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Do key audit matters impact financial reporting behavior?

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This study experimentally examines whether the implementation of key audit matters (KAMs) in auditors' reports affects managers' reporting behavior. In line with prior research in psychology, we argue that greater transparency through KAMs leads to higher accountability pressure as managers may expect their judgments to be scrutinized more strongly in the presence of KAMs and, hence, to an improvement of financial reporting quality. Further, we examine whether informational precision (firm-specific versus nonfirm-specific information) in a KAM section moderates the effect of KAM presence on reporting behavior. Our findings show that managers' tendency to make an aggressive financial reporting decision is reduced in the presence of KAMs (compared to the absence of KAMs). This effect remains even when the description of the KAM is of low informational precision. Thus, our results suggest that KAMs serve as a beneficial mechanism for enhancing financial reporting quality by attenuating aggressive financial reporting behavior, regardless of the precision employed by auditors.

KEYWORDS

accountability, audit regulation, financial reporting behavior, informational precision, Key Audit Matters (KAMs)

1 | INTRODUCTION

Standard-setters and audit regulators worldwide, including the Public Company Accounting Oversight Board (PCAOB) and International Auditing and Assurance Standards Board (IAASB), have recently initiated an expanded audit reporting model to respond to concerns about the lack of transparency in auditor reports (IAASB, 2015; PCAOB, 2017). One significant change in both PCAOB and IAASB amendments is the implementation of key audit matters (KAMs), which are new disclosure requirements providing information about significant matters auditors encountered during the audit.¹ The primary objective of the new audit report is to communicate those matters and to enhance investors' understanding of the auditor's role and responsibility.² One essential benefit recognized by regulators, but largely ignored thus far in the ongoing debate, is the effectiveness of KAMs regarding the financial reporting environment.

Bruce Webb, chairman of the American Institute of Certified Public Accountants auditing standards board, states "that the presence of KAM sections in audit reports may cause management to think more carefully about the quality and the robustness of their processes and controls" (Katz, 2013).³ This statement suggests that KAMs may not only improve transparency for users of financial statements, but also enhance managerial financial reporting behavior. In this article, we experimentally examine whether indeed KAM disclosures can mitigate aggressive financial reporting behavior.⁴

Our theoretical predictions are motivated by accountability theory and findings from the disclosure transparency literature. Prior accountability research indicates that the expectation that one may be called upon to justify one's view to others affects judgment and decision quality as individuals feel more pressure to provide justifiable explanations and, hence, exert greater effort in their judgment and

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decision-making (Tetlock, 1983; Tetlock, 1985). We predict that in the presence of KAMs, managers expect their judgments to be scrutinized more strongly by investors and auditors than in the case of an unmodified auditor report without KAMs. Findings from the disclosure transparency literature show that greater transparency reduces the likelihood of earnings management activities due to higher risk of detection by market participants (Cassell, Myers, & Seidel, 2015; Hirst & Hopkins, 1998; Lee, Petroni, & Shen, 2006). Therefore, we expect that second-guessing concerns caused by greater transparency in auditor's reports increase the level of managerial accountability and, thus, improve reporting quality.

We also examine how higher versus lower levels of information precision as a measure of disclosure transparency in KAM sections affect financial reporting behavior. As such, we respond to concerns from regulators and investors that communication of KAMs may quickly result in more standardized disclosure, potentially reducing the informational value of KAM sections (IAASB, 2017). We address these concerns by considering how varying levels of information precision impact managers' level of accountability for decision-making, as investors' ability to second-guess may vary with information precision in KAM sections. Prior textual disclosure literature has shown that specificity in risk disclosure can significantly affect investors' ability to process and evaluate information and thus has an incremental impact on investors' decision-making. Following this line of reasoning, we predict that the effect of KAMs on financial reporting behavior is weaker when KAM disclosures are less precise, because of managers' reduced expectations to be second-guessed by investors.

To test our predictions, we conduct a 3×1 between-subjects experiment in which we manipulate KAM disclosure in auditor reports: KAM absent, KAM with firm-specific content, and KAM with non-firm-specific content. Experienced executives were asked to assume the role of the CFO at a fictitious publicly traded company with the task of evaluating financial estimates on goodwill impairment. Conservative financial reporting in this context emerges when managers decide to employ key assumptions that will cause goodwill impairment. The case facts were designed in such a way that management has incentives to not impair goodwill and to ensure lower leverage and more favorable financing ratios (Cohen, Krishnamoorthy, Peytcheva, & Wright, 2013).⁵

Consistent with prior research, we find that greater transparency in auditors' reports disclosed in KAMs serves as a compelling tool through which managers decision-making processes are enhanced. First, our findings show that managers choose a higher goodwill amount in the presence of a goodwill-related KAM (compared to the absence of this KAM) indicating that the expectation to justify one's decision to others may lead to less aggressive financial reporting behavior. However, we do not find evidence that this effect is reduced by less-precise KAM disclosures. Contrary to our expectations, there is no significant difference in the chosen impairment charge between managers who received a KAM with firm-specific content and managers who received a KAM with non-firm-specific content. Even in the case of a KAM with non-firm-specific

content, managers show a lower tendency to make an aggressive reporting decision (compared to managers who received an audit report without KAMs) indicating that the mere presence of a KAM (regardless its specificity) has an impact on managers' reporting behavior. Taken together, our results suggest that the presence of KAMs in the audit report leads to less-aggressive financial reporting behavior and, hence, to an improvement of financial reporting quality. Thus, our findings provide support for the SEC's and AICPA's expectation that the presence of KAMs might lead managers to exert more effort when thinking about their judgment and decision choice.

