers' and decision-makers' knowledge of KAMs' disclosure in audit reports.

Subjects: Business, Management and Accounting; Accounting; Auditing

Keywords: key audit matters; auditing; audit reports; Middle East

1. Introduction

Financial crises have caused unprecedented damage to public confidence in the reliability and credibility of audited financial reports, leading to increased scrutiny of the informative value of the auditor's report (Bédard et al., 2014). This has led to questioning the relevance of the audit reports adhering to the International Standard on Auditing (ISA). The traditional audit report has been subject to several criticisms and debates (Church et al., 2008). Some scholars have argued that, although the traditional audit report is highly standardized, it remains insufficient, uninformative, and lacking in transparency (Asare & Wright, 2012; Carcello, 2012; Gold & Heilmann, 2019; IAASB, I., 2011). According to Asare and Wright (2012), the traditional auditor's report provides minimal informational content, which can lead to incorrect investment decisions, improper allocation of resources, unnecessary litigation, and loss of investors' confidence in the audit function. More recently, Vanstraelen et al. (2012) and Mock et al. (2013) found that users of financial statements are both seeking more disclosures about the audit and additional information about the audit findings, especially regarding risk-related issues. Some scholars have argued that the audit report provides information about audit process rather than auditing the client (Abdullatif & Al-Rahahleh, 2020). Thus, prior studies have revealed an information gap between the traditional audit report and the information that the stakeholders desire in financial statements. This has led to several debates and arguments regarding the need to introduce significant changes to the auditor's report in order to reduce misperceptions (Gold & Heilmann, 2019). Regulators and professional bodies have worked together to come up with a better reporting system to increase the reliability of the audit report and to increase trust in the audit opinion (Ciðer et al., 2019).

Consequently, the International Auditing and Assurance Standards Board (IAASB) has introduced new audit report standards to overcome information asymmetry and the information gap between the independent auditors and the stakeholders. The IAASB has issued several auditing standards to increase transparency and trust in the audit profession; in response to calls for changes, it has instigated several important changes to the traditional audit report. These changes were initiated under ISA 701 and refer to "key audit matters" (KAMs). KAMs are "those matters that, in the auditor's professional judgment, were of most significance in the audit of the financial statements of the current period." (IAASB, I., 2015) Specifically, ISA 701 allows the auditor to choose which KAMs to disclose in their report each year. The main objective for adding these KAMs is to allow more disclosure concerning the observations that the auditor thinks need to be disclosed, specifically those matters that are classified by the auditor as significant issues, events, and risks or require professional judgments (IAASB, I., 2015). Therefore, it is expected that disclosing KAMs will increase the communicative value of the audit report and will enable investors to focus on financial statements' challenging items (Sirois et al., 2018). According to ISA 701, which came into force in December 2016, the auditor must disclose in the report any issues that she/he thinks are important and would be of value to the users of the financial statements. In relation to the stakeholder agency problem, it is expected that KAMs' disclosure reduces information asymmetry and plays an important role in decreasing the expectation gap (Velte & Issa, 2019). However, the main aim of ISA 701 is to reduce the information gap through KAMs' disclosure, as stakeholders, in general, may not have the adequate and appropriate experience and professional knowledge to analyze the financial statements. Therefore, they are looking for information that is more helpful from the auditor to increases their awareness and understanding of important matter related the company[1].

Based on agency theory, our study's aim is twofold. First, it aims to investigate the extent of KAMs' disclosure in the audit reports of the Middle East (ME) region. Second, it aims to determine the factors that affect such disclosure. Our research provides recent empirical evidence from several ME countries concerning the factors associated with KAMs' disclosure. Specifically, the current study provides evidence for standard setters about the variables associated with KAMs. It also provides relevant information for investors about a company's particularities that affect KAMs' disclosure, which should help enhance transparency.

Scarce number of prior studies investigate the level of KAMs disclosure on developing and developed countries (Velte & Issa, 2019). Most of the ME countries are changing to or recently adopting International Financial Reporting Standards (Mardini et al., 2019) and so International Standards on Auditing. This sometimes cause misinterpretation and low adoption of such standards by accountants and auditors (Kiliç et al., 2016; Zeghal & Mhedhbi, 2006). ME economy enjoys different business characteristics with those in developed economies where ownership concentration and family business is highly common (Abdullatif & Al-Rahahleh, 2020). This may hinder the level of compliance to the international standards and question reporting and the level of disclosure. This therefore motivates us to explore the application of KAMs and to research the variables affecting this application in such business environment like ME.

Thus, first, our research contributes to the existing audit literature by investigating the determinants of KAMs in the ME region, which is characterized by a lack of KAMs research. KAMs research has tended to focus on the consequences of KAMs' disclosure and issues such as the auditor's liability (Backof et al., 2014; Brasel et al., 2016; Wuttichindanon & Issarawornrawanich, 2020), stakeholders' reactions (Köhler et al., 2020; Velte & Issa, 2019), and the impact on the capital market (Lennox et al., 2018). Second, prior studies have shown an enormous variation between KAMs' disclosure and its determinants in developed countries (Gold & Heilmann, 2019; Li et al., 2017; Sirois et al., 2018). For example, some have argued that disclosing a greater number of KAMs will lessen the usefulness and increase the complexity of the auditor's report (Sirois et al., 2018), thus reducing the effectiveness of their disclosure (Li et al., 2017). Others, however, have argued that disclosing KAMs should be of benefit to stakeholders and increase the communicative value of the audit report (Gold & Heilmann,

2019). This discrepancy represents a valid research motivation to examine whether countries' different cultural and business environments affect KAMs' disclosure, particularly in the ME region, which we use as an additional sample to compare to prior studies and to verify their findings. Third, this study has comprehensive implications for managers of ME firms, policymakers and regulators, as well as stakeholders in general. In summary, this paper aims to enhance our understanding of the determinants of KAMs' disclosure and their development.

The remainder of this study is organized as follows. Section 2 provides a literature review pertaining to each study variable, based on which related hypotheses are formulated. Section 3 describes this research's methodology and sample. Section 4 presents the results of the research. Section 5 concludes the paper, including a discussion of the findings, implications, and conclusions.

