Accounting & Finance Association of Australia and New Zealand (AFAANZ) 2025 Conference

Interpretations and Compliance of Key Audit Matter Disclosures in

European Firms

Authors:

Yeap Lay Huay, PhD Candidate

(Queensland University of Technology / Singapore Institute of Technology)

Dr. Natalie Elms

(Queensland University of Technology)

Professor Pamela Kent

(Queensland University of Technology)

Associate Professor Troy Yao

(Griffith University)

Date of submission:

June 6, 2025

Abstract

Purpose

This study examines how firms across Europe interpret and comply with Key Audit Matter (KAM) reporting requirements, as outlined in International Standard on Auditing (ISA) 701. We further explore the extent of variation in KAM reporting practices and whether contextual factors at the firm, auditor, and country levels influence the interpretation and application of ISA 701.

Design/methodology/approach

This study utilizes a longitudinal dataset of European firms from 28 countries to examine the evolution of KAM reporting since the introduction of ISA 701 in 2016 resulting in a comprehensive dataset of 13,797 firm-year and 34,504 KAM-level observations. A KAM disclosure index (KDI) is constructed to assess both auditors' interpretations of, and compliance with the standard's specific requirements. Unlike prior approaches that infer regulatory intent, this index is grounded directly in the textual provisions of ISA 701, offering a more objective and standards-based measurement framework.

Findings

We find that KAMs most frequently relate to long-lived assets such as goodwill, revenue recognition and business combinations, with going concern KAMs peaking in 2020 amid pandemic-related uncertainty. While year-on-year KDI trends suggest moderate improvements in compliance with ISA 701, a more detailed analysis exposes a fragmented application of the standard. Auditors have become more selective in disclosing KAMs and increasingly reference management's explanations, suggesting closer alignment with regulatory expectations. However, this is offset by longer and more complex disclosures, raising concerns about symbolic compliance. Early adopters like the UK and the Netherlands show persistently lower KDI scores, hinting at institutionalized symbolic reporting. Firm (e.g., size, profitability), audit-related (e.g., audit fees, timing) and country-level factors such as GDP per capita, SARS strength, investor protection, rule of law, societal trust significantly influence KAM reporting practices.

Originality

This is one of the first studies to analyze KAM reporting by developing an index that is based on the stated guidance of the auditing standard (i.e. ISA 701). The study also demonstrates the importance of contextual

factors, especially at the country level in KAM reporting across European countries. The findings have relevance to auditing standard setters and practitioners in revising ISA 701 and complementary auditing standards.

Keywords

key audit matters, expanded audit reporting, ISA 701, Europe, agency theory, institutional theory

1. Introduction

This study investigates trends in Key Audit Matter (KAM) reporting across Europe from 2016 to 2022 following the adoption of International Standard on Auditing (ISA) 701. We focus on how interpretations and compliance with the standard have evolved, and the contextual factors including firm, auditor, and country levels, shaping these patterns. While research on expanded audit reporting is growing (Bédard et al., 2019; Burke et al., 2022; Camacho-Miñano et al., 2023; Federsel, 2024), there remains limited multi-country, multi-year evidence on how KAM disclosures have evolved in practice.

To date, KAM research has primarily focused on single-country settings, particularly the United Kingdom (UK), due to data availability (e.g., Camacho-Miñano et al., 2023; Gutierrez et al., 2018; Seebeck, 2024; Sierra-García et al., 2019). Cross-country studies are scarce and show that contextual factors at country level such as legal origin, economic development, and societal trust, can influence KAM disclosures (Federsel & Hörner, 2025; Honkamäki et al., 2022). Longitudinal studies are also limited, with notable exceptions including Seebeck (2024) and Küster (2024), who highlight trends toward standardization and shifting disclosure styles over time. We extend this literature by employing a cross-country European sample to analyze how KAM reporting has evolved and what contextual factors are associated with KAM disclosure practices over time.

This research is timely and important. Audit reports have long been criticized as standardized and uninformative (Asare & Wright, 2012). KAMs were introduced to bridge the communication gap between auditors and users by highlighting matters of most significance in the audit (IAASB, 2015). Yet measuring the quality of such disclosures remains problematic. Prior studies often rely on partial proxy measures such as the number of KAMs, implicitly assuming that more means better (e.g., Chen et al., 2023). This study takes a different approach because the auditing standard explicitly states that having too many KAMs defeat the purpose of identifying significant matters in the audit (ISA 701 para. A30).

We develop a KAM Disclosure Index (KDI) based on ISA 701 guidance, capturing multiple qualitative attributes rather than relying on simplistic proxies. This composite approach improves measurement accuracy and reduces the likelihood of biased inferences (Rousseau, 2022). We employ univariate time-series analysis to trace year-on-year trends in KAM disclosure practices, and multivariate regression models to examine the contextual factors associated with KAM compliance. Additional analyses examine the effects of the Covid-19 pandemic and variation across countries.

Findings reveal that KAMs relating to long-lived assets especially goodwill dominate disclosures, followed by revenue recognition and business combinations. The number of going concern KAMs peaked

in 2020, coinciding with pandemic-related uncertainty. Overall, compliance with ISA 701 modestly improved over time, but a more detailed analysis shows more complex outcomes. Auditors have become increasingly selective in the number of KAMs disclosed and better at referencing management's explanations which potentially reflect closer alignment with ISA 701 guidance. However, this is offset by increasing disclosure length and complexity, suggesting a shift toward more technical, and arguably less understandable reporting. These contrasting trends raise concerns about whether observed improvements reflect substantive auditor engagement or a more routine form of compliance. This ambiguity becomes more pronounced in sub-sample analyses. Early adopters of KAM reporting, such as the UK and the Netherlands, consistently display lower KDI scores than the other European countries, hinting at institutionalized, routine reporting. Our results suggest that while surface-level compliance with ISA 701 has improved, deeper communicative quality remains inconsistent, and KAM reporting is unlikely to have improved the quality of audit reports.

Firm-level characteristics like size and profitability, and audit-related attributes such as audit fees and timing, significantly determine KAM disclosures. At the country level, factors such as GDP per capita, strength of auditing and reporting standards (SARS), investor protection, rule of law, and societal trust are all significantly associated with KAM compliance. These findings underscore the need to move beyond a checkbox approach to compliance, calling for continued regulatory attention to both the quality and communicative effectiveness of KAM reporting.

Our study contributes to KAM literature and auditing practice in several ways. First, we introduce a novel, multi-dimensional KAM Disclosure Index grounded in the criteria outlined in ISA 701. This challenges the dominant assumption that the number of disclosed KAMs is a reliable proxy for disclosure quality, shifting the focus toward a more nuanced and substantive assessment of compliance. Second, this exploratory study spans seven years of KAM reporting across 28 European countries, offering a longitudinal insight into how these disclosures have evolved since the implementation of ISA 701. While still limited as it takes time to learn how to apply a new standard, this timeframe allows us to detect trends and shifts in auditors' disclosure behavior in response to broader events such as the Covid-19 pandemic.

Third, the study draws on agency (Jensen & Meckling, 1976) and institutional (DiMaggio & Powell, 1983) theories to interpret and contextualize KAM reporting practices. These frameworks help explain how economic incentives and institutional pressures jointly influence KAM reporting practices. Fourth, we offer practical insights for auditors and audit committees grappling with disclosure strategies. This suggests that audit firms should invest in training auditors to craft KAMs that are specific, succinct,

and decision-useful rather than verbose and ceremonial. Audit committees should use KAM disclosures as a governance tool to challenge management's reporting and judgments, especially in areas like goodwill impairment and revenue recognition where KAMs cluster. Finally, this study's findings provide timely feedback to the International Auditing and Assurance Standards Board (IAASB) by examining how ISA 701 has been interpreted and applied in practice. Our findings imply that mere compliance with ISA 701's minimum requirements may not suffice to enhance transparency if disclosures become ritualistic. Regulatory guidance or reviews might focus not just on whether or how many KAMs are disclosed, but on how clearly and accessibly they communicate audit risks and responses to investors. Further, by identifying the contextual factors of compliance, our findings can support the refinement of auditing standards and inform future regulatory oversight in the post-implementation phase of KAM reporting.

The remainder of this paper progresses as follows: section 2 provides a brief literature review and the development of relevant hypotheses; section 3 discusses empirical methods and variables; results are presented in section 4. Section 5 concludes the paper.

2. Literature and hypothesis development

2.1 Background to ISA 701 and prior literature

In 2015, the IAASB introduced *ISA 701: Communicating Key Audit Matters in the Independent Auditor's Report*, applying to audits of financial statements for periods ended on or after 15 December 2016. The European Union (EU) immediately adopted the standard (Pinto & Morais, 2019). ISA 701 defines KAMs as issues of most significance in the audit, demanding substantial attention and judgment. Auditors must select KAMs from matters discussed with those charged with governance, particularly highlighting areas of higher assessed risk, significant judgment, or major transactions. The standard's primary goal is to enhance audit transparency and bridge the information gap between auditors and external stakeholders (Gutierrez et al., 2018; IAASB, 2015; ICAEW, 2017; Pinto & Morais, 2019).

However, ISA 701's principle-based approach gives auditors considerable discretion, leading to substantial variability in KAM reporting across firms, industries, and jurisdictions (Bepari et al., 2022; Duboisée de Ricquebourg & Maroun, 2023; Küster, 2024; Seebeck, 2024; Seebeck & Kaya, 2022; Zeng et al., 2021). For example, while ISA 701 cautions against listing too many KAMs to avoid diluting their significance, it prescribes no specific number. Similarly, auditors are advised to avoid overly technical

language, but no concrete guidance defines what counts as "overly technical." Unsurprisingly, this regulatory ambiguity invites wide heterogeneity in both the quantity and quality of KAM disclosures.

Initial research mainly focused on the most visible feature: the number of KAMs disclosed, especially during the first two years post-adoption. Subsequent studies expanded into qualitative dimensions, such as length, readability, tone, and specificity (Gambetta et al., 2023; Pinto et al., 2020; Rousseau & Zehms, 2024; Zeng et al., 2021). Findings, however, are far from consistent. Larger and riskier firms generally report more KAMs, aligning with expectations of heightened audit risk (Bepari et al., 2022; Burke et al., 2022), although some studies report no or even negative associations (Sierra-García et al., 2019). Evidence linking financial performance to KAM disclosures is equally mixed: some find better-performing firms report fewer KAMs (Federsel & Hörner, 2025), while others note longer, more standardized KAMs for such firms (Küster, 2024).

Auditor-related factors have also drawn attention. Big Four auditors tend to disclosure more KAMs that are more readable (Burke et al., 2022; Hategan et al., 2022; Kend & Nguyen, 2020; Velte, 2020), though Küster (2024) notes an exception, finding that Big Four auditors tend to disclose longer, less readable, and more standardized KAMs. Findings on audit fees and tenure are similarly inconclusive: some find higher audit fees correlate with more numerous and more readable KAMs (Hussin et al., 2023; Pinto & Morais, 2019), while others find no or even negative associations (Küster, 2024; Sierra-García et al., 2019). Auditor rotation has been found to bring fresh perspectives and thus changes in KAMs (Chen et al., 2023; Duboisée de Ricquebourg & Maroun, 2023; Federsel, 2024; Lin & Yen, 2022), although not all studies agree (Elshafie, 2023; Hussin et al., 2023).

The provision of non-audit services introduces additional complexity: higher non-audit fees, seen as threats to auditor independence, have been linked to fewer KAMs (Federsel & Hörner, 2025), though again, evidence is mixed (Küster, 2024; Sierra-García et al., 2019). Interestingly, Küster (2024) suggests auditors with deeper client knowledge (reflected in higher non-audit fees) produce KAMs with more evaluative content. Audit report lag has also been associated with more numerous and less readable KAMs, signaling greater client complexity (Cameran & Campa, 2025; Küster, 2024). Going concern opinions, reflecting higher financial risk, tend to be linked with more KAMs (Federsel, 2024) while the pressures of the busy season (31 December year-ends) correlate with fewer KAMs (Federsel, 2024), and mixed effects on KAM readability and similarity (Seebeck, 2024; Seebeck & Kaya, 2022).

