Content characteristics of key audit matters reported by auditors in Bangladesh and their implications for audit quality

Received 8 December 2022
Revised 21 June 2023
Accepted 9 July 2023

Md Khokan Bepari
Higher Education Division, Holmes Institute, Brisbane, Australia
Shamsun Nahar
Department of Accounting, Finance and Economics, Griffith University, Brisbane, Australia
Abu Taher Mollik
Canberra Business School, University of Canberra, Canberra, Australia, and
Mohammad Istiaq Azim
College of Business, Law and Governance, James Cook University, Townsville, Australia

Abstract

关键审计事项披露可以显著降低管理层盈余管理的机会主义行为。KAM的长度与数量与盈余管理的幅度成正相关。意味着审计师将拓展披露作为抑制管理层机会主义行为的方式。

Purpose – In this study the authors examine the nature and contents of key audit matters (KAMs), and the consequences of KAMs reporting on audit quality in the context of a developing country, Bangladesh. The authors' proxies of audit qualities are discretionary accruals, small positive earnings surprise, audit report lag, earnings management via below the line items and audit fees.

Design/methodology/approach – The authors use content analysis of the KAMs for the period 2018–2021 to understand the nature and extent of KAMs reported by auditors in Bangladesh. The authors then use multivariate regression analysis to examine the effect of the number and content characteristics of KAMs on audit quality by using multivariate regression analysis.

Findings – Auditors in Bangladesh disclose a higher number of KAMs compared to other countries, disclose short descriptions of KAMs and industry generic KAMs. The authors document significant cross-sectional variations in the number and content characteristics of KAMs reported by auditors in Bangladesh. The authors' pre-post analysis suggest that audit quality has improved after the adoption of KAMs. Cross-sectional analysis suggests that KAMs number and content characteristics are related to audit quality.

Practical implications – The authors' findings imply that the KAMs reporting has the potential to play significant monitoring role in reducing the opportunistic behavior of managers. Hence, KAMs reporting can play a significant role in reducing the agency problem. For regulators, shareholders and corporate managers, the authors' findings imply that if the audit quality is to be increased, the audit effort should be supported by an appropriate amount of audit fee.

Social implications – The content characteristics of KAMs significantly influence managerial reporting behavior and affect the level of audit efforts.

Originality/value – Unlike developed countries (Gutierrez *et al.*, 2018; Lennox *et al.* 2022), this study supports that KAMs reporting improves audit quality and control opportunistic behavior of managers in developing countries. The authors show that even though the KAMs disclosure quality is poor, it has the potential to improve financial reporting quality.

Keywords Key audit matters, Content characteristics, Audit quality

Paper type Research paper

1. Introduction

The International Standards on Auditing-ISA 701 mandates a significant change in the structure and content of audit reports. Auditors now need to disclose key audit matters (KAMs) in the audit

JEL Classification — M41, M42

Journal of Accounting in Emerging Economies
Vol. 14 No. 4, 2024
pp. 855-885

2042-1168
DOI 10.1108/JAEE-12-2022-0344

report. The transparency of financial reporting and auditing was the key focus of the introduction of ISA 701 KAMs. The International Auditing and Assurance Standards Board (IAASB) defines KAMs as those matters that auditors consider, by applying their professional judgments, as the most significant risk area in conducting their audit of financial statements. Auditors need to disclose key risk areas faced during the audit as KAMs. Auditors need to disclose why a particular item is considered a KAM and what audit procedures have been followed to audit that KAM item.

On the usefulness of the KAMs reporting, research is emerging on developed economies such as Australia, the United Kingdom and the United States with mixed evidence on the information value and usefulness of KAMs reporting (Gutierrez *et al.*, 2018; Lennox *et al.*, 2022; Zeng *et al.*, 2021). More research is needed on the KAMs reporting requirements in developing country contexts, taking into consideration their regulatory and institutional settings. The KAMs reporting requirement was introduced with an objective of enhancing audit report transparency and to reduce the information asymmetry between the managers and other stakeholders (Minutti-Meza, 2021). Early studies examining the effectiveness of KAMs have mostly focused on the investors' short window reaction on the KAMs number (Gutierrez *et al.*, 2018; Lennox *et al.*, 2022). Aspects that have mostly been overlooked in early studies are the content characteristics of KAMs, the reasons disclosed for KAMs, content specificity of KAMs as against generalized information and idiosyncrasy of KAMs. Moreover, how the content characteristics of KAMs affect managerial reporting behavior, audit efforts and audit fees have not been examined. Also, Chen *et al.* (2019) have theorized that the Critical Audit Matter (CAM, the US equivalent of KAM) disclosure enhances auditors' efforts only if the underlying financial reporting quality is poor, arguably in the developing markets. Bangladesh provides an interesting setting to examine the effect of KAMs reporting on audit quality as the institutional characteristics restrict the supply of and demand for audit quality and financial reporting quality. The capitalism in Bangladesh is featured by family-owned groups, political connections, lack of transparency and kinship (Uddin and Choudhury, 2008), concentrated ownership (Witt and Redding, 2013) and "crony capitalism" (Uddin and Hopper, 2001). Other characteristics include poor corporate governance, and ineffective regulatory environment (Khan *et al.*, 2016). The audit market is characterized by low audit fee (Nurunnabi, 2017), dispersed audit market, fear of loss of clients, reluctance to issue qualified opinions, opinion shopping and minimal presence of big4 auditors given that only 5% of the listed firms are audited by agents of big4 firms (Azim and Ahmed, 2021). Agents of big4 audit firms lack the competence and cultural traits of big4 audit firms (Belal *et al.*, 2017). Despite these poor institutional and governance backgrounds, Bangladesh, being one of the fastest growing economies in the world (Focus Economics, 2022), has attracted considerable attention from international investors community. Against this backdrop, due to the pressure from donor agencies and international investors, and to meet the growing demand from different stakeholders for enhanced transparency, Bangladesh has adopted ISA701, KAMs reporting requirements for finical reporting from 31 December 2018 onward. Hence, Bangladesh provides the opportunity to examine if the KAMs reporting requirements affect the audit quality in the generally weak yet growing market.

We examine the content characteristics of the KAMs reported by auditors in Bangladesh, and the implications of the KAMs reporting on audit quality. While most of the studies examining the usefulness of KAMs reporting have focused on developed countries (Lennox *et al.*, 2022; Seebeck and Kaya, 2022; Gutierrez *et al.*, 2018), evidence on developing countries is, thus far, limited to determinants studies (Suttipun, 2022; Abdullatif and Al-Rahahleh (2020)). The consequences of KAMs reporting on audit quality in a developing country context will enrich our understanding in this regard. We examine the following questions:

Q1. What are the nature and content characteristics of KAMs reported by auditors in Bangladesh?

Q2. Do the nature and content characteristics of disclosed KAMs in Bangladesh relate to audit quality?

Relating to the first question we perform explorative examination of the types of KAMs disclosed (account level and entity level KAMs), reasons disclosed for KAMs, content specificity of KAMs (whether the auditor disclose generic information or client specific information on identified KAMs), industry generic KAMs versus idiosyncratic KAMs. Understanding these content characteristics of KAMs are important because studies in the developed countries have found that the content specificity of KAMs are useful for investors (Seebeck and Kaya, 2022; Zeng *et al.*, 2021).

Relating to the second question, we examine if the content characteristics identified under research question 1 (Q1) act as the deterrents for managerial opportunistic reporting behavior (in terms discretionary accruals, small positive earnings surprise, earnings management via below the line items), and audit efforts (in terms of audit report lag and audit fee). If firm-specific contents, idiosyncratic KAMs and specified reasons bring transparency in the audit reports, these characteristics should act as the deterrents for managerial opportunistic reporting behavior. Also disclosing firm specific information and idiosyncratic KAMs requires auditors to put more audit efforts which must be associated with commensurate audit fees.

To examine the effect of the content characteristics of KAMs on reducing managers' opportunistic earnings manipulation, we rely on agency theory. We consider external audit as a monitoring function (hence, a governance mechanism), and associated audit fees as the monitoring costs. External auditors' reporting of firm-specific information on identified KAMs and the disclosure of idiosyncratic KAMs, along with the reasons for identifying an item as a KAM should act as a deterrent on managerial opportunistic behavior. Also relying on monitoring cost hypothesis, the more informative the KAMs reported by auditors, the more should be the audit efforts and audit fees.

We perform a content analysis of the KAMs section of audit reports of listed companies for the first four years (2018 and 2021) of the implementation of ISA 701 in Bangladesh. Our proxies of audit qualities are discretionary accruals, small positive earnings surprise, audit report lag, earnings management via below the line items and audit fee. We then use multivariate regression analysis to examine the consequences of KAMs reporting on audit quality.

Our findings suggest that auditors in Bangladesh disclose, on an average, higher number of KAMs. Reported KAMs are industry generic, descriptions are short, and similarities are high across KAMs reported for clients in the same industry. Identified reasons are remote to the audit risks and, in some instances, specific reasons are not mentioned. We also find that the content characteristics of KAMs are associated with different proxies of audit qualities. Hence, our study suggests that KAMs reporting have significant implications for audit quality in the developing country context. KAMs and their content specificity reduce managerial opportunistic earnings management and improve audit efforts and financial reporting quality.

