

## Determinants of key audit matters in Thailand

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### Abstract

Key audit matters (KAM) have become an essential part of audit reports, as they help to assess the audit risks and how auditors face them, contributing to show audit quality. In this sense, the perceived audit quality may provide competitive advantages to auditors in the market. KAM reporting does not only depend on the auditor characteristics, but it is also determined by the auditee' features. Therefore, we examine whether company and audit characteristics affect the number and type of KAM. To do so, we use a sample of Thai listed companies for the period 2016-2020. After classifying KAMs into two categories (entity-risk related and account-related), we examine the effect of company size, complexity and risk characteristics, as well as features from the auditor and audit report, on the number and nature of KAMs. The results show that company size, company complexity, and company liquidity and solvency have a significant effect on KAMs. The results also show that the presence of going concern issues affects KAMs; however, in contrast to the findings in prior literature, no significant differences exist among auditors based on auditor size. The findings show that KAM reporting is mostly homogeneous regardless of auditor characteristics, supporting the idea of a high competitiveness in the audit market. Auditors need to use other means to signal their perceived superior quality.

*Keywords:* Audit report, Key audit matters, KAM determinants, Audit quality, Thailand

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### 1 INTRODUCTION

Global financial scandals and crises have put a spotlight on the auditor's role, especially regarding the usefulness of the information provided in audit reports (Gray et al., 2011; Asare & Wright, 2012; Mock et al., 2012), and have strengthened the breach of the expectation gap between financial information users and their own auditors on the role of auditors (Schelluch & Gay, 2006). In this line, prior studies on auditing have concluded that the traditional audit report is inadequate (Church et al., 2008; Vanstraelen et al., 2012) because of its standardized format, which is perceived by financial stakeholders as uninformative (Bédard et al., 2014). This perception caused global audit standard setters, e.g., the United States Public Company Accounting Oversight Board (PCAOB), the United Kingdom Auditing Practices Board (APB), and the International Auditing and Assurance Board (IAASB), to propose significant modifications in the audit report structure to enhance its transparency and increase its information value (IAASB, 2013; Reid et al., 2019).

The introduction of the "Key Audit Matters" section (KAM), with the purpose of communicating matters that auditors perceive as the most significant for the audit process (IAASB, 2015b), has been the most notable change to the audit report structure. KAMs are expected to increase the information value of auditor reports and to enhance communication between auditors and financial information users (Sierra et al., 2019). Given the adoption of

international standards of auditing (ISA) by several regulators, KAM disclosure has been adopted in many countries from different continents, such as Europe, North America, and Asia.

With regard to KAM information content, ISA 701 (IAASB, 2015b) states that KAM may be related to i) significant risks, ii) significant transactions or events, or iii) significant judgements by auditors (Pinto & Morais, 2019). The IAASB (IAASB, 2015b) explicitly recognizes that KAM may be affected by firm size and complexity, the nature of its business and environment, and facts and circumstances related to audit engagement. Furthermore, prior studies have suggested that the value of KAM disclosure depends on auditors' reporting preferences (Christensen et al., 2014), the number of individual KAMs and the type and content of KAM disclosure (Ferreira & Morais, 2020; Köhler et al., 2020).

On the other hand, several studies have examined the drivers of KAM disclosure (Velte, 2018; Pinto & Morais, 2019; Sierra-Garcia et al., 2019; Ferreira & Morais, 2020) and have found company and auditor characteristics that affect both the volume and type of KAMs included in the auditor report. Worth noting is that these studies have been conducted in developed countries such as the United Kingdom and European countries, but studies in emerging economies are lacking. In this regard, institutional and economic differences may cause differences in the factors that affect KAM disclosure. Also worth noting is that emerging countries have increasing relevance in the global economy, and that companies from these countries need to fulfil standards of financial reporting quality to attract foreign investments. In this sense, the quality of audit disclosure plays an essential role, since audits provide additional credibility to companies' financial reporting and may shed light on issues relevant to investors. For these reasons, the study of the drivers for KAM disclosure in emerging economies is important, since it helps explain how to enhance the quality of financial reporting. Therefore, this paper investigates how audit and firm characteristics affect KAM disclosure in Thailand.

This study focuses on firms listed on the stock exchange of Thailand (SET) and the market for alternative investment (MAI) for two reasons. First, as stated, there is a lack of studies in emerging countries such as Thailand. Second, Southeast Asia has one of the fastest-growing economies globally (OECD, 2019). Thailand features an institutional setting with weak investor protection and high ownership concentration (Kitiwong & Sarapaivanich, 2020), and strong dependence of business on debt financing (Jantadej & Wattanatorn, 2020; Wuttichindanon & Issarawornrawanich, 2020). Worth noting is that, among the efforts carried out by Thailand to attract foreign investment, Thai financial reporting has been aligned with international auditing and accounting standards; thus, listed companies prepare their financial statements using the International Financial Reporting Standards (IFRS), while auditors follow the International Auditing Standards. In this line, the Federation of Accounting Professions of Thailand, as a member of the International Federation of Accountants, adopted the new audit report structure in 2016, which was mandatory for companies listed on the SET and the MAI.

Considering the economic, institutional and cultural features of the Thai environment provides an interesting setting to test whether the information value of audits is similar to that observed for developed Western countries. Since Thailand has adopted the international auditing and accounting standards that are applied in developed countries, studying the economic consequences of this adoption is relevant to better understand whether standards harmonization helps homogenize the value of financial information regardless of the institutional and cultural differences between countries. In this regard, some studies have examined the first year adoption of KAM in Thailand (Tangruenrat, 2017; Pratoomsuwan & Yolrabil, 2018; Wuttichindanon & Issarawornrawanich, 2020). Nevertheless, their results are far from conclusive. Given that these studies focused on the experience in the first year, they use a

narrow temporal horizon and thus suffer from a lack of temporal observations. Furthermore, as they only examine the year of adoption, they do not take into account a possible evolution in KAM reporting as a result of the increased experience of auditors with the disclosure of these issues.

Therefore, taking into account previous studies, the purpose of this study is to examine whether some company characteristics (linked to company size, complexity, and risk) and audit characteristics have an effect on the number and type of KAMs. To do so, we use a sample of 2,150 observations from 651 companies for 2016-2020. First, KAMs are classified into 19 categories that are then grouped into entity-level-risk KAM (hereafter ELRKAM) and account-level-risk KAM (hereafter ALRKAM) (Lennox et al., 2023). Then, a regression analysis is performed, in which the dependent variable (the number of total KAMs, as well as the number of ELRKAMs and ALRKAMs) is regressed on company size, complexity, and risk characteristics and on the audit characteristics.

The results show that company size, company complexity, and company risk (solvency and liquidity) are determinants of the number of KAMs and affect the number of ELRKAMs and ALRKAMs. The results also show that some audit characteristics (presence of female auditors and reporting of going concern issues) affect only a certain category of KAM, which may be due to the specific matters treated in the audit report. Furthermore, auditor size and audit opinion do not have a significant effect on KAM.