Country level factors play a significant role in influencing KAM disclosure practices. Rule-based accounting environments are associated with greater KAM disclosure but poorer readability (Pinto et al., 2020; Pinto & Morais, 2019). COVID-19 disrupted KAM patterns unevenly across countries: some studies report fewer KAMs (Hategan et al., 2022), others reported more or longer disclosures (Kend & Nguyen, 2022; Murphy et al., 2023; Rainsbury et al., 2023). Broader institutional factors such as legal origin, investor protection, regulatory strength, and social trust also significantly influence KAM practices (Abdullatif & Al-Rahahleh, 2020; Federsel & Hörner, 2025). For example, auditors in common law countries disclose more audit procedures (Honkamäki et al., 2022), and high-uncertainty-avoidance cultures prefer more generic KAMs (Kitiwong & Srijunpetch, 2019).

Despite this extensive body of research, two limitations in prior research remain. First, longitudinal evidence is scarce. Only limited studies have systematically examined how KAM disclosures evolve over time. Seebeck (2024) finds increasing standardization and declining specificity in the UK, suggesting that auditors have developed standardized text for KAM disclosures, potentially undermining the intended transparency benefits. Küster (2024), using a broader European sample, finds mixed trends: while KAMs contain slightly more client-specific information over time, they are simultaneously becoming longer and more standardized. However, by controlling for country-level effects, these studies have not directly examined the extent to which such factors may affect the evolution of KAM disclosures.

Second, although prior research has examined the factors influencing KAM characteristics at specific points in time, relatively little is known about how these factors interact with longitudinal trends. Specifically, it remains unclear whether firm characteristics, auditor attributes, and country contextual variables systematically influence the trajectory in KAM disclosures. To address these gaps, this study investigates how KAM reporting has evolved over time, and assesses the extent to which firm, auditor, and country-level factors account for variation in these temporal patterns. By integrating longitudinal and multi-level perspectives, this study aims to advance a more nuanced and theoretically informed understanding of the evolving role of KAMs in audit reporting.

2.2 Theoretical Framework and Hypotheses Development

This study draws on agency theory and institutional theory to explore how KAM reporting has evolved since the implementation of ISA 701. These two theoretical lenses offer distinct, and at times conflicting, perspectives on motivations and pressures shaping auditor behavior.

Agency theory views auditors as agents acting on behalf of principals, typically shareholders, to monitor management and reduce information asymmetry (Jensen & Meckling, 1976). From this perspective, KAM disclosures provide a governance function by highlighting areas of significant auditor attention. This enhances transparency, allows users to better assess the quality of financial reporting and audit procedures, and helps narrow the audit expectation gap (Velte, 2020). Thus, KAM reporting aligns closely with agency theory's core aim: mitigating agency conflicts through robust monitoring and targeted disclosures.

In contrast, institutional theory emphasizes how organizations, including auditing firms, respond to external pressures from regulators, professional bodies, and broader societal expectations (DiMaggio & Powell, 1983). KAM reporting, in this view, can be interpreted as a response to institutional demands for improved communication and accountability from auditors (Dwyer et al., 2023). However, institutional theory also cautions that such practices may be adopted ceremonially, symbolically complying with new norms without delivering meaningful change (Pelzer, 2021). This can undermine the intended transparency benefits and reduce the practical impact of KAM disclosures.

The tension between these theories underscores the evolving nature of KAM reporting. Agency theory optimistically highlights KAMs' potential to bridge information gaps, while institutional theory cautions that KAM reporting may become standardized and routine over time, diminishing the intended benefits of ISA 701. Together, they provide a framework for examining how auditors balance market accountability with institutional conformity and what contextual factors influence KAM reporting. Hence, the theoretical tension and prior literature lead to the following hypotheses, stated in the alternative form:

H1: The interpretations and compliance of ISA 701 have changed since implementation of the standard.

H2: The interpretations and compliance with ISA 701 are related to contextual factors at the firm, auditor and country levels.

3. Research Design

3.1 Sample Selection

We construct a comprehensive sample of firms from 28 European countries spanning 2016–2022, the period following the implementation of ISA 701. Europe offers a uniquely rich research context: it combines some of the world's largest and most mature capital markets with a wide range of legal, auditing, and institutional environments (Eierle et al., 2021; Federsel & Hörner, 2025). This heterogeneity across legal traditions, economic development levels, and societal trust norms not only enhances the external validity of our findings but also enables an investigation of how these contextual factors influence KAM practices. Unlike prior single-country studies, our design allows us to examine the influence of country-level variables on disclosure behavior.

This study uses the KAM data available in Wharton Research Data Services (WRDS) Audit Analytics Europe. For Europe, the KAM data are available since the implementation at 2016 year-end. Hence, compared to the United States (US) whose full implementation of critical audit matter (CAM)¹ reporting is only effective for fiscal year ended on or after 15 December 2020, Europe presents a significantly larger KAM data set. Moreover, a multi-country setting is also more comprehensive than the US because of the wider breadth of inferences that it can provide.

Data was retrieved from the Audit Analytics Europe database from 2016 to 2022, resulting in 25,403 firm-year and 61,398 KAM observations. Following prior studies, companies operating in the financial and utilities sectors are excluded due to their distinctive operating and regulatory nature (Bédard et al., 2019; Gutierrez et al., 2018). Companies with joint audits (predominantly in France) are also excluded (Federsel & Hörner, 2025). Firm-level KAM data was then merged with audit firm-level data from Audit Analytics and firm-level financial data from Compustat. After deleting all observations with missing data, the final sample is 13,797 firm-year and 34,504 KAM-level observations. Table 1 summarizes its composition.

¹ CAM is defined "as any matter arising from the audit of the financial statements that was communicated or required to be communicated to the audit committee and that relates to accounts or disclosures that are material to the financial statements and involved especially challenging, subjective, or complex auditor judgment" (PCAOB, 2017, p.16), which is substantially like KAM.

TABLE 1. SAMPLE COMPOSITION

European companies	Firm-year observations			
Extracted from Audit Analytics Europe database	25,403			
Less: Financial and utilities companies	-3,681			
Less: Companies with joint audits (mostly France)	-1,381			
Less: Companies with missing industry category	-83			
Less: Companies with missing data	-6,461			
Total sample with KAM disclosures	13,797			

Figure 1 shows the frequency distribution of KAMs. It is evident that for most firms, auditors disclose 2 KAMs (34.4% of the sample), followed by 3 (25.7%), 1 (22.2%) and 4 KAMs (10.8%). Combined, 93.1% of the auditors disclose 4 or fewer KAMs in a financial year.

FIGURE 1. FREQUENCY DISTRIBUTION OF KAMS



3.2 KAM Disclosures Index

We construct a KAM Disclosure Index (KDI) based on the criteria outlined in ISA 701 to assess firms' interpretation and compliance with KAM disclosure requirements. Each KDI component reflects a distinct dimension of the standard's expectations and is manually coded as 1 or 0. A composite score is then derived by summing the individual component scores. *COMP1* relates to the description of individual

KAMs in which auditors are expected to explain *why* a matter is considered a KAM to give users insight into the auditor's judgment and the significance of that matter in the audit. Clear descriptions help users better understand the audit process and enhance the transparency and relevance of the auditor's report (ISA 701 paragraphs 13(a), A42 & A43). *COMP1* is coded as 1 if the explanation is present, 0 if otherwise. *COMP2* refers to the auditors' disclosure of *how* the matter is addressed in the audit. According to paragraph A46, auditors are required to exercise their professional judgment to decide how much detail to include when describing how a KAM was addressed in the audit. This may involve outlining the audit response, summarizing procedures, noting outcomes and key observations. *COMP2* is coded as 1 if the audit response is present, 0 if otherwise.

COMP3 relates to a *reference* to the related disclosures in the financial statements. This is important as it enables users to further understand how management has addressed the matter when preparing the financial statements. Referencing related disclosures is also useful when auditors highlight key aspects of those disclosures such as management's assumptions, risks, or uncertainties to help users better understand the auditor's judgment and the audit response. **COMP3** is coded as 1 if the reference to management's disclosure is present, 0 if otherwise. **COMP4** relates to the number of KAMs disclosed for each firm in a financial year. ISA 701 paragraph A30 suggests that fewer KAMs may indicate higher quality as "lengthy lists of KAMs may be contrary to the notion of such matters being those of most significance in the audit" (p. 12) though auditors are expected to determine at least one KAM for a listed entity (paragraph A59). **COMP4** is calculated at the firm-year level, and it is coded as 1 if the number of KAM per firm-year is below the sample mean, 0 if otherwise.

COMP5 measures the number of words used by auditors in describing KAMs. The standard intends the auditors to provide a succinct and balanced explanation (paragraph A34) as excessive information can render the disclosures less accessible to users (Sirois et al., 2018). **COMP5** is coded as 1 if the number of words in each KAM is below the sample mean, 0 if otherwise. **COMP6** relates to paragraph A34 of ISA 701 which expects auditors to limit the use of *highly technical auditing terms*, but the standard does not define what these terms are. Asare and Wright (2012) identify five technical terms as potentially susceptible to misinterpretation: material misstatements, reasonable assurance, test basis, significant estimates, present fairly. Gray et al. (2011) note that the following key concepts in the audit report are prone to misinterpretation: level of assurance, reasonable assurance, high level of assurance, materiality, sampling. Hence, we identify the *highly technical auditing terms* to be as follows: material

misstatement, significant estimate, present(ed) fairly, level of assurance, materiality, sampling, test basis, sample basis, fair presentation and fairly presented. If a KAM text contains any of these auditing terms, it is counted as 1. The counts are then summed for each KAM. For any KAM with the counts below the sample mean, it would be coded as 1, 0 if otherwise.

COMP7 relates to readability which is a measure to assess how well KAM information is communicated (Smith, 2023). Prior KAM studies² have used a variety of readability measures such as the Gunning-Fog Index (FOG), Flesch Reading Ease score and Flesch-Kincaid Grade Level Index (KINCAID) (Hussin et al., 2023; Küster, 2024; Pinto et al., 2020; Rousseau, 2022; Smith, 2023; Velte, 2020; Zeng et al., 2021). This study uses FOG for the following reasons. First, it provides an objective measure and can be applied to any narrative text (Lehavy et al., 2011). Second, some previous studies apply the different measures of readability and find a strong correlation between the various readability metrics. For example, Gambetta et al. (2023) use FOG and BOG indices in their main analyses and supplement with three other measures of readability (Flesch-Kincaid grade level, Automated Readability Index and Simple Measure of Gobbledygook (SMOG) index). They yield consistent results. Similarly, Pinto et al. (2020) construct a readability index that combines Flesch Reading Ease, Gunning Fog Index, Flesch-Kincaid Grade Level, and SMOG Grade. Their principal component analysis shows that only one factor, which is FOG, has an eigenvalue higher than one and it explains 91.5% of the variation in these measures. Third, FOG has been the most widely used in accounting, financial and non-financial information studies (Lehavy et al., 2011; Li, 2008; Lo et al., 2017; Rousseau, 2022; Smith, 2023). Hence, by using FOG, this study's findings can be readily compared with those of previous work. Essentially, FOG measures the number of words in a sentence and the percentage of complex words (words with three syllables or more) to estimate the number of formal years of education an average person would need to read and understand the text. The higher the measure is, the more complex the text is, indicating lower readability. **COMP7** is coded as 1 if the KAM's FOG score is below the sample mean, 0 if otherwise.