2. Literature review and hypotheses development

The implementation of KAMs in the audit report is topic that has attracted research attention and has been subject to a contentious debate in the audit literature. Some academics and regulators (Asare & Wright, 2012; Church et al., 2008; IAASB, I., 2015) have argued that KAMs' disclosure increases transparency in the audit process and add communicative value to the audit report (Gold & Heilmann, 2019; Ittonen, 2012). Others, however, believe that implementing KAMs in the audit report leads to greater legal liability (Backof et al., 2014; Brasel et al., 2016; Tysiac, 2014), increases the complexity (Sirois et al., 2018), and reduces the effectiveness (Li et al., 2017). Moreover, Cordoş and Fülöp (2015), while investigating whether both investors and shareholders who use the audit reports are satisfied with the changes in ISA 701, concluded that investors still seek greater confidence in the audit report and perhaps require additional reassurance. Their results indicated that most of the responses favored adding KAMs to the auditor's report.

Furthermore, the literature on audit reports asserts that disclosing KAMs should enhance the quality of the audit process in line with stakeholders' interests (Ittonen, 2012; Velte & Issa, 2019). The main aim of the auditing process is to increase the users' trust in the financial statements (Abdolmohammadi & Tucker, 2002; Mah'd et al., 2019); this is in line with agency theory, which explains the relationship between the auditor and the stakeholders. According to agency literature, when the audit committee practices more oversight and demands better coverage of the audit, a higher quality of audit will be achieved (Schrader & Sun, 2019; Velte & Issa, 2019). Disclosing KAMs allows auditors to provide a means for self-assessment by stakeholders, based on which they can make better financial analyses and investment decisions. According to agency theory, disclosing more information should reduce information asymmetry and increase financial reporting and audit quality. In summary, from an agency theory perspective, if the audit committee provides more oversight and demands better coverage of the audit, this will result in a higher quality of audit (Schrader & Sun, 2019). Thus, disclosing more information should reduce information asymmetry and increase financial reporting and audit quality.

Many authors have studied KAMs' influence on various factors, such as investors' reactions (Brasel et al., 2016; Köhler et al., 2020) and auditors' responsibility (Backof et al., 2014; Brasel et al., 2016; Lennox et al., 2018; Sirois et al., 2018). Segal (2017) studied the possible unintended consequences of disclosing KAMs in the audit report, indicating that, in line with previous research results, the relationship between the auditor and the client and the auditor's liability, combined with the market indicators, are important determinants for the number of KAMs that appear in the audit report. Thus, in the present study we investigate the determinants of KAMs' disclosure, including client size, profitability, leverage, liquidity, and the impact of the audit committee effectiveness, audit firm, and industry type. The remainder of this section discusses the literature regarding KAMs factors examined in the current study to develop the hypotheses.

2.1. Litigation risk (leverage indicator)

Based on information assimilation theory (Einhorn and Hogarth (1981), the auditor can use avoidance (delaying or not disclosing KAMs) or confrontation (compensatory strategies where

the auditor is risk-averse; Pinto & Morais, 2019). To explain this, we adopt Pinto and Morais (2019) approach, which assumes the auditor will utilize a trade-off between the probability of litigation risk and reputation on one side and the probability of losing clients on the other side. In general, higher financial risk leads to a higher probability of audit litigation, which in turn pushes the auditor to disclose more KAMs to reduce their debit. In the current research, we use leverage as a proxy of financial risk that causes the auditor to disclose more KAMs.

Specifically, prior studies have shown that KAMs' disclosure could increase the litigation risk and increase the auditors' responsibility for misstatements (Kachelmeier et al., 2017; Masdor & Shamsuddin, 2018). Kachelmeier et al. (2017) elaborated that KAMs' disclosure has led attorneys to conclude that auditors, in general, become less responsible for their audit. Further, disclosing KAMs negatively influences the users of the financial statements (Brasel et al., 2016). In this context, Brasel et al. (2016) concluded that stakeholders may react less negatively when there is an audit failure and the misstatement is disclosed in KAMs. Pinto and Morais (2019), however, asserted that disclosing more KAMs reduces the liability of the auditor and helps maintain their reputation. They also elaborated that disclosing KAMs requires more effort time from the auditor, which should improve the audit procedures and audit efficiency. Gimbar et al. (2016) concluded that, in an environment with vague accounting standards, KAMs' disclosure does not affect the auditor's liability but, when the accounting standards are precise, the auditor's liability increases and the auditor tends to disclose more KAMs. This view has also been supported by Pinto and Morais (2019), who explained that greater precision of the accounting standards leads to greater disclosure of KAMs to reduce the liability. According to Bédard et al. (2014), auditors tend to reduce their responsibility by practicing due care and improving audit procedures, which in turn leads to disclosing more KAMs. As higher leverage leads to difficulty in maintaining funds, some authors have argued that the auditor assumes potential business failure and discontinuation of operation, which in turn leads to potential client litigation (Pinto & Morais, 2019). This risk of litigation is presumed to be a motivator for the auditor to disclose more KAMs.

Based on these arguments, we employ leverage as a proxy of financial risk to represent litigation risk and develop the following hypothesis:

H1: Auditors tend to disclose more KAMs if the litigation risk (leverage) is higher

2.2. Audit committee characteristics

Corporate governance best practice codes suggest that firms all over the world should maintain large and independent audit committees (Samaha et al., 2015). Various research has demonstrated that the audit committee plays an important role in improving the quality of audit reports as well as supervising the integrated reporting process (Schrader & Sun, 2019; Velte, 2018; Velte & Issa, 2019). For instance, Velte and Issa (2019) claimed that for better audit reporting, audit committees are considered as one of the most important monitoring elements that enhance corporate governance (Cassell et al., 2012). The audit committee requests management to disclose more information so the committee can accurately assess their performance.

In terms of the audit committee in relation to KAMs, prior studies have argued that KAMs' disclosure improves the communication between the auditor and the audit committee, as well as the users of the financial statements (Abdullatif & Al-Rahahleh, 2020). Moreover, prior studies have claimed that enhancing the work of audit committees and audit disclosure may minimize the information asymmetry by providing better information to users (Schrader & Sun, 2019; Velte & Issa, 2019). According to Velte (2018), one of the audit committee's duties is to monitor the audit reporting and to seek a clear focus on the materiality principle, which is the reason for KAMs'

disclosure. According to (Cordoş & Fülöp, 2015; Velte & Issa, 2019), investors are calling for more disclosures from both sides (auditors and audit committees).