We contribute to the literature on KAM in the following way. First, we extend the evidence on KAM determinants by focusing on a developing economy such as Thailand. Although a few papers have asked questions, in contrast to previous studies that have focused on the first year adoption of KAM, this study employs a 5-year sample with more than 2,000 observations from 651 companies. Our approach allows us to provide more robust results, given auditors' increased experience with KAM reporting. In line with previous literature on developed countries, we examine how company and audit characteristics may have a different effect on KAM depending on their type. In this sense, our study contributes to identifying differences in the drivers for KAM reporting between developed and developing countries, which may be due to institutional and cultural differences.

The structure of the paper is as follows. After the introduction, a theoretical framework for the research hypotheses is developed in Section 2. Section 3 describes the sample and research design. Section 4 shows the results of the main and robustness analyses, and Section 5 contains the main conclusions and limitations of the study.

## 2 THEORETICAL BACKGROUND

### 2.1. Key audit matters disclosure

Financial auditors, as information intermediaries, play a significant role by providing assurance through their revisions of financial statements. Hence, the auditor's report can be considered textual output that auditors use to guarantee and communicate the reliability and accuracy of a company's financial reporting. Nevertheless, global financial scandals and crises have put the spotlight on the auditors' role, with some voices claiming that the traditional audit report was inadequate and uninformative for stakeholders (Church et al., 2008; Vanstraelen et al., 2012; Bédard et al., 2014). As a consequence, the IAASB issued in 2015 the ISA 701, which requires auditors to disclose a new section in the audit report devoted to KAM. The purpose of KAMs

is to reduce the information gap and enhance communication quality, especially regarding a firm's significant risk.

Since the inclusion of KAM in audit reports, several studies have addressed the consequences and benefits of KAM disclosure in areas such as communicative value, information value, market and investors' reactions, audit quality, audit effort and auditor liability. Regarding the communicative and information value of KAM, the findings are mixed. Many prior studies have concluded that investors are more likely to pay more attention to KAM disclosure (Sirois et al., 2018) and change their investment decisions after the inclusion of the KAM section (Christensen et al., 2014). In this line, Reid et al. (2019) find that KAM disclosures provide useful information to investors and reduce information asymmetries without increasing audit costs. A recent study by Köhler et al. (2020) also states that KAM disclosures have high communicative value for professional investors.

On the other hand, several studies have argued that the new audit report provides little incremental information to investors (Bédard et al., 2019; Gold & Heilmann, 2019) and does not have a significant impact on market reaction or investors' behavior (Almulla & Bradbury, 2018; Ascenso & Pais, 2021; Gutiérrez et al., 2018; Lennox et al., 2023). Therefore, the expanded audit report has a symbolic value and fails to improve the information value (Bédard et al., 2014; Church et al., 2008; Mock et al., 2013). Similarly, some studies on KAM disclosure in Thailand have indicated that KAMs have little communication and informative value to investors (Boonyanet & Promsen, 2018; Ittarat, 2019; Ekasingh & Kitiwong, 2019; Srijunpetch, 2017; Suttipun, 2020a).

Several studies have examined the main topics of KAMs. The U.K. Financial Reporting Council reported that the top three KAMs are those related to asset impairment, goodwill impairment, and taxation risk; however, in the second-year report, the topic "fraud in revenue recognition" is at the top of the ranking (Financial Reporting Council, 2016). Moreover, a survey by the External Reporting Board and the Financial Market Authority (2017) in New Zealand shows that the most common KAMs reported are related to the impairment of goodwill and other intangible assets and to investments in related entities. A survey analysis in Australia by KPMG highlights that 155 KAMs were disclosed, and the top four were related to impairment of goodwill and intangibles, revenue recognition, taxation and acquisitions (KPMG, 2017). Sierra-Garcia et al. (2019) investigate companies listed in the United Kingdom and show that KAM disclosure is correlated with specific account items from financial statements (revenue recognition; inventory; property, plant and equipment; goodwill and intangible assets).

In Southeast Asia, a survey was conducted to review auditor reports issued in the first year of KAM implementation. The top three KAMs in Singapore were impairment of receivables, valuation of inventories, and revenue recognition excluding fraud risk (Institute of Singapore Chartered Accountants, 2017). Similarly, for the first-time adoption of KAM in Malaysia, the most commonly reported KAMs were related to revenue recognition (excluding fraud risk), impairment of receivables and impairment of goodwill, and intangible assets (Association of Chartered Certified Accountants, 2018). Similarly, Ismail et al. (2018) state that the most commonly reported KAMs were revenue recognition and inventory valuation, followed by both tangible and intangible asset impairments.

On the other hand, worth noting is that although some issues are more frequently reported in the KAM section, there is a wide range of topics, so classifying them into a maneuverable number of types is recommended. In this line, Pinto and Morais (2019) classify KAM based on the IFRS in which they are related. Lennox et al. (2023) go a step further and classify KAM

into two groups: ELRKAM and ALRKAM. ELRKAM refers to those that affect the entity as a whole and include those related to taxes, litigation and regulatory provisions, business combinations, information technology, or internal controls, among others. On the other hand, ALRKAM refers to those that affect specific items in financial statements, including matters related to intangibles, PP&E, inventories, financial assets, asset impairment, or revenue recognition.

Sections 2.2 and 2.3 develop the theoretical framework for our hypotheses on firm and audit characteristics that may affect KAM disclosure. Considering the differences in the nature of ELRKAM and ALRKAM, each hypothesis referring to a specific characteristic is in turn split into three sub-hypotheses, referring to the total number of KAMs, as well as the specific number of ELRKAM and ALRKAM.

## 2.2. Firm characteristics and Key Audit Matters

Several studies have examined the effect of some company characteristics on the number and type of KAM. In this sense, and in line with ISA 701, the number of KAMs may be affected by the client firm's size, complexity, and risk—characteristics that have also been examined in the literature on audit fees (Gandía & Huguet, 2018, 2020, 2021a).

Company size, usually defined using the company's total assets, total revenue, and number of employees, is normally considered a core driver of audit effort because larger companies involve higher audit risks and have higher visibility. Considering the association between audit risk and KAM, several studies have found that firm size is significantly associated with KAM disclosure (Velte, 2018; Pratoomsuwan & Yolrabil, 2020; Özcan, 2021). However, at least one study has argued that corporate size has no influence on KAM disclosure (Boonyanet & Promsen, 2018). Larger companies are assumed to require more audit effort; thus, they may appear to have more KAMs because more areas require auditor attention. Furthermore, company size can be expected to be related to account-level-risk KAM because some specific items in financial statements (mainly assets) increase companies' audit risk. Regarding the entity-level-risk KAM, although Sierra-Garcia et al. (2019) find that firm size is positively related to the number of ELRKAMs, a significant association is not expected, as these issues should be more related to complexity and proxies for risk. Therefore, hypotheses about company size and KAM are formulated as follows:

H1a: Company size has a significantly positive effect on the total number of KAMs.