We contribute to the literature in the following ways. First, we conduct a thorough content analysis of the KAMs reported in a developing country context. Most of the previous studies in the developing country context have examined the determinants of the number of KAMs (Suttipun, 2020; Rahman *et al.*, 2022). We extend to examine the types, readability, similarities, reasons, disclosure specificity, and idiosyncrasies of KAMs. Second, while most of the studies in the developing country context have examined the determinants of the number of KAMs, we examine the consequences of the content characteristics of KAMs on the managerial reporting behavior (earnings manipulation), audit efforts and audit fees. Third, while most of the previous studies have examined the investors' consequences of KAMs reporting, we examine the managerial consequences and auditors' consequences of KAMs reporting. Fourth, our findings suggest that auditors' KAMs reporting can control managerial opportunistic behavior in a developing country context, where most of the other corporate governance mechanisms are non-functioning.

The paper progresses as follows. In Section 2 we discuss the institutional backgrounds and the audit environment in Bangladesh. In Section 3 we discuss the theoretical Framework. We review literature and develop hypotheses in Section 4. Data and Sample are discussed in Section 5. In Section 6 we analyze the key contents of KAMs. We discuss the empirical methods in Section 7. Results are presented in Section 8. Section 9 concludes the paper.

2. Institutional backgrounds and the audit environment in Bangladesh

2.1 Conceptualization of KAMs

The ISA 701, KAMs reporting was introduced globally to reduce the information asymmetry between managers and stakeholders (Minutti-Meza, 2021). The ISA 701 mandates a significant change in the structure and contents of audit reports. It requires the auditor to disclose KAMs identified during the audit, where KAMs represent the most significant risks facing the client (IAASB, 2015). As per the ISA 701, in determining KAMs, auditors need to disclose why a particular item is considered as a KAM. The disclosed KAMs should be audit specific. Since KAMs signals the most important risk of material misstatements of a firm, significant professional judgments are required relating to their identification and disclosure. Moreover, International Federation of Accountants (IFAC, 2015) suggests that the implementation of KAMs might bring about uncertainty for both auditors and their clients as auditors must make a trade-off between disclosing more information and maintaining the confidentiality of the client. Lennox *et al.* (2022) suggest that the concern over confidentiality may lead audit reports to contain "boilerplate" disclosures that lack sufficient information. Wilson (2021) suggests that the KAMs should provide a lens by which stakeholders can look into the discussions that goes between the auditor and the audit committee (AC).

One of the objectives of the introduction of KAMs was to enhance the transparency and communicative value of the audit report (Köhler *et al.*, 2020; Minutti-Meza, 2021). The KAMs reporting requirements is supposed to reduce the standardized audit report. Due to the subjectivity involved in the KAMs reporting, Segal (2017) and Köhler *et al.* (2020) suggest that auditors will tend to withhold KAMs that may create confrontations with the client. Köhler *et al.* (2020) further argue that KAMs reporting will soon turn out to be "standardized and boilerplate" disclosures without having any entity specific information.

2.2 The audit environment in Bangladesh

Family-owned groups, political connections, lack of transparency, kinship, concentrated ownership, and "crony capitalism" are the key features of the capitalism of Bangladesh (Uddin and Choudhury, 2008; Witt and Redding, 2013; Uddin and Hopper, 2001). Due to the concentrated ownership and family dominance in the business ownership, corporate governance mechanisms are weak or non-functioning. The board of directors (BOD) and the AC are family members dominated or they show allegiance to family owners. Hence, the BOD and the AC facilitate "rent extraction" by dominant owners, rather than protecting the interests of minority shareholders.

The weak governance environment has also affected the audit environment in Bangladesh. Independent audit has failed to play a significant governance and monitoring role in enhancing the transparency of financial reporting in Bangladesh. The audit market in Bangladesh is characterized by low audit fee, small number of qualified auditors, lack of enforcement and punishments against negligent auditors, and lack of professional ethics and integrity from some auditors (Nurunnabi, 2017). There is a little presence of big4 audit firms. Only five percent of the listed firms are audited by agents of big4 firms (Azim and Ahmed, 2021), and those agents have not embraced the cultural traits and skill competence of big4 audit firms (Belal *et al.*, 2017). The audit market is dispersed to a large number of small local

audit firms. This widely dispersed audit market negatively affects audit firms' resource accumulations, the development of technical expertise, hiring and retaining skilled staffs, and the continuous professional development. Moreover, this dispersion in the audit market creates unethical fee competitions among auditors, auditors reduce audit fees to accept clients, and due to the poor audit fees, conduct nominal audits. Some auditors engage in the "opinion shopping" practice, whereby, they issue audit reports without properly conducting the audit (Azim and Ahmed, 2021). Azim and Ahmed (2021) further suggest that auditors in Bangladesh do not want to issue adverse audit opinions or disclaimer of audit opinions in the fear of losing the client. Because there are many small audit firms, and some of those audit firms practice opinion shopping, auditors face fee competitions and fear of loss of clients.

In the financial reporting landscape, significant regulatory reforms initiatives have been taken place during the last few years. The Financial Reporting Council (FRC) was established in 2015 with an objective to improve the financial reporting and audit quality. The notable reforms relating to auditing are: auditors now need to submit to a central database maintained by the ICAB every report that a particular firm or auditor audit during a period. This process helps regulators to trace how many companies have been audited by a particular auditor or audit firm given the specific number of staffs and resource base that the audit firm or the auditor has. Also, auditors now need to sign in the name of the partner. Moreover, audit firms need to be on the list of eligible auditors maintained separately by the central bank of Bangladesh, the Bangladesh Bank (BB), and the Bangladesh Securities and Exchange Commissions (BSEC). The BB published a list of 75 audit firms in 2017, who are eligible to audit banks and other financial institutions out of a total of 173 audit firms registered by ICAB. In 2020, due to allegations of frauds and negligence by some audit firms, the BB removed 36 audit firms from the lists. As of 2021, the BB had a list of 47 audit firms who can audit banks and financial institutions. Another regulator, the BSEC, has a separate list of auditors who can audit publicly listed companies. To be eligible for auditing banks and financial institutions, an audit firm must be included in the lists of both the BB and the BSEC. These sanctions by two top regulatory bodies on audit firms raise concerns about the quality of independent audits in Bangladesh.

Minority shareholders do not have any organized forum to show their voices and in most cases, they invest by rumor. Hence, minority shareholders are not concerned about audit reports, let alone the KAMs. Auditors usually do not face any question in the AGMs about the audit reports and contents of KAMs. Auditors also do not assume threats for litigation from shareholders or regulators. Hence, auditors' audit practice and audit reporting are affected by their concerns to retain clients. Although independent audit is supposed to play a significant governance and monitoring role in the ineffectiveness of other corporate governance mechanisms, the overall institutional settings and regulatory environment along with the poor audit fee may adversely affect the proper identifications and reporting of KAMs.

3. Theoretical framework

We examine the content characteristics of KAMs using the lens of institutional theory of isomorphism and decoupling. Normative isomorphism results when an organization confirms to the social expectations out of own initiatives. Auditor may face normative pressures to report KAMs appropriately due the trust deficit that auditors have faced in recent years from public. Due to the normative pressure, auditors may follow the professional ethical guidance, and follow the best practice in the industry. Regulatory or political, or other institutional pressures results in coercive isomorphism. Under the coercive isomorphism, an organization adopts practices under formal, informal, or regulatory pressure (Islam and Deegan, 2008). The strengths of the regulatory pressure determine how much formal practices are adopted. In the context of auditing in Bangladesh, the coercive pressures

emanate from monitoring by regulatory and professional bodies and regulatory changes. Under uncertainties, chaos and confusions, when an organization follows or imitate the practices of other organizations, we call it mimetic isomorphism (Islam and Deegan, 2008).

The institutional theory also suggests that regardless of the isomorphic pressures, the actual reporting practices of an organization might be different from the formal policies and procedures due to the decoupling process (Dillard *et al.*, 2004). Due to decoupling, the formal stances of an organization become different from the actual practices (Islam and Deegan, 2008). Due to the latest regulatory reforms taken by the FRC, the Institute of Chartered Accountants of Bangladesh (ICAB), and the BSEC, auditors will face coercive pressures to report KAMs.

The local institutional and audit environment will affect the content characteristics of KAMs. Due to the non-existence of big4 firms, dispersed audit market to the local firms, poor audit fees, lack of demand for high quality audit from shareholders, auditors in Bangladesh may take resort to mimetic isomorphism. Small audit firms may follow big local firms. There may be high level of similarities in the reporting structures of KAMs among firms in the same industry. Due to the disagreements and counter pressures from the management, BODs and the ACs, auditors will apply the discretions allowed under ISA 701 and disclose industry generic KAMs with short descriptions and lower readability. Basing on the concept of mimetic isomorphism, we assume that auditors may disclose industry generic KAMs to maintain rapport with the client.