According to prior research audit committee size, financial expertise and meetings should serve as the blend of good corporate governance structure and so affecting the firms performance (Al-Matari et al., 2014). The audit committee size is usually measured by the number of members serving on the audit committee of the client firm (Al-Matari et al., 2014). Prior research recommend that the audit committee size should be of more than three members and most if which should be independent members with financial experience. Some argue that members in small audit committee are unable to perform their duties efficiently since they are overwhelmed with many duties and tasks (Cheung, 2019).

Some have argued that having members of the audit committee who are industry or financial expertise leads to greater effectiveness (Cohen et al., 2014). Based on prior empirical results (Cassell et al., 2012; Cohen et al., 2014; Velte, 2018), we assume that financial expertise in the audit committees will contribute to better cooperation with the outside auditors. This is expected to motivate them to report more useful information for decision-making. As shareholders demand a readable KAM disclosure by the auditor, the audit committee's financial expertise should lead to reduce information asymmetry and eliminate conflicts of interest. This assumption is in accordance with agency theory views that the audit committee provides careful monitoring of the financial reporting to shareholders and external auditors (Coram & Wang, 2019; Velte & Issa, 2019).

Prior literature linked KAMs disclosures to the frequency of audit committee meetings. Fera et al. (2021) explains that effective audit committee and good governance leads to less KAMs disclosures. In the same direction, Gold et al. (2019) explained that more audit committee meetings lead to less KAMs disclosures. So, literature suggested that disclosure of KAMs is negatively related to the number of audit committee meetings. Prior research also show that the female reprenstation in the audit committee members is associated with the KAMs disclosure (Velte, 2018, 2019). However, the relationship between the composition of the audit committee and KAMs' disclosure has not been fully investigated. To the best of our knowledge, (Velte, 2018) study is the only research that has addressed audit committee female representation and KAM readability in the UK. The study results indicated that client firms with a higher women representation on the audit committee, as an indicator of audit committee effectiveness, leads to more KAM disclosures with better readability. In line with agency theory, (Velte, 2018) assumed that the likelihood of lessening agency problem between management of the company and the owners is dependent on strict monitoring by the audit committee in the UK's one-tier system.

In summary, the audit committee literature suggests that there is a positive association between audit committee characteristics and the level of disclosure, such as KAMs (Abdullatif & Al-Rahahleh, 2020; Al-Shammari & Al-Sultan, 2010; Samaha et al., 2015; Velte & Issa, 2019). On the other hand, other research has found no relationship between audit committee characteristics and disclosure (Allegrini & Greco, 2013). In the same time, some found that audit committee features such as independency, its effectiveness or the existence of financial expertise have no significant impact on the number of KAMs disclosures (Gold et al., 2019). However, our paper's theoretical framework adopts the agency theory perspective concerning the association of the audit committee and KAMs; accordingly, we posit the following hypotheses:

H2a: Auditors tend to disclose more KAMs if the audit committee size is higher

H2b: Auditors tend to disclose more KAMs if the representation of members with financial expertise in the audit committee is higher

H2c: Auditors tend to disclose more KAMs if the number of audit committee annual meetings is higher

H2d: Auditors tend to disclose more KAMs if the female representation in the audit committee is higher

2.3. Financial and non-financial industries

Previous research has shown that the audit process differs between industries, with some industries being more problematic than others in terms of their complexity, size, or type of operation (Flannery et al., 2013; Pinto & Morais, 2019). In general, the literature provides different arguments concerning auditing in financial sectors. Some have argued that financial institutions are more complex and difficult to audit due to agency conflicts and assets' opaqueness, as well as risks that are difficult to evaluate by users (Flannery et al., 2004, 2013). Another stream of literature has argued that more regulations and standards should lead to less risk and thus less disclosure of KAMs (Ghosh et al., 2019). According to Pinto and Morais (2019), this might make it more difficult for the management of financial institutions to provide ambiguous financial statements. These authors also elaborated that such complex firms (where there are more areas of risk) require auditors to disclose more KAMs (Pinto & Morais, 2019), which is in line with previous research (Bédard et al., 2014). In this context, Flannery et al. (2004) stated that, in financial industries, economic complexity requires complex accounting standards, which leads to financial reports' complexity. This complexity in financial reporting pushes auditors to disclose more KAMs.

The inconsistency in the literature regarding the relationship between disclosing more or less KAMs in financial institutions compared to non-financial institutions motivates us to study this phenomenon. In the current paper, we assume that auditing financial institutions is more complex than auditing non-financial institutions because of the risk associated with their assets and the complexity of the financial transactions (Flannery et al., 2004, 2013; Pinto & Morais, 2019). This complexity in transactions requires complex standards and many regulations, and this may require auditors to disclose more KAMs. Therefore, we predict that auditors tend to disclose more KAMs in financial institutions than non-financial ones. Accordingly, we posit the following hypothesis:

H3: Auditors tend to disclose more KAMs for financial industries compared to non-financial industries.

3. Methodology

3.1. Sample

The objective of the current paper is to study the level of KAMs' disclosure in the ME region and to examine the factors that affect this disclosure. Therefore, this research focuses on several ME markets. Specifically, this research studies all companies listed in four stock markets [Dubai (UAE), Oman, Bahrain, and Jordan][2], ultimately leading to a sample size of 283 firms. Our sample period covers 2017–2020, comprising 1132 "annual reports" observations. However, the annual reports of two Bahraini listed firms were missing, which lead to be excluded from the final sample. Thus, the final sample comprised 281 firms from both the financial (financial services, banks and insurance, and financial services) and non-financial (manufacturing and services) sectors over a period of four years (2017–2020), with 1124 observations in total. Table 1 details the final sample per sector.