H1b: Company size has a significantly positive effect on the total number of ALRKAMs.

H1c: Company size does not have a significant effect on the total number of ELRKAMs.

Company complexity refers to those company characteristics that make audits more complex because they involve higher levels of uncertainty when estimating accounting numbers or because they require greater scrutiny. Several measures have been employed in the prior literature on audit fees and KAM (Chen et al., 2022), such as the proportion of inventories over total assets (Sierra et al., 2019), the proportion of intangible assets (Gandía & Huguet, 2018), the number of subsidiaries (Wuttichindanon & Issarawornrawanich, 2020), or the industry in which the firm is operating (Boonlert-U-Thai et al., 2019; Ferreira & Morais, 2020). Higher complexity is assumed to increase audit risk, requiring more audit effort, which should positively affect KAM disclosure. Regarding the effect of company complexity on ELRKAM and ALRKAM, it is hypothesized that these characteristics are more associated with matters

that affect the entity as a whole rather than with specific items in the financial statements. Therefore, company complexity is expected to possibly have an effect on ELRKAM but not a significant association with ALRKAM; therefore, hypotheses about company complexity and KAM are formulated as follows:

H2a: Company complexity has a significantly positive effect on the total number of KAMs.

H2b: Company complexity has a significantly positive effect on the total number of ALRKAMs.

H2c: Company complexity does not have a significant effect on the total number of ELRKAMs.

Company risk refers to characteristics that may indicate problems in a company's viability, such as leverage (Sierra-Garcia et al., 2019), solvency (Gandía & Huguet, 2021a), liquidity (Gandía & Huguet, 2018), or profitability (Chen et al., 2022). Considering that KAMs report on significant risks, company risk is expected to increase the number of KAMs. Regarding the effect of company risk on ELRKAM and ALRKAM, risk characteristics are normally linked to going concern matters. These matters affect the entity as a whole, so a significant effect on specific items in the financial statements is not expected; thus, a significant association with ALRKAM is not expected. Therefore, hypotheses about company risk are formulated as follows:

H3a: Company risk has a significantly positive effect on the total number of KAMs.

H3b: Company risk has a significantly positive effect on the total number of ALRKAMs.

H3c: Company risk does not have a significant effect on the total number of ELRKAMs.

### 2.3. Audit firm characteristics and KAM

KAM may be affected by not only company characteristics but also audit characteristics. One of the most common characteristics that has been traditionally tested in every audit-based study is auditor size. Prior literature has used auditor size as a proxy for audit quality (Gandía & Huguet, 2021b), and empirical studies have shown that the Big 4 auditors are associated with higher earnings quality (Balsam et al., 2003), a lower cost of debt (Pittman & Fortin, 2004; Karjalainen, 2011), and higher audit fees (Clatworthy et al., 2009; Gandía & Huguet, 2018). Some studies have found a positive association between auditor size and KAM disclosure (Tangruenrat, 2017; Ferreira & Morais, 2020), while others have found that non-Big 4 auditors tend to disclose more KAM than Big 4 auditors (Boonlert-U-Thai et al., 2019; Özcan, 2021).

In this study, Big 4 auditors are expected to be positively associated with the number of KAMs for the following reasons. First, considering that Big 4 auditors provide higher audit quality, it could be expected that they detect more KAMs and then disclose a higher number. Furthermore, as previous literature has shown that Big 4 auditors are more concerned over audit failures, they may consider that these failures can be mitigated through higher disclosure in the KAM section. Regarding the effect of Big 4 on ALRKAM, significant differences among auditors are not expected when addressing account-level-risk matters because all auditors are assumed to provide a reasonable level of assurance and, thus, can detect those areas of risk linked to specific items in the financial statements. ELRKAMs may help signal the perceived superior quality of Big 4 auditors through a more in-depth analysis of the audit risks for the entity as a whole; thus, a significant association is expected. Therefore, hypotheses about auditor size and KAM are formulated as follows:

H4a: Auditor size has a significantly positive effect on the total number of KAMs.

H4b: Auditor size does not have a significant effect on the total number of ALRKAMs.

H4c: Auditor size has a significantly positive effect on the total number of KAMs.

On the other hand, the audit opinion may also influence KAM disclosure. Previous literature has stated that the audit opinion is a prominent parameter that influences the investment decisions of investors, creditors and shareholders (Özcan, 2021). To form the opinion, auditors are expected to issue a modified opinion when they cannot obtain sufficient audit evidence, and the client's financial statement includes misstatements. Ferrera and Morais (2020) suggest that modified audit opinions have a negative effect on KAM disclosure; thus, firms with modified opinions tend to have fewer KAMs. On the other hand, Özcan (2021) states that auditors are more prone to disclose KAMs in modified report opinions to protect their reputation and minimize litigation risk.

Because of their key relevance, issues included in the opinion section are KAMs per se (although they are specifically excluded from the KAM section by IAAS 701). In this regard, in line with Ferreira and Morais (2020), a modified opinion could be expected to cause a lower number of KAMs (because they are in some way transferred from one section to another). Nevertheless, a reduction in KAMs in modified reports may be interpreted as a lack of transparency by the auditor; therefore, to maintain the perception of audit quality, there would not be a significant association between audit opinion and KAMs. Therefore, hypotheses about audit opinion and KAMs are stated in null form:

H5a: A modified opinion does not have a significant effect on the total number of KAMs.

H5b: A modified opinion does not have a significant effect on the total number of ALRKAMs.

H5c: A modified opinion does not have a significant effect on the total number of ELRKAMs.

On the other hand, as suggested in Section 2.2., going concern issues may also be associated with KAM disclosure. By definition, going concern issues can also be considered key audit matters, but the audit report has a specific section devoted to them (IAASB 2015a). Business uncertainty in relation to estimates of firms' bankruptcy risk increases the possibility of obtaining an opinion with operational going concern risk (Ferreira & Morais, 2020; Lennox & Kausar, 2017). Auditors are likely to disclose more information in firms with greater going concern risk. Velte (2018) indicates that the presence of going concern issues contributes to a higher KAM disclosure because auditors seek to protect their reputation and minimize their audit risk. However, Ferreira and Morais (2020) do not find a significant association between going concern risk and KAM disclosure.

Going concern issues are related to the entity's risk as a whole, so they may partly replace ELRKAM. However, as expected for the audit opinion, a decrease in the number of KAMs when reporting going concern issues may be interpreted as a lack of transparency, so auditors may decide to include more KAMs that may be associated with specific items from the financial statements to diminish the litigation risk and, thus, avoid economic and reputational losses. Therefore, a significant effect on both the number of KAMs and ALRKAMs is expected.

H6a: Going concern issues have a positive association with the total number of KAMs.

H6b: Going concern issues have a positive association with the total number of ALRKAMs.

H6c: Going concern issues do not have a significant effect on the total number of ELRKAMs.