The results of this study have implications for audit research and practice. First, while recent literature has primarily investigated the consequences of the new auditor reporting model on investor perceptions and market reactions (Bédard, Gonthier-Besacier, & Schatt, 2018; Boolaky & Quick, 2016; Christensen, Glover, & Wolfe, 2014; Gutierrez, Minutti-Meza, Tatum, & Vulcheva, 2018; Lennox, Schmidt, & Thompson, 2019; Sirois, Bédard, & Bera, 2018), auditor responses (Asbahr & Ruhnke, 2019; Reid, Carcello, Li, & Neal, 2019), and auditors' legal liability (Brasel, Doxey, Grenier, & Reffett, 2016; Gimbar, Hansen, & Ozlanski, 2016; Kachelmeier, Rimkus, Schmidt, & Valentine, 2020),⁶ our study highlights the impact of KAMs on *managerial reporting behavior*, a previously ignored benefit of KAMs for the financial reporting environment. Second, the implementation of KAM sections is subject to a controversial debate among practitioners and regulators. While advocates, such as the PCAOB and IAASB, emphasize the value of KAMs for investors due to greater transparency in the audit process (PCAOB, 2017), opponents, including audit firms and financial statement preparers, fear greater legal liability (Tysiac, 2014). Given this ongoing discussion about the benefits of KAM disclosures, our research is timely and can be beneficial to regulators and standard setters to evaluate the effects of the implemented audit report modifications. Third, our study contributes to the voluminous literature on judgment and decision-making in financial reporting settings. While recent archival research already indicates a positive impact of KAM disclosures on financial reporting quality (Reid et al., 2019), such research is limited in drawing causal connections due to its lacking ability to "peer into the minds" of CFOs (Rose, Mazza, Norman, & Rose, 2013). Our experimental approach provides insights into management's decisions processes and, hence, helps to understand whether financial statement preparers are directly influenced by the new audit requirements. Fourth, we also contribute to prior research on textual risk disclosure that examines the impact of specificity in risk disclosure on investors' decision-making, as our findings focus on managerial reporting behavior. As standard setters have expressed concerns that auditors could end up using standardized language that would negatively affect the usefulness of additional information in the auditor report (IAASB, 2017), we contribute to this discussion investigating the impacts of KAM disclosures with different levels of information precision.

The remainder of the article is organized as follows. Section 2 presents the theoretical background and develops the hypotheses.

Section 3 describes the experimental design for testing the hypotheses, while Section 4 presents the results. The final section concludes with a discussion of the major findings and the study's limitations.

2 | BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1 | Transparency and Financial Reporting Behavior

Conventional economic theory predicts that managers engage in actions that maximize their own utility at others' expense in situations where their behavior is unobservable and severe consequences, such as reputational damages and job loss, are of secondary concern (Jensen & Meckling, 1976; Kotowitz, 2008). Prior research appears consistent with this notion showing that managers use the flexibility in accounting choices to intentionally influence the outcome of financial reports to gain personal benefits when financial statement users' ability to detect earnings management activities is low (Cassell et al., 2015; Hirst & Hopkins, 1998; Lee et al., 2006).⁷ For example, Cassell et al. (2015) examine the association between the transparency of disclosures related to activity in the bad-debt allowance, inventory allowance, and deferred tax assets allowance accounts and accruals-based earnings management. They find that firms choose to reduce the extent of earnings management activities when they provide transparent disclosures about activity in these accounts. Using an experimental approach, Hirst and Hopkins (1998) provide evidence that saliently displayed comprehensive income components enable buy-side financial analysts' detection of earnings management activities through available-for-sale securities and, thus, improves analysts' valuation judgment relative to less saliently displayed comprehensive income components. Lee et al. (2006) study comprehensive income reporting decisions of property-liability insurers in the first year of the Statement of Financial Accounting Standards No. 130's adoption. The authors find that insurers with a greater tendency to manage earnings are more likely to report comprehensive income in a statement of changes in shareholders' equity than in a performance statement, implying that managers are aware of greater transparency in performance reporting.

Taken together, these findings provide empirical evidence that managers believe they derive personal benefits from limiting investors' ability to detect earnings management by using flexibility in accounting choices and that such benefits decrease with greater transparency as the likelihood of detection by market participants increases. These implications are consistent with Fields et al. (2001), who argue that managers consciously utilize inherent market imperfections (e.g., information asymmetries) reflecting financial statement users' inability or unwillingness to disentangle the effects of earnings management activities to mislead shareholders about underlying company performance to gain some personal benefits. Concluding, managers seem to weigh potential consequences to determine whether to

make self-serving decisions or not under increased monitoring. Thus, greater transparency in financial reporting can help to mitigate aggressive financial reporting behavior.

Prior literature indicates that, besides reduced information asymmetries, one potential benefit of increased transparency includes an increase in individuals' accountability for decision-making. For instance, Rose et al. (2013) examine the effects of stock ownership on directors' independence and objectivity. They find that stock-owning directors serving on audit committees are less likely to agree with managerial aggressive reporting when board discussion transparency increases. This is because directors who own stock are concerned that supporting management's attempts to manage earnings might be viewed as making more self-serving decisions by external parties when board discussion transparency is high, damaging directors' reputation. These findings suggest that increased accountability through greater transparency is particularly effective when individuals have incentives to act in their own interests. In this article, we suggest that KAM disclosures potentially offer such accountability mechanisms to managerial decision-making, as explained next.

2.2 | The Role of Accountability Mechanisms on Managerial Judgment Behavior

The social contingency model of judgment and choice in social psychology asserts that having to justify one's views, beliefs, feelings, and actions to others affects both the manner in which individuals reach a decision and the nature of the decision they reach (Tetlock, 1983; Tetlock, 1985). Tetlock (1985) finds that the expectation that one may be called upon to justify one's actions to others results in information being processed more "vigilantly," and that the decision maker engages in more preemptive self-criticism. This self-critical approach to decision-making implies the consideration of multiple perspectives and an anticipation of others' potential objections to decisions (Tetlock & Boettger, 1989; Tetlock & Lerner, 1999). As a result, individuals who anticipate being accountable for their decision-making feel more pressure to provide justifiable explanations, as well as the need to consider potential consequences for their actions more carefully and, hence, exert greater effort in their judgment and decision-making (Kim & Trotman, 2015).