3.2. Research variables and models

In terms of the current study's variables, the dependent variable for the current study is the extent of KAMs' reported in the auditor report. We developed a checklist to measure the number of KAMs reported by the ME countries included in the study. This included collecting data on the number of

Table 1. Sampling process

	Dubai	Oman	Bahrain	Jordan	Total
Initial Sample	57	124	41	61	283
Missing Data	0	0	2	0	2
Final Sample	57	124	39	61	281
No. of Observations in 4 years	228	496	156	244	1124
Financial (4 years)	31 (124)	47 (188)	22 (88)	27 (108)	127 (508)
Non-Financial (4 years)	26 (104)	77 (308)	17 (68)	34 (136)	154 (616)

KAMs reported in the auditing report based on eight major KAMs extracted from ISA 701 (IAASB, I., 2015; see the Appendix for details). We have employed the unweighted approach to develop our checklist of the KAMs reported for each auditor's report (Cooke, 1989). Thus, if a KAM is disclosed in the auditors' report, given a value of one, and zero otherwise. Accordingly, we produced a KAMs' score for each report per country, as well as a KAMs' score for each report overall in the four countries. Thus, the scoring process considered as total actual score of the KAMs for each report divided by the total number of KAMs included in the checklist as follows:

$$d,\ b,\ o,\ j \text{ and } t \text{ KAM} = \sum_{i=1}^{k} kd_i \ / \ k \tag{1}$$

Where d is Dubai, b is Bahrain, o is Oman, j is Jordan, t is the four countries' listed firm KAMs scores, kd = 1 if the item is disclosed, and 0 otherwise, and k is the total number of KAMs.

In terms of the independent variables, the firm size variable is measured by logarithm score total assets, return on assets (ROA) represent the profitability variable. The leverage represented by the debt ratio, while the current ratio is the proxy of the liquidity variable. Moreover, the current study include four audit committee characteristics are audit committee size, financial expertise, meetings and female representatives. In terms of the independent dummy variables, the score used for audit firm is 1 if the firm is audited by one of the Big-4 (PwC, Deloitte & Touche, Ernst & Young, and KPMG), and 0 otherwise, while the firm industry shows a score of 1 for financial firms and 0 for non-financial firms. Table 2 shows the proxies of the variables employed in our study based on prior KAMs studies (Fera et al., 2021; Gold & Heilmann, 2019; Pinto & Morais, 2019; Velte & Issa, 2019).

The study utilizes multiple tests to justify the validity of our estimated regressions. As explained later in Section 4.2, fixed effects regressions are more appropriate for our analysis than random-effects or ordinary least squares regressions (Wooldridge, 2010). Specifically, the Breusch–Pagan Lagrange multiplier test and Hausman test p-values are both significant. Furthermore, we have used the fixed effects for industry level to control over the time-invariant heterogeneities issues at the industry level. Consequently, fixed-effects multiple regression is employed to investigate the relationships between the dependent and independent variables, leading to the current study developing five models (a model for each country and an overall model including all four countries) as follows:

$$DKAM = a + B1FSIZ + B2PRO + B3LIQ + B4LEV + B5AUS + B6AFE + B7AUM + B8AUG + B9AUF + B10FIN + eit \tag{2}$$

(Model 1)

Table 2. Variables definition

Type	Code	Proxy Employed
Dependent Variable:		
Key Auditing Matters (KAMs)	DKAMs	Dubai Listed Firms' KAMs Score in percentage
Disclosure Index Approach, is measured in percentage of the level of disclosure.	OKAMs	Oman Listed Firms' KAMs Score in percentage
	BKAMs	Bahrain Listed Firms' KAMs Score in percentage
	JKAMs	Jordan Listed Firms' KAMs Score in percentage
	TKAMs	Overall Listed Firms' KAMs Score in percentage
Independent Variables:		
Firm Size	FSIZ	Natural logarithm of Total Assets
Profitability	PRO	Return on Assets: Dividing net income by total assets
Liquidity	LIQ	Current Ratio: Dividing current assets by current liabilities
Leverage	LEV	Debt Ratio: Dividing total debt by total assets
Audit committee size	AUS	Number of audit committee members
Audit committee financial expertise	AFE	The representation of financial expertise within the committee
Number of audit committee meetings	AUM	Number of committee's meetings per year
Female representation in the audit committee	AUG	Percentage of female members of the committee
Audit Firm	AUF	1 = Big-4 and 0 = Otherwise
Firm Industry	FIN	1= Financial industry and 0 = Manufacturing and Service

$$OKAM = a + B1FSIZ + B2PRO + B3LIQ + B4LEV + B5AUS + B6AFE + B7AUM + B8AUG + B9AUF + B10FIN + eit \quad (3)$$
(Model2)

$$BKAM = a + B1FSIZ + B2PRO + B3LIQ + B4LEV + B5AUS + B6AFE + B7AUM + B8AUG + B9AUF + B10FIN + eit \quad (4)$$
(Model3)

$$JKAM = a + B1FSIZ + B2PRO + B3LIQ + B4LEV + B5AUS + B6AFE + B7AUM + B8AUG + B9AUF + B10FIN + eit \quad (5)$$
(Model4)

$$TKAM = a + B1FSIZ + B2PRO + B3LIQ + B4LEV + B5AUS + B6AFE + B7AUM + B8AUG + B9AUF + B10FIN + eit \quad (6)$$
(Model5)

4. Results and discussion

4.1. Level of KAMs' disclosure

The first main objective of our paper is to examine the extent of KAMs' disclosure across the four countries. Panel A of Table 3 shows the overall results and per country on the level of KAMs' disclosures, while Panel B illustrates the extent of KAMs' disclosures per industry (financial and non-financial) per country. An inspection of Panel A reveals that the overall KAMs' disclosure equate to approximately 55.9%. In terms of countries, Bahrain shows the lowest mean for KAMs' disclosures among the four countries, which ranges between approximately 49% and 62%. Further inspection of Panel A shows variations in the results for each KAM. Specifically, KAM2 and KAM7 show the lowest level of disclosure overall and in most of the countries. KAM2 is related to the risk associated with internal control, and external auditors are not emphasizing this in the KAMs section as they include a separate paragraph about internal control. Another justification for the low disclosure is that the areas of higher assessed risk of material misstatement are already disclosed in KAM1. KAM7 is related to auditing significant transactions, which may lead to less need for disclose. Further, KAM1 and KAM3 show the highest level of disclosure across all countries. This can be justified as KAM1 is related to areas of higher assessed risk and KAM3 is related to auditor judgments pertaining to areas in the financial statements.