Finally, a variable that remains mostly unexplored is auditor gender. Experimental studies in economics and psychology have documented gender differences in preferences, e.g., women have been found to be less willing to compete and more risk-averse in most contexts. Miller and Ubeda (2012) suggest that women are more risk-averse than men when making decisions, but also that females tend to emulate male behavior to advance their careers (Vanderbroeck, 2010). Regarding the auditing literature, female auditors show significantly greater efficiency than do men when carrying out complex analytical procedures tasks (O'Donnell & Johnson, 2001). Niskanen et al. (2011) find that female auditors are more conservative and allow for more discretion in income reporting than do their male colleagues.

In the Thai context, Kitiwong and Srijunpetch (2019) explore the impact of national culture on KAM disclosure among Thailand, Singapore and Malaysia. In comparison, auditors in Thailand have strong uncertainty avoidance and more female presence, while Malaysia and Singapore have weak uncertainty avoidance and a mix of male and female auditors. Their findings, however, suggest that auditor gender does not affect KAM disclosure, a result in line with Boonlert-U-Thai et al. (2019).

Based on previous evidence of women being more risk-averse, more conservative, and being more efficient when carrying out complex analytical procedures, female auditors could be expected to report a higher number of KAMs. Nevertheless, worth noting is that audits are performed by not only the signing auditor but an audit team. Additionally, some homogeneity could be expected from audit reports from the same audit firm, which could mitigate differences in the total number of KAMs. However, when observing the type of KAM, differences may arise depending on auditor gender: the more conservative and analytical nature of women may place more weight on informing about issues that affect the entity as a whole, making female auditors associated with a higher number of ELRKAMs. Regarding ALRKAM, considering that the professional abilities of auditors are homogeneous regardless of their gender, there would not be differences in the detection of KAM related to specific items in the financial statements.

H7a: Auditor gender has a significant effect on the total number of KAMs.

H7b: Auditor gender has a significant effect on the total number of ALRKAMs.

H7c: Auditor gender has a significant effect on the total number of ELRKAMs.

## 2.4. KAMs in Thailand

Audit reporting in Thailand is regulated under the Thai Standards on Auditing (TSA), which are issued by the Federation of Accounting Profession. Thai financial reporting is in line with international auditing and accounting standards. In 2016, to enhance the quality of the audit reporting, the Federation adopted the new audit report for audited financial statements with the year ending after 15 December 2016, which was mandatory for financial statements of companies listed on the SET and the MAI.

Studies on the first-year adoption of KAM have shown that the average number of KAMs in Thailand is between 1.9 and 2.1 (Tangruenrat, 2017; Boonlert-U-Thai et al., 2019; Kitiwong & Sarapaivanich, 2020), is 2.0 in New Zealand (External Reporting Board and Financial Markets Authority, 2017), 2.09 in Malaysia (Association of Chartered Certified Accountants, 2018), 2.3



in Singapore (Institute of Singapore Chartered Accountants, 2017), and 3.8 on average in European countries. Tangruenrat (2017) classifies KAM disclosure into eight categories: 1) revenue recognition, 2) asset valuation, 3) impairment, 4) allowance of inventories, 5) allowance for doubtful accounts, 6) entities of related parties, 7) estimation of liabilities, and 8) others. Pratoomsuwan and Yolrabil (2018) explore the contents of KAMs and find different levels of KAM disclosure by industry. They also find that the top five KAM disclosures were revenue recognition, inventory, trade accounts receivable, allowance for impairment, and measurement of assets, which is consistent with Boonlert-U-Thai et al. (2019). In a contemporary paper, Wuttichindanon and Issarawornrawanich (2019) find that the top three KAMs are related to revenue recognition, impairment of assets, and inventory. Suttipun (2020b) examines KAM disclosure on market alternative investments, and the results are similar to those of Pratoomsuwan and Yolrabil (2018), who find that the most common KAMs are related to revenue recognition, inventory, receivables and allowances, asset impairment, and investment impairment.

The Thai case provides an interesting setting to test the role of audits. First, Southeast Asian economies are becoming increasingly important. Second, because of the unique characteristics of Thailand as an “insider” country with weak investor protection and high ownership concentration (Kitiwong & Sarapaivanich, 2020), Thai businesses depend on debt financing (Jantadej & Wattanatorn, 2020; Wuttichindanon & Issarawornrawanich, 2020). In this sense, exploring whether differences in the institutional context involve a different effect on the determinants of KAM reporting is relevant.

### 3 RESEARCH OBJECTIVE, METHODOLOGY AND DATA

#### 3.1. Sample description

Hypotheses are tested using a sample of Thai companies listed on the SET and the MAI. Data were gathered from their annual reports that are disclosed through Form 56-1. The original sample runs from 2016 to 2020 and is composed of 3,465 observations from 767 audited companies. In total, the 3,465 observations contain 6,432 KAMs, so audit reports contain an average of 1.9 KAMs, in line with previous literature on Thailand but far from the 3.8 KAMs per report for European countries. Following Lennox et al. (2023), KAMs are categorized into 19 subcategories, which in turn are recategorized into two categories (2021): ELRKAM and ALRKAM. Table 1 shows the KAM classification for the total sample. ALRKAM is observed to be more frequent than ELRKAM (5,307 vs. 1,125).

Table 2 shows the descriptive statistics of the total sample. Panel A, which provides the audit characteristics, shows that the proportion of male auditors is higher than that of female auditors, although the percentages are similar. Big 4 auditors have a higher market share, and almost all audit reports are unqualified and do not include going concern matters. Panel B shows the mean and standard deviation of the company characteristics. After eliminating observations with missing data for the model variables and trimming the continuous variables in percentiles 1-99, the final sample is composed of 2,150 observations from 651 companies.

Tab. 1. KAM classification. Source: own research

KAM	ALRKAM	ELRKAM	Total
Accounting judgements and estimations	2		2
Biological assets	26		26
Business combinations and accounting for groups		511	511

Financial instruments	745		745
Foreign currency	7		7
Going concern		13	13
Impairment of assets	872		872
Information systems and internal control		9	9
Insurance contracts		173	173
Intangible assets	254		254
Inventory	910		910
Leases	43		43
Mineral resources	18		18
Noncurrent assets held for sale and discontinued operations	9		9
Provisions and contingent liabilities		176	176
Revenue recognition	1,946		1,946
Share-based payment		8	8
Tangible assets	475		475
Taxation		235	235
<b>Total general</b>	<b>5,307</b>	<b>1125</b>	<b>6,432</b>

Tab. 2: Descriptive statistics. Source: own research

Variable	Panel A: Audit characteristics			Panel B: Company characteristics		
		Freq.	Percent	Variable	Mean	Std. Dev.
Gender	Female	1,587	45.39	LN_ASS	22.3246	1.5510
	Male	1,909	54.61	PPE_ASS	0.3254	0.2289
Auditor size	Non-Big 4	1,363	38.99	INV_REC	0.2599	0.1996
	Big 4	2,133	61.01	ROA	0.0679	1.0039
Audit opinion	Unqualified	144	4.12	LEV	0.4272	0.2108
	Qualified	3,352	95.88	GROWTH	0.0288	0.3025
GC matters	No going concern	3,373	96.48	QUICK	1.7376	1.9319
	Going concern	123	3.52	SOLV	0.5550	0.2161