Despite the poor-quality content characteristics of KAMs, there might be cross-sectional variations in the contents of KAMs and the cross-sectional variations may be associated with audit quality. Specifically, the content specificity, idiosyncrasy, readability and the reasons disclosed for KAMs may either have significant signaling values or may act as deterrents for managerial opportunistic reporting behavior. In this context, we rely on the agency theory (Jensen and Meckling, 1976) to understand managerial reporting motivation and consider external audit as a monitoring mechanism. Audit fee is the monitoring costs. The more transparent the KAMs reporting is, the more it reduces information asymmetry between stakeholders and managers. Moreover, transparent reporting of KAMs reduces managers' opportunistic reporting behavior. We examine the effect of the content characteristics of KAMs on different proxies for audit quality and managerial opportunistic reporting behavior using the agency theory perspectives. Based on the agency theory, external audit is considered as a monitoring mechanism. Independent auditors are supposed to play a significant role in monitoring and controlling the managerial reporting behavior. Chen *et al.* (2019) and Zeng *et al.* (2021) suggest that the KAM reporting is supposed to be more effective in developing countries where other mechanisms of corporate governance are weak. Due to the idiosyncratic corporate governance environment, most of the corporate governance mechanisms are ineffective in Bangladesh. Hence, the KAMs reporting has the potential to play significant roles in controlling managerial opportunistic reporting behavior.

4. Literature review and hypothesis development

An internationally accepted best practice has not yet emerged for KAMs reporting. Early literature has examined the determinants of KAMs disclosures in different developed country context. Pinto and Morais (2019) examine the determinants of KAMs reporting in the context of France, the Netherlands and the United Kingdom. They find that different firm-specific factors such as size, complexity, litigation risks, inventory, industry sector and firm profitability are associated with KAMs disclosure. Sierra-Garcia *et al.* (2019) in the premium listed UK companies, find that in addition to the client characteristics, audit firm characteristics also affect KAMs disclosures. Bepari *et al.* (2022) in the Australian context document that in addition to the client firm and audit firm characteristics, audit partners' characteristics such as audit partners'

gender, education and experience also affect the number and types of KAMs disclosures. Velte (2018, 2020) in the UK context and Bepari (2022) in the Australian context study the relationship between audit committee characteristics and number, types and content characteristics of KAMs disclosures. Collectively, Velte (2018, 2020) and Bepari (2022) have documented that audit committee members' accounting and finance background, audit committee members' industry expertise, and female members in the audit committee affect the number, readability and content specificity of KAMs disclosures. Moreover, auditor switch and audit firm switch have also been found to affect KAM disclosures (Duboisee *et al.*, 2023). All these studies relate to the context of developed countries.

On the usefulness of the KAMs reporting, most of the existing researches have thus far focused on the UK market with mixed evidence on the information value and usefulness of KAMs reporting (Gutierrez *et al.*, 2018; Lennox *et al.*, 2022). In the UK context, while Gutierrez *et al.* (2018) and Lennox *et al.* (2022) suggest that KAMs do not provide useful information to users, and KAMs reporting has not fulfilled its intended objectives, Seebeck and Kaya (2022), and Reid *et al.* (2019) suggest improvement in audit quality. Zeng *et al.* (2021) provide evidence on the Chinese context that the content characteristics of KAMs provide useful information to users. More evidence is needed from developing countries to understand if the KAMs reporting requirement makes any improvement in the audit quality in those markets.

In the developing country context, there exist a few studies that have examined the determinants of KAMs disclosures. In the context of Thailand, Wuttichindanon and Issarawornrawanich (2020) find that firm-level industry classifications, firm complexity, and the number of independent directors significantly positively affect the number of KAMs disclosures. Suttipun (2022) examines the level and extent of KAMs reporting for companies in the Alternative Capital Market of Thailand and find that on an average 1.63 KAMs are reported per client and the number of KAMs reported remains the same for all three years. Significant positive relationship is also found between auditor types, audit fees and the number of KAMs reporting. In another study, Suttipun (2020) examine the level of KAMs reported and the determining factors in the context of Thailand and find that auditors, on an average, reported 1.95 issues as KAMs, and firm size, complexity of the firm and audit rotation are positively associated with KAMs reporting. Abdullatif and Al-Rahahleh (2020) have examined the KAMs reporting of Jordan and find that Auditors in Jordan report small number of KAMs and have a tendency to report industry generic KAMs. In the context of Bangladesh, Rahman *et al.* (2022), have used the archival data to examine the influence of industry class, firm size, firm age, and auditor switch on the number and word counts of KAMs. Osama (2022) have examined the determinants of KAMs reporting in the Middle Eastern countries and documented that audit committee, auditors and client characteristics affect the KAMs reporting.

Overall, none of these studies has examined the effect of KAMs reporting on audit quality in the context of a developing country. Moreover, previous studies have examined the effect of KAMs number on the audit quality without much regards to the content characteristics of KAMs. Our study contributes in that we examine the effect of the content characteristics of KAMs on proxies of audit quality. Mixed evidence in the context of developed countries and lack of evidence on the developing countries on the effect of KAMs on audit quality, motivate our research.

The number of KAMs indicates the severity and extent of audit risks in auditing the client. The higher number of KAMs should imply more uncertainties and risks in the accounting measurement, and more managerial opportunistic behavior. Also, a large number of KAMs may imply managerial opportunistic financial reporting, more audit efforts leading to more audit fees, and more time to complete the audit. Auditors may also disclose higher number of KAMs to indicate high quality of audit. Hence, we propose the following hypothesis:

H1. Number of KAMs is associated with audit quality

For an identified KAM, auditors need to disclose why the item is a KAM. In addition to the three reasons mentioned in the ISA 701, auditors may disclose client-specific idiosyncratic reasons for KAMs items. Users may find the idiosyncratic reasons disclosed by auditors useful and as an indication of audit quality. Specifically, if the auditor discloses idiosyncratic reasons or mentions significant audit efforts as the reason for disclosing an item as a KAM, then those disclosures should provide an indication of audit quality and those specific disclosure should act as deterrents of managerial opportunistic behavior. Hence, we propose the following hypothesis:

H2. The reasons disclosed by auditors for KAMs will be associated with audit quality

The readability of financial report has been linked to the financial report transparency. When managers want to withhold information, they use passive language and generalized disclosure. This argument may also apply to audit reports as well as to KAMs disclosures. If the auditor discloses client specific information, they may use active writing enhancing the readability of KAMs (Ong *et al.*, 2022). Also, auditor may disclose more readable KAMs to signal higher quality accounting estimates and higher level of transparency in the financial report. Literature has documented that higher readability is related to information transparency (Rahman and Oliver, 2022) whereas, lower readability has been linked to the higher information asymmetry and inside trading. Accordingly, we propose the following hypothesis:

H3. The readability of KAMs is associated with audit quality

Disclosure specificity has been linked to the transparency of KAMs reporting. Early literature has documented that if auditors disclose specific information on the identified KAMs, investors find more relevant information in the reported KAMs (Seebeck and Kaya, 2022; Zeng *et al.*, 2021; Chang *et al.*, 2022). Chang *et al.* (2022) document that auditors disclose more client specific information when the client's financial reporting quality is low. Hence, auditors may disclose more client specific information in an effort to reduce managers' opportunistic reporting behavior. We postulate the following hypothesis:

H4. Disclosure specificity of KAMs is associated with audit quality;

Literature has expressed concerns that auditors disclose industry generic KAMs (Kend and Nguyen, 2020) and investors do not find industry generic KAMs informative. On the contrary Seebeck and Kaya (2022), Zeng *et al.* (2021) and Chang *et al.* (2022) suggest that client specific information and client specific KAMs provide users with useful information. To identify and disclose idiosyncratic KAMs, auditors may need to put more audit efforts. Moreover, because auditors have a general preference for reporting industry generic items and industry generic descriptions on KAMs (Pelzer, 2021), auditors' disclosure of client specific idiosyncratic KAMs may be associated with audit quality. Hence, we postulate the following hypothesis:

H5. Idiosyncrasy of KAMs is associated with audit quality

5. Data and Sample

We use all the listed companies in Dhaka Stock Exchange (DSE), Bangladesh for the year 2018 and 2021 for which annual reports were publicly available. In Bangladesh, the ISA 701 KAMs reporting was made mandatory for the period ending on or after the 31 December 2018. In Bangladesh, some companies have the financial year end on 31 December, and some companies have financial year end on 30 June. In our analysis we include both group of companies. There are some industry sectors in the DSE which have specific reporting

requirements and companies belonging to those industries have distinctive operations. Consistent with prior literature (Rahman *et al.*, 2022), we exclude corporate bonds, treasury bonds, debenture and mutual funds from our analysis. Table 1 shows the sample selection procedures.

We exclude all firms for which KAMs data was not extractable from the annual reports. We have manually collected data for KAMs for a sample of 754 firm-year-observations from 13 industrial sectors. Table 2 shows the industry distributions of our sample firms with the total and average number of KAMs for each industry sector. The data relating to KAMs are hand collected by a research assistant and then checked independently by two authors for consistency and accuracy.

Table 2 shows the average number of KAMs reported for different industries. The average number of KAMs reported during the study period are 3.282, 3.469, 3.843 and 4.029 in 2018, 2019, 2020 and 2021 respectively, implying that the number of KAMs reported by auditors in Bangladesh have increased. The large number of KAMs reported by auditors in Bangladesh may be due to two reasons, either due to the weak governance structure and poor reporting culture that increase the audit risks, or the indecision to decide which items to report as KAMs. The banking and financial companies have more KAMs, on an average, than other sectors. This is consistent with the findings of Abdullatif and Al-Rahahleh (2020) in the context of Jordan. According to Abdullatif and Al-Rahahleh (2020), no audit firm in Jordan reported more than five KAMs for a single client. In Bangladesh, the highest number of KAMs reported for a single client was 11 in 2019 and 10 in 2020.