Panel B of Table 3 shows interesting results in terms of industry. For instance, auditors of the financial industry shows a higher level of disclosure in the majority of KAMs, except for KAM2, KAM6, and KAM7. Moreover, auditors of the non-financial industry shows low KAMs' disclosure

Table 3. Level of KAMs disclosure statistics

KAM No.	Dubai		Oman		Bahrain		Jordan		Total	
Panel A: Level of KAMS Disclosed per Country and in Overall (percentage)										
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
1	64.6	48.0	68.6	46.6	56.9	49.7	84.1	36.6	70.5	45.6
2	17.4	38.1	40.3	49.3	42.6	49.6	66.7	47.3	44.9	49.8
3	87.8	32.8	76.6	42.5	60.7	49.1	66.1	47.5	72.0	45.0
4	86.1	34.8	51.6	50.2	65.0	47.9	42.1	49.5	58.6	49.3
5	63.2	48.5	67.7	46.9	31.9	46.8	50.3	50.1	53.1	50.0
6	42.6	49.7	37.9	48.7	26.7	44.4	68.9	46.4	47.0	50.0
7	36.5	48.4	49.2	50.2	36.2	48.3	51.9	50.1	44.6	49.7
8	39.1	49.0	46.8	50.1	68.4	46.7	67.2	47.1	56.8	50.1
Overall	54.7	43.7	54.8	48.1	48.6	47.8	62.2	46.8	55.9	48.7
Panel B: Mean of KAMS Disclosed per Country and Sector (percentage)										
	F	NF	F	NF	F	NF	F	NF	F	NF
1	77.4	50.0	61.7	72.7	56.1	58.0	85.2	83.3	71.5	69.9
2	21.0	13.5	36.2	42.8	34.4	52.9	88.9	49.0	48.8	41.5
3	83.9	92.3	61.7	85.7	56.1	66.7	80.3	54.9	71.5	72.3
4	90.3	80.8	44.7	55.8	54.6	78.4	54.3	32.4	61.3	56.0
5	79.0	43.1	61.7	71.4	44.6	15.7	67.9	36.3	63.5	43.4
6	33.9	53.9	27.7	44.2	46.2	19.6	67.9	69.6	46.7	47.5
7	38.7	34.6	38.3	55.8	49.3	19.6	67.9	39.2	50.5	39.4
8	32.3	48.1	36.2	53.3	54.6	86.3	84.0	53.9	55.1	58.5
Overall	57.1	52.0	46.0	60.2	49.5	49.7	74.6	52.3	58.6	53.6

compared to financial firms overall, which is considered as a lack of disclosure in the non-financial industries' audit report. This is in line with the literature (Flannery et al., 2004; Pinto & Morais, 2019). Further, KAM6, KAM7, and KAM8 show a variation between industries. In general, the results in Panel B provide initial evidence that auditors of financial firms disclose a higher level of the majority of KAMs compared to non-financial firms. This suggests that financial firms can potentially derive competitive disadvantage through KAMs' disclosure, especially as the financial industry has further regulations set by the country's central bank, which may also be considered as a constraint to auditors disclosing KAMs. However, the sample of audit reports in the financial industry firms shows higher KAMs' disclosure compared to non-financial firms.

4.2. Descriptive statistics

Panel A of Table 4 summarizes the overall descriptive statistics of the variables employed in the current study, for the period 2017–2020. KAMs' disclosure varies between 17.4% and 84.1%. Higher KAMs' disclosure reflects a greater volume of relevant auditing information provided to the firm's stakeholders and firm compliance with regulatory requirements (Samaha et al., 2015). The reported statistics related to firm characteristics show that the mean of the firm size is 7.48, as a natural log of total assets, while profitability ranges from an acceptable negative sign (–3.79) to an high maximum range (4.71), which shows that some firms generate a high level of profits. Leverage, represented as debt ratio, shows a minimum negative result (–4.58), with an acceptable mean of 5.77.

According to previous research, excelling the work of the audit committee provides better quality of information to the users and this reduces the information asymmetry (Velte & Issa, 2019). The current research shows that the mean of the audit committee size is 6.52 with a maximum of eleven member. Moreover, the existence of non-executive directors is approximately 35% on average, while the audit committee on average meets 4.45 per year. Interestingly, (Gold et al., 2019) found that effectiveness, independence, and the financial expertise of members have no significant impact on the number of KAMs disclosures. Finally, the percentage of the female on the audit committee is relatively low (Mean of approximately 20%) with minimum of zero percentage which indicates that some audit committees have male members only. This is relatively high in Jordanian and Omani firms compared to the other countries of the sample. The mean of female representatives in the audit committee could be due to the Middle East culture of male power. Previous research in Middle East reported that female participation in the audit committee is less that 4% (Arayssi & Jizi, 2019; McKinsey and Company, 2014).

Panel B of Table 4 shows the descriptive statistics for the firm characteristics variables per country. The mean values for firm size in Dubai, Oman, Bahrain, and Jordan are 8.13, 7.59, 6.81, and 6.64, respectively. It is noticeable that the Dubai listed firms are the largest. However, Jordanian listed firms have the highest mean for leverage across all countries (7.91). In terms of liquidity, it is noticeable that Bahrain and Jordan firms are the lowest, with a mean of 2.25 and 1.97, respectively.

Table 5 shows the details of the dummy variables of the current study. Panel A shows the overall results, revealing that Big-4 auditing companies audit 71.6% of sampled firms, while the financial industry representing approximately 45% of our sample. These results are reflected in Panel B, which shows the results of the dummy variables per country.