### 3.2. Model and variables description

To test the research hypotheses, the following regression models are estimated:

$$N\_KAM_{it} = \alpha + \beta_1 LN\_ASS_{it} + \beta_2 PPE\_ASS_{it} + \beta_3 INV\_REC_{it} + \beta_4 GROWTH_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 QUICK_{it} + \beta_8 SOLV_{it} + \beta_9 FEM_{it} + \beta_{10} BIG4_{it} + \beta_{11} UNQ_{it} + \beta_{12} GC_{it} + \beta_{13} SET_{it} + \beta_{14} DEL_{it} + \varepsilon_{it} \quad (1)$$

$$ELRKKAM_{it} = \alpha + \beta_1 LN\_ASS_{it} + \beta_2 PPE\_ASS_{it} + \beta_3 INV\_REC_{it} + \beta_4 GROWTH_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 QUICK_{it} + \beta_8 SOLV_{it} + \beta_9 FEM_{it} + \beta_{10} BIG4_{it} + \beta_{11} UNQ_{it} + \beta_{12} GC_{it} + \beta_{13} SET_{it} + \beta_{13} DEL_{it} + \varepsilon_{it} \quad (2)$$

$$ALRKKAM_{it} = \alpha + \beta_1 LN\_ASS_{it} + \beta_2 PPE\_ASS_{it} + \beta_3 INV\_REC_{it} + \beta_4 GROWTH_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 QUICK_{it} + \beta_8 SOLV_{it} + \beta_9 FEM_{it} + \beta_{10} BIG4_{it} + \beta_{11} UNQ_{it} + \beta_{12} GC_{it} + \beta_{13} SET_{it} + \beta_{13} DEL_{it} + \varepsilon_{it} \quad (3)$$

The dependent variable in model [1] is the number of KAMs in the audit report (N\_KAM). To test how company and audit characteristics affect the type of KAM, models [2] and [3] replace N\_KAM with the number of ELRKAM and the number of ALRKAM, respectively. Test

variables include company characteristic variables that proxy for company size, complexity and risk, as well as audit characteristics that may affect KAMs and other control variables.

Regarding the test variables, the natural logarithm of total assets (LN\_ASS) is used as a proxy for company size. As explained in Section 2.2, a positive effect of company size on N\_KAM and ALRKAM is expected, but the effect is not significant for ELRKAM.

Several variables have been included for company complexity: i) the level of tangibility of noncurrent assets (PPE\_ASS), ii) the proportion of inventories and receivables (INV\_REC), and iii) company growth, measured as the growth in sales (GROWTH). PPE\_ASS and INV\_REC are negatively associated, and GROWTH is positively associated with company complexity. Therefore, assuming that higher complexity may be associated with matters that affect the entity as a whole, a negative coefficient is expected for PPE\_ASS, INV\_REC and GROWTH regarding N\_KAM and ELRKAM and with an insignificant association to ALRKAM.

Regarding company risk, the models include return on assets (ROA), leverage (LEV), and quick and solvency (QUICK and SOLV). As stated in Section 2.1, a positive association between company risk and KAM is expected, while the association for ALRKAM is not significant because company risk characteristics are more related to entity-risk-level issues. Additionally, given the existence of the going concern issues section, company risk issues may play a secondary role in the inclusion of ELRKAM, so its coefficient is insignificant.

Regarding audit characteristics, the models include four variables: FEM, a dummy variable that equals 1 when the auditor is female and 0 when the auditor is male; BIG4, a dummy that equals 1 for Big 4 auditors and 0 otherwise; UNQ, a dummy that equals 1 for unqualified reports and 0 for qualified, disclaimer and adverse reports, and GC, a dummy that equals 1 when the audit report includes a going-concern section and 0 otherwise.

Regarding FEM, as long as female auditors are considered to be more conservative and have a stronger uncertainty avoidance, a positive effect on ALRKAM is expected, which is mitigated for N\_KAM and ALRKAM because of the homogeneity in audit teams and audit firms. For BIG 4, a positive coefficient on N\_KAM and ELRKAM is expected, but an insignificant effect on ALRKAM is expected. Regarding UNQ, a significant association is not expected. Finally, regarding GC, audit reports with a going concern section may have a higher number of KAMs, linked to a positive effect on ALRKAM.

The models also include additional control variables: SET is a dummy equal to 1 when a company is listed in the SET market and 0 when it is listed in the MAI market, and DEL is a dummy variable that indicates whether a company is delisted. The models also include year and industry dummies. The models are estimated using OLS regressions, employing robust standard errors clustered at the firm level (Hope et al., 2012; Sundgren & Svanström, 2013; Gandía & Huguet, 2018). On the other hand, considering that the dependent variable uses count data, Section 4.2 includes an additional analysis using Poisson regression estimation (VanMeter et al., 2015; Lennox et al., 2023).

## 4 RESULTS AND DISCUSSION

### 4.1. Main analysis: OLS regression results

Table 3 shows the correlation matrix of the model variables. The correlation between company size and other company complexity and characteristics is observed to be highly significant, as is that with the number of KAMs, ELRKAMs and ALRKAMs. A significant correlation also exists among the dependent variables of the three models. Some audit characteristics also exhibit a high correlation with both the number of KAMs and some company characteristics, especially company size.

The OLS regression results are shown in Table 4. The results for Model 1 are reported in Panel A, while the results for Models 2 and 3 are reported in Panels B and C, respectively. The R2 of the three models is approximately 11%, and is higher for Model 1 (13.58%).

Regarding the variables, the proxy for company size (LN\_ASS) is significantly positive in Models 1 and 3, while its p value is near 0.10 in Model 2. The significance of this variable supports the hypothesis that company size is related to the number of KAMs, regardless of their contents.

In relation to the company complexity characteristics (PPE\_ASS, INV\_REC and GROWTH), the results show that PPE\_ASS is significantly negative for Models 1 and 2, INV\_REC is significantly negative for Model 2, and GROWTH is significantly positive for Models 1 and 2. Worth noting is that PP\_ASSETS and INV\_REC are inversely related to company complexity as long as they capture tangible assets that require less complex audit procedures than intangible and financial assets. Therefore, the results support the hypotheses that higher complexity increases the number of ELRKAMs and total KAMs.

Regarding the company risk characteristics, SOLV and QUICK are significantly negative in Model 1 but do not remain significant in Models 2 and 3. The results suggest that auditors of distressed companies report a higher number of KAMs in their audit reports than do other companies; however, these KAMs do not belong to a specific category.