6. Content analysis of KAMs reports

We examine KAMs disclosure characteristics in terms of (1) KAMs types, (2) the reasons auditors identify for those topics to be KAMs, (3) whether the KAMs topics provide firms specific information or generalized information, (4) readability of KAMs and (5) content similarities and lengths of KAMs.

Table 3 shows KAMs reported by auditors in Bangladesh clustered into account level and entity level KAMs. Account level KAMs affect individual accounts and their impacts are not pervasive to the financial statements as a whole. On the contrary, entity level KAMs affect the entity as a whole and their effects are pervasive. During 2018 about 64.61% of KAMs reported were account level KAMs and 35.38% of KAMs were entity level KAMs. During the year 2021, we find a decrease in the percentage of entity level KAMs (27.27%) and increase in the account level KAMs (72.73%). It is important to note from Panel B of Table 2 that auditors have disclosed 13.19% firm specific KAMs and 86.81% idiosyncratic KAMs in 2018. In 2021 the firm specific KAMs were 13.40% and industry specific KAMs were 85.25%. The low level of Idiosyncratic KAMs compares well with Abdullatif and Al-Rahahleh (2020) who find firm specific KAMs ranging from 2.13% in service companies to 13.16% for industrial companies in the context of Jordan.

	2018	2019	2020	2021	Total
Listed stocks on the Dhaka Stock Exchange (2018–2021)	589	589	589	589	2356
Excluded due to the distinct nature (Treasury Bond, Corporate Bond, Mutual Fund, Debenture)	294	294	294	294	1176
Did not adopt ISA701	154	5	5	5	169
Non-availability of annual reports when the data was collected	44	44	65	104	176
Final sample included in the analysis	97	246	225	186	754

Source(s): Authors' own work

Table 1. The sample selection procedures

Table 2.
Industry distribution of the sample and KAMs

Industry	Number of firms[1] 2018	Number of firms 2019	Number of firms 2020	Number of firms 2021	Total KAMs 2018	Total KAMs 2019	Total KAMs 2020	Total KAMs 2021	Average number of KAMs 2018	Average number of KAMs 2019	Average number of KAMs 2020	Average number of KAMs 2021
Bank	28	29	29	30	125	159	175	154	4.629	5.482	6.034	6.04
Cement	2	6	5	7	3	17	23	21	1.5	2.833	4.60	3.66
Ceramic	1	5	4	5	4	19	16	16	4	3.800	4.00	3.75
Engineering	1	29	29	20	4	94	95	82	4	3.242	3.518	4.157
Financial Institutions	20	21	16	11	56	85	70	45	2.94	4.047	4.375	4.30
Food and Allied	1	12	11	7	3	34	32	21	3	2.833	2.909	3.333
Fuel and Power	0	17	17	14	0	53	53	44	0	3.313	3.313	3.307
Insurance	38	38	33	20	106	116	120	66	2.789	3.053	3.636	3.368
IT	0	7	9	7	0	16	33	22	0	2.286	3.667	3.00
Jute	0	2	2	0	0	6	8	0	0	3	4	0
Pharmaceuticals and Chemicals	2	29	25	26	11	98	102	92	5.5	3.379	4.08	3.60
Textile	3	41	34	29	10	127	102	108	3.33	3.007	3.02	3.75
Miscellaneous	1	10	11	10	3	26	35	33	3	2.6	3.50	3.55
Total	97	246	225	186	325	850	864	704	3.282	3.46	3.84	4.029

Note(s): [1]Includes firms with at least 1 KAMs disclosed
Source(s): Authors' own work

Account level KAMs	2018	2019	2020	2021	Total
Panel A: Account level versus entity level KAMs					
	210 (64.61%)	609 (71.64%)	596 (68.96%)	512 (72.72%)	1927 (70.25%)
Entity level KAMs					
	115 (35.38%)	241 (28.35%)	268 (31.03%)	192 (27.27%)	816 (29.75%)
Total	325	850	864	704	2743
Panel B: Firm specific versus industry specific KAMs[1]					
	2018	2019	2020	2021	Total
Firm specific	13.19%	11%	12.2%	14.75%	13.40%
Industry specific	86.81%	89%	87.8%	85.25%	86.60%

Note(s): [1]We define firm specific and industry specific KAMs in Section 7
Source(s): Authors' own work

Table 3.
Types of KAMs

We examine the reasons mentioned by auditors for the identified KAMs. The broad categories of reasons mentioned by auditors along with their frequencies are shown in Table 4. In addition to the three reasons mentioned in ISA 701, auditors have identified other reasons. For 17.80% of KAMs, auditors have mentioned that those items involve risks of material misstatements, and fraud risks *(Reason 1)*. For 48.79% of KAMs, auditors mention that those items involve significant judgments and estimates *(Reason 2)*, whereas, for 16.79% of KAMs, auditors mention that those items involve significant value, affect investors decisions, or involve significant events or transactions taking place during the year *(Reason 3)*. "Requires significant audit efforts" has been mentioned as the reason for 5.69% of KAMs (*(Reason 4)*. For 7.83% of KAMs, auditors mention reasons that are idiosyncratic to the clients, such as "heavy reliance of debt," "risk of liquidity crisis" *(Reason 5)*. No reason has been provided for 3.10% of KAMs.

The ISA 701 requires auditors to identify and disclose for each KAMs, a description on why the auditor considers a particular item as a KAM and what audit procedures the auditor has followed in auditing the KAM. We separately examine the content characteristics of the two sections of KAMs in five aspects such as content Specificity, Readability, Lengths, Similarity and Idiosyncrasies of KAMs. We define different content characteristics below:

SPECIFICITY 1: 1 if specific product, division, segment, geographic areas affected by the KAM are disclosed, 0 otherwise;

SPECIFICITY 2: 1 if the reason explained provides firm specific information, 0 otherwise;

SPECIFICITY 3: 1 if specific monetary value relating to the item has been mentioned, 0 otherwise;

SPECIFICITY 4: 1 if the monetary value has been expressed as a percentage of a line item (e.g. total assets) in the balance sheet or income statement, 0 otherwise.

SPECIFICITY 5: Percentage of the discussions in the KAMs section that provides information specific to the firm. It is a continuous measure;

SIMILARITIES1: Average Safe Assign score of KAMs reported for the clients in the same industry, calculated separately for KAMs descriptions and KAMs procedures;

READABILITY1: Flesch Reading Ease Score calculated separately for KAMs descriptions and KAMs audit procedures.

LENGTHS1: Average number of words per KAMs, calculated separately for KAMs descriptions and KAMs audit procedures.

Reasons	Percentage of firm-KAMs	Examples of keywords in disclosures, key phrases, concepts links	Specified in ISA 701
Reason 1: It involves risk of material misstatements, and risk of fraud	17.80	Risk of fraud, risk of misstatements, risk of control	Yes
Reason 2: It involves significant judgment and estimations	48.79	- Judgments and estimates needed to the recoverability of deferred tax, -Judgments and estimates in the measurement of revenue, -Disagreement with the Taxation authority, -Risks of recoverability of Deferred tax assets, -Income tax calculated on net income, -Significant uncertainty on the measurement and estimation, -Significant uncertainty over the recoverability, -Significant judgments and estimates required for calculating the transitional provisions of lease, accurate classification of lease, -Loan disbursement is one of the key performance indicators in the bank, -Revenue is the performance indicator for managers, -Revenue is the key performance metric for investors	Yes
Reason 3: It involves significant value and affect investors decisions and it involves a significant transaction or events occurring during current year	16.79	- Significance of the item to the overall financial statements, -Earning per share affect investors' decisions, Affects investors' decisions, -Adoption of Lease Standards, -Adoption of Revenue Standard, –Merger and acquisitions	Yes
Reason 4: Significant audit efforts	5.69	- We required significant audit effort, -Use of senior audit team members, - A high level of audit effort was required to collect audit evidence	No
Reason 5: Other reasons idiosyncratic to the client firms	7.83	- Controlling interests, -Contingent liabilities, -Debt covenants, -Cash flows problems, -Accrued salaries, -Control on the use of IPO funds, -Changes in accounting methods,-Non-compliance with IFRS, -Investment in shares, -Complex audit issues, -Decrease in operating cash flows, -Significant increase in inventories and raw materials, -Heavy reliance on long term loan, -Contribution to worker's participation fund,-Significant increase in sales compared to last year, -Significant decrease in earnings per share (EPS) compared to last year, -Complexity in the preparation of consolidated financial statements, -Changes in the functional currency of the subsidiary, -Operation ceased, going concern, -Heavy reliance on leverage. Loan are being used for working capital as well as long term investment, -Risk of liquidity crisis, -Related party transactions not conducted in arms lengths transactions, high volume of related party transactions, The company faces liquidity crisis for long time, decreasing EPS. -Significant uncertainty arising out of Covid-19 (8). -Uncertainty of procurement of adequate raw materials, inability to meet insurance claim liability	No
Reason 6: No specific reason mentioned	3.10	No specific reasons provided	No

Table 4.
Reasons that auditors identified for reporting KAMs

Source(s): Authors' own work

Table 5 shows the descriptive statistics of the content characteristics of KAMs descriptions and KAMs audit procedures.