Table 2 summarizes the disclosure components, and their measurements based on ISA 701. Accordingly, the maximum score a KAM can obtain is 6 as the "number of KAM" component (*COMP4*) score is computed at the firm level. An average score is then derived for each firm-year's observation. To illustrate KDI calculation, assume a firm has 2 KAMs in year X, the score of one KAM is 5 and the other

² Pinto et al. (2020) and Rousseau (2022) used FOG, Hussin et al. (2023) and Velte (2020) used the Flesch reading ease score. Küster (2024) calculated a readability score using FOG, Flesch-Kincaid and Flesch reading ease.

is 6. Hence, the average KAM score is 5.5 (equal to (5 + 6) divided by 2). Assume the sample mean number of KAMs is 2.5, this firm having 2 KAMs is below the mean, hence coded as 1. The total KDI score for this firm-year observation would then be 6.5 (sum of 5.5 and 1).

Component	Component Description	Ref. to ISA 701	Rationale	Coding	At firm or KAM level?	
COMP1	Disclose <i>why</i> the matter was considered to be one of most significance in the audit and therefore determined to be a KAM	para 13 (a), A42, A43	To consider the relevance of information for intended users.	Yes: 1 No: 0	KAM	
COMP2	Disclose <i>how</i> the matter was addressed in the audit	para 13 (b), A46	To provide greater transparency about the audit that was performed.	Yes: 1 No: 0	KAM	
COMP3	Include a reference to the related disclosure(s), if any, in the financial statements	Para 13, A40, A41	To enable intended users to further understand how management has addressed the matter in preparing the financial statements.	Yes: 1 No: 0	KAM	
COMP4	Number of KAM (Only for firm-level observations)	para A30, A59	At least 1 KAM to be determined but a lengthy list contradicts the notion of such matters being those of most significance in the audit	Count the number of KAM per firm & derive the mean. Below the mean: 1 Above the mean: 0	Firm	

	Component	Ref. to ISA 701	Rationale	Coding	At firm or KAM level?
COMP5	Number of words in KAM	para A34	To provide a succinct explanation.	Count the words for all KAM & derive the mean. Below the mean: 1 Above the mean: 0	KAM
COMP6	Limit the use of highly technical auditing terms	para A34	To enable intended users who do not have a reasonable knowledge of auditing to understand the basis for the auditor's	Count the highly technical auditing terms in KAM & derive the mean. Below the mean: 1 Above the mean: 0	KAM
COMP7			focus on particular matters during the audit.	READABILITY based on the Gunning- Fog Index (FOG) ³ is measured & derive the mean. Above the mean: 0 Below the mean: 1	KAM

 $^{^3}$ The higher the FOG measure is, the more complex the text is (i.e., less readable).

Table 3 presents a summary of descriptive statistics of each disclosures index component. Amongst all the components, *COMP1* and *COMP2* show the highest means and lowest standard deviations, indicating that most firms comply with ISA 701 in disclosing *why* the matter was significant and *how* it was addressed in the audit. As for the rest of the components, we find considerable variation in the sample as means are in the range of 0.48 to 0.76 and standard deviations in the range of 0.34 to 0.50. For example, *COMP3* measures whether auditors include a reference to the related disclosures in the financial statements to direct users to further understand how management has addressed the matter in preparing the financial statements. It has the lowest mean of 0.48, with a standard deviation of 0.44.

Stats	Description	Ν	Mean	SD	p25	p50	p75
COMP1	Disclose why it is KAM	13,797	1.00	0.03	1.00	1.00	1.00
COMP2	Disclose <i>how</i> it is addressed	13,797	0.99	0.08	1.00	1.00	1.00
COMP3	Reference to	13,797	0.48	0.44	0.00	0.50	1.00
	management's disclosure						
COMP4	Number of KAMs	13,797	0.57	0.50	0.00	1.00	1.00
COMP5	Number of words	13,797	0.60	0.41	0.20	0.67	1.00
COMP6	Highly technical auditing	13,797	0.76	0.34	0.50	1.00	1.00
	terms						
COMP7	Readability	13,797	0.56	0.40	0.00	0.50	1.00

TABLE 3. DESCRIPTIVE STATISTICS OF KDI COMPONENTS

3.3 Model Specifications

3.3.1 Univariate Time-series Analyses

To examine year-on-year changes in KDI, we employ paired-sample t-tests. This approach is appropriate as it explicitly accounts for the within-firm structure of the data, each observation in year t is naturally linked to its counterpart in year t+1. By using a paired design, we control for firm-specific characteristics that are time-invariant. The test is also robust to mild departures from normality, particularly given the large annual sample sizes (minimum 785 observations per year pair) in this study. While previous KAM studies (e.g., Bepari et al., 2022) rely on independent-sample t-tests to examine differences across auditor attributes such as gender or educational background, our first hypothesis is fundamentally longitudinal. It aims to detect temporal shifts in the compliance of KAM disclosures rather than cross-sectional differences, hence making the use of paired-sample t-tests more appropriate and statistically defensible.

3.3.2 Linear Regression Models

To test the second hypothesis of examining the contextual factors with which KDI varies, we estimate a linear regression model to test the association between KDI and firm, auditor, and country-level attributes. The model is specified as follows:

$$KDI_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 Y_{i,t} + \beta_3 Z_{i,t} + \omega_t + \tau_i + \varepsilon$$
(1)

where i stands for firm, and t for time indices.

The dependent variable, KDI, captures the extent to which auditors interpret and comply with the requirements of ISA 701. As elaborated in Section 3.2, KDI reflects multiple, complementary dimensions of the standard's interpretations and implementation. Higher KDI scores indicate more faithful interpretations and greater compliance with ISA 701.

To examine the factors associated with KDI, we draw on a well-established set of explanatory variables commonly used in prior KAM research. Given that KDI is a novel construct introduced in this study, we outline expectations regarding its relationship with firm-level, audit-related, and country-level contextual factors as follows:

Firm-level variables (X)

In line with prior studies examining firm characteristics associated with KAM disclosures (Bepari et al., 2022; Burke et al., 2022; Pinto & Morais, 2019; Sierra-García et al., 2019), we include the following firm-level variables: financial performance (EBITTA), leverage, short-term liquidity, firm size, operational efficiency (OPCF), and a binary indicator for firms reporting negative income (Loss).

We hypothesize that EBITTA, liquidity, and OPCF are positively associated with KDI. Firms with stronger financial performance, greater liquidity, and more efficient operations likely present more straightforward audit risks, enabling auditors to produce clearer and more compliant KAM disclosures. Conversely, loss-making firms often face heightened audit risk and complexity, which may constrain

auditors' ability to meet the standard's disclosure expectations. Accordingly, we expect a negative association between Loss and KDI.

We do not predict the direction of association for leverage and firm size. While highly leveraged or larger firms may attract greater auditor scrutiny, potentially leading to higher compliance, their inherent complexity and elevated risk profiles may instead hinder auditors' ability to produce disclosures that align closely with ISA 701 requirements.

Audit-related variables (Y)

Audit-related variables are selected based on prior research examining how auditor characteristics influence KAM disclosures (Bepari et al., 2022; Burke et al., 2022; Hategan et al., 2022; Kend & Nguyen, 2020). We include a binary indicator for Big Four audit firms (Big4), which is expected to be positively associated with KDI. Big Four auditors generally possess greater resources, more robust quality control systems, and broader exposure to international auditing standards, which enhance their ability to comply with ISA 701 requirements.

Audit effort is proxied by the logarithm of audit fees (Audit fee), which is also expected to be positively associated with KDI. Higher audit fees may reflect more extensive audit effort and client engagement, potentially leading to more robust and compliant KAM disclosures. In contrast, non-audit fees (NAF), used here as a proxy for auditor independence, are expected to exhibit a negative association. A higher proportion of non-audit fees may compromise or be perceived to compromise auditor independence, thereby reducing the quality or transparency of KAM reporting.

While longer auditor tenure may raise concerns about auditor independence, it also enables auditors to develop deeper client-specific knowledge, which can enhance the quality of judgment and disclosures. In contrast, shorter auditor tenure or a recent audit firm switch often limits the auditor's understanding of the client's operations and reporting environment. Prior studies have shown that audit firm rotation is associated with substantial changes in KAMs, both in number and content, suggesting inconsistent application of judgment (Federsel, 2024; Lin & Yen, 2022). This learning curve can hinder the auditor's ability to accurately interpret and apply ISA 701; thus we expect that shorter auditor tenure and auditor switches are associated with lower KDI.

Audit report lag (Audit lag) and the issuance of going concern modifications (GCO) are included as indicators of audit complexity or contentious engagements. Both are expected to be negatively associated with KDI, as such conditions may delay the audit process or complicate the articulation of KAMs. Finally, we include a busy season indicator (Busy), coded as 1 if the firm's fiscal year ends on December 31. Engagements completed during this high-pressure reporting period may be subject to resource constraints, potentially diminishing the quality and compliance of KAM disclosures. Hence, we expect a negative relationship between Busy and KDI.

Country-level variables (Z)

To account for cross-country heterogeneity that may affect KAM reporting practices, we incorporate a set of institutional-level control variables. These include national wealth (GDP per capita), the strength of auditing and reporting standards (SARS), investor protection, the rule of law (Law), and general societal trust (Trust). All variables are standardized following Eierle et al. (2021).

National wealth, proxied by GDP per capita, has been widely employed in cross-country audit research (Eierle et al., 2021), though its role in KAM disclosures is only recently explored (Federsel & Hörner, 2025). Prior findings suggest that wealthier economies report fewer KAMs, potentially due to higher baseline reporting quality and more mature accounting infrastructures (Pirveli & Zimmermann, 2019). Consistent with this, we expect a positive association between GDP per capita and KDI.

The strength of auditing and reporting standards (SARS), scored on a seven-point scale by the World Economic Forum, serves as a proxy for national-level audit quality. While ISA adoption is widespread across Europe, SARS scores in our sample vary substantially (range: 3.9–6.6). Prior studies link higher SARS to stronger institutional frameworks, more ethical business practices, and more effective governance structures (Boolaky, 2011), all of which are conducive to higher-quality KAM disclosures. We therefore anticipate a positive association between SARS and KDI.

Investor protection, measured as a composite index capturing disclosure requirements, director liability, and shareholder rights (World Economic Forum, 2017), presents more nuanced expectations. From one perspective, stronger investor protection may heighten auditors' incentives to issue clear and informative KAMs (Eierle et al., 2021). Alternatively, robust legal protections could act as a substitute for audit assurance, potentially dampening auditor effort (Knechel et al., 2019). Given these competing mechanisms, we make no directional prediction for the association between investor protection and KDI.

The Rule of Law index, used to proxy the legal environment (Law), captures the degree to which laws are enforced, and judicial systems function effectively. Stronger legal institutions may increase perceived auditor liability and enforcement pressures, thus encouraging greater compliance with ISA 701. We therefore expect a positive association between Law and KDI.

Trust may also play a role in shaping auditors' compliance with the standard. In low-trust contexts, higher agency costs can increase the reliance on audit as a governance mechanism (Knechel et al., 2019). At the same time, low trust may reflect skepticism about audit effectiveness, which could dampen the perceived utility of KAM disclosures. Empirical evidence suggests that higher trust is generally associated with greater audit effort and quality, particularly among Big N auditors (Knechel et al., 2019). Accordingly, we expect a positive association between Trust and KDI.

Finally, the empirical model includes industry (ω_t) and year (τ_i) fixed effects to control for industry- and time-specific influences on KDI. Standard errors are clustered at the firm level to account for intra-firm correlations, and all continuous variables are winsorized at the 1st and 99th percentiles to mitigate the influence of outliers. A detailed variable description can be found in Appendix A.

4. Results and Discussion

4.1 Descriptive Statistics

Descriptive statistics are reported in Table 4. KDI scores range from 2 to 7, with a mean of 4.95. The mean leverage is 0.51 and average liquidity as measured by working capital scaled by total assets is 0.16. The average total assets are US\$4,825 million, with a median of US\$401 million. The mean audit fees are US\$1,367,974, with a median of US\$324,332. These suggest that the probability distribution of the sample is right-skewed. Notably, 32% of the firms experience a loss but only 9% receive going-concern modifications (GCO). 73% of the firms are audited by Big Four auditors and non-audit fees average 18% of total fees. Most firms (79%) have a financial year-end on 31 December. In terms of country factors, the mean GDP per capita is US\$43,612, ranging from US\$7,369 in Bulgaria to US\$103,199 in Luxembourg. The average strength of the auditing and reporting standards (SARS) is rated at 5.8 on a scale of 1 to 7. The average strength of investor protection is rated at 6.91 on a scale of 1 to 10. The mean rule of law index is 0.79, indicating a relatively strong adherence to the rule of law (1.00 indicates the strongest). The general societal trust index has a mean of 45.58, with a wide range from 6.6 (in Cyprus) to 73.9 (in Denmark).