Consistent with this notion, psychology research shows that accountable individuals are more accurate in judgment making (Rozelle & Baxter, 1981), take more information into account (Siegel-Jacobs & Yates, 1996), think more carefully about their decisions (Ford & Weldon, 1981), and induce more-complex decision strategies (Ashton, 1992; Tetlock & Kim, 1999). For example, Mero and Motowidlo (1995) examined the effect of accountability on participants' performance ratings of videotaped individuals, finding that accountable raters are more accurate in evaluating their subordinates by attending more to relevant information, taking more and better notes, and being more engaged in the task than their nonaccountable counterparts. Further, Ashton (1992) argues that the expectation to justify one's decision-making results in more thorough, complex,

analytic, and systematic information processing compared to situations where a justification requirement is absent, and, thus, enhances the consistency of judgment. Collectively, these studies provide evidence that holding individuals accountable for their decision-making leads them to more thoroughly weigh alternative behavioral options and to consider the extent to which each of these alternatives can be defended toward others.

Another stream of research shows that accountability pressure does not only induce more effortful and self-critical decision-making, resulting in higher judgment quality, but also serves as a beneficial mechanism to reduce managerial opportunistic behavior (Pitesa & Thau, 2013; Rus, van Knippenberg, & Wisse, 2012). Arguing that increased accountability leads to less automatic information processing and therefore enhancing normative compliance, Rus et al. (2012) find that holding powerful agents accountable for their decision-making results in less self-serving behavior. Pitesa and Thau (2013) consider whether agents' power and the manner in which they are held accountable jointly determine the likelihood to engage in self-serving actions under moral hazard. Testing the theoretical predictions in the context of financial investments decision-making, their findings are consistent with Rus et al. (2012), revealing that agents' tendency to make opportunistic decisions increases with power, but only in the absence of any accountability mechanisms.

In accounting research, Libby, Salterio, and Webb (2004) study the effectiveness of accountability pressure and provide evidence that increased effort through increased accountability for decision-making enhances the usage of unique measures in managerial performance evaluation judgments. Agoglia et al. (2011) hypothesize that CFOs are less likely to report aggressively when applying a less-precise (more principles-based) standard than a more-precise (more rules-based) standard due to higher second-guessing concerns from regulators in a principles-based environment. They find that financial reporting quality is enhanced by audit committee strength, but only under rules-based standards. While prior research provides evidence about the effectiveness of accountability for managerial decision-making regarding a variety of parameters, such as standard precision and power, there is limited evidence on how increased accountability through greater transparency influences managerial behavior in financial reporting decisions.

2.3 | The Effect of KAM Disclosures on Managers' Reporting Behavior

In accordance with findings from the disclosure transparency literature and accountability theory, we expect that managers' propensity to make an aggressive financial reporting decision will decrease in the presence of a KAM that is related to the aggressive financial reporting behavior, relative to its absence, because the likelihood of detection increases. First, managers might change their reporting behavior due to the increased anticipated scrutiny by auditors. If the auditor has once disclosed a certain matter in the audit report as KAM, it is

reasonable to assume that this area will also be a topic of interest in the subsequent audit. Managers likely expect that the auditor spends additional time and resources on reviewing the adequacy of the KAM-related financial statement disclosures. As the auditor is responsible for KAM reporting, it would be plausible that the auditor him- or herself perceives a heightened level of scrutiny and, thus, might demonstrate a higher level of professional skepticism (Asbahr & Ruhnke, 2019; PCAOB, 2017).⁸ Therefore, we expect that managers show a less-aggressive reporting behavior as they expect their judgments to be scrutinized more strongly by the auditor when the auditor disclosed a KAM related to their current reporting decision in the previous fiscal year. Further, managers could also adapt their reporting behavior, as the auditor may gain more negotiating power due to the possibility to disclose a certain financial statement area as KAM. Auditors might achieve a less-aggressive managers' reporting behavior in exchange for no longer highlighting the financial statement disclosure as increased area of misstatement risk in the audit report (Reid et al., 2019).

Second, we also argue that managers might change their reporting behavior due to the increased attention of investors. Using eye-tracking technology, Sirois et al. (2018) document greater investor attention to financial statement disclosures related to KAMs. Due to the salience of these audit areas, it is reasonable to assume that investors' ability to detect aggressive financial reporting behavior increases. Since managers are more likely to avoid aggressive reporting decisions when they are easier to detect (Rose et al., 2013), we argue that managers may apply a more conservative approach regarding areas that were disclosed as KAMs in the auditor's report. Due to the increased transparency, managers might fear to be viewed as self-serving if they engage in aggressive financial reporting and thus would potentially suffer reputational damage. Managers might enhance the quality of their reporting as they expect that investors will be scrutinizing more closely the matters identified as KAMs (PCAOB, 2017). Further, managers might fear the disclosure of certain financial statement areas in the auditor's report and, hence, they may change their reporting decisions and adopt a more conservative accounting approach due to the "threat of disclosure" (Reid et al., 2019). Specifically, Reid et al. (2019) argue that areas involving subjective managerial judgment might be treated more conservatively in order to avoid that the auditor comments on the issue in a negative manner.

Overall, as a result of increased anticipated scrutiny by both auditor and investors, we predict that greater transparency, by means of auditor KAM disclosures, and an increase of managerial accountability evoke a more critical and thorough evaluation of decision choices, which ultimately results in an improvement of financial reporting quality (Gaynor, McDaniel, & Neal, 2006). We formally state this prediction in the following hypothesis:

Hypothesis 1. *Managers are less likely to make an aggressive financial reporting decision when the audit report includes a KAM that is related to the aggressive financial reporting decision compared to the absence of this KAM.*

2.4 | Firm-specific versus nonfirm-specific information in KAM disclosures

Early evidence from U.K. audit reports show that disclosed KAMs vary in the amount of words and the specificity of risk information disclosed (Financial Reporting Council [FRC], 2016). These findings correspond to concerns from regulators and investors that communication of KAMs may quickly result in standardized disclosure, reducing the informational value of KAMs. Since investors' tendency to second-guess managerial judgment making may vary with the level of information precision, we further examine how the effectiveness of KAMs on financial reporting behavior is affected by the level of information precision in KAMs disclosed in the auditor's report.