Table 5, Panel A shows the SPECIFICITY of KAMs descriptions. The means of SPECIFICITY 1 to SPECIFICITY 4 are 0.290, 0.190, 0.611 and 0.123 respectively. This evidence implies that auditors have mentioned about product, division, segment, geographic areas affected by the KAM in 29% of the cases. Auditors have mentioned company specific reasons for 19% of KAMs, have disclosed the monetary value for 61.10% of KAMs, and have expressed the monetary value as a percentage of a line item for 12.30% of the reported KAMs.

Panel B of Table 5 shows the SPECIFICITY of KAMs audit procedures. Compared to KAMs descriptions, KAMs audit procedures have much less specific information on the company. The mean scores of SPECIFICITY 1 to SPECIFICITY 4 are 0.244, 0.089, 0.062, 0.038 respectively, implying that in case of 24.4% of KAMs auditors mentioned about product, division, segment, geographic areas affected in the audit procedures, in 8.9% of the cases the audit procedures mention firm specific information, in 0.062 specific value has been mentioned in the audit procedures and in 3.8% of KAMs, the audit procedures, the specific monetary value examined has been put in the context of a percentage of a line item.

	Number	Mean	Median	SD	Minimum	Maximum
Panel A: KAMs descriptions						
Specificity 1	754	0.290	1	0.23	0	1
Specificity 2	754	*0.190*	0	0.37	0	1
Specificity 3	754	0.611	1	0.26	0	1
Specificity 4	754	0.123	0	0.43	0	1
Specificity 5	754	35.84	35	24.43	10	80
Similarities1	754	0.785	0.792	0.216	0.351	0.800
Readability1	754	27.47	28.22	7.092	8.40	56.83
Lengths1	754	119.50	116	24.54	53	192
Panel B: KAMs procedures						
Specificity 1	754	0.244	1	0.370	0	1
Specificity 2	754	0.089	0	0.320	0	1
Specificity 3	754	0.062	0	0.241	0	1
Specificity 4	754	0.038	0	0.284	0	1
Specificity 5	754	17.73	18.08	14.27	5	53
Similarities1	754	0.822	0.804	0.075	0.528	0.934
Readability1	754	31.09	29.45	12.67	11.02	58.05
Lengths1	754	124.84	123	21.45	62	210

	N	Mean of descriptions vs procedures	Mean difference	t-value
Panel C: Mean difference tests of KAMs descriptions and procedures				
Specificity 1	754	0.290 vs 0.244	0.046***	24.555
Specificity 2	754	0.190 vs 0.089	0.101***	47.642
Specificity 3	754	0.611 vs 0.062	0.549***	81.468
Specificity 4	754	0.123 vs 0.038	0.085***	42.642
Specificity 5	754	35.84 vs 17.73	18.11***	31.287
Similarities1	754	0.785 vs 0.822	−0.037***	−27.978
Readability1	754	27.47 vs 31.09	−3.62***	−21.172
Lengths1	754	119.50 vs 124.84	−5.34***	−32.381

Note(s): *We first calculate the average similarities score for each KAMs in a particular industry. The KAM must be reported for at least two companies in the same industry. We did not calculate the similarities score for a particular CAM for firms across different industry

Source(s): Authors' own work

Table 5. Content characteristics of KAMs

We conduct univariate test between the disclosure specificity in KAMs descriptions and KAMs audit procedures and find the mean difference between these two characteristics are significantly different.

Consistent with Zeng *et al.* (2021) we calculate the similarities score for both KAMs descriptions and KAMs audit procedures. We calculate the SafeAssign similarities scores for the same KAMs in a given industry for both the KAMs descriptions and KAMs audit procedures. Results in Panel A, Table 5 suggest that the average similarity score in the KAMs descriptions is 78.5% and Panel B of Table 5 shows that the average similarities score of KAMs audit procedures is 82.2%. The mean difference tests in Panel C, Table 5 shows that similarities of KAMs audit procedures is significantly higher than the similarities of KAMs descriptions.

We also calculate the Flesch Readability Ease score for both the KAMs descriptions and KAMs audit procedure sections separately. Panel A, Table 5 shows that the average readability score of KAM description section is 27.47 and Panel B of Table 5 shows that the average readability score of KAMs audit procedures section is 31.09. The mean difference test shown in Panel C suggest that the readability is higher in the KAMs audit procedures section than that of KAMs descriptions sections. Our average readability scores imply that financial statements users need to have a fair level of financial literacy to comprehend the message in the KAMs descriptions and KAMs audit procedures sections.

To measure Lengths, we calculate the average number of words in the description section per KAM, which is 119.50 (Panel A, Table 5), and the average number of words in the audit procedures per KAM, which is 124.84 words (Panel B, Table 5). The mean difference test in Panel C suggests that on an average, KAMs descriptions sections are smaller than the KAMs audit procedures sections. The KAMs description is less readable, more specific and longer than the audit procedure section.

To summarize, our descriptive analysis suggests that auditors on an average report 3.61 KAMs, prefer to report industry generic KAMs, disclose reasons for KAMs that are identified by ISA 701, as well as discretionary reasons that are not mentioned in ISA 701. The lengths, readability and disclosure specificity are different for the KAMs description section, compared to the KAMs audit procedures section. Most of the descriptions are industry generic with little firm specific information. For some of the KAMs items, although idiosyncratic, auditors have not clearly spelled out the reasons for those items being KAMs. For many KAMs, auditors have provided very short descriptions. There are significantly high similarities among KAMs reported for various firms in same industry. We conclude that the KAMs reported by auditors in Bangladesh cannot be construed as "boiler plate disclosures" which is a major concern for developed countries like the USA (Brasel *et al.*, 2016; Kachelmeier *et al.*, 2020; Pelzer, 2021). Our findings rather support the findings of Zeng *et al.* (2021) in the context of China that reported KAMs are diverse.

7. Empirical methods to examine the effect of KAMs content characteristics on audit quality

To examine the effect of KAMs number and content characteristics on audit quality, we define five proxies of audit quality consistent with Zeng *et al.* (2021). We use absolute value of discretionary accruals (DA) calculated using modified Jones model as per Kothari *et al.* (2005), small positive earnings surprise (SP) which takes the value of 1 if the firm's ROE is between 0 and 0.02, otherwise 0 (Zero) (consistent with Zeng *et al.*, 2021; Gul *et al.*, 2013); the adoption of below-the -line non-core earnings (BL) which is the sum of investment net income, profits from other operations, and non-operating income deflated by total assets (Zeng *et al.*, 2021; Gul *et al.*, 2013; Kao *et al.*, 2009; Chen and Yuan, 2004); natural log of audit report lag (LNLAG) defined as the natural log of days from the financial year end to the date of auditor's signing

the audit report; and audit fee (FEE) defined as the natural log of audit fee consistent with Zeng *et al.* (2021). The first three proxies are related to client's earnings quality, and the last two proxies are related to auditors' audit efforts.

7.1 Pre-post adoption model

Bangladesh has adopted the KAMs reporting requirements from 31 December 2018. Auditors have reported KAMs for only a few banks and financial institutions in year 2018. Auditors have reported KAMs for companies in all sectors starting from 2019. After deducting all firms for which KAMs data are not available or not extractable from the audit reports, we have a total of 246 companies (198 non-bank and non-financial companies) in 2019. We also observe that in the year 2018 only companies belonging to the Banking, Financial and Insurance sectors have reported KAMs. Companies in all sectors have started reporting KAMs from 2019. Hence, in our pre-post analysis we consider the year 2019 as the post KAMs period and the year 2017 as the pre-KAMs period. We consider the year 2018 as the noise period. We calculate and collect the audit quality and financial data for the years 2019 and 2017 to examine if the introduction of KAMs reporting requirements has affected the audit quality. We define the following model:

$$AQ = \alpha + \beta 1\text{POST} + \sum \beta\text{Control} + \text{Industry} + \mu \qquad \text{Model (1)}$$

In this model we expect negative and significant coefficients for POST on DA, SP, and BL. On the other hand, we expect a positive and significant association for the variable POST on LnLAG and FEE. Because SP is a binary variable, we run logit model when the dependent variable is SP.

7.2 Cross-sectional model

To examine the effect of cross-sectional variations in the KAMs reporting on audit quality we estimate the following model:

$$\begin{aligned} \text{AQ} = {} & \alpha + \beta 1\text{KAMN} + \beta 2\text{SPECIFICITY} + \beta 3\text{SIMILARITY} + \beta 4\text{READABILITY} \\ & + \beta 5\text{LENGTHS} + \beta 6\text{FIRMSPECIFIC} + \beta 7 - 12\text{REASONS} + \sum \text{Controls} \\ & + \text{Industry} + \mu \end{aligned} \qquad \text{Model (2)}$$

7.3 Dependent variables

Consistent with Zeng *et al.* (2021), AQ represents five proxies of audit quality.

DA = Absolute value of discretionary accruals calculated using performance matched modified Jones model following Kothari *et al.* (2005). We calculate accruals only for non-bank and non-financial institutions. Hence, the number of observations is different when the dependent variable is DA to when the dependent variable is any other proxies of AQ.