Although ROA is not significant in Model 1, it has a significantly negative coefficient in Model 2, and the sign is significantly positive in Model 3. The existence of an opposite sign for Models 2 and 3, which may explain the lack of significance for Model 1, suggests that profitability negatively affects the number of ELRKAM but is positively associated with ALRKAM. These results suggest that a higher ROA is associated with lower company risk, so the likelihood of including KAM associated with entity-level risk is lower, hence the negative association between ROA and ELRKAM. Regarding the positive association between ROA and ALRKAM, a higher ROA can be associated with the application of more complex accounting rules, such as revenue recognition, or the existence of earnings management. These elements are associated with specific account-level risk matters; thus, auditors need to pay more attention to these issues and report more information about them, hence the positive effect of ROA on ALRKAM.

Tab. 3. Correlation matrix. Source: own research

Variable	N_KAM	ELR_KAM	ALR_KAM	LN_ASS	PPE_ASS	INV_REC	ROA	LEV	GROWTH
N_KAM	1.000								
ELRKAM	<b>0.461</b>	1.000							
ALRKAM	<b>0.787</b>	<b>-0.179</b>	1.000						
LN_ASS	<b>0.231</b>	<b>0.162</b>	<b>0.147</b>	1.000					
PPE_ASS	-0.026	-0.015	-0.017	<b>-0.087</b>	1.000				
INV_REC	-0.026	-0.017	-0.017	<b>-0.085</b>	<b>0.951</b>	1.000			

ROA	-0.004	-0.014	0.007	0.027	0.024	0.029	1.000		
LEV	-0.015	-0.009	-0.010	<b>-0.070</b>	<b>0.905</b>	<b>0.931</b>	<b>0.037</b>	1.000	
GROWTH	-0.015	0.024	-0.033	-0.004	-0.002	-0.003	0.001	-0.001	1.000
QUICK	<b>-0.049</b>	-0.004	<b>-0.050</b>	<b>-0.057</b>	-0.004	<b>0.126</b>	-0.003	-0.004	-0.003
SOLV	-0.028	0.004	-0.032	<b>-0.048</b>	<b>0.296</b>	<b>0.304</b>	0.015	<b>0.328</b>	<b>0.556</b>
FEM	0.011	<b>-0.043</b>	<b>0.043</b>	<b>-0.059</b>	0.015	0.024	-0.007	0.015	-0.011
BIG4	<b>0.111</b>	<b>0.065</b>	<b>0.080</b>	<b>0.360</b>	<b>-0.034</b>	-0.026	<b>0.036</b>	-0.021	-0.003
UNQ	0.005	-0.005	0.008	0.032	0.005	0.008	<b>0.040</b>	0.003	0.010
GC	<b>0.051</b>	0.013	<b>0.043</b>	<b>-0.124</b>	0.033	0.017	<b>-0.045</b>	-0.003	-0.009
SET	<b>0.146</b>	<b>0.118</b>	<b>0.080</b>	<b>0.440</b>	0.015	0.009	0.024	0.010	0.025
DEL	-0.024	0.004	<b>-0.035</b>	0.010	-0.003	-0.005	-0.008	-0.002	-0.006
	QUICK	SOLV	FEM	BIG4	UNQ	GC	SET	DEL	
QUICK	1.000								
SOLV	0.003	1.000							
FEM	0.014	0.026	1.000						
BIG4	-0.026	<b>-0.036</b>	<b>0.084</b>	1.000					
UNQ	0.009	0.008	<b>0.071</b>	<b>0.153</b>	1.000				
GC	-0.022	-0.010	0.018	<b>-0.080</b>	<b>-0.187</b>	1.000			
SET	0.023	0.015	0.003	<b>0.160</b>	0.004	-0.014	1.000		
DEL	-0.007	-0.006	0.000	0.025	<b>-0.109</b>	<b>0.122</b>	<b>0.071</b>	1.000	

Coefficients in bold denote statistical significance at the 5% level.

Regarding auditor characteristics, FEM is significantly negative in Model 2, which may be associated with the conservatism related to the female gender as reported in previous studies. The lack of significance of the BIG4 variable suggests no differences between auditors when reporting KAMs. Worth noting is that the sample is composed of listed firms, and companies that are not audited by Big 4 auditors choose middle-tier auditors. However, there is no presence of small auditors, so a homogeneous quality between Big 4 and middle-tier auditors is expected.

Regarding audit report characteristics, the results show that UNQ is not significant in any regression, suggesting that the audit opinion does not have a relation with the number of KAMs; however, these results may be due to the relatively low proportion of unqualified reports. GC is significantly positive in Model 1, which suggests that the existence of going concern issues increases the likelihood of a more detailed KAM section. Since the variable is also significant in Model 3, the results suggest that specific account-level risk matters (such as asset impairment or the recovery of deferred tax assets) are related to going concern issues, while the lack of significance in Model 2 may be related to the fact that auditors sometimes include going concern matters in the KAM section. Therefore, when auditors consider including a specific section on GC issues in the audit report, there is no reason to include ELRKAM devoted to this topic.

Tab. 4. OLS regression results. Source: own research

	Model 1 (N_KAM)			Model 2 (ELRKAM)			Model 3 (ALRKAM)		
	Coef.	t	P> t	Coef.	t	P> t	Coef.	t	P> t
LN_ASS	0.0706	2.67	0.008	0.0280	1.62	0.106	0.0423	1.71	0.088
PPE_ASS	-0.4812	-2.76	0.006	-0.2385	-2.44	0.015	-0.2395	-1.61	0.109
INV_REC	-0.3018	-1.62	0.106	-0.4778	-4.83	0.000	0.1801	1.01	0.313
GROWTH	0.1559	1.91	0.056	0.1074	2.79	0.005	0.0528	0.72	0.472

ROA	-0.0057	-0.89	0.376	-0.0193	-4.03	0.000	0.0135	2.80	0.005
LEV	-0.8415	-1.32	0.186	-0.1724	-0.59	0.557	-0.6752	-1.05	0.295
QUICK	-0.0270	-1.83	0.067	-0.0105	-1.14	0.257	-0.0147	-1.04	0.299
SOLV	-1.3038	-2.14	0.033	-0.3702	-1.38	0.169	-0.9492	-1.54	0.123
FEM	-0.0047	-0.09	0.931	-0.0699	-2.22	0.027	0.0647	1.27	0.203
BIG4	-0.0605	-1.02	0.309	-0.0607	-1.58	0.115	-0.0004	-0.01	0.994
UNQ	-0.1805	-1.04	0.299	-0.0478	-0.61	0.540	-0.1334	-0.86	0.390
GC	0.3961	1.88	0.060	0.0012	0.01	0.992	0.3997	2.28	0.023
SET	0.1736	1.89	0.059	0.0162	0.33	0.742	0.1584	1.72	0.087
DEL	-0.0232	-0.10	0.924	-0.0237	-0.13	0.894	0.0008	0.00	0.997
Intercept	1.4998	1.55	0.122	0.1412	0.28	0.777	1.3690	1.44	0.149
N	2,150			2,150			2,150		
F	20.58			4.94			6.76		
R-squared	13.58%			11.29%			9.63%		

Table 4 shows the OLS results of the main analysis. For parsimony, the coefficients of year and industry dummies are not included.