Stats	Ν	Mean	SD	p25	p50	p75
KDI	13,797	4.95	1.01	4.20	5.00	5.75
EBITTA	13,797	0.00	0.22	-0.01	0.05	0.09
Leverage	13,797	0.51	0.23	0.35	0.52	0.67
Liquidity	13,797	0.16	0.24	0.01	0.13	0.28
Size	13,797	5.97	2.33	4.40	6.00	7.60
OPCF	13,797	0.04	0.19	0.01	0.07	0.12
Loss	13,797	0.32	0.47	0.00	0.00	1.00
Big4	13,797	0.73	0.45	0.00	1.00	1.00
Audit fee	13,797	12.77	1.57	11.64	12.69	13.77
NAF	13,797	0.18	0.18	0.03	0.13	0.27
Audit lag	13,797	89	35	64	82	106
Auditor tenure	13,797	6.29	4.93	3.00	6.00	8.00
Auditor switch	13,797	0.08	0.27	0.00	0.00	0.00
GCO	13,797	0.09	0.29	0.00	0.00	0.00
Busy	13,797	0.79	0.41	1.00	1.00	1.00
GDP	13,797	43,612	14,779	40,096	40,096	45,283
SARS	13,797	5.80	0.59	5.70	6.00	6.00
Investor	13,797	6.91	0.93	6.00	7.20	7.80
protection						
Law	13,797	0.79	0.07	0.79	0.79	0.83
Trust	13,797	45.58	14.76	39.50	40.20	58.50

TABLE 4. DESCRIPTIVE STATISTICS

Table 5 presents the Pearson correlation matrix which shows no multicollinearity issues between the variables. The highest correlation is observed between the firm's profitability (EBITTA) and its operational efficiency (OPCF) (0.883). Unsurprisingly, a high correlation of 0.86 is observed between audit fee and firm size. The correlations of TRUST with some other country factors such as GDP, SARS and Law are also relatively high at 0.769, 0.707 and 0.778 respectively. However, the examination of the variance inflation factor (VIF) values suggests no severe multicollinearity among the variables (the highest VIF value is 5.82 and mean VIF is 2.72).

TABLE 5. CORRELATION MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(1) KDI	1																			
(2) EBITTA	-0.1044	1																		
(3) Leverage	-0.149	0.0495	1																	
(4) Liquidity	0.0905	-0.0237	-0.5416	1																
(5) Size	-0.2738	0.4753	0.3105	-0.1751	1															
(6) OPCF	-0.1189	0.8827	0.1075	-0.1268	0.4442	1														
(7) Loss	0.0668	-0.5764	-0.0792	-0.01	-0.4189	-0.524	1													
(8) Big4	-0.0942	0.297	0.2081	-0.0547	0.5471	0.2702	-0.3002	1												
(9) Audit fee	-0.2841	0.3111	0.3591	-0.1869	0.8591	0.2929	-0.3053	0.5002	1											
(10) NAF	0.0187	0.0266	0.0215	0.0389	0.0731	0.0076	0.006	0.1253	0.0112	1										
(11) Audit lag	0.1303	-0.3817	-0.1358	-0.0532	-0.5479	-0.3487	0.406	-0.4898	-0.4735	-0.1193	1									
(12) Auditor tenure	0.0382	0.0081	0.0002	0.0172	0.0268	0.0059	-0.0024	0.0954	0.0336	0.044	-0.0371	1								
(13) Auditor switch	-0.017	0.006	0.0244	-0.0188	0.0025	0.0035	-0.0033	-0.0496	-0.0037	-0.019	0.0182	-0.3769	1							
(14) GCO	0.0498	-0.3873	0.0153	-0.1675	-0.3114	-0.3479	0.369	-0.2469	-0.2199	-0.0659	0.3967	-0.0252	0.0247	1						
(15) Busy	0.0465	0.0698	0.0826	-0.051	0.1655	0.0648	-0.0881	0.1948	0.1306	0.041	-0.0739	0.0242	0.0002	-0.049	1					
(16) GDP	0.1896	-0.0073	-0.0049	0.0592	0.0845	-0.0179	0.0207	0.1638	0.2078	0.1036	-0.1576	0.1881	-0.0362	-0.0353	0.0723	1				
(17) SARS	0.0873	-0.0847	-0.0732	0.0451	-0.0959	-0.0788	0.1259	-0.0307	0.0775	0.0487	-0.0726	0.0943	-0.0198	0.0563	-0.1199	0.6562	1			
(18) Investor Protection	0.0581	-0.1454	-0.1541	-0.0218	-0.285	-0.1304	0.1986	-0.2898	-0.2079	-0.0011	0.3114	-0.0479	0.003	0.1438	-0.3124	-0.1437	0.1657	1		
(19) Law	0.1047	-0.0312	-0.0062	0.0167	-0.0133	-0.0352	0.0594	0.0989	0.1226	0.1247	-0.1126	0.0426	-0.0181	-0.004	-0.0012	0.5571	0.7208	0.1841	1	
(20) Trust	0.2146	0.0305	0.0295	0.0207	0.0681	0.0195	-0.012	0.2344	0.1625	0.1709	-0.2396	0.1373	-0.0326	-0.0639	0.1242	0.7694	0.7066	-0.0567	0.7776	1

Correlations with a significance at 10% or lower level are highlighted in bold.

Table 6 lists all the KAM topics in descending order of frequency. While Audit Analytics Europe classifies KAMs into 59 topics, we group related topics into broader subject areas following Rousseau (2022) classification. For example, deferred income taxes, other income taxes, and uncertain tax positions are combined under the subject area "taxes". Most KAMs fall under "long-lived assets" (31.4%), which includes goodwill, intangible assets and fixed assets, along with their valuation and impairment issues. Within the "long-lived assets" subject area, goodwill-related topics are disclosed in 15.8 percent of audit reports. "Revenue recognition" KAMs are the second most frequently disclosed, appearing in 19.2 percent of audit reports. "Business combinations" KAMs are the third most frequent, found in 11.1 percent of audit reports.

Figure 2 shows the yearly trend of the top KAM subject areas frequencies focusing on KAM subject areas that represent at least five percent of unique KAMs. Combined, these subject areas cover 88 percent of the total KAMs disclosed. Long-lived assets KAMs are the most frequently disclosed throughout the period and show an increasing trend from 30 to 34 percent of the KAMs in the sample. Similarly, revenue recognition and business combinations KAMs show an increasing trend from 18 to 21 percent and 10 to 13 percent of the KAMs in the sample respectively. Going concern KAMs also show a general upward trend with a peak in 2020 (11%) coinciding with the Covid-19 pandemic. However, contingencies, and taxes KAMs show declining trends while inventory KAMs have been relatively stable.

Figure 3 compares the KAM subject areas disclosed by the various industries. For most industries except Real Estate, long-lived assets KAMs are the most frequently disclosed. For the Real Estate industry, investment instruments KAMs are the most frequently disclosed (30%) as they relate to the fair valuation of the investment properties. Revenue recognition KAMs are the second most frequently disclosed for most industries though exceptions are noted for the Energy, Materials and Real Estate sectors. Other than long-lived assets and revenue recognition KAMs, we see that the proportion of KAM subject areas varies considerably across industries. For example, there are relatively more KAMs related to inventory in industries like Consumer Discretionary, Consumer Staples and Real Estate, as compared to Communication Services and Energy sectors.

TABLE 6. NUMBER OF KAM TOPICS

KAM Topic Fkey (per Audit Analytics Europe)	KAM Topic (per Audit Analytics Europe)	Number of Firm- KAMs	Percentage of all KAMs	KAM Subject Area		
20	Goodwill	3,215	9.3%			
22	Goodwill and intangible assets	2,254	6.5%			
23	Property, plant, and equipment	1,537	4.5%			
11	Deferred and capitalized costs	1,222	3.5%	Long-lived		
21	Other intangible assets	1,149	3.3%	assets		
74	Long-lived assets	914	2.6%			
33	Proven and unproven reserves	455	1.3%			
12	Depreciation and amortization	83	0.2%			
49	Revenue and other income	3,899	11.3%	D		
51	Revenue from customer contracts	2,584	7.5%	Revenue		
52	Sales return and allowances	151	0.4%	recognition		
4	Business combinations	1,638	4.7%			
64	Subsidiary/affiliate	1,323	3.8%			
14	Disposals, discontinued operations, and accounting for sales/divestitures	482	1.4%	Business combinations		
40	Equity investments and joint ventures	305	0.9%			
62	Consolidation	74	0.2%			
8	Contingent liabilities (Including litigation & restructuring)	951	2.8%			
5	Pension and other post-employment benefits	679	2.0%			
43	Other liabilities and provisions	519	1.5%			
69	Leases	278	0.8%	Contingencies		
2	Asset retirement and environmental obligations	215	0.6%			
44	Warranty liabilities	192	0.6%			
61	Other debt	180	0.5%			
18	Going concern	2,133	6.2%	Going concern		
38	Inventory	1,930	5.6%	T		
39	Vendor/supplier rebates	223	0.6%	Inventory		
28	Deferred income taxes	1,025	3.0%			
27	Other income taxes	405	1.2%	Taxes		
29	Uncertain tax positions	369	1.1%			

KAM Topic Fkey (per Audit Analytics Europe)	KAM Topic (per Audit Analytics Europe)	Number of Firm- KAMs	Percentage of all KAMs	KAM Subject Area			
42	Other investments	293	0.8%				
41	Real estate investments	204	0.6%				
13	Derivatives and hedging	195	0.6%	Investment			
24	Long-term investments	149	0.4%	instruments			
68	Foreign currency, inflation, and related disclosures	91	0.3%				
71	Cash and cash equivalents	38	0.1%				
67	Accounts/loans receivable	940	2.7%	Credit lasses			
31	Allowance for credit losses	38	0.1%	Credit losses			
1	Policy changes	345	1.0%				
46	Presentation - Exceptional items and non-GAAP measures	324	0.9%	Financial			
63	Financial statements and disclosures	68	0.2%	statement			
70	Error corrections	28	0.1%	and disclosure			
53	Segment reporting	10	0.0%	and disclosure			
59	Segment reporting100.0%Balance sheet classification of assets10.0%						
35	Internal controls	278	0.8%	Internet			
36	Information technology	119	0.3%	Internal			
37	Transformation initiatives	23	0.1%	controls			
48	Related party transactions	112	0.3%				
7	Compliance with laws and regulations	109	0.3%	Compliance			
9	Debt covenants	102	0.3%	Compliance			
3	Bribery and corruption	12	0.0%				
54	Significant one-off transactions	238	0.7%	Transaction			
15	Listing/delisting	37	0.1%	Transaction			
6	Deferred and stock-based compensation	175	0.5%	Compensation			
45	Other expenses	81	0.2%				
66	Selling, general and administrative expenses	19	0.1%	Expenses			
75	Research and development expenses	1	0.0%				
65	Other or unspecified accounting estimates	35	0.1%	Others			
16	First year audit	34	0.1%	Oulers			
56	Insurance contract liabilities	21	0.1%	Industry- specific issues			
	Total	34,504	100.0%				



FIGURE 2. KEY KAM SUBJECT AREAS BY YEAR

FIGURE 3. KEY KAM SUBJECT AREA BY INDUSTRY



Table 7 presents the industry⁴ distribution for the firms in the sample and their mean KDI scores. Most firms are in the industrials (26.6%) followed by Consumer Discretionary (14.3%). The Energy sector has the best KDI score of 5.14, followed by the Healthcare (5.12) and Materials (5.11) sectors, while the Communication Services obtain the lowest KDI score (4.79). Table 8 shows the mean KDI scores by country and the corresponding country-level variables. Most firms are in the UK (39%), followed by Germany (12.1%) and Sweden (8.8%). Amongst the countries, firms in Iceland have the highest KDI score (6.10)⁵, followed by Sweden (5.66) and Norway (5.65). Surprisingly, Germany has the lowest KDI score of 4.45.