SP = Indictor variable taking the value of 1 if the firm has reported a small positive earnings surprise, 0 otherwise; we consider a ROE between 0 and 0.02 as positive earnings surprises;

LN(LAG) = Number of days from the annual report date to the signing date of the auditor's report. We use natural log of the number of days in the regression;

BL=Sum of below the line items scaled by total assets (we consider other investment income, profit from other operations, non-operating income or income from non-recurring items as below the line items);

FEE = Natural log of audit fee;

To make sure that our proxies for audit quality capture different aspects of audit quality we examine the pairwise correlation between these audit quality proxies. The highest pairwise correlation is 0.24 between DA and Audit fee. The small correlations suggest our five proxies capture non-overlapping phenomenon and represent different aspects of audit quality matrix.

7.4 Independent variables

Post = Dummy variable taking a value of 1 for post-adoption period (2019), 0 for pre-adoption period (2017);

KAMN = Number of KAMs reported by the auditor for particular client in a particular year;

For the cross-sectional regression, we need to consider the firm level variables for the KAMs characteristics such SPECIFICITY, SIMILARITY, READABILITY, LENGHTS, FIRMSPECIFIC and REASONS 1 to 6. We convert different characteristics mentioned in Table 5 we into firm level variables by combining the values for KAMs descriptions and KAMs audit procedures and finding their average values. *SPECIFICITY:* Specificity score calculated following Bepari (2022) and motivated by Zeng *et al.* (2021). We calculate disclosure score for each KAM based on 4 specific items disclosure in the KAM. We then calculate the total score for each KAM and add the total score for each KAM to calculate a composite total score for each firm year observations. To construct the firm level variable SPECIFICITY, we add individual KAM's SPECIFICTY 1 to SPECIFICITY 4 for both KAMs descriptions and KAMs audit procedures. We then add the firm level scores for KAMs descriptions and KAMs audit procedures to calculate aggregate firm level SPECIFICITY score.

As an alternative measure of specificity, SPECIFICITY 5 define as the percentage of the discussions in the KAMs section that provides information specific to the firm. It is a continuous variable;

READABILITY = Flesh-Readability Score (calculated using Microsoft word). For readability, we calculate the mean readability score for each KAM's descriptions and audit procedures and combine them to calculate the aggregate firm-level readability scores.

LENGHTS = Number of words reported as KAMs. For lengths, we calculate the mean lengths (natural log of the number of words) for each KAM's descriptions and audit procedures and combine them to calculate the aggregate firm-level measure LENGHTS.

In the regression, we use the natural log of firm level *SPECIFICITY, READABILITY and LENGTHS.*

SIMILIARITY = SafeAssign score for reported KAM. In calculating the SafeAssign score, we have compared all KAMs reported by all firms in the same industry. For similarities, we calculate the average firm level similarities score (SIMILARITY) by combining the similarities scores of KAMs descriptions and KAMs audit procedures.

FIRMSPECIFIC = Zhi and Kang (2021) suggest that only firm specific idiosyncratic KAMs contain information that reduce firm crash risks. There are alternative definitions of idiosyncratic KAMs (Zhi and Kang, 2021; Abdullatif and Al-Rahahleh, 2020). Abdullatif and Al-Rahahleh (2020) use a subjective approach in determining firm-specific idiosyncratic KAMs. A firm specific KAM mentions specific information about the accompany and mentions why that item is particularly a risky area for that company. For example, just mentioning the amount of inventory and that inventory valuation involves significant judgments and estimates will be classified as industry specific KAM. However, if the KAM description specifically mentions where the inventories are located, what are the risky inventories, what are the risk associated with the inventories, how much value of the inventory is at risks, then it will be classified as a firm specific KAM. Other examples may be specific amount of tax dispute with the government of a particular jurisdiction, concentration of revenue to 3 customers, a particular subsidiary making continuous losses.

Zhi and Kang (2021) consider top 4 categories of KAMs in each industry as "industry homogenous KAMs. " The remaining KAMs are firm-specific idiosyncratic KAMs. We follow a combination of both methods in defining the variable FIRMSPECIFIC following Bepari (2022). We consider all KAMs that are not one of the top 4 KAMs in the industry as Firm-specific idiosyncratic KAMs. In addition, we also consider a KAM as a firm-specific idiosyncratic KAM if it scores 100% in the specificity score and more than 50% discussion for that particular KAM relates to firm specific information. Total number of firm specific idiosyncratic KAMs for a firm in a particular year is divided by the total number of KAMs for that firm in that year. Thus, our variable FIRMSPECIFIC is a ratio measure indicating the percentage of KAMs that are idiosyncratic.

REASONS = A dummy variable taking the value of 1 if the reasons mentioned by the auditor fall within the 6 reasons mentioned in Tables 4, 0 otherwise. Consistent with Zeng *et al.* (2021), we collapse KAM reason dummies to make a firm -level dummy using the maximum value.

Following prior research on audit quality (Zeng *et al.*, 2021; Jiang *et al.*, 2010; Gul *et al.*, 2013) we control for firm size (SIZE), leverage (LEV), cash flows from operation (CFO), firm age (AGE), standard deviation in last four years' revenue (VOLATILITY), number of business segments (COMPLEX), dummy variable for loss (LOSS), and profitability (ROA).

8. Results analysis

Table 6 presents the summary statistics for the regression variables used for examining the effect of KAMs number and content characteristics on audit quality. The mean of absolute value of DA is 0.056. The mean of SP is 0.043 which implies that 4.3% of the sample firms have reported small positive surprise in the earnings possibly to avoid reporting losses. The mean of the natural log of audit reports lag is 4.653 implying that on an average the audit report lag is 105 days. The mean of BL is 0.129 implying that on an average company use below-the-line items to increase earnings by 12.9%. The mean of natural log of audit fee is 13.554. The mean number of KAMs reported for our sample firms are 3.612. Specificity ranges from 0 to 14 with a mean of 6.365. Readability ranges from 49.425 to 8.351 with a mean of 27.030. Average Lengths is about 910 words (natural log value is 6.814). The average number of words per KAM disclosed is significantly lower than the average number of words per Critical Audit Matters (CAMs) disclosed by auditors in the USA (680.34 words) [1] and in Thailand (756.685 words) [2]. We also find that on an average, auditors write a smaller number of words for KAMs reason than the number of words they write for audit procedures used. There is no significant change in the average length of KAMs during the study period. Similarity ranges from 48.1% to 92.6% with a mean of 78.1%.

The average firm size, Ln (total assets), is 18.707, which is consistent with Rahman *et al.* (2022) and Muttakin and Khan (2014). The mean leverage of our sample firms is 58.7% which is consistent with Rahman *et al.* (2022) reporting 57% and Khan *et al.* (2016) reporting 0.65%. The mean of ROA is 7.468%, and about 14.7% of our sample firms have reported loss. The mean of cash flows from operation divided by total assets is 15.7%. Our sample firms on an average have 2.467 reported segments. The mean of Volatility, which is defined as the standard deviation of annual sales over last five years period scaled by total assets, is 11.4%.

Table 6, Panel B shows the univariate test differences between means of proxies of audit quality, pre-versus post KAMs reporting. The results show a significant decrease in discretionary accruals (DA), small positive earnings surprise (SP) and use of below the line item to manage earnings (BL) during the post-KAM period, compared to the pre-KAM period. Audit fee did not change; however, audit report lag (LAG) has increased during the post-KAM period compared to the pre-KAM period. Collectively this evidence implies that after the KAMs reporting was introduced, earnings management via discretionary accruals, small positive earnings surprise and below the line items have decreased. Auditors also spend more time in auditing compared to the pre-KAM reporting period.

Panel A: Summary statistics

	N	Mean	Median	SD	Minimum	Maximum
DA	*398*	0.056	0.048	0.023	0.003	0.218
SP	754	0.043	0	0.173	000	1
LN(LAG)	754	4.653	4.736	2.512	4.007	5.192
BL	754	0.129	0.092	0.086	−0.070	0.308
FEE	754	13.554	12.748	2.490	10.767	15.755
KAMN	754	3.612	3	1.788	0	11
SPECIFICITY	754	6.365	4.00	1.762	0	14
SIMILIARITY	754	0.781	0.795	0.132	0.481	0.926
READABILITY	754	27.030	25.832	10.724	8.351	49.425
LENGHTS	754	6.814	6.816	6.153	4.094	8.222
FIRMSPECIFIC	754	*0.134*	*0.14*	*0.241*	*0*	1
REASONS1	754	0.407	0	0.385	0	1
REASON2	754	0.894	1	0.229	0	1
REASON3	754	0.625	1	0.327	0	1
REASON4	754	0.183	0	0.335	0	1
REASON5	754	0.078	0	0.290	0	1
REASON6	754	0.037	0	0.269	0	1
AGE	754	26.51	28	11.62	5	67
SIZE	754	18.707	18.279	25.590	15.072	27.763
ROA	*754*	7.468	7.917	8.265	−32.47	44.214
LOSS	754	0.147	0	0.250	0	1
LEV	754	0.587	0.360	0.944	0.092	0.949
CFO	754	0.157	0.169	0.079	0.067	0.417
VOLATILITY	754	0.114	0.108	0.059	0.007	0.643
COMPLEX	754	2.467	2	1.846	1	14