Finally, Table 6 provides the correlation matrix. In general, it shows a low correlation among the variables (less than 0.30), although some of the correlations are significant. For instance, the reported correlation coefficients between Dubai KAMs' disclosure and firm size, liquidity, some of audit committee characteristics and audit firm are positively and statistically significant. The correlation matrix displays a positive and significant correlation between these variables with other KAMs ($p < 0.10$). Özcan (2021), disagrees with this indicating that non big-4 audit firms disclose more KAMs. Our results are in line with previous research such as Velte (2018) and Ferreira

Table 4. Descriptive statistics of the variables (N = 1124)

	Panel A: KAMs and Firm Characterises in Overall			
Var.	**Mean**	**St.Dev.**	**Minimum**	**Maximum**
DKAMs	54.7%	43.7%	17.4%	87.8%
OKAMs	54.8%	48.1%	37.9%	76.6%
BKAMs	48.6%	47.8%	26.7%	68.4%
JKAMs	62.2%	46.8%	42.1%	84.1%
TKAMs	55.9%	48.7%	44.6%	72.0%
FSIZ	7.48	1.25	1.96	10.41
PRO	1.88	2.59	−3.79	4.71
LIQ	7.95	4.25	0.01	9.49
LEV	5.77	4.55	−4.58	11.83
AUS	6.52	23.36	5	11
AFE	35.4%	22.3%	15.4%	55.3%
AUM	4.45	24.11	4	7
AUG	20.3%	23.5%	0.0%	34.5%

Panel B: Firm Characteristics per Country

Var.	**Dubai (N = 228)**				**Oman (N = 496)**				**Bahrain (N = 156)**				**Jordan (N = 244)**			
	M	S	Min	Max	M	S	Min	Max	M	S	Min	Max	M	S	Min	Max
FSIZ	8.13	1.15	4.71	10.41	7.59	1.91	4.57	9.40	6.81	1.25	3.38	8.23	6.64	0.84	1.96	8.67
PRO	1.02	1.08	−0.43	3.15	1.03	1.39	−3.79	1.78	0.97	0.81	−0.16	1.56	1.11	1.17	−3.40	4.71
LIQ	3.32	14.38	0.02	3.75	4.71	4.80	0.01	9.49	2.25	2.77	0.01	3.20	1.97	2.32	0.27	2.84
LEV	2.08	3.16	−4.58	5.99	2.77	2.94	−4.67	6.83	2.10	2.18	0.03	5.63	7.91	8.58	−2.60	11.83

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Table 5. Descriptive statistics of the two dummy variables (N = 281)

Panel A: Overall								
AUF	Audited by Big-4: 202 (71.6%)				Not Audited by Big-4: 79 (28.4%)			
FIN	Financial: 127 (45.2%)				Non-Financial 154 (54.8%)			
Panel B: per Country								
Var.	Dubai (N = 57)		Oman (N = 124)		Bahrain (N = 39)		Jordan (N = 61)	
AUF Col. 1: Big4 Col. 2: not Big4	49	8	82	42	31	8	40	21
FIN Col. 1: Financial Col. 2: Non-Financial	31	26	47	77	22	17	27	34

& Morais (2020) who claimed that clients audited by one of the Big 4 auditors usually have more KAMs in their audit report.

4.3. Regression results

The impact of leverage on the level of KAMs' disclosure is positively and statistically significant in all models, regardless of the KAMs score of the country, as shown in Table 7[3]. Specifically, this denotes that a higher debit ratio, measured in terms of leverage, leads to higher KAMs' disclosure within the auditor report. This finding is in line with prior research (Bédard et al., 2014; Pinto & Morais, 2019), thereby supporting *H1*. Our findings suggest that firms reporting higher leverage motivated the auditors to disclose extensive KAMs information within their reports. Leverage information is highly important to a broad range of stakeholders, namely potential investors, bankers, loaners, and regulators (Brasel et al., 2016; Pinto & Morais, 2019). Our findings are in line with agency theory advocates, who posit that higher leverage leads to a reduction in agency problems regarding KAMs information in the auditor report, which leads to a decrease in information asymmetry (Coram & Wang, 2019; Velte, 2019). Large firms may lead auditors to report more and convey higher transparency (Gold & Heilmann, 2019; Segal, 2017). This conveys auditor's commitment to disclose KAMs in line with some studies like (Gold & Heilmann, 2019; Pinto & Morais, 2019; Velte, 2018; Velte & Issa, 2019). In this context, higher KAMs' disclosure and robust auditing practices may increase firm valuation and stakeholders' trust (Gold & Heilmann, 2019; Velte & Issa, 2019). In other words, we believe that our analysis provides empirical evidence that KAMs' disclosure represents actual auditing performance. Specifically, in line with prior research (Pinto & Morais, 2019), our findings also suggest that the auditor's decision to disclose a KAM with a high risk of litigation (leverage) is related to clients' preferences regarding balancing its reputation and its returns. Consequently, we believe that client firm take advantage of their high leverage, which leads to higher KAMs' disclosure since they can manipulate the auditor's preferences.

Similarly, audit committee financial expertise and audit committee female representative results (positive and significant) suggest a positive relationship with the level of KAMs' disclosure. In line with prior studies, the audit committee findings support *H2b and H2d*, predicting a positive link with KAMs' disclosure. These findings are not surprising, as several prior empirical studies on this link have reported a positive association (Haque & Jones, 2020; Pinto & Morais, 2019; Velte, 2018, 2019). This is also consistent with the agency perspective that an audit committee provides more oversight and demands better coverage of the audit, which results in a higher quality of audit, including better disclosure (Schrader & Sun, 2019).

Table 6. Correlation among the variables

Var.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. DKAMs	1														
2. OKAMs	-	1													
3. BKAMs	-	-	1												
4. JKAMs	-	-	-	1											
5. TKAMs	-	-	-	-	1										
6. FSIZ	0.242*	0.040	0.174*	0.260	0.237	1									
7. PRO	0.152	0.112	0.053	0.240	0.122	0.253	1								
8. LIQ	0.231*	0.065	0.256*	0.061	0.097	−0.048*	0.169	1							
9. LEV	0.107	0.019	0.287*	0.208	0.223*	0.256	0.241	0.254	1						
10. AUS	0.271*	0.110*	0.225	0.224*	0.241*	0.175	0.223	0.136	0.125	1					
11. AFE	0.262*	0.265*	0.232*	0.165*	0.098*	0.240*	0.265	0.128	0.220	−0.029*	1				
12. AUM	0.110	0.221*	0.253*	0.225*	0.127	0.181	0.160*	0.061	0.238*	0.281	−0.126	1			
13.AUG	0.240*	0.021	0.173	0.245	0.217*	0.141	0.260	0.241	0.228*	0.211	0.118	0.413	1		
14. AUF	0.233*	0.140	0.235	0.234*	0.241*	0.075	−0.123	0.115*	0.015	0.143	0.173	0.215*	0.133	1	
15. FIN	−0.150	−0.121	−0.173	−0.335	−0.127	−0.171	−0.260	0.161	0.208*	0.181	0.318	0.214	0.272	0.114	1