#### 4.2. Robustness analysis: Poisson regression results

As explained in Section 3.2, the dependent variables (N\_KAM, ELRKAM, and ALRKAM) use count data (i.e., counting numbers). For these variables, the Poisson regression estimation may have more robust results (VanMeter et al., 2015; Lennox et al., 2023). Therefore, Models 1-3 are re-estimated using the Poisson regression estimation. The results are shown in Table 5 and are qualitatively similar to those reported in Section 4.1. Although the magnitude of the coefficients is different, the significance of the variables remains mostly unchanged, and all of the variables that were significant in the OLS regressions remain significant when applying the Poisson estimation. Only two variables that were insignificant in the previous estimation become significant: LN\_ASS in Model 2 and SOLV in Model 3.

Regarding LNASS, Section 4.1 showed that the variable did not have a significant effect on ELRKAM at the 10% level, although its p-value was close (0.106). The results from Table 5 support the hypotheses that company size has a significantly positive effect on the number of KAMs, at both the entity- and account-risk levels.

Regarding SOLV, the results from Section 4.1 show that it is only significant in Model 1, while it also becomes significantly negative for ALRKAM at the 10% level. Since SOLV is calculated as the ratio of equity to total assets, the negative sign may be associated with specific items in equity: when solvency is weaker, items that reduce equity (such as prior periods' losses) may require more detailed reporting in the KAM, while when solvency is strong, there is no need to report about them.

Tab. 5. Poisson regression results. Source: own research

	Model 1 (N_KAM)			Model 2 (ELRKAM)			Model 3 (ALRKAM)		
	Coef.	z	P> z	Coef.	z	P> z	Coef.	z	P> z
LN_ASS	0.0362	2.75	0.006	0.1074	2.30	0.022	0.0261	1.72	0.085
PPE_ASS	-0.2555	-2.81	0.005	-0.6647	-2.20	0.028	-0.1542	-1.63	0.103
INV_REC	-0.1502	-1.61	0.107	-1.4574	-4.41	0.000	0.1095	1.02	0.306
GROWTH	0.0774	2.01	0.044	0.3223	3.40	0.001	0.0322	0.74	0.459
ROA	-0.0028	-0.81	0.418	-1.7136	-2.72	0.007	0.0088	2.75	0.006

LEV	-0.4093	-1.47	0.141	-0.5863	-0.79	0.428	-0.4153	-1.18	0.239
QUICK	-0.0166	-1.94	0.053	-0.0396	-1.02	0.308	-0.0105	-1.10	0.273
SOLV	-0.6495	-2.47	0.013	-1.0562	-1.63	0.103	-0.5847	-1.76	0.078
FEM	-0.0038	-0.13	0.895	-0.2529	-2.51	0.012	0.0404	1.25	0.212
BIG4	-0.0318	-0.99	0.322	-0.1830	-1.37	0.172	-0.0003	-0.01	0.993
UNQ	-0.0911	-1.11	0.267	-0.0748	-0.35	0.724	-0.0812	-0.90	0.366
GC	0.1886	2.05	0.041	-0.0827	-0.26	0.794	0.2269	2.46	0.014
SET	0.0989	1.94	0.053	0.0941	0.51	0.608	0.1032	1.71	0.087
DEL	-0.0174	-0.13	0.896	-0.0297	-0.04	0.968	-0.0060	-0.05	0.963
Intercept	-0.1043	-0.27	0.789	14.8683	-11.45	0.000	-0.0316	-0.06	0.948
N	2,150			2,150			2,150		
Pseudo R-sq	2.02%			7.54%			1.52%		

Table 5 shows the Poisson results of the robustness analysis. For parsimony, the coefficients of year and industry dummies are not included.

### 4.3. Discussion of results

Considering the results of Sections 4.1 and 4.2 as a whole, it can be observed that several company characteristics that proxy for company size, complexity and risk are significantly associated with KAM reporting. Specifically, LN\_ASS shows that company size is positively associated with the number of KAMs, while variables for asset composition (measured through PPE\_ASS and INV\_REC) and company growth (GROWTH) show that higher company complexity requires a more detailed KAM section. Regarding company risk, leverage does not have a significant effect, but solvency and liquidity are significantly negative, suggesting that good financial health reduces the number of KAMs.

Regarding audit characteristics, the results are mixed. The presence of female auditors only has a significant negative effect on entity-level-risk KAM, which can be explained by the female conservativeness reported in previous studies (Niskanen et al., 2011). Auditor size and audit opinion do not have an effect on KAM. These results suggest that the information value of the audit report is independent of the type of auditor and the audit opinion, which may imply that the quality of the KAM reporting is homogeneous among audit firms, a feature that may be desirable for investors. Nevertheless, the results for the audit opinion may be affected by the low proportion of qualified reports. Finally, regarding the inclusion of going concern issues in the audit report, the positive association for KAM and ALRKAM indicates that auditors report a more detailed KAM section when companies have going concern problems. These results suggest that auditors are more prone to provide more details on specific audit risks, which may help information users better understand the audit process and the company's financial situation. Furthermore, more information on audit risks may help auditors avoid potential losses, both economic (derived from litigation risk) and reputational (derived from visibility).

A comparison of the results of this study to previous papers from other institutional contexts (Ferrera & Morais, 2019; Sierra-Garcia et al., 2019) and Thailand (Wuttichindanon & Issarawornrawanich, 2020) shows that the results for the variables that proxy for company characteristics are similar, while the results for the variables for audit characteristics are mixed. Focusing on audit characteristics, the most relevant difference is related to auditor size. In that sense, previous studies have shown that auditor size has a significantly positive effect on KAM reporting. This may be explained by the differences in the analyzed period. Those studies only cover the first years of the introduction of KAM, when Big 4 auditors may have played a major

role in their implementation during the first stage; after several years of experience, the rest of the auditors may have followed the path of Big 4 auditors, eliminating the differences in KAM reporting based on auditor size.

Regarding the audit opinion, previous studies have found either a positive association (Özcan, 2021) or a negative effect (Ferrera & Morais, 2020), so the lack of significance of the variable in this study suggests that it remains an open question. As indicated, the low proportion of qualified reports, which is common to almost all studies on audit opinions, may affect the significance of the variable, so more research is needed on this topic. Finally, the results for auditor gender are partially in line with previous studies in Thailand. While previous studies have not shown a significant association, their results suggest that female auditors have a positive effect on entity-level risk information. Previous studies do not distinguish between ALRKAM and ELRKAM, which can partially explain the differences. Nevertheless, the results are far from conclusive, and more research on the role of gender in the audit profession is needed.

The results of the study have several theoretical and practical implications. Regarding the theoretical implications, the results show that company characteristics have a similar effect regardless of the institutional context. In this sense, auditors consider company characteristics (i.e., size, complexity, and risk) as relevant when conducting an audit; thus, they also affect the reporting of KAM. Nevertheless, the average number of KAMs (1.9) in reports is much smaller than those reported in European countries (3.8) but similar to studies in Southeast Asian countries. Therefore, although the company characteristics that affect KAM reporting are similar, their impact is far from the same. Taking into account that the financial reporting and auditing standards are homogeneous among the two groups of countries, differences in KAM reporting may be due to either cultural and institutional traits, the professional training of auditors, or a combination.