Panel B: Difference in audit quality proxies between pre versus post KAMs implementations

	N	Post-KAM	Pre-KAM	Difference
DA	296	0.054	0.058	−0.004**
SP	492	0.040	0.046	−0.006***
LN(LAG)	492	4.672	4.615	0.058***
BL	492	0.110	0.147	−0.037***
FEE	492	13.542	13.554	0.012

Note(s): All variables are defined in the Appendix
Source(s): Authors' own work

Table 6.
Summary statistics for the variables used in the regression

Table 7 presents the results for the pre-post regression on audit quality. Of the 296 firms for which the KAMs data were available in 2019, we exclude firms in the banking, finance and insurance sectors to calculate discretionary accruals (consistent with Firth *et al.*, 2012; Zeng *et al.*, 2021; Ke *et al.*, 2015; Gong *et al.*, 2016). Other models are run for the entire 296 firms. To examine if the audit quality proxies of these firms are different in the post adoption period from the pre-adoption period, we compare the audit quality proxies of these sample firms for the period 2017 and 2019 and run Model 1. Our finding suggest that the variable POST has significant coefficients for all audit quality proxies expect for FEE. In DA model the coefficient of the variable "POST" is −0.009 (t, −4.295) which implies that the discretionary accruals have decreased after the auditors have implemented KAMs reporting. In the SP model, the coefficient of the variable "POST" is −0.087 (t, −2.392) which implies that the used small earnings surprises have decreased after the introduction of KAMs. The coefficient of the variable "POST" is positive and significant in the LN(LAG) model which suggests that the introduction of KAMs reporting requirements has increased audit report lag affecting

Table 7.
Pre versus post KAMs regressions on audit quality

Variables	DA	SP	LN(LAG)	BL	FEE
Intercept	0.006 (1.138)	0.120 (0.894)	4.027*** (6.287)	0.042*** (6.865)	1.738*** (6.468)
POST	−0.009*** (−4.295)	−0.087** (−2.392)	1.157*** (11.846)	−0.008*** (−4.136)	0.367 (1.283)
SIZE	0.013** (2.394)	−0.173*** (5.379)	1.106** (2.197)	−0.005** (−2.273)	0.295*** (4.068)
LEV	−0.011*** (−6.467)	0.237*** (4.975)	0.464 (1.118)	0.024 (0.819)	0.082*** (5.642)
CFO	−0.008** (−2.283)	−0.094* (−1.839)	−1.073* (−1.918)	0.003 (0.792)	0.082 (1.083)
AGE	0.073** (2.391)	−0.082** (−2.283)	1.205** (2.371)	0.047** (2.318)	0.067** (2.279)
VOLATILITY	0.009* (1.918)	0.037 (0.929)	0.432** (2.286)	0.001 (0.547)	0.052*** (4.068)
COMPLEX	0.007** (2.293)	0.024*** (3.461)	0.379*** (6.216)	0.038*** (4.655)	0.086*** (3.976)
LOSS	0.004*** (7.038)	-	0.419** (2.349)	0.023*** (3.946)	0.037** (2.259)
ROA	−0.011* (1.937)	-	0.009 (0.974)	0.021 (0.975)	0.074 (1.483)
Industry effect (fixed)	YES	YES	YES	YES	YES
Adjusted R-square	0.218	NA	0.226	0.182	0.383
Pseudo R-squared	NA	0.173	NA	NA	NA
N	148/296	246/492	246/492	246/492	246/492

Note(s): ***Significant at 1 percent level; **Significant at 5 percent level; *Significant at 10 percent level. In the parenthesis are t-statistics (or Z statistics in logit model when the dependent variable is SP) with robust standard errors

After excluding banking, finance and insurance companies, in 2019 there were a total of 148 firms for which KAMs data were available to for extractions. We calculated the absolute value of discretionary accruals and used them for the pre-post analysis in the model with DA as the dependent variable. For all other models, we have used the entire 246 firms for the pre-post analysis. Because SP is a dummy variable, we use logit model for SP

$AQ = \alpha + \beta 1\text{POST} + \sum \beta \text{Control} + \text{Industry} + \mu$ . . ..Model 1

The dependent variables are DA (discretionary accruals), SP (a dummy variable taking the value of 1 if the firm's ROE is between 0 and 0.02, otherwise 0), BL (below the line items), LN (LAG) (natural log of audit report lag), FEE (natural log of audit fee). The variable of interest is the dummy variable POST. Control variables are SIZE, LEV, CFO, AGE, VOLATILITY, COMPLEX, LOSS, ROA. All variables are defined in the Appendix

Source(s): Authors' own work

the timeliness of audit reporting. The coefficient of the variable POST is negative and significant (−0.008, t, −4.136) in the BL model, which implies that sample firms have used less below the line item to increase the profit. In the FEE model, the coefficient of the variable POST is positive but not significant (0.367, t, 1.283), which implies that audit fee did not change due to the introduction of KAMs reporting requirement.

Collectively, these findings suggest that the introduction of KAMs reporting requirements have implications for audit quality. Other control variables have generated results consistent with previous studies (Pinto and Morais, 2019; Sierra-Garcí a *et al.*, 2019; Bepari *et al.*, 2022). Firm size is positively associated with the audit fee and discretionary accruals, and negatively associated with small earnings surprise and below the line profit. Leverage is negatively associated discretionary accruals, but positively associated with audit fees and SP. Cash flow from Operation (CFO) is negatively and significant associated with discretionary accruals, and small positive surprise and audit report lag. Age is positively and significantly associated with discretionary accruals, audit report lag, below the line items and audit fee. Volatility in sales increases discretionary accruals, audit report lag and audit fee. The variable complex is positively and significantly associated with all five proxies of audit quality. Loss enhances discretionary accruals, audit report lag, below the line items and audit fee. This evidence is consistent with Zeng *et al.* (2021) in the context of China.

In the cross-sectional analysis we use the full available sample of 754 firm-year observations. We examine if the cross-sectional variation in content characteristics of KAMs such as number of KAMs (KAMN), reasons for identifying a particular item as a KAM (REASON1-6), disclosure specificity (SPECIFICITY), identification of firm specific KAMs (FIRMSPECIFIC), SIMILIRITY, READABILITY, and LENGTHS are related to audit quality. Table 8 presents the regression results for KAMs content characteristics with different audit quality proxies. The variable KAMN has positive and significant coefficients with DA (0.007, t-value 2.382), SP (0.142, t-value 2.417), LN(LAG) (1.208, t value −4.583), BL (0.008, t-value 1.874), and FEE (0.049, t-value 1.835). We interpret this evidence to suggest that the more KAMs the auditor report, the lower the financial reporting quality for the company such as the company has a higher level of earnings management, more likely to report small positive earnings surprise, report more below the line items and charges higher audit fee and need more time to complete the audit.

The variable SPECIFICITY is negatively and significantly associated with DA (−0.003, t value, −3.471) and SP (−0.118, t value, −4.493); and positively and significantly associated with LN(LAG) (1.162. t value, 2.437), BL (0.016, t value, 4.286) and FEE (0.037, t value, 2.281). We interpret that when auditors disclose more specific information on the identified KAMs, firms' earnings management, and hence, discretionary accruals and tendency to report small positive earnings surprises decreases. Because the disclosure of specific information requires additional audit efforts, the audit report lag LN (LAG) and Audit fee increases to reflect the additional audit reports. We also find that auditors disclose more specific information about the identified KAMs, when the client reports below the line item to manage profit.

Contrary to the findings of Zeng *et al.* (2021) we do not find SIMILARITY and READABILITY to be associated with any of the five audit quality proxies suggesting that READABILITY and SIMILARITY do not have any implications for audit quality in the context of Bangladesh.

We also find that the variable LENGTH is positively and significantly associated with AC (0.011, t-value 1.728) and BL (0.013, t-value, 1.874), implying that auditors report lengthier KAMs, when the firm mange earnings using discretionary accruals or use below the line items to manage earnings. We interpret this finding to imply that when the client mange earnings, auditors write in detail about the KAMs, possibly to convey more information to the users.