Industry Sector	KDI	Ν	Percentage of Sample
Industrials	4.85	3,667	26.6%
Consumer Discretionary	4.81	1,976	14.3%
Information Technology	4.93	1,933	14.0%
Materials	5.11	1,588	11.5%
Health Care	5.12	1,543	11.2%
Energy	5.14	1,068	7.7%
Consumer Staples	5.01	1,028	7.5%
Communication Services	4.79	959	7.0%
Real Estate	5.06	35	0.3%
Total	4.95	13,797	100%

 TABLE 7. INDUSTRY DISTRIBUTION OF THE SAMPLE

⁴ The industry distribution is based on the Global Industry Classification Standard (GICS).

⁵ It should be noted, however that there are only 43 firm-year observations for Iceland in this sample.

		GDP		Investor				Percentage
Country	KDI	(USD)	SARS	Protection	Law	Trust	Ν	of Sample
UK	4.85	40,096	6.0	7.8	0.8	40.2	5,381	39.0%
Germany	4.45	41,902	5.7	6.0	0.8	39.5	1,674	12.1%
Sweden	5.66	51,165	5.9	7.2	0.9	62.8	1,208	8.8%
Norway	5.65	70,392	6.4	7.5	0.9	72.1	801	5.8%
Switzerland	5.23	79,242	6.3	5.0	0.7	58.5	791	5.7%
Finland	4.78	43,169	6.6	5.7	0.9	68.4	603	4.4%
Italy	4.75	30,507	4.3	6.3	0.7	26.6	497	3.6%
Netherlands	4.73	45,283	6.3	5.7	0.8	58.5	400	2.9%
Denmark	5.24	53,744	5.7	7.2	0.9	73.9	363	2.6%
Poland	4.69	12,316	4.8	6.3	0.6	24.1	343	2.5%
Belgium	5.40	41,283	5.8	5.8	0.8	37.3	300	2.2%
Spain	4.48	26,609	4.8	6.5	0.7	41.0	233	1.7%
Austria	4.66	44,498	6.0	6.5	0.8	49.8	193	1.4%
Greece	5.09	17,901	3.9	6.3	0.6	8.4	143	1.0%
Portugal	4.72	19,832	4.0	5.7	0.7	16.9	129	0.9%
Ireland	4.59	62,562	5.1	7.3	0.8	38.8	109	0.8%
Croatia	4.81	12,096	4.2	6.7	0.6	13.6	101	0.7%
Romania	4.82	9,465	4.7	6.0	0.6	12.7	94	0.7%
Malta	4.89	25,214	5.8	6.5	0.7	37.3	64	0.5%
Hungary	5.19	12,778	4.5	5.5	0.5	27.2	53	0.4%
Lithuania	4.83	14,890	4.9	6.2	0.8	31.7	50	0.4%
Bulgaria	4.83	7,369	4.6	7.3	0.6	17.1	49	0.4%
Latvia	5.59	14,060	4.3	6.3	0.7	22.2	49	0.4%
Slovenia	5.09	21,320	4.5	7.5	0.7	25.3	47	0.3%
Iceland	6.10	59,629	5.4	7.0	0.7	62.3	43	0.3%
Cyprus	4.86	23,352	4.2	6.7	0.7	6.6	31	0.2%
Estonia	5.01	17,633	5.6	6.0	0.8	33.9	31	0.2%
Luxembourg	4.67	103,199	6.1	4.5	0.8	37.3	17	0.1%
Total	4.95	43,612	5.8	6.9	0.8	45.6	13,797	100%

TABLE 8. COUNTRY DISTRIBUTION OF THE SAMPLE

4.2 Univariate T-test Results

Figure 4 illustrates the trend in mean KDI from 2016 to 2022. After a relatively stable period following ISA 701's introduction, KDI reached its lowest point in 2020, followed by a notable recovery in the two subsequent years. These patterns are statistically corroborated by the paired-sample t-tests reported in Table 9.

Each year-on-year comparison in Table 9 is based on matched firm-level observations, though sample sizes vary due to data availability. Between 2016 and 2018, mean KDI remained relatively unchanged, with no statistically significant difference between 2016 and 2017 ($\Delta = -0.018$), and only a marginal increase in 2018 ($\Delta = 0.024$, p < 0.10). This early stability likely reflects a period of gradual adaptation as auditors calibrated their reporting practices to the new requirements.

A significant decline followed in 2019 ($\Delta = -0.048$, p < 0.01) and again in 2020 ($\Delta = -0.088$, p < 0.01), coinciding with the onset of the Covid-19 pandemic. This downward trend is plausibly attributable to audit-related disruptions, including restricted access to client premises, heightened client risk profiles, and diminished auditor–client interactions (Hategan et al., 2022), all of which may have impaired auditors' ability to produce high-quality, ISA 701-compliant disclosures.

The trend reversed in 2021, with a significant increase in KDI ($\Delta = 0.062$, p < 0.01), followed by a further rise in 2022 ($\Delta = 0.083$, p < 0.01). These improvements likely reflect auditors' growing proficiency with greater familiarity with pandemic-era risks, and accumulated experience in applying professional judgment under ISA 701.

Overall, KDI trajectories suggest a three-phase evolution: initial implementation and stabilization, pandemic-induced decline, and subsequent recovery. By 2022, KDI reached its highest level since ISA 701's introduction, signaling a maturing disclosure regime and more consistent compliance by auditors over time. These patterns suggest that institutional forces, rather than purely agency-based incentives, primarily influenced the evolution of KAM compliance over time.

FIGURE 4. YEARLY KDI TREND



TABLE 9. YEAR-ON-YEAR COMPARISON OF KDI

Comparison	Year 1 Mean (SD)	Year 2 Mean (SD)	Mean Difference	<i>t-</i> statistic	df	<i>p</i> -value	Sig.
2016 vs. 2017	4.988 (0.897)	4.970 (0.935)	-0.018	-0.668	784	0.252	n.s.
2017 vs. 2018	4.928 (0.954)	4.951 (0.992)	0.024	1.318	1,886	0.094	*
2018 vs. 2019	4.970 (0.997)	4.922 (1.004)	-0.048	-2.686	2,044	0.004	***
2019 vs. 2020	4.930 (1.000)	4.841 (1.016)	-0.088	-5.130	2,091	0.000	***
2020 vs. 2021	4.857 (1.021)	4.919 (1.051)	0.062	3.641	2,083	0.000	***
2021 vs. 2022	4.955 (1.067)	5.038 (1.071)	0.083	4.376	1,848	0.000	***

***significant at 1%; *significant at 10%

4.3 Multivariate Regression Results

To test the second hypothesis, Table 10 presents regression results examining contextual factors associated with KDI scores from 2016 to 2022. The model explains 20.2% of the variance, consistent with

prior KAM research (Abdelfattah et al., 2021; Küster, 2024; Seebeck & Kaya, 2022), suggesting moderate explanatory power.

At the firm level, larger firms tend to have significantly lower KDI scores (-0.056, p < 0.01), potentially due to the complexity of their operations, which may hinder auditors' ability to craft disclosures that meet ISA 701 criteria. Surprisingly, firms with lower operating efficiency (OPCF) show higher compliance (-0.283, p < 0.05), possibly reflecting heightened auditor scrutiny. In line with expectation, loss-making firms are associated with significantly lower KDI (-0.123, p < 0.01), possibly due to the opacity and unpredictability of their financial position, which complicates the crafting of clear, compliant KAM narratives.

Audit-related factors reveal that lower audit fees are linked to better KAM compliance (-0.143, p < 0.01). This may suggest that lower-fee engagements are associated with less complex, lower-risk clients, thereby making it easier for auditors to produce disclosures that comply with ISA 701. Audit lag shows a marginal positive effect (0.001, p < 0.10), while auditor size (Big Four vs. non-Big Four) is not significant. Interestingly, audits completed during the busy season are associated with higher KDI (0.088, p < 0.05), which may be due to standardized processes under time pressure.

At the country level, stronger GDP per capita (0.178), investor protection (0.079), and societal trust (0.370), all at p < 0.01, correlate with better KDI. This aligns with institutional theory: in high-trust, well-governed and wealthier environments, auditors may internalize norms of transparency. However, both SARS (-0.204, p<0.01) and rule of law (-0.110, p<0.01) show significant negative associations with KDI. These counterintuitive findings may signal a decoupling effect, where strong institutions substitute for substantive auditor disclosure, suggesting form over substance and warranting further investigation.

These findings offer meaningful insights when interpreted through the lenses of agency theory and institutional theory. Agency theory helps explain firm-level results: greater firm complexity, poor performance, or audit risk may exacerbate information asymmetry, reducing KAM compliance. Institutional theory accounts for broader, country-level dynamics, in which societal and regulatory pressures influence auditor behavior. The unexpected inverse effects of SARS and Law hint at symbolic compliance or regulatory complacency in mature governance environments. In sum, KAM reporting is influenced by both engagement-specific factors and broader societal expectations. The tension between the two perspectives highlights that KAM compliance is not purely a technical exercise but is deeply embedded in organizational incentives and societal expectations.

TABLE 10. CONTEXTUAL FACTORS ASSOCIATED WITH KI	DI

VARIABLES	KDI
EBITTA	0.123
	(0.099)
Leverage	-0.101
2	(0.070)
Liquidity	0.034
	(0.059)
Size	-0.056***
	(0.013)
OPCF	-0.283**
	(0.111)
Loss	-0.123***
	(0.027)
Big4	0.015
	(0.039)
Audit fee	-0.143***
	(0.017)
NAF	-0.083
	(0.060)
Audit lag	0.001*
	(0.000)
Auditor tenure	-0.002
	(0.003)
Auditor switch	-0.034
	(0.030)
GCO	-0.061
	(0.037)
Busy	0.088**
~ DD	(0.034)
GDP	0.178***
	(0.025)
SARS	-0.204***
.	(0.025)
Investor protection	0.0/9***
T	(0.017)
Law	-0.110***
T. ((0.028)
Irust	0.3/0***
Constant	(0.033)
Constant	/.090***
	(0.178)
Observations	13.797
Adj R-squared	0.202
Year FE	YES
Industry FF	YES

*** p<0.01, ** p<0.05, * p<0.1

4.4 Additional Tests

4.4.1 KDI Component Analyses

As an additional test for hypothesis 1, we examine the trends of individual KDI components using paired-sample t-tests. Table 11 reports year-on-year changes in the seven KDI components. Overall, the findings reveal varied trajectories across components, reflecting differential maturity in auditors' application of ISA 701.

COMP1 (auditor explanation of *why* a matter is a KAM) remained relatively stable, with a statistically significant uptick in 2020 ($\Delta = 0.002$, p < 0.05). **COMP2** (*how* the matter was addressed in the audit) experienced significant declines in 2018 and 2019, followed by a marked recovery in 2021, suggesting possible initial compliance inconsistency, later corrected. **COMP3** (reference to management's disclosures) showed consistent improvement across the years, except for a dip in 2020, likely reflecting pandemic-related audit disruptions and reporting uncertainty. The number of KAMs disclosed as represented in **COMP4** revealed a steady and significant decline, consistent with auditors increasingly exercising materiality and relevance filters. Notably, 2019 saw a brief reversal, with a significant increase in KAMs potentially due to elevated audit risks associated with Covid-19.