Prior textual disclosure literature focusing on investors' decision-making has shown that high specificity in risk disclosure leads to stronger investor responses as they are better able to process, evaluate, and verify disclosures with greater information precision. These findings are consistent with information-processing research suggesting that individuals make trade-offs when processing information and, hence, are often unlikely to encode information that does not draw their attention or that requires significant processing (Hirshleifer & Teoh, 2003). As a result, individuals put more weight on information that eases cognitive effort and, thus, facilitates incorporation of information into their decision-making (Bozanic, Roulstone, & van Buskirk, 2018). Prior research evidence is consistent with this notion, indicating that greater information precision in risk disclosure leads investors to a greater portion of risk information being processed and thus enhances individuals' risk understanding (Campbell, Chen, Dhaliwal, Lu, & Steele, 2014; Hope, Hu, & Lu, 2016; Kravet & Muslu, 2013). For example, Hope et al. (2016) show that greater specificity in risk disclosure induces greater market reactions, posited to be the result of increased information processing. Further, Kravet and Muslu (2013) find that annual increases in the number of risk sentences are positively associated with increased stock return volatility and higher trading volume. Campbell et al. (2014) also show that information precision in risk disclosure is incrementally valuable for investors in assessing firms' accounting information. Taken together, prior research suggests that specificity in risk disclosure can significantly affect investors' ability to process and evaluate information and thus has an incremental impact on investors' decision-making. However, while these studies primarily investigate the effect of specificity in risk disclosure on investors' (and analysts') trading behavior, there is no empirical evidence on how the level of information precision in risk disclosure, for example, KAMs, affects investors' tendency to second-guess managerial judgment and, in turn, financial reporting behavior.

Drawing on findings from the textual disclosure literature, we argue that nonfirm-specific KAM disclosures, compared to firm-specific KAM disclosures, attract less investor attention, and this is also anticipated by managers. Given that standardized information potentially reduces the informational value of KAMs, investors are likely to spend less time and effort to process and evaluate the information. If KAM disclosures are strongly standardized, investors may

not associate them with specific business transactions of the company but perceive them as general risks exchangeable for a variety of companies. Therefore, we expect that KAM disclosures without firm-specific content (relative to firm-specific content) are less likely to affect managerial reporting behavior, because managers are less likely to expect their reporting behavior to be second-guessed by investors.

In line with findings from textual disclosure literature, we predict that greater information precision in KAMs will increase the level of management accountability as a result of expected investors' increased information-processing efficiency, ultimately leading to greater financial reporting quality. This reasoning is formulated in the following hypothesis:

Hypothesis 2. *The reducing effect of KAM disclosures on managers' likelihood to make an aggressive financial reporting decision is weaker when a KAM (that is related to the aggressive financial reporting decision) includes nonfirm-specific information than when this KAM includes firm-specific information.*

3 | RESEARCH METHOD

3.1 | Research design and independent variable

The purpose of our study is to experimentally examine whether KAMs disclosed in auditor reports impact the aggressiveness of managerial financial reporting behavior. To test our hypotheses, we conduct a 3×1 between-subjects experimental design varying the level of KAM disclosures: KAM absent, KAM with firm-specific information, and KAM with nonfirm-specific information.

Financial statement preparers completed the experiment using a Web-based instrument administered through the online survey tool UniPark. This software allows random distribution to three between-participant treatment conditions.⁹ Participants were asked to assume the role of the CFO at a fictitious publicly traded company in the retail sector, which distributes outdoor products in Europe and the United States as well as water sport accessories through a subsidiary company. The case begins with a short description of the company, followed by the auditor's report on the financial statements from the previous fiscal year.¹⁰ Participants learn that the company had performed well in the current fiscal year.

Furthermore, participants were informed about matters that had been discussed internally in the management letter.¹¹ All participants read the following statement: "In the management letter, which is only available internally, the auditor reported on significant audit findings. In this context, the auditor discussed the recoverability of goodwill and the recognition of pension provisions as matters with significant uncertainties." We included this information in our design to ensure that all participants have the same level of knowledge about substantial matters in the audit process, including participants in the "KAM absent" condition.¹² Next, participants received an excerpt of the auditor's report on the financial statements. Participants in the two "KAM present" conditions learn that goodwill impairment testing of

the company's subsidiary mentioned in the management letter is also communicated in the auditor's report. By providing the same accounting issue in both the (internal) management letter and – in the case of the KAM present conditions – the (external) audit report, we are able to disentangle the level of external accountability (i.e., to investors or external watchdogs) from the level of internal accountability (to the audit committee) across conditions.¹³

To test our hypotheses, we manipulate KAM disclosures at three levels: KAM present with firm-specific information, KAM present with nonfirm-specific language, and KAM absent. All participants received a shortened version of the auditor's report that includes the audit opinion and (except in the KAM absent condition) the KAM section. The KAM absent condition mirrors the traditional audit report model; hence, KAMs are not mentioned by the auditor in this version. The two KAM present conditions contain "Goodwill Impairment" as the KAM of interest. We chose a goodwill-related KAM in the auditor report, because goodwill impairment testing is a complex area of financial reporting judgment and early evidence in the United Kingdom shows that goodwill has been extensively identified as KAM in auditor reports (FRC, 2016).¹⁴ The goodwill-related KAM manipulations are adapted from the annual report of two large publicly traded companies in Germany.¹⁵ In the two KAM present conditions, the audit report includes a section discussing "Key Audit Matters" described as those "matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1, 2017 to December 31, 2017. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters" (IAASB, 2015). In the firm-specific condition, the KAM description includes concrete information about the company's situation and an explanation why goodwill impairment is a key area of risk in this specific context, whereas the nonfirm-specific condition includes only a general description of risks related to goodwill impairment, without referring to the company's situation. The exact wording of the KAM manipulations is presented in Exhibit A.

Next, participants were provided with firm-related information about the current financial year. They learned that the company plans to expand their brands to the Canadian market and therefore intends to raise capital in the next two years. Then, participants were informed that the company's subsidiary revenues declined by 24% compared to the previous year. As a result, estimated future cash flows, one of the key financial estimates for calculating the value in use, cannot be realized. Owing to decreased cash flow forecast and a given discount rate of 5% and a growth rate of 1.5%, the value in use falls below the carrying amount and, consequently, the goodwill of the subsidiary may be impaired in the current fiscal period. However, since the assessment of goodwill impairment requires significant management judgment and executives tend to produce favorable financial results (Ramanna, 2008; Ramanna & Watts, 2012), managers generally have an incentive to avoid impairment charges. To further reinforce the incentive to prevent impairment losses, participants were told that

goodwill impairment would ultimately result in noncompliance with debt covenants by the bank, which are crucial for the company's expansion plans, providing a further strong incentive for management to not recognize an impairment. Thus, participants were provided a range of discount and growth rates that could be used for the estimates, displaying the highest (€5 million) and the lowest amount of impairment charges (€0 million). Participants then learned that by marginally changing the underlying values of the discount and growth rates, impairment charges can be avoided (see Exhibit B). They also read that proposed changes in estimates comply with financial reporting standards. Based on the information in the case, participants were then asked to make an accounting decision, that is, the extent, if any, of goodwill impairment. Participants were informed that they are able to review the information on prior pages before making their decision.