*refers to the significant level at 10%, while ** refers to the significant level at 5%

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Table 7. KAMs association results (random effects regression)

	M1: DKAMs	M2:OKAMs	M3:BKAMs	M4:JKAMs	M5:TKAMs
Constant	0.269(0.113)	0.254(0.225)	0.230(0.139)	0.645(0.118)	0.385(0.087)
	0.220	0.269	0.233	0.241	0.234
FSIZ	0.042(0.026)	0.014(0.021)	0.028(0.019)	0.013(0.011)	0.023(0.021)
	0.050**	0.041**	0.025**	0.030**	0.024**
PRO	−0.242(−0.159)	−0.074(0.069)	−0.018(0.018)	−0.004(0.012)	−0.002(−0.003)
	0.031**	0.090*	0.040**	0.013**	0.024**
LIQ	−0.002(−0.001)	−0.002(−.001)	−0.009(0.013)	−0.004(0.016)	−0.005(−0.001)
	0.114	0.869	0.474	0.773	0.228
LEV	0.017(0.029)	0.013(0.003)	0.024(0.017)	0.013(0.011)	0.019(0.015)
	0.035**	0.001***	0.014**	0.021**	0.000***
AUS	0.143(0.123)	0.106(0.131)	0.118(0.135)	−0.113(0.111)	0.117(0.113)
	0.150	0.190	0.135	0.140	0.144
AFE	0.222(0.179)	0.084(0.079)	0.019(0.017)	0.014(0.012)	0.012(0.013)
	0.001***	0.000***	0.045**	0.041**	0.000***
AUM	0.132(0.111)	0.122(.121)	0.119(0.123)	0.114(0.119)	0.114(0.121)
	0.214	0.431	0.374	0.513	0.252
AUG	0.145(0.116)	0.144(0.012)	0.171(0.114)	0.162(0.137)	0.156(0.119)
	0.000***	0.002***	0.004***	0.000***	0.000***
AUF	0.118(0.038)	0.082(0.058)	0.203(0.086)	0.180(0.026)	0.104(0.026)
	0.002***	0.056**	0.020**	0.000***	0.000***
FIN	0.032(0.029)	0.072(0.080)	0.243(0.185)	0.093(0.037)	0.030(0.025)
	0.031**	0.025**	0.008***	0.000***	0.015***
Adjusted R^2	0.275	0.310	0.286	0.423	0336
Year effect	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Industry effect	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Breusch and Pagan LM test (prob>chibar2; (P-value))	*617.6 (0.001)*	*633.04 (0.003)*	615.9 (0.003)	623.4 (0.003)	636.07 (0.001)
Durbin-Wu-Hausman test (prob>chi2; (P-value))	10.6 (0.001)	12.88 (0.003)	11.05 (0.004)	11.62 (0.014)	13.72 (0.005)
Variance Inflation Factor (all variables)	*Less than 2*	*Less than 2*	*Less than 2*	*Less than 2*	*Less than 2*

Note: *P*-values are in italic. *, ** and *** denotes significance at the 10%, 5% and 1% level respectively.

In other words, we believe that these audit committee characteristics plays an important role in the disclosure of KAMs.) However, the audit committee size and its number of meetings have no relation with the KAMs level, which leads to reject H2a and H2c. This is consistent with some prior research suggesting that large audit committee size and higher frequency of meetings are not related KAMs' disclosures (Gold et al., 2019).

In terms of the rest of the firm characteristics, we find interesting results. Table 7 shows that these variables do not have an impact on KAMs' disclosure. For instance, the firm size variable, as measured in terms of the natural logarithm of total assets, displays a positive association between firm size and KAMs' disclosure in all models. This finding suggests that large firms are expected that auditors produce a higher volume of KAMs information in their auditing report as they are

Table 8. T-test and Chi-Square tests

Model	T-Value	χ2
DKAMs	3.380***	24.761***
OKAMs	4.130***	22.136***
BKAMs	3.011**	20.161**
JKAMs	4.980***	25.481***
TKAMs	6.370***	28.577***

Note: *refers to significant at 5%; *** refers to significant at 1%

visible and subject to higher institutional and agency pressure (Coram & Wang, 2019). In other words, the rationale behind high KAMs' disclosure includes the response to stakeholders' increasing demand for KAMs information. This is explained in the agency relation between principals (shareholders and regulators) and agents (a firm's managers and auditors; Fama & Jensen, 1983). Moreover, the literature shows there are differences between large and small firms in terms of the KAMs disclosure. For example, large companies can push auditors to disclose fewer KAMs in their audit reports (Casterella et al., 2004; Huang et al., 2007). In contrast, however, Pinto and Morais (2019) explained that auditors for larger clients disclose more KAMs because of the complexity of the operations.

Furthermore, regarding profitability the literature suggests that a company's profitability is associated with future viability, with less probability of economic failure (Pinto & Morais, 2019). Some authors have argued that profitable companies usually have less business pressure and auditors thus tend to issue an unqualified opinion about their financial reports (Beasley et al., 1999). Profitability should also lead to reducing the likelihood of litigation between the client and the auditor (Pinto & Morais, 2019). In this context, the literature shows that managers at risk due to lower profitability levels usually use more creative accounting when preparing their financial reports and that this tends to lead auditors to disclose more KAMs (Casterella et al., 2004). Therefore, our results as expected that profitability have a negative (but not significant) relation with the number of KAMs disclosed.

Finally, Table 7 shows a positive association between industry type and KAMs' disclosure; therefore, industry type affects KAMs' disclosure. However, this requires further analysis to indicate which industry type may provide higher levels KAMs' disclosure. Sub-section 4.4 provides further analysis related to *H3*.