Regarding audit characteristics, worth noting is the differences with previous studies, which can be explained by differences in the analyzed period (for the auditor size) or the lack of enough variability in the data (for qualified opinions and going concern issues). These results imply an interest in examining in greater depth the effect of audit characteristics on KAM reporting. While issues related to the analyzed period can be easily overcome, limitations on the lack of observations for qualified opinions and going concern issues may need other research approaches. In this sense, textual analysis may be especially interesting for an in-depth analysis of the contents of audit reports and the interaction between their sections.

Regarding practical implications, the results are of interest for users of financial information, auditors, and regulators. Financial information users can look for hidden cues in audit reports and learn more about the company characteristics that affect the audit process by reading the KAM, helping them in their decision-making process. Regarding auditors, the results show that KAM reporting is mostly homogeneous regardless of auditor size or other sections of the audit report. Although this homogeneity may be valued by investors (by auditors guaranteeing a minimum level of quality), if higher quality auditors want to signal their perceived superior quality, they must stand out by other means, such as the level of disclosure in the KAM section. Finally, the study offers evidence of the company and audit characteristics that affect KAM reporting, so regulators may take into account these characteristics to establish minimum disclosure requirements depending on them.



## 5 CONCLUSION

Previous literature has examined the determinants of KAM in developed countries; however, the evidence on developing countries is scarce and limited to the first year of adoption. We tackled this lack of empirical studies. Considering the increasing relevance of emerging countries in the global economy and the harmonization of the regulatory framework on financial reporting and auditing among developed and developing countries, examining the determinants of KAM reporting in developing countries is relevant to know whether using a common regulatory framework leads to the homogenization of financial reporting. Using a sample of listed Thai companies, we examined the determinants of the number and type of KAMs.

We developed seven hypotheses that theoretically explain the potential association of company size, company complexity and company risk, as well as audit characteristics, with the number and type of KAMs. After categorizing the KAMs into two categories (ELRKAM and ALRKAM), a regression analysis was performed to test the association between the number and type of KAMs with the company and audit characteristics. The results show that company size, proxied by total assets, the nature of company assets and company growth, which proxy for company complexity, and company liquidity and solvency, which are proxies for company risk, have a significant effect on the number of KAMs. The results for audit characteristics are mixed: while auditor size and audit opinion do not have a significant effect in any regression, the presence of female auditors has an effect on entity-level risk KAM, and the inclusion of going concern issues has a significant effect on account-level risk KAM.

While the results for company characteristics are in line with the previous literature, the results for audit characteristics, especially for auditor size and audit opinion, are different. Differences with prior studies in auditor size may be explained by the differences in the analyzed period. Previous papers covered the first years of the introduction of KAM, when Big 4 auditors may have played a major role in their implementation and acted as leaders in establishing KAM reporting, thus including more KAMs than did the rest of the auditors; after the consolidation of KAMs in the audit report, the quality of KAM reporting may have converged, eliminating significant differences between auditors. Nevertheless, we only considered the number of KAMs but not their contents, so differences between KAM disclosures (related to the contents) may persist. Regarding audit opinion, some prior studies have shown a significantly positive effect, while other studies have found a negative effect on the number of KAMs. The lack of significance of the audit opinion in this study adds a third option to the potential association between audit opinion and KAM. Nevertheless, although the three potential associations have their own theoretical explanations, the results of this study and previous studies may have been affected by the low proportion of qualified reports. On the other hand, the results of going concern issues suggest that auditors may be more prone to disclose more information on audit risks, which may help auditors avoid economic and reputational losses.

A comparison of the results with those of studies on developed countries may shed light on how cultural and institutional traits affect KAM reporting. In this sense, although the effect of company characteristics is in line with studies in Western countries, the average number of KAMs is lower (1.9 vs. 3.8) but is similar to that of other studies on Southeast Asia, suggesting significant differences in KAM reporting between developed and developing countries despite using a common regulatory framework in financial reporting and auditing. Therefore, these differences in KAM reporting may be due to differences in either the education of auditors or the cultural institutional background.

We present several implications for users of financial information, auditors, and regulators. For information users, it is interesting how they can learn more about a company's characteristics (which in the end affects their decision-making process) by thoroughly reading the KAM section. Regarding auditors, given that the results show that the number of KAMs may seem rather homogeneous, worth noting is that if they wish to signal higher quality, they must communicate what can be done by increasing the level of disclosure in the KAM section. Finally, regarding regulators, we offer insights into the characteristics that are relevant for KAM reporting to enable them to consider them when establishing criteria of disclosure depending on the company and the audit characteristics.

We make several contributions to the previous literature on KAM reporting in the following way. We extend the evidence on KAM determinants in developing economies. In that sense, given that previous literature has examined the question in developed countries, our study contributes by showing that, despite having a common regulatory framework (i.e., international financial reporting and auditing standards), institutional, cultural or educational features create differences in KAM reporting. Although few papers have examined KAM reporting in developing countries, they have focused on the first year of KAM adoption, while in this study, we employ a 5-year sample that provides more robust results and considers auditors' increased experience with KAM reporting.

This paper has several limitations. First, as stated, the results for audit report characteristics may be affected by the sample size. In this regard, the number of observations containing qualified reports and going-concern issues is small compared to that of unqualified reports and reports that do not contain going-concern issues. This problem is common to the previous literature on audit reports, as most of them have an unqualified opinion and do not include going concern issues. Therefore, given that the lack of variability in the data for these variables cannot be obtained using archival data, other methodological approaches to this limitation should be used, such as experimental research. On the other hand, KAMs have been categorized following previous studies, but their actual content has not been examined. Therefore, KAM reporting is only based on the number and type of KAMs; however, we have not truly examined whether there are differences in the level of KAM disclosure. In this regard, the lack of significance of some variables (such as auditor size) may not be indicative of homogenous audit quality since reporting quality depends not only on the quantity (i.e., the number of KAMs) but also on the quality (i.e., the contents of KAMs) of information. In this sense, qualitative methodologies, such as textual analysis, are more suitable for this purpose (Zeng et al., 2021).

We present several opportunities for future research. First, a more in-depth analysis of the effect of company and audit characteristics on the quality of KAM reporting is needed. In this sense, international studies using data from both developing and developed countries may shed light on the effect that institutional and cultural features may have on the drivers of KAM reporting. Furthermore, as stated, textual analysis techniques may provide interesting insights into the actual information value of KAM (Zeng et al., 2021), as well as whether there are differences in the quality of KAM disclosure regardless of the number of KAMs included in audit reports. On the other hand, we have examined the determinants of KAM, so future research should examine how KAM affects users' decisions, i.e., the consequences of KAM reporting.

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