After considering the case information and responding to our dependent measure, participants next responded to manipulation check questions and then completed a post-experiment questionnaire, which included the demographics questions and questions measuring the participants' level of accountability.¹⁶

3.2 | Dependent variable

The dependent variable used to test Hypothesis 1 (H1) and Hypothesis 2 (H2) is the participants' reporting behavior. Specifically, participants were asked to indicate their preferred amount of impairment charge on a scale ranging from €0 million to €5 million. As the case is designed in a way that financial statement preparers have an incentive to avoid impairment, the chosen impairment charge provides insights about their tendency to make aggressive reporting decisions.

Conservative financial reporting in this context occurs when managers choose a high impairment amount, while no or a low impairment charge indicates a more aggressive accounting behavior.

3.3 | Participants

As our study aims to examine the effect of KAMs on financial reporting behavior, we invited experienced financial statement preparers to participate in our experiment. We created an email request that was sent to a sample of approximately 6,000 financial statement preparers.¹⁷ Email addresses were obtained through the German data base "Dafne," which provides financial information on German companies, including contact details of managers in the position "Head of Accounting/Finance." As we were interested in whether managers' reporting behavior is influenced by the new audit requirements, we only selected participants who work for a company subject to mandatory audit. We received 143 useable responses leading to an overall response rate of 2%.¹⁸ Of these, we exclude 39 participants who failed to answer the manipulation check question correctly. Hence, our final sample consists of 104 participants with the following demographics (see also Table 1).

TABLE 1 Demographic information

Variable	N	M	SD	Min	Max	Mdn
PROF_EXP	104	24.231	8.133	6	45	25
ACC_EXP	104	12.404	6.673	1	30	12
AGE	104	49.115	7.60	30	63	50
GENDER	104	1.221	0.417	1	2	1
FR_EXPERT	104	6.000	1.106	2	7	6
GA_EXPERT	104	3.801	1.828	1	7	4
KAM_EXP	104	3.087	1.707	1	7	2
PIE	104	1.635	0.484	1	2	2
PIE_CUR	104	1.865	0.343	1	2	2
AUDIT	104	1.827	0.380	1	2	2

Note. PROF_EXP: professional experience in years; ACC_EXP: work experience in a leading position in the field "Accounting/Finance" in years; AGE: Age of participant; GENDER: Male = 1 /Female = 2; FR_EXPERT: Self-assessed expertise in financial reporting on a 7-point Likert scale; GA_EXPERT: Self-assessed expertise with goodwill accounting on a 7-point Likert scale; KAM_EXP: Self-assessed experience with KAMs on a 7-point Likert scale; PIE: Worked for a public interest entity (Yes = 1 / No = 2); PIE_CUR: Currently work for a public interest entity (Yes = 1/No = 2); AUDIT: Worked for an accounting firm (Yes = 1/No = 2).

On average, participants report 24.23 years ($SD = 8.13$) of professional experience and 12.40 ($SD = 6.67$) years of work experience as executives. The average age of the participants is 49.12 years, and 81 participants (77.88%) are male. Measured on a 7-point Likert scale, their self-assessed expertise in financial reporting is quite high (Mean = 6.00, $SD = 1.11$) and their expertise regarding goodwill accounting is considered moderate ($M = 3.80$, $SD = 1.83$). Their self-assessed experience with KAMs is also moderate ($M = 3.09$, $SD = 1.71$). Moreover, we asked if they currently work or have ever worked for a public interest entity and if they have ever worked for an accounting firm. The results indicate that 38 participants (36.54%) have worked for a public interest entity and 14 (13.46%) currently do. Eighteen participants (17.31%) have worked for an accounting firm in the past. We also asked participants for their current job position and received the following distribution: 29 commercial managers, 18 head of finance, 17 CFOs, 16 head of accounting, and 11 head of controlling. Further, one participant stated to be an advisor and another participant was a management assistant.

To ensure that the participants fully engaged in the task, we included attention checks in our design. Thus, they were asked to rate the following statements on a Likert-scale with the endpoints 1 ("strongly disagree") and 7 ("strongly agree"): (1) "The auditor's report is a publicly accessible document." (2) "Avoiding goodwill impairment charges would improve the financial position and results of operations reflected in Schirmer Retail AG's financial statements." The information was given in the text. Mean values of 5.80 for the first and of 5.48 for the second statement indicate that participants read the case description carefully and had a good understanding of the task.

The responses received from the initial and two subsequent mailings were tested for nonresponse bias, where late responses

(responses received after sending a reminder) were utilized as surrogates for nonresponses. Performing a t test, we detected no significant differences ($p > 0.1$) between early and late respondents, suggesting that our results were not driven by nonresponse bias.