The length of KAMs as represented in *COMP5* displayed a significant upward trend throughout the period, aligning with Küster (2024) findings. While potentially indicative of greater explanation and care, this trend appears to challenge ISA 701's call for *succinct* KAM reporting. *COMP6* (relating to the use of technical audit jargon) declined significantly over time, indicating increased reliance on specialized language. This suggests a trade-off: while technical precision may have improved, accessibility and user comprehension may have suffered. KAM readability as represented in *COMP7* remained largely stable, with a brief improvement in 2018 ($\Delta = -0.251$, p < 0.01). This corroborates Küster's (2024) findings of little change in KAM readability over the same period.

In summary, component trends present a mixed picture. Positively, auditors are increasingly selective in identifying KAMs (fewer, more focused disclosures) and more consistent in referencing management disclosures, enhancing user understanding of judgments and responses. However, the steady increase in disclosure length and technical language may detract from clarity and usability. While core ISA 701 elements such as explanations of *why* and *how* a KAM arose have remained stable, persistent issues with length and technicality suggest room for improvement in balancing detail with accessibility.

As an additional test for hypothesis 2, we examine how contextual factors relate to individual KDI components and Table 12 presents the linear regression results⁶. Among firm-level attributes, firm size and profitability consistently influence most KDI components. Larger firms report more KAMs, reflecting operational complexity and produce longer disclosures, which lowers readability. Loss-making firms follow a similar pattern: they disclose more KAMs that are lengthier and less readable, reflecting heightened uncertainty and audit effort (Sierra-García et al., 2019). Contrary to Pinto and Morais (2019), leverage shows a significant positive association with the number of KAMs, suggesting that elevated financial risk compels auditors to flag more matters. Liquidity, in contrast, is negatively associated with the number of KAMs, indicating that firms with stronger liquidity profiles present fewer risk areas requiring disclosure.

Audit-related characteristics also show distinct patterns. Big Four auditors report fewer KAMs, consistent with the findings of Federsel and Hörner (2025), but offer more detailed explanations, with lengthier and less technical disclosures. Higher audit fees correlate with more KAMs (Bepari et al., 2022; Pinto & Morais, 2019; Sierra-García et al., 2019), longer narratives, and lower readability, likely due to client complexity and risk. Audit lag is associated with more KAMs but also improved readability with the use of less technical language, possibly indicating more time for thoughtful drafting. Auditor switches increase the number of KAMs (p<0.10), in line with prior studies (Federsel, 2024; Lin & Yen, 2022) and going-concern opinions are linked to more KAMs which are less readable. These opinions reduce auditors' discussion of *how* the matter was addressed in the audit but increase references to management's disclosures—suggesting risk-shifting behavior. Notably, busy season audits yield fewer KAMs, yet these are longer and more readable, possibly reflecting standardization processes during peak periods.

At the country level, higher GDP per capita is associated with fewer but lengthier and more readable KAMs—supporting expectations of transparency in advanced economies. Interestingly, stronger SARS and investor protection regimes are linked to more KAMs but improved readability. A strong rule of law is associated with longer narratives with less technical language and less referencing to management disclosures. Finally, societal trust is associated with fewer and shorter KAMs, in line with Knechel et al. (2019), implying reduced perceived need for detailed disclosures in high-trust contexts.

⁶ As COMP1, COMP2, COMP3, and COMP6 are bounded between 0 and 1, we estimate fractional regression models as a robustness check. The results are largely consistent with the analysis presented in Table 12, reinforcing the reliability of the statistical inferences.

Comparison	COMP1		COMP2		COMP3		COMP4 NumKAM		COMP5 Length		COMP6		COMP7 Readability	
2016 vs. 2017	0.000		0.002		0.032	***	-0.145	***	20.87	***	-0.050	***	0.023	
2017 vs. 2018	0.000		-0.004	***	0.035	***	-0.055	***	15.30	***	-0.024	***	-0.251	***
2018 vs. 2019	0.001		-0.009	***	0.046	***	0.126	***	13.68	***	-0.011	**	0.010	
2019 vs. 2020	0.002	**	0.002		-0.069	***	-0.008		18.72	***	0.003		-0.043	
2020 vs. 2021	-0.001	*	0.005	***	0.037	***	-0.245	***	9.73	***	-0.011	**	0.077	**
2021 vs. 2022	-0.002	*	-0.002	*	0.077	***	-0.047	***	15.51	***	0.006		-0.101	**

Mean differences are reported.

***significant at 1%; ** significant at 5%; *significant at 10%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	COMP1	COMP2	COMP3	NumKAM	Length	COMP6	Readability
					~		
EBITTA	0.001	0.009	-0.015	-0.007	-18.922	-0.021	-0.005
	(0.003)	(0.016)	(0.047)	(0.135)	(12.546)	(0.033)	(0.013)
Leverage	-0.000	-0.015**	-0.015	0.349***	16.477	0.050*	0.010
	(0.002)	(0.007)	(0.034)	(0.089)	(10.329)	(0.027)	(0.010)
Liquidity	-0.003	0.008	-0.042	-0.252***	4.629	0.011	0.006
	(0.002)	(0.008)	(0.029)	(0.081)	(8.283)	(0.023)	(0.008)
Size	0.000*	0.001	0.002	0.113***	12.463***	0.014***	0.006***
	(0.000)	(0.001)	(0.006)	(0.018)	(1.919)	(0.005)	(0.002)
OPCF	-0.001	0.027	0.069	0.018	57.930***	-0.111***	0.019
	(0.002)	(0.017)	(0.052)	(0.137)	(14.183)	(0.038)	(0.014)
Loss	-0.000	0.008**	0.018	0.258***	9.936***	-0.006	0.014***
	(0.001)	(0.003)	(0.013)	(0.035)	(3.460)	(0.010)	(0.004)
Big4	0.004***	0.001	-0.034*	-0.097**	40.612***	0.073***	0.007
	(0.001)	(0.004)	(0.018)	(0.043)	(5.351)	(0.015)	(0.005)
Audit fee	-0.000	0.002	0.016*	0.230***	10.146***	-0.026***	0.006***
	(0.000)	(0.001)	(0.008)	(0.023)	(2.721)	(0.007)	(0.002)
NAF	-0.001	-0.001	-0.023	0.019	2.329	-0.022	0.007
	(0.002)	(0.006)	(0.029)	(0.071)	(8.613)	(0.023)	(0.008)
Audit lag	0.000	0.000	0.000	0.003***	-0.010	0.001***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.064)	(0.000)	(0.000)
Auditor tenure	-0.000	-0.000	-0.001	-0.003	-0.174	-0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.004)	(0.450)	(0.001)	(0.000)
Auditor switch	0.001	-0.002	-0.022	0.071*	-4.016	-0.015	-0.005
	(0.001)	(0.003)	(0.015)	(0.036)	(3.971)	(0.011)	(0.004)
GCO	0.000	-0.093***	0.127***	0.330***	-0.290	0.072***	0.018***
	(0.002)	(0.008)	(0.018)	(0.053)	(5.310)	(0.013)	(0.005)
Busy	0.002	0.004*	0.010	-0.260***	18.088***	0.005	-0.012***
	(0.001)	(0.002)	(0.016)	(0.048)	(4.790)	(0.014)	(0.004)
GDP	0.000	0.000	0.040***	-0.313***	11.689***	0.038***	-0.013***
	(0.000)	(0.001)	(0.012)	(0.030)	(3.524)	(0.010)	(0.003)
SARS	0.000	0.007***	-0.076***	0.375***	4.801	-0.040***	-0.015***
	(0.000)	(0.002)	(0.012)	(0.032)	(3.753)	(0.010)	(0.003)

TABLE 12. CONTEXTUAL FACTORS ASSOCIATED WITH INDIVIDUAL KDI COMPONENTS

Investor protection	-0.000	0.002*	0.041***	0.093***	-2.639	-0.003	-0.011***
_	(0.000)	(0.001)	(0.008)	(0.021)	(2.271)	(0.006)	(0.002)
Law	-0.000	0.001	-0.079***	-0.022	20.592***	0.046***	0.002
	(0.000)	(0.002)	(0.012)	(0.030)	(3.885)	(0.010)	(0.003)
Trust	-0.000	-0.007***	0.090***	-0.204***	-66.983***	-0.019	-0.006
	(0.001)	(0.002)	(0.015)	(0.037)	(4.516)	(0.012)	(0.004)
Constant	0.996***	0.964***	0.273***	-1.317***	80.127***	0.860***	2.879***
	(0.003)	(0.014)	(0.085)	(0.250)	(27.568)	(0.069)	(0.024)
Observations	13,797	13,797	13,797	13,797	13,797	13,797	13,797
Adj R-squared	0.004	0.137	0.053	0.271	0.259	0.050	0.108
Year FE	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

4.4.2 Impact of Covid-19

Using the same regression model as Equation (1), with the year fixed effects replaced by a Covid indicator, Table 13 reports the results. The Covid indicator is coded as 1 for financial year-ends from 31 December 2019 to 2022⁷, and 0 for financial year-ends before 31 December 2019. Audits with 31 December 2019 year-end are classified as "Covid" because by early 2020, Covid-19 had already spread globally and was formally recognized as a pandemic, influencing auditors' finalization of their reports. Consequently, auditors would have incorporated Covid-19's impacts into their evaluations of subsequent events, going concern, and critical accounting estimates (Hategan et al., 2022; Murphy et al., 2023). This timing explains the significant decline in KDI scores observed between 2018 and 2020 in the earlier T-test analysis.

The findings, as shown in Table 13, indicate that Covid-19 had no significant prolonged impact on KAM compliance (0.023, ns), suggesting that auditors largely adapted to pandemic-related disruptions without permanently altering their disclosure practices. This result implies that while there may have been initial adjustments in response to the pandemic, these changes did not lead to a sustained change in KAM compliance.

	(1)
VARIABLES	KDI
COVID	0.023
	(0.017)
Contextual variables included	YES
Observations	13,797
R-squared	0.201
Industry FE	YES
Robust standard errors in p	arentheses
*** p<0.01	

TABLE 13. ASSOCIATION BETWEEN COVID AND KAM REPORTING

4.4.3 Sub Sample Testing

The UK and the Netherlands were early adopters of expanded audit reporting. The UK's Financial Reporting Council (FRC) mandated that audit reports of London Stock Exchange premium-listed

⁷ COVID is coded as 1 if fiscal year-end is on and after 31 December 2019, 0 if otherwise. There is no difference in the results if the sub-samples are divided by years into pre-Covid (2016 to 2019) and Covid (2020 - 2022).

companies include an overview of risks of material misstatement (RMMs) for fiscal years ending on or after 30 September 2013. In the Netherlands, expanded audit report requirements became effective for all public interest entities (PIEs) for financial periods ending on or after 15 December 2014. Both countries subsequently adopted ISA 701 in 2016. As such, firms in these jurisdictions may have more experience and maturity in applying KAM reporting standards than their European counterparts.

Figure 5 presents the KDI trends for these early adopters versus the rest of the sample. Surprisingly, firms in the UK and the Netherlands report consistently lower mean KDI scores than those in other European countries. Although scores converge in 2017, untabulated independent-sample t-tests reveal that early adopters exhibit significantly lower KDI scores in all years except 2017. Despite the difference in levels, both groups exhibit a similar pattern over time, a decline in 2019–2020, followed by a modest rebound in 2021–2022.

These findings, combined with the results in section 4.4.1 on KDI component analysis, suggest a degree of symbolic compliance in which KAM reporting risks becoming a checkbox compliance rather than substantive disclosure from an institutional theory perspective. Nonetheless, this interpretation should be approached with caution given the still limited time span of seven years.

Table 14 compares the contextual factors associated with KDI between the early adopters and the rest of the sample. Other than firm size and audit fees which show significantly negative association with KDI and GDP showing significantly positive relationship in both groups, other factors differ. For the early adopters, OPCF (-0.360, p<0.05), NAF (-0.139, p<0.10) and auditor tenure (-0.012, p<0.05) have significantly negative association with KDI. However, for other countries, a different set of contextual factors are more relevant: leverage (-0.292, p<0.01), loss (-0.171, p<0.01) and GCO (-0.129, p<0.05) showing significantly negative association with KDI, while audit lag is positively related (0.001, p<0.10).