4.4. Industry results

In terms of the firm's industry, Table 7 shows a positive significant coefficient across all models. Moreover it shows that the independent auditor's report of financial firms disclosed together with the financial statements more KAMs. Thus, to validate the results, we ran a further analysis to examine whether KAMs' disclosure differs across the two types of industries in the current study, both for each country and overall. Specifically, we ran a *t*-test and a chi-square test to further identify the statistical differences resulting from KAMs' disclosure for all countries based on industry type (financial and non-financial). In summary, Table 8 shows that the financial industry has the most differences that relate to the highest level of KAMs' disclosure compared to the non-financial industry (at a 1% significance level) across all models, except the Bahrain model, which shows a significance level of 5%. These results are in line with those of (Flannery et al., 2013; Pinto & Morais, 2019) but contradict those of (Ghosh et al., 2019), supporting *H3*. Hence, these results suggest that the number of KAMs disclosed within the auditor's report increases when a firm is related to the financial sector rather than the non-financial sector (manufacturing and services). This could be because the auditors may further state their concerns about the integrity of financial information in the financial sector due to the impact of ME regulators on the essential business processes of these firms (i.e. banking; Mah'd et al., 2019). Moreover, the financial sector is

characterized as more highly regulated, thus more KAMs should be disclosed to cover the recognition practices of the deferred tax assets; such practices may lead to a tax avoidance opportunities, tax losses, and credits in the future (Alkurdi & Mardini, 2020).

5. Conclusions

The auditing standard setters have recently introduced significant changes to the auditor's report that have led to the implementation of KAMs' disclosure to aid decision-makers and enhance the informational value of financial information. Our study contributes to the growing literature on KAMs by investigating the level of KAMs' disclosure and its determinants in the ME region. Drawing on agency theory, we explain the relationship between KAMs' disclosure and the three main variables (leverage, audit committee, and industry), suggesting that more oversight and better coverage of KAMs is required.

Our empirical results show that auditing of a firm with higher leverage exhibits more KAMs' disclosure, which suggests that auditor would like to reduce his liability by addressing and considering KAMs. Thus, our findings suggest that KAMs' disclosure can be used as a mechanism to avoid litigation risks between stachholders and auditors. These findings are in alignment with previous literature that has found that more KAMs are disclosed to reduce the litigation risk (Coram & Wang, 2019; Gimbar et al., 2016; Pinto & Morais, 2019; Velte & Issa, 2019) but contradict other research (Backof et al., 2014; Brasel et al., 2016). On the other hand, we found that KAMs' disclosure is also positively and significantly related to the effectiveness of the audit committee, as has been suggested by some prior KAMs research (Velte, 2018, 2019).

In terms of the industry factor, our findings suggest that the financial industry provides an accountability mechanism concerning the degree of precision of KAMs' disclosure. Specifically, auditors in the financial industry of the ME region show a higher degree of KAMs' disclosure compared to the non-financial sector, indicating that their reporting behavior is driven by regulators' specific requirements (i.e. central bank requirements in the banking sector) rather than by the specificity of the information related to the industry type. These results are compatible with previous KAMs research (Bédard et al., 2014; Pinto & Morais, 2019).

Our research provides several practical implications for policymakers. First, our findings suggest that specific determinants affect the level of KAMs' disclosure and enhance its benefits. A firm's awareness of the disclosure of KAMs can reduce its agency problems related to auditors, managers, and shareholders. Second, the leverage impact on disclosing KAMs is also considered when auditors evaluate the leverage ratio to identify the audit risk. Auditors tend to reduce the effect of this risk by a tendency to disclose higher number of KAMs among firms with the high leverage ratio. Third, investors will be aware that, in the financial sector, KAMs' disclosure is greater than in non-financial sector, and that KAMs are also related to leverage. Fourth, audit committee effectiveness plays an important role in reducing the need for the auditor to disclose more KAMs. Fifth, our findings may aid policymakers and regulators in improving the quality of KAMs' disclosure to enhance monitoring the market. Sixth, the findings of the current paper sheds more lights on the KAMs in the ME region and can be utilized in similar economic.

Finally, a few limitations of this research should be stressed. The disclosure index employed may have an element of subjectivity; we tried our best to reduce this by re-scoring the KAMs from more than one researcher and discussing the scores of each firm/observation. In addition, other variables may also have an impact on KAMs' disclosure that requires further research, such as the composition of the audit committee or the rules of the stock market. We also believe that the number of KAMs disclosed is an indicator for the quality of audit reporting, but that the quality of presenting these KAMs and their readability may be more beneficial for, and attract more attention, from stockholders. In terms of future research, an analysis of KAMs in audit reports in the ME region and their relation to the corporate governance dimensions could indicate the importance of having good governance. Little research has been undertaken in this area, especially in the ME

region. Another potential research avenue concerns the impact of KAMs' disclosure on investors in the ME region and how stakeholders view KAMs in the audit report. In general, the disclosure of KAMs has attracted significant attention in recent years and requires further research, especially in the ME region.

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Notes
1. ISA 701 requires the auditor to disclose three main areas under KAMs: matters communicated with those charged with governance (TCWG); matters requiring significant auditor attention in performing the audit; and matters of most significance in the audit.
2. We focus on the first market of the Jordanian listed firms while exclude the second market from the final sample since the it listing for small and medium size companies that report a small number of KAMs.
3. For reverse causality or omitted-variable bias concerns (Wooldridge, 2010), we consider that the KAMs measurements will be endogenous. Specifically, we anticipate that the reason of higher KAMs is related to higher leverage which is subject to omitted-variable bias (Pinto & Morais, 2019). Our un-tabulated results of the 2SLS analysis results confirms our main results that KAMs is statically affected by the lagged leverage volume as our instrumental variable.

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Appendix 1

Key Auditing Matters Disclosure Index

Symbol	KAMs Statement
KAM1	Matters about areas of higher assessed risks of material misstatement
KAM2	Matters about significant risks identified in accordance with ISA 315 (Internal Control)
KAM3	Significant auditor judgments relating to areas in the financial statements
KAM4	Significant auditor judgments relating to areas in the financial statements that involved significant management judgment/ estimation/ expectations
KAM5	Significant auditor judgments including accounting estimates (Policies) that have been identified as having high estimation uncertainty
KAM6	The effect on the audit of significant events that occurred during the year
KAM7	The effect on the audit of significant transactions occurred during the year
KAM8	Disclose about the major transactions or matters

Source of KAMs Statements is at ISA 701, pp 3–4. This is at IFAC and can be found in the following link: https://www.ifac.org/system/files/publications/files/ISA-701_2.pdf (accessed 7/2/2022).

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