3.4 | Manipulation Checks

To assess the effectiveness of the KAM manipulation, we embedded a manipulation check question in the instrument. We asked participants, "Which reporting issue was identified as Key Audit Matter in the provided auditor's report?" with answer choices "Pensions provisions," "Goodwill impairment testing," "Deferred taxes on loss," or "KAMs were not a subject in the auditor's report." Seventy-three percent of the participants answered this question correctly. In order to ensure that the effects we identify are associated with accurate perceptions of the treatment conditions, we exclude participants who failed to correctly answer the KAM-manipulation checks.¹⁹

Further, we asked participants to rate whether the auditor used firm-specific information versus nonfirm-specific information in the KAMs. On a 10-point Likert scale ranging from 1 = rather standardized wording to 10 = very specific wording, they assessed whether the auditor's report they had read contains standard formulations or provides a detailed and specific description of the matters. Results reveal that participants in the condition "KAM with non-firm-specific content" assess the information to be less specific ($M = 2.68$, $SD = 2.07$) than in the condition "KAM with firm-specific content" ($M = 3.59$, $SD = 2.08$) ($t = 1.528$, $p = 0.066$ one-tailed), indicating a successful manipulation.²⁰

4 | RESULTS

4.1 | Hypothesis Tests

Descriptive statistics such as cell sizes, means, and standard deviation for participants' chosen amount of impairment charge across conditions are shown in Table 2. Overall, descriptive results suggest that managers' chosen amount of impairment loss is higher when KAMs are present in the auditor's report. Hypothesis 1 predicts that greater transparency through KAMs increases managerial level of accountability to third parties evoking decision-making that is closer to investors' preferences, ultimately leading to greater financial reporting quality.²¹

TABLE 2 Test H1 (Amount of impairment charge)

Group	M	SD	N
KAM present	3.25	1.44	64
KAM absent	2.52	1.63	40
Difference	-0.73	$t = 2.39$; $p = 0.009^{***}$; $df = 102$	

Note. Dependent variable: IMPAIRMENT: Participants' chosen impairment amount (scale from 0 million to 5 million €).

***Significant at 0.01 level (one-tailed).

As this hypothesis tests the effect of the presence (versus absence) of KAMs in the auditor's report, we combine the results of the conditions "KAM with firm-specific content" and "KAM with non-firm-specific content" in one category termed "KAM present." Performing a *t* test (Table 2), we find a significant difference between the chosen impairment charges of participants who received an audit report with KAMs ($M = 3.25$, $SD = 1.44$) compared to participants who received an audit report without KAMs ($M = 2.52$, $SD = 1.63$) ($t = 2.39$, $p < 0.01$ one-tailed). The findings reveal that the presence (versus absence) of KAMs in the auditor's report leads to a significant reduction of participants' willingness to make an aggressive financial reporting decision. Thus, H1 is supported.

Hypothesis 2 posits that information precision in KAMs moderates the effect of KAM disclosures on earnings management activities, such that the effect will be weaker when information precision is low. To test this hypothesis, we examine the means of all three conditions (Table 3, Panel A) and perform an ANOVA model, with this three-level variable that is presented in Table 3, Panel B. Post-hoc mean comparisons (tabulated in Table 3, Panel C) show that the amount of impairment losses' mean rating is significantly different regarding the conditions "KAM with firm-specific content" ($M = 3.07$) versus "KAM absent" ($M = 2.52$, $p = 0.057$ one-tailed) and regarding the conditions "KAM with non-firm-specific content" ($M = 3.55$) versus "KAM absent" ($M = 2.52$, $p = 0.005$ one-tailed). We predicted that the difference between "KAM absent" and "KAM with firm-specific content" is greater than the difference between "KAM absent" and "KAM with nonfirm-specific content"; however, we did not find evidence for this prediction. Our results suggest it

might even be the other way around: the difference between the conditions "KAM absent" and "KAM with nonfirm-specific content" is surprisingly greater than the difference between "KAM absent" and "KAM with firm-specific content" (difference-in-difference not significant; $t = 1.24$; $p = 0.109$ one-tailed). Hence, H2 is not supported.²²

5 | DISCUSSION AND CONCLUSION

The auditor's report is the only instrument for auditors to communicate the outcome of the audit to third parties. Standard-setters worldwide have released new and revised auditor reporting standards to enhance the informational value and the decision-usefulness of the auditor's report for investors. One significant change in the current pass/fail model is the implementation of key audit matters. KAMs provide information about the most significant matters auditors encountered during the audit.

Our study contributes to the growing literature on KAMs by investigating the potential benefit of higher transparency in the auditor's report on managerial judgment and decision-making. Drawing on accountability theory and the disclosure transparency literature, we predict that second-guessing concerns caused by greater transparency increase the level of managerial accountability and, thus, lead to improved managerial financial reporting quality. In line with regulators' concerns that communication of KAMs may quickly result in more standardized, and less firm-specific disclosures, reducing the informational value of KAM sections, we further examine how the

TABLE 3 Test H2 (Amount of impairment charge)

Panel A: Adjusted means for the amount of impairment charge						
Group			<i>M</i>	<i>SD</i>		<i>N</i>
KAM with firm-specific content			3.07	1.53		39
KAM with nonfirm-specific content			3.55	1.26		25
KAM absent			2.52	1.63		40
			2.97	1.55		104
Panel B: ANOVA						
Source	Type III sum of squares	<i>df</i>	Mean Square	<i>F</i> -value		<i>p</i>
Model	16.63	2	8.32	3.63		
Version	16.63	2	8.32	3.63		0.015**
Error	231.27	101	2.38			
Panel C: Post-hoc mean comparisons (Least significant difference)						
				Contrast	<i>SE</i>	<i>p</i>
KAM with firm-specific content	vs.	KAM with nonfirm-specific content		-0.48	0.39	0.109
KAM with firm-specific content	vs.	KAM absent		0.54	0.34	0.057*
KAM with nonfirm-specific content	vs.	KAM absent		1.02	0.39	0.005***

Note. Dependent variable: IMPAIRMENT: Participants' chosen impairment amount (scale from 0 million to 5 million €).

Independent variable: VERSION: Version of the auditor's report (KAM with firm-specific content; KAM with nonfirm-specific content; KAM absent).

**Significant at 0.05 level (one-tailed).

*, **, *** Denotes one-tailed significance at 10%, 5%, 1% levels, respectively.

effectiveness of KAMs on financial reporting behavior is affected by the level of information precision disclosed in the auditor's report.

Our experimental results show that managers who received an audit report with KAMs exhibit a more conservative reporting behavior than those who received an audit report without KAMs, indicating a reduced tendency to make aggressive financial reporting decisions when anticipating a KAM. Thus, our findings demonstrate that KAMs may serve as a beneficial mechanism for reducing aggressive financial reporting behavior, and ultimately lead to higher financial reporting quality. These findings are in line with the results by Reid et al. (2019), who provide archival evidence for a significant improvement of financial reporting quality in the United Kingdom through KAM disclosures. Moreover, the results are consistent with transparency literature indicating that transparent disclosures can result in less earnings management activities.