FIGURE 5. COMPARISON OF KDI TREND BETWEEN THE EARLY ADOPTERS AND OTHERS

TABLE 14. CONTEXTUAL FACTORS ASSOCIATED WITH KDI IN EARLY ADOPTERS VERSUS OTHERS

	(1)	(2)
		(2)
VARIABLES	UK/Netherlands	Others
EBITTA	0.125	0.216
	(0.134)	(0.149)
Leverage	0.127	-0.292***
	(0.086)	(0.112)
Liquidity	0.068	-0.004
	(0.073)	(0.092)
Size	-0.039**	-0.085***
	(0.018)	(0.018)
OPCF	-0.360**	-0.213
	(0.151)	(0.158)
Loss	-0.025	-0.171***
	(0.037)	(0.038)
Big4	0.078	-0.049
	(0.049)	(0.062)
Audit fee	-0.205***	-0.076***
	(0.026)	(0.023)
NAF	-0.139*	-0.067
	(0.077)	(0.089)
Audit lag	-0.000	0.001*
-	(0.001)	(0.001)
Auditor tenure	-0.012**	0.002
	(0.005)	(0.004)
Auditor switch	-0.030	-0.054
	(0.046)	(0.040)
GCO	-0.021	-0.129**
	(0.045)	(0.066)

Busy	0.049	0.085
-	(0.038)	(0.074)
GDP	0.626***	0.161***
	(0.211)	(0.027)
SARS		-0.050
		(0.043)
Investor protection		0.220***
		(0.037)
Law		-0.170***
		(0.031)
Trust		0.261***
		(0.046)
Constant	7.753***	6.660***
	(0.275)	(0.254)
Observations	5,781	8,016
Adj R-squared	0.200	0.215
Year FE	YES	YES
Industry FE	YES	YES

Robust standard errors in parentheses. Country factors other than GDP are omitted due to collinearity under Column (1) as there are only two countries in this sub-sample. *** p<0.01, ** p<0.05, * p<0.1

Given the UK represents 39% of the total sample, we conduct sensitivity analyses to assess whether this concentration skews the main findings. Re-estimating the model after excluding UK observations yields consistent results, suggesting that the disproportionate distribution of observations across countries is not a significant concern. As shown in Table 15, the KDI trend remains broadly similar, reinforcing the robustness of the main conclusions.

Comparison	Mean Difference	t-statistic	df	<i>p</i> -value	Sig.
2016 vs. 2017	0.004	0.140	582	0.444	n.s.
2017 vs. 2018	0.062	2.820	1,121	0.002	***
2018 vs. 2019	-0.030	-1.308	1,183	0.096	*
2019 vs. 2020	-0.063	-2.863	1,237	0.002	***
2020 vs. 2021	0.073	3.454	1,243	0.000	***
2021 vs. 2022	0.096	4.150	1,211	0.000	***

TABLE 15. YEAR-ON-YEAR COMPARISON OF KDI EXCLUDING UK

***significant at 1%; *significant at 10%

5 Summary and Conclusion

The implementation of ISA 701 in 2016 introducing KAM disclosures marked an important shift in auditors' reporting. Prior research has primarily focused on individual countries and the early years after KAM adoption. Hence, there is a need for longitudinal studies to understand the development in KAM reporting. This study addresses this gap by examining the longitudinal trend of KAM reporting on a large-scale European sample, that includes 28 countries over a seven-year period from 2016 to 2022. A KAM Disclosures Index (KDI) was also developed to measure KAM interpretations and compliance, providing a more holistic assessment compared to previous studies.

The study provides evidence on the key aspects of KAM disclosure practices across various dimensions. Descriptive analyses show that long-lived assets are the most frequently disclosed KAMs, especially goodwill, followed by revenue recognition and business combinations. Going concern KAMs peaked in 2020, coinciding with the Covid-19 pandemic. The energy sector reports the highest KAM compliance, while the communication services sector exhibits the lowest KAM compliance. Iceland achieves the highest KDI score, with Sweden and Norway following.

While the overall KDI trend suggests moderate improvement in disclosure interpretations and compliance, detailed analyses reveal more complex outcomes. Notably, auditors have become more selective in the number of KAMs disclosed and increasingly refer to management's explanations, which may reflect better alignment with ISA 701. However, other components such as the increasing length and complexity of disclosures suggest a drift towards more technical, less user-friendly reporting. These mixed results raise questions about whether the improvement reflects substantive engagement or symbolic compliance. The sub-sample analysis adds further complexity as early adopters (UK and Netherlands) consistently exhibited lower KDI scores than other European countries. This may indicate that symbolic reporting becomes more entrenched over time. These findings seem to support the trends toward less informative KAM reporting as observed in earlier studies (Küster, 2024; Seebeck, 2024).

As for the contextual factors associated with KDI and its components, regression results show that firm, audit, and country-level factors significantly influence KDI scores. Larger firms and loss-making firms tend to have lower KDI, while firms with lower operating efficiency demonstrate higher compliance, likely suggesting closer auditor scrutiny. Lower audit fees and busy-season audits are linked to better KDI, while audit lag shows only a marginal effect and auditor size is not significant. At the country level, stronger GDP per capita, investor protection, and societal trust are associated with higher KDI, consistent

with institutional theory. However, unexpected negative associations with SARS enforcement and rule of law suggest a possible decoupling effect, where strong institutions may ironically reduce auditors' incentives for substantive disclosures. Overall, these findings highlight how contextual factors at various levels affect how faithfully auditors implement ISA 701.

Taken together, these findings highlight that KAM compliance is influenced by both firm-level agency dynamics and broader institutional pressures. From the perspective of agency theory, the increase in going concern KAMs, particularly during the Covid-19 pandemic, highlights auditors' heightened attention to significant risks, aligning with their fiduciary duty to safeguard stakeholders' interests. Agency theory also helps explain why auditors struggle with compliance in larger, more complex, or loss-making firms where information asymmetry and audit complexity are heightened. At the same time, institutional theory offers insight into the temporal and cross-country variations observed. This interplay suggests that improving KAM reporting requires not only technical guidance but also alignment with auditors' incentives and the institutional environments in which they operate.

This study is subject to some limitations. First, as this is a largely descriptive study and exploratory in nature, caution is needed when drawing causal conclusions. Second, the sample is limited to the dataset available in the Audit Analytics Europe database, which may not be representative to the entire European firm population. Moreover, while Europe offers diversity, it is not without its integration pressures (e.g., through EU regulatory harmonization), meaning that findings may not generalize neatly to entirely different jurisdictions such as the U.S. or emerging markets. Third, the study covers the period from 2016 to 2022, which is still relatively early in the post-ISA 701 adoption timeline. Some of the trends observed, including the dip and recovery in KDI, may be results of short-term disruptions (e.g., the pandemic) rather than indicative of long-term shifts in auditor behaviour. As such, further research is needed to better understand the development of KAM reporting over a longer period.

Fourth, while KDI captures multiple facets of KAM disclosure interpretations and compliance, it remains a proxy measure. The weighting of components is not prescriptive, and has not included other elements such as tone, specificity, or audit risk sensitivity. Fifth, the study does not address the user side of KAMs reporting, whether changes in KAM interpretations and compliance have improved user understanding or decision-making. It is recommended that future research uses interview and survey data to complement the findings of this study. As KAM reporting is still relatively new and evolving, the insights from the industry practitioners can serve to corroborate this study's results. Future studies can use

the US data (when more years of data are available) or the emerging markets in Asia to facilitate international comparisons.

Overall, these findings contribute to the understanding of KAM reporting practices in Europe and their implications for the audit expectation gap. By examining KAM disclosures through the lenses of agency and institutional theories, the study highlights the complex interplay between auditors, stakeholders, and institutional factors in shaping audit practices. Addressing the audit expectation gap requires a nuanced understanding of these dynamics and the development of regulatory interventions, professional standards, and audit methodologies that enhance transparency, accountability, and the relevance of audit reporting to stakeholders.

References

- Abdelfattah, T., Elmahgoub, M., & Elamer, A. A. (2021). Female Audit Partners and Extended Audit Reporting: UK Evidence. *Journal of Business Ethics*, 174(1), 177–197. https://doi.org/10.1007/s10551-020-04607-0
- Abdullatif, M., & Al-Rahahleh, A. S. (2020). Applying a new audit regulation: Reporting Key Audit Matters in Jordan. *International Journal of Auditing*, 24(2), 268–291. https://doi.org/10.1111/ijau.12192
- Asare, S. K., & Wright, A. M. (2012). Investors', auditors', and lenders' understanding of the message conveyed by the standard audit report on the financial statements. *Accounting Horizons*, 26(2), 193–217. https://doi.org/10.2308/acch-50138
- Bédard, J., Gonthier-Besacier, N., & Schatt, A. (2019). Consequences of expanded audit reports: Evidence from the justifications of assessments in france. *Auditing: A Journal of Practice & Theory*, 38(3), 23–45. https://doi.org/10.2308/ajpt-52339
- Bepari, M. K., Mollik, A. T., Nahar, S., & Islam, M. N. (2022). Determinants of Accounts Level and Entity Level Key Audit Matters: Further Evidence. *Accounting in Europe*, 1–26. https://doi.org/10.1080/17449480.2022.2060753
- Boolaky, P. K. (2011). Auditing and reporting in Europe: An analysis using country-level data. *Managerial Auditing Journal*, 27(1), 41–65. https://doi.org/10.1108/02686901211186090
- Burke, J., Hoitash, R., Hoitash, U., & Xiao, S. (Xia). (2022). The Disclosure and Consequences of U.S. Critical Audit Matters. *The Accounting Review*. https://doi.org/10.2308/tar-2021-0013
- Camacho-Miñano, M. del M., Muñoz-Izquierdo, N., Pincus, M., & Wellmeyer, P. (2023). Are key audit matter disclosures useful in assessing the financial distress level of a client firm? *British Accounting Review*. https://doi.org/10.1016/j.bar.2023.101200
- Cameran, M., & Campa, D. (2025). Key audit matters as insights into auditors' professional judgement: Evidence from the European Union. *Journal of Accounting and Public Policy*, 51, 107311. https://doi.org/10.1016/j.jaccpubpol.2025.107311

- Chen, L., Xiao, T., & Zhou, J. (2023). Do auditor changes affect the disclosure of critical audit matters? Evidence from China. *Economic Modelling*, *122*. https://doi.org/10.1016/j.econmod.2023.106245
- DiMaggio, P., & Powell, W. (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Duboisée de Ricquebourg, A., & Maroun, W. (2023). How do auditor rotations affect key audit matters? Archival evidence from South African audits. *British Accounting Review*, 55(2). https://doi.org/10.1016/j.bar.2022.101099
- Dwyer, K.-A. M., Brennan, N. M., & Kirwan, C. E. (2023). Disclosure of auditor risk assessments in expanded audit reports. *Journal of Applied Accounting Research*. https://doi.org/10.1108/jaar-07-2022-0181
- Eierle, B., Hartlieb, S., Hay, D. C., Niemi, L., & Ojala, H. (2021). Importance of country factors for global differences in audit pricing: New empirical evidence. *International Journal of Auditing*, 25(2), 303–331. https://doi.org/10.1111/ijau.12222
- Elshafie, E. (2023). Critical audit matters: litigation, quality and conservatism. *Review of Accounting and Finance*, *22*(3), 294–328. https://doi.org/10.1108/RAF-05-2022-0147
- Federsel. (2024). Fresh-look effect of audit firm and audit partner rotations? Evidence from European key audit matters. *International Journal of Auditing*. https://doi.org/10.1111/ijau.12364
- Federsel, & Hörner, S. (2025). Do Country Differences Matter? Key Audit Matter Disclosure and the Role of Country Attributes. *European Accounting Review*, 1–37. https://doi.org/10.1080/09638180.2025.2500442
- Gambetta, N., Sierra-García, L., García-Benau, M. A., & Novejarque-Civera, J. (2023). The Informative Value of Key Audit Matters in the Audit Report: Understanding the Impact of the Audit Firm and KAM Type. *Australian Accounting Review*. https://doi.org/10.1111/auar.12396
- Gray, G. L., Turner, J. L., Coram, P. J., & Mock, T. J. (2011). Perceptions and misperceptions regarding the unqualified auditor's report by financial statement preparers, users, and auditors. *Accounting Horizons*, 25(4), 659–684. https://doi.org/10.2308/acch-50060

- Gutierrez, E., Minutti-Meza, M., Tatum, K. W., & Vulcheva, M. (2018). Consequences of adopting an expanded auditor's report in the United Kingdom. *Review of Accounting Studies*, 23(4), 1543– 1587. https://doi.org/10.1007/s11142-018-9464-0
- Hategan, C. D., Pitorac, R. I., & Crucean, A. C. (2022). Impact of COVID-19 pandemic on auditors' responsibility: evidence from European listed companies on key audit matters. *Managerial Auditing Journal*, 2020. https://doi.org/10.1108/MAJ-07-2021-3261
- Honkamäki, T., Mättö, M., & Teittinen, H. (2022). The homogeneity of BIG4 audit reports after the implementation of key audit matters in the context of fair value accounting. *International Journal* of Auditing, 26(3), 354–370. https://doi.org/10.1111/ijau.12285
- Hussin, N., Md Salleh, M. F., Ahmad, A., & Rahmat, M. M. (2023). The association between audit firm attributes and key audit matters readability. *Asian Journal of Accounting Research*, 8(4), 322– 333. https://doi.org/10.1108/AJAR-10-2022-0317
- IAASB. (2015). International standard on auditing (ISA) 701: Communicating key audit matters in the independent Auditor's report. https://www.iaasb.org/publications/international-standard-auditingisa-701-new-communicating-key-audit-matters-independent-auditors-4
- ICAEW. (2017). Extended Audit Report The start of a conversation. *Chartered Accountants' Trustees Limited*. https://www.icaew.com/-/media/corporate/files/technical/audit-and-assurance/audit-and-assurance-faculty/publications/extended-audit-report.ashx?la=en
- Jensen, M., & Meckling, W. (1976). Theory of the firm. Journal of Financial Economics, 3, 305–360.
- Kend, M., & Nguyen, L. A. (2020). Investigating recent audit reform in the Australian context: An analysis of the KAM disclosures in audit reports 2017–2018. *International Journal of Auditing*, 24(3), 412–430. https://doi.org/10.1111/ijau.12205
- Kend, M., & Nguyen, L. A. (2022). Key audit risks and audit procedures during the initial year of the COVID-19 pandemic: an analysis of audit reports 2019-2020. *Managerial Auditing Journal*. https://doi.org/10.1108/MAJ-07-2021-3225
- Kitiwong, W., & Srijunpetch, S. (2019). Cultural Influences on the Disclosures of Key Audit Matters. Journal of Accounting Profession, 15(46), 45–63.

- Knechel, W. R., Mintchik, N., Pevzner, M., & Velury, U. (2019). The effects of generalized trust and civic cooperation on the big n presence and audit fees across the globe. *Auditing: A Journal of Practice & Theory*, 38(1), 193–219. https://doi.org/10.2308/ajpt-52014
- Küster, S. (2024). The determinants of linguistic features in key audit matters: Empirical evidence from Europe. *International Journal of Auditing*. https://doi.org/10.1111/ijau.12344
- Lehavy, R., Li, F., & Merkley, K. (2011). The effect of annual report readability on analyst following and the properties of their earnings forecasts. *Accounting Review*, 86(3), 1087–1115. https://doi.org/10.2308/accr.00000043
- Li, F. (2008). Annual report readability, current earnings, and earnings persistence. *Journal of Accounting and Economics*, 45(2–3), 221–247. https://doi.org/10.1016/j.jacceco.2008.02.003
- Lin, H. L., & Yen, A. R. (2022). Auditor rotation, key audit matter disclosures, and financial reporting quality. *Advances in Accounting*, 57(February), 100594. https://doi.org/10.1016/j.adiac.2022.100594
- Lo, K., Ramos, F., & Rogo, R. (2017). Earnings management and annual report readability. *Journal of Accounting and Economics*, 63(1), 1–25. https://doi.org/10.1016/j.jacceco.2016.09.002
- Murphy, P., McLaughlin, C., & Elamer, A. A. (2023). Audit partner gender and the COVID-19 pandemic: the impact on audit fees and key audit matters. *Journal of Financial Reporting and Accounting*. https://doi.org/10.1108/JFRA-11-2022-0431
- PCAOB. (2017). AS 3101 The auditor's report on an audit of financial statements when the auditor expresses an unqualified opinion and related amendments to PCAOB Standards. *PCAOB Release No. 2017–001, 202,* 1–10. https://pcaobus.org/oversight/standards/auditingstandards/details/AS3101%0Ahttps://pcaob-assets.azureedge.net/pcaob-dev/docs/defaultsource/rulemaking/docket034/2017-001-auditors-report-final-rule.pdf?sfvrsn=14ad22c9_0
- Pelzer, J. R. E. (2021). Processing change: A qualitative study examining the frontstage and backstage of audit firms contemplating the implementation of critical audit matters. *International Journal of Auditing*, 25(3), 769–796. https://doi.org/10.1111/ijau.12248

- Pinto, I., & Morais, A. I. (2019). What matters in disclosures of key audit matters: Evidence from Europe. *Journal of International Financial Management and Accounting*, 30(2), 145–162. https://doi.org/10.1111/jifm.12095
- Pinto, I., Morais, A. I., & Quick, R. (2020). The impact of the precision of accounting standards on the expanded auditor's report in the European Union. *Journal of International Accounting, Auditing* and Taxation, 40. https://doi.org/10.1016/j.intaccaudtax.2020.100333
- Pirveli, E., & Zimmermann, J. (2019). Do wealthy economies have better accounting quality? International evidence. In *Journal of Corporate Accounting and Finance* (Vol. 30, Issue 2, pp. 92– 110). John Wiley and Sons Inc. https://doi.org/10.1002/jcaf.22382
- Rainsbury, E., Bandara, S., & Perera, A. (2023). Auditors' response to regulators during COVID-19: disclosures of key audit matters. *Asian Review of Accounting*, 31(1), 42–56. https://doi.org/10.1108/ARA-04-2022-0106
- Rousseau, L. M. (2022). Why it matters: The key role of the audit committee in expanded audit reporting quality. *SSRN Electronic Journal*.
- Rousseau, L. M., & Zehms, K. M. (2024). It's a matter of style: The role of audit firms and audit partners in key audit matter reporting. *Contemporary Accounting Research*, 41(1), 529–561. https://doi.org/10.1111/1911-3846.12902
- Seebeck, A. (2024). Back to where it started?—Do expanded auditor's reports become sticky, generic and boilerplate over time? *International Journal of Auditing*. https://doi.org/10.1111/ijau.12343
- Seebeck, A., & Kaya, D. (2022). The Power of Words: An Empirical Analysis of the Communicative Value of Extended Auditor Reports. *European Accounting Review*. https://doi.org/10.1080/09638180.2021.2021097
- Sierra-García, L., Gambetta, N., García-Benau, M. A., & Orta-Pérez, M. (2019). Understanding the determinants of the magnitude of entity-level risk and account-level risk key audit matters: The case of the United Kingdom. *British Accounting Review*, 51(3), 227–240. https://doi.org/10.1016/j.bar.2019.02.004

- Sirois, L. P., Bédard, J., & Bera, P. (2018). The informational value of key audit matters in the auditor's report: Evidence from an eye-tracking study. *Accounting Horizons*, 32(2), 141–162. https://doi.org/10.2308/acch-52047
- Smith, K. W. (2023). Tell Me More: A content analysis of expanded auditor reporting in the United Kingdom. Accounting, Organizations and Society, 108. https://doi.org/10.1016/j.aos.2023.101456
- Velte, P. (2020). Associations between the financial and industry expertise of audit committee members and key audit matters within related audit reports. *Journal of Applied Accounting Research*, 21(1), 185–200. https://doi.org/10.1108/JAAR-10-2018-0163

World Economic Forum. (2017). The Global Competitiveness Report 2017-2018.

Zeng, Y., Zhang, J. H., Zhang, J., & Zhang, M. (2021). Key audit matters reports in China: Their descriptions and implications of audit quality. *Accounting Horizons*, 35(2), 162–192. https://doi.org/10.2308/HORIZONS-19-189

Appendix A: Variable Definitions

Variable	Variable Definition	Data Source
Dependent variable		
KDI	KAMs Disclosure Index (KDI): scores range from 0 to 7. Higher KDI scores indicate more faithful interpretations and greater adherence to ISA 701.	Own computation using data from Audit Analytics Europe
Independent variable	es	
Firm-level variables		
EBITTA	Earnings Before Interest and Taxes (EBIT) divided by Total assets (AT).	Compustat
Leverage	Total liabilities (LT) divided by Total assets (AT), as of fiscal vear end.	Compustat
Liquidity	Working capital (ACT-LCT) divided by Total assets (AT).	Compustat
Size	Natural logarithm of the firm's total assets (AT).	Compustat
OPCF	Cash flow from operations (OANCF), scaled by Total assets	Compustat
	(AT).	-
Loss	1 if negative pretax income, 0 if otherwise.	Compustat
Audit-related variab	les	
Big4	1 if the auditor is KPMG, EY, Deloitte, or	Audit Analytics Europe
-	PricewaterhouseCoopers, 0 if otherwise.	
Audit fee	Natural logarithm of audit fee.	Audit Analytics Europe
NAF	Non-audit fees ratio, measured as non-audit services fees to total	Audit Analytics Europe
	fees paid to the auditor.	
Audit lag	The number of calendar days between the company's fiscal year-	Audit Analytics Europe
	end and audit report date.	
Auditor tenure	The number of years the client has engaged the same audit firm.	Audit Analytics Europe
Auditor switch	1 if the audit firm has changed during the year, 0 if otherwise.	Audit Analytics Europe
GCO	1 if the audit opinion has going concern modification, 0 if otherwise.	Audit Analytics Europe

TABLE A1. VARIABLE DEFINITIONS

Busy	1 if the client has a December 31st fiscal year-end; 0 otherwise.	Audit Analytics Europe
Country factors		
GDP	GDP per capita in USD.	World Economic Forum Global Competitiveness Report
SARS	Index on the strength of auditing and reporting standards retrieved from World Economic Forum.	World Economic Forum Global Competitiveness Report
Investor Protection	A combination of the Extent of disclosure index (transparency of transactions), the Extent of director liability index (liability for self-dealing), and the Ease of shareholder suit index (shareholders' ability to sue officers and directors for misconduct), retrieved from World Economic Forum.	World Economic Forum Global Competitiveness Report
Law	The Rule of Law index encompasses constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement and civil/criminal justice, retrieved from World Justic Project website.	World Justice Project website Rule of Law index
Trust	Proportion of respondents agreeing 'most people can be trusted' retrieved from World Value Survey.	World Value Survey Wave 7 (2017-2022)
Fixed effects		
Industry	Categorical variable representing 11 sectors (using the Global Industry Classification Standard).	Audit Analytics Europe
Year	Categorical variable corresponding to the period referred to by the data and is ranked from 2016 to 2022.	Audit Analytics Europe
Additional Tests		
COVID	1 if fiscal year-end is on and after 31 December 2019, 0 if otherwise.	Audit Analytics Europe
NumKAM	Number of KAMs disclosed in the audit report.	Audit Analytics Europe
Length	Total KAM word count divided by the number of KAMs	Audit Analytics Europe
Readability	KAM readability as measured by Gunning Fog Index. The higher the score, the lower the readability of KAMs.	Audit Analytics Europe; Fog Index is calculated using an online toolkit, Readable.com