Further, our findings suggest that KAMs serve as a beneficial accountability mechanism irrespective of the degree of information precision. Despite the non-firm specific description of the KAM, managers in our experiment choose a higher impairment amount (compared to managers who received an audit report without KAMs) indicating that their reporting behavior is driven more by information salience than by the specificity of the information.

Altogether, we suggest that participants assume investors to be able to second-guess managerial judgment making regardless of the language used by the auditor in the KAMs. Thus, we conclude that information salience is more pivotal than the certain content of the information and that the mere circumstance of presenting an audit risk externally in the audit report seems to lead to a less-aggressive reporting behavior. Taken together, our findings suggest that KAMs serve as a beneficial accountability mechanism to reduce managerial opportunistic behavior and ultimately to achieve higher financial reporting quality, even though the specificity of the language does not seem to matter.

It is important to consider the limitations of our study, which also provide fruitful areas for future research. First, our results indicate that KAMs cause managers to reduce the likelihood of aggressive reporting behavior for the highlighted accounting issue in the auditor's report. However, we do not examine the extent to which managers may tend to perform aggressive reporting behavior in less transparent areas in which the likelihood of detection is lower. Therefore, future research might examine the effect of KAMs on the overall level of aggressive financial reporting behavior. In this context, researchers can also focus on the effects of the number of KAMs in the auditor's report or the subject matter of the KAMs. Second, while our experimental design allows us to control for extraneous factors in making causal inferences, our conclusion on the effectiveness of KAMs on financial preparers' judgment behavior may be modified by incorporating other influencing factors. For example, prior literature shows that manager's traits of character and incentives, such as compensation plans, affect the affinity to engage in unethical behavior. In this context, empirical findings on personality traits show that even in the absence of oversight mechanisms individuals still vary in terms of their preferences for honesty, fairness, and trust (Church et al., 2014; Evans

et al., 2001; Luft, 1997). Further, several studies provide evidence that other institutional arrangements such as internal and external oversight mechanisms (e.g. strength of audit committees, internal controls, number of institutional investor ownership, and differences in accounting standard precision) are fruitful in constraining earnings management activities and may reduce the overall incremental effectiveness of KAMs (Agoglia et al., 2011; Rose et al., 2013). Future research may examine these nuances in more detail in experimental work or by using an archival research method by collecting data on compensation plans and personal characteristics or by considering environmental differences, such as differences in jurisdictions among countries. Third, the experimental instruments clearly offer the most reasonable impairment amounts. In reality, there is probably much more uncertainty about the correct amount; thus, the observed behavior might even be more intense. Fourth, our experiment is subject to nonresponse bias concerns. Although the performed test does not indicate a nonresponse bias, we cannot exclude that a self-selection bias does not exist as managers who decided not to participate might have shown a different reporting behavior. Since KAM reporting is relatively new, managers might also react differently after being accustomed to the new reporting model.

Notwithstanding these limitations, our results provide initial evidence that KAM disclosures have a positive impact on managers' reporting behavior; therefore, they are interesting for auditors, preparers, financial statement users, and standard setters alike. For auditors, it is noteworthy that their decision to disclose a certain matter as KAM in the audit report can change the reporting behavior of managers in this area; thus, they should carefully decide which issues they disclose as KAM. In this context, preparers should be aware that the disclosure of KAM might affect their own reporting behavior. For financial statement users, our results are interesting as they indicate an improvement in financial reporting quality. This is also an important finding for standard setters as it supports the intended benefits of KAMs.

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ENDNOTES

- ¹ In the PCAOB's proposal, regulators use the term "critical auditor matters" for those matters that are of most significance for the auditor. The content among both amendments from the PCAOB and IAASB is similar. In this article, we use the term "key audit matters". ISA 701.8 determines key audit matters as those matters that required significant auditor attention in performing the audit, including (a) areas that involve

- significant judgment, (b) areas in which the auditor encountered significant difficulty during the audit or (c) circumstances that required significant modification of the auditor's planned approach to the audit.
- ² Similar to the requirement to disclose KAMs in the auditor's report, the EU-Regulation No 537/2014 stipulates a description of the most significant assessed risks of material misstatement by the auditor (European Parliament, 2014).
- ³ Brian Coteau, a deputy chief accountant at the SEC, also notes "that increased disclosures in the audit report may lead management to think more carefully about disclosures they've made, and perhaps enhances disclosures they've made as a result of the auditor's highlighting a particular area" (Katz, 2013).
- ⁴ Following Hackenbrack and Nelson (1996) and Agoglia, Douppnik, and Tsakumis (2011), we define aggressive financial reporting as a method that portrays the company's financial situation favorably when that method is not clearly indicated by the facts.
- ⁵ Prior research has shown that individuals do not have incentives to maximize their wealth to the fullest extent under moral hazard (Church, Lynn Hannan, & Kuang, 2014; Evans, Hannan, Krishnan, & Moser, 2001; Luft, 1997).
- ⁶ See also a recent review of the KAM literature by Gold and Heilmann (2019).
- ⁷ In this study, we use Fields, Lys, and Vincent (2001)'s definition of accounting choice to encompass "any decision whose primary purpose is to influence [...] the output of the accounting system in a particular way."
- ⁸ The experimental results of Asbahr and Ruhnke (2019) show that auditors do not provide more skeptical judgment and even a lower degree of skeptical action in case of KAM reporting, as auditors seem to use KAMs as moral license. However, it is reasonable to assume that managers might expect a higher level of professional skepticism, and thus provide a more conservative reporting behavior as they are likely to perceive a greater risk of second-guessing by the auditor.
- ⁹ The experiment was administered in German. The English translation of the wording of the manipulations is provided in Exhibit A.
- ¹⁰ We showed participants the auditor's report on the previous fiscal year's financial statements, as the presentation of this year's report would not have left any discretion to the participants in their reporting decisions. To ensure that participants assume a similar company's situation, we provide the following statement in the case design: "The same auditor was appointed for the audit of the current financial year 2018. There were no major changes in the company's situation compared to the previous year." Regarding the presentation of the auditor's report on the previous fiscal year, we expect the following decision-making process: Participants are likely to perceive a risk of second-guessing by the auditor, as it is plausible that the auditor will again focus on the audit area that was identified as KAM in the previous audit. Further, it is reasonable to assume that participants expect continuity in the auditor's report format over time as practical evidence shows that the audit reports of a large number of companies include similar KAMs in subsequent years. Therefore, we feel comfortable that participants expect that managers' attention is redirected to the same KAM-related areas and, thus, previous year KAMs will affect their reporting behavior, because they anticipate similar auditor action in the current year.
- ¹¹ The management letter is provided by the auditor to the company's executives and individuals charged with governance, that is, the audit committee.
- ¹² Due to our manipulation, participants in the KAM absent condition do not receive information about certain audit issues in the auditor's report. Therefore, we decided to provide the information in the case description to ensure that participants' decisions are related to our manipulation and not to the differences in knowledge about the audit process and its results.
- ¹³ To measure the level of accountability among different parties (internal and external), we employ items adapted from Agoglia et al. (2011) in the postexperimental questionnaire.
- ¹⁴ Prior research on goodwill impairment shows that financial statement preparers use goodwill impairment decisions to engage in earnings management activities as it is difficult to value for third parties (Ramanna, 2008; Ramanna & Watts (2012).
- ¹⁵ TUI Group Annual Report 2015/2016; Bilfinger Group Annual Report 2017.
- ¹⁶ Participants were not able to browse back to the case materials or their response to the dependent measure in this stage of the experiment.
- ¹⁷ As a small incentive for participation, we donated €5.00 per participant to a charity organization.
- ¹⁸ Moreover, we received responses from 23 managers explaining they were not willing to participate for a lack of time or other reasons. Further, we could not be sure if all addressed participants received the email request due to spam filters or incorrect email addresses. Therefore, we assume the response rate to be higher than the participation rate.
- ¹⁹ We reran our analysis with the complete sample and found consistent results (although with slightly different significance levels). However, we assume that participants, who answered the manipulation check questions incorrectly, may confuse the information given internally in the management letter and externally in the auditor's report. For this reason, we only report the results for the reduced sample.
- ²⁰ As the overall manipulation was successful, we decided not to exclude participants who responded on the "wrong" side of the Likert scale. Moreover, we argue that the question is primarily based on participants' subjective feelings on how detailed the auditor formulated the risk in the KAM. Nonetheless, we recalculated our analysis excluding these participants; and the results are robust.
- ²¹ We calculate Pearson's correlation coefficients between our dependent variable IMPAIRMENT and all demographic variables in order to identify potential covariates. The results indicate no significant relationships. Hence, our model includes no covariates.
- ²² H1 and H2 posit that the effectiveness of KAM disclosure on financial reporting behavior is primarily aroused by increased managerial accountability as a result of greater transparency. To directly test our theory, participants were asked to respond to psychological debriefing items adapted from Agoglia et al. (2011) regarding their level of external accountability at the end of the questionnaire. Participants respond to the following questions ranging from 1 ("strongly disagree") to 7 ("strongly agree"): "How much was your goodwill impairment decision influenced by second-guessing concerns from (1) investors (2) audit committee (3) external watch dogs (4) the auditor?" Further, we asked "How do you think will an impairment loss affect your reputation? (5)". The results are as follows: (1) mean KAM present = 3.90, mean KAM absent = 3.94; $p = 0.923$ two-tailed; (2) mean KAM present = 3.08, mean KAM absent = 2.83; $p = 0.472$ two-tailed; (3) mean KAM present = 3.34, mean KAM absent = 3.48; $p = 0.714$ two-tailed; (4) mean KAM present = 2.98, mean KAM absent = 2.58; $p = 0.230$ two-tailed; (5) mean KAM present = 4.55, mean KAM absent = 3.98; $p = 0.137$ two-tailed. Contrary to our expectations that greater transparency might arouse greater anticipations of second-guessing concerns by third parties, the means on our second-guessing variables do not support this notion. In line with our theoretical predictions, we also examine whether reputational concerns may influence the causal inferences. However, the results are not statistically significant and, thus, indicate that reputational concerns do not serve as a mediating factor.

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APPENDIX A

EXHIBIT A: KAM manipulation

KAM-condition (firm-specific content)

Recoverability of goodwill

- In Schirmer Retail AG's consolidated financial statements, the goodwill of Natural Water GmbH, is reported in the amount of 21 million Euro. We focused on this area because of the materiality of the goodwill balance and because it involves complex and subjective judgments by the Directors. As Natural Water GmbH was no longer listed at the reporting date and listing prices could therefore not be used for the measurement of goodwill, a discounted cash flow (DCF) valuation technique was used for measurement for the first time. This matter was of particular importance,

because the result of this measurement depends to a large extent on management's assessment of future cash flows and the discount rate used. Therefore, the valuation of Natural Water GmbH is subject to considerable uncertainty.

2. Among other procedures, we examined the measurement of the shares in Natural Water GmbH and verified the inputs used in connection with the valuation technique using company-specific information as well as sector-specific market data and expectations. Overall, we consider the measurement inputs and assumptions used by management to be in line with our expectations.

KAM-condition (nonfirm-specific content)

Recoverability of goodwill

1. Goodwill is subjected to an impairment test at least once during the financial year and additionally during the course of the year if there are indications of a need for unscheduled amortization in order to determine a possible need for amortization. The result of these valuations depends to a large extent on management's assessment of future cash flows and on the discount rates used in each case. Due to the underlying complexity of the valuation and the discretionary scope available in the valuation, the impairment

test for goodwill was one of the most significant issues in our audit.

2. Among other procedures, we examined the measurement of the shares in Natural Water GmbH and verified the inputs used in connection with the valuation technique using company-specific information as well as sector-specific market data and expectations. Overall, we consider the measurement inputs and assumptions used by management to be in line with our expectations.

APPENDIX B

EXHIBIT B: Table with discount and growth rates

The effect of changing discount and growth rates on the value in use

Book value	21 Mio. €	21 Mio. €
Discount rate	4.5%	5%
Growth rate	2.0%	1.5%
Value in use	21,86 Mio. €	16 Mio. €
Impairment loss	0 Mio. €	5 Mio. €