Table 8. Cross-sectional regressions on overall audit quality

Variables	DA	SP	LN(LAG)	BL	FEE
Panel A: All disclosure characteristics regressed together					
Intercept	0.005*** (4.235)	0.117 (1.108)	4.174*** (4.706)	0.031*** (5.290)	1.507*** (7.458)
KAMN	0.007** (2.382)	0.142** (2.417)	1.208*** (4.583)	0.008* (1.874)	0.049* (1.835)
SPECIFICITY	−0.003*** (−3.471)	−0.118*** (−4.493)	1.162** (2.437)	0.016*** (4.286)	0.037** (2.281)
READABILITY	−0.001 (0.992)	0.018 (0.986)	0.317 (1.108)	0.002 (1.489)	0.001 (1.104)
SIMILARITY	−0.002 (−0.631)	0.025 (1.171)	0.084 (0.975)	−0.003 (−1.387)	0.004 (0.983)
LENGHTS	0.011* (1.728)	0.008 (0.794)	0.129 (1.074)	0.013*01.847)	0.027 (1.125)
FIRMSPECIFIC	−0.013*** (−6.280)	−0.240*** (−3.497)	1.097** (2.394)	−0.018** (−2.419)	0.053*** (5.162)
REASON1	−0.001 (−1.082)	0.007 (0.832)	0.406 (0.927)	−0.002 (−1.067)	0.081*** (3.827)
REASON2	−0.005** (−2.238)	0.014 (0.897)	0.370 (1.103)	−0.007 (−1.273)	0.013 (1.249)
REASON3	0.001 (0.736)	0.006 (0.914)	0.463* (1.894)	−0.001 (−0.983)	0.052** (2.286)
REASON4	0.006** (2.417)	0.172** (2.394)	1.108*** (4.196)	0.013*** (3.794)	0.033*** (3.618)
REASON5	−0.016*** (−4.079)	0.134*** (2.976)	1.082*** (3.582)	0.068** (2.381)	0.065** (2.378)
REASON6	−0.000 (0.467)	0.002 (0.678)	0.073 (0794)	0.002 (0.985)	0.000 (0.317)
Controls	YES	YES	YES	YES	YES
Industry effect (fixed)	YES	YES	YES	YES	YES
Year fixed effect	YES	YES	YES	YES	YES
Adjusted R-square	0.238	NA	0.143	0.174	0.438
Pseudo R-squared	NA	0.182	NA	NA	NA
N	398	754	754	754	754
Panel B: Each disclosure characteristics regressed separately					
KAMN	0.009** (2.413)	0.123** (2.145)	1.164*** (3.341)	0.011* (1.914)	0.046* (1.870)
SPECIFICITY	−0.007*** (−3.128)	−0.125*** (−3.356)	1.135*** (3.364)	0.014*** (4.627)	0.029** (2.193)
READABILITY	−0.001 (−1.201)	0.014 (0.962)	0.234 (1.081)	0.002 (1.464)	0.001 (1.015)
SIMILARITY	−0.003 (−0.671)	0.028 (1.147)	0.079 (1.085)	−0.013 (−1.294)	0.007 (0.929)
LENGHTS	0.014* (1.783)	0.018 (0.934)	0.193 (1.045)	0.015* (1.876)	0.029 (1.228)

(*continued*)

Table 8.

Variables	DA	SP	LN(LAG)	BL	FEE
FIRMSPECIFIC	−0.008*** (−5.802)	−0.239*** (−3.764)	1.074** (2.409)	0.017*** (3.146)	0.059*** (4.227)
REASON1	−0.003 (−1.026)	0.011 (0.943)	0.415 (0.838)	−0.013 (−1.156)	0.072*** (3.736)
REASON2	−0.007** (−2.326)	0.018 (0.986)	0.362 (1.137)	−0.012 (−1.358)	0.015 (1.472)
REASON3	0.002 (0.947)	0.008 (1.118)	0.454** (2.428)	−0.006 (−0.895)	0.061** (2.286)
REASON4	0.008*** (3.165)	0.193** (2.482)	1.115*** (4.629)	0.017*** (4.428)	0.029*** (3.825)
REASON5	−0.019*** (−4.137)	0.152*** (2.938)	1.062*** (4.618)	0.072** (2.357)	0.069*** (3.746)
REASON6	−0.001 (0.681)	0.006 (0.868)	0.062 (0.937)	0.005 (1.128)	0.001 (0.724)

Note(s): ***Significant at 1 percent level; **Significant at 5 percent level; *Significant at 10 percent level. In the parenthesis are t-statistics (or Z statistics in logit model when the dependent variable is SP) with robust standard errors

$$AQ = \alpha + \beta 1KAMN + \beta 2SPECIFICITY + \beta 3SIMILARITY + \beta 4READABILITY + \beta 5LENGTHS + \beta 6FIRMSPECIFIC + \beta 7 - 12REASONS + \sum Controls + Industry + Year + \mu \ldots\ldots\ldots\ldots \text{Model 2}$$

This table shows the regression results of the cross-sectional examination of the effect of KAMs disclosure characteristics on audit quality. The dependent variables are DA (discretionary accruals), SP (a dummy variable taking the value of 1 if the firm's ROE is between 0 and 0.02, otherwise 0), BL (below the line items), LN (LAG) (natural log of audit report lag), FEE (natural log of audit fee). The variables of interest are KAMs disclosure characteristics variables – KAMN, SPECIFICITY, READABILITY, SIMILARITY, LENGTHS, FIRMSPECIFIC, REASON 1, REASON 2, REASON 3, REASON 4, REASON 5, REASON 6. In Panel A, we show the results of model estimation including all KAMs disclosure characteristics together. In Panel B, we horizontally present the coefficients of individual disclosure characteristics of KAMs derived from models estimated using each of the individual disclosure characteristics of KAMs alone as the independent variable. Control variables are SIZE, LEV, CFO, AGE, VOLATILITY, COMPLEX, LOSS, ROA (results not reported for brevity). All variables are defined in the Appendix

Source(s): Authors' own work

The variable FIRMSPECIFIC has a negative and significant coefficient for DA (−0.017, t value, −6.280), SP (−0.240, t value, −3.497), BL (−0.018, t value, −2.419); and positive and significant coefficient for LN(LAG) (1.097, t value, 2.394), and FEE (0.053, t value, 5.162). Collectively this evidence suggests that the auditor's disclosure of firm specific KAMs reduces the discretionary accruals, small positive earnings surprises, and the use of below the line items to manage profit. One the contrary, disclosure of firm specific KAMs, enhances the audit report lag and audit fee.

The reasons disclosed by auditors are also related to audit quality. The DA is negatively associated with Reason 2 (−0.005, t value, −2.238), and reason 5 (−0.016, t value, −4.079) indicating that discretionary accruals decreases when auditors disclose risks associated with significant judgments and estimates, or any idiosyncratic risks. Reason 4 (significant audit efforts) is positively and significantly ((0.006, t value 2.417) associated with DA, suggesting that when the company manage earnings via discretionary accruals, auditors put in place more audit efforts. SP has positive and significant association with Reason 4 (0.172, t value, 2.394) and Reason 5 (0.134, t value 2.976) implying that when clients use small positive earnings surprise, auditors use significant level of audit efforts and identify idiosyncratic reasons for KAMs. Reason 3 (0.463, t value, 1.894), Reason 4 (1.108, t value, 4.196) and Reason 5 (1.082, t value, 3.582) are positively and significantly associated with LN(LAG) implying that when auditors use significant audit efforts, disclose idiosyncratic reasons for KAMs, when the KAMs items represent significant transactions or events during the period, or when the KAMs items involve significant value, the audit report lag increases. Reason 4 (0.013, t value, 3.794) and Reason 5 (0.068, t value 2.381) are positively and significantly associated with BL indicating that when the client manages earnings by below the line items, the auditor uses significant audit effort to audit them, and the auditor discloses idiosyncratic reasons for KAMs. Fee is positively associated with Reason 1 (0.081, t value 3.827), Reason 3 (0.052, t value, 2.286), Reason 4 (0.033, t value 3.618), and Reason 5 (0.065, t value, 2.378) implying that audit fee increases for KAMs involving significant risks of misstatement and fraud, for KAMs involving significant value or significant event or transaction during the period, for KAMs requiring significant audit efforts, and for KAMs with idiosyncratic reasons.

Different KAMs characteristics used as independent variables in the model may be highly correlated to each other affecting our results. To get rid of this problem, we regress each disclosure characteristics individually against proxies of audit quality including all other control variables. We report the results in Panel B of Table 8. For brevity we report only the coefficients and significance level of KAMs disclosure characteristics. Results are essentially similar to those presented in Panel A, Table 8.

In summary, our results suggest that the number of KAMs, content characteristics of KAMs (LENGTHS, SPECIFICITY, FIRMSPECIFIC) and reasons identified for KAMs, affect different proxies of audit quality. As three of our proxies for audit quality (DA, SP and BL) reflects managerial reporting behavior, our evidence implies that the number and content characteristics of KAMs reporting can significantly affect managerial reporting behavior. Our findings also suggest that auditors spend more days in completing the audit in the post-KAMs period compared to the pre-KAMs period. Although the audit fee has not increased in the post-KAMs period compared to the pre-KAMs period, we find cross-sectional variations in audit fee based on the content characteristics of KAMs which imply that auditors' resource commitment on auditing vary based on the quality of the content of KAMs. Hence, different attributes of KAMs reporting have signaling importance for different stakeholders. Different characteristics of KAMs indicate auditors' concerns about the financial reporting quality as well as auditors' level of audit efforts for those particular areas. Our findings support the conjecture of Chen *et al.* (2019) that the KAMs reporting might play a significant role in reducing the agency problem in developing countries. Our findings are also consistent with the findings of Zeng *et al.* (2021) and Seebeck and Kaya (2022) that the content characteristics of KAMs are indicative of audit quality.

8.1 Robustness analysis

As a robustness test we check if the fixed effect model or random effect model are appropriate for the data set and find that random effect panel regression is appropriate for the data set. We run all models using random effect panel regression. Results (available from the corresponding author upon request) are similar to our baseline analysis. As additional robustness tests we alter the definition of SPECIFICITY and READABILITY, and LENGHTS. We use SPECIFICITY5, LENGHTS in terms of natural log of number of sentences, and FLESCH-KINCAID readability. We run Model 2 with these alternatively defined variables. Our results are similar to our main analysis (not reported for brevity, available from the corresponding author upon request).

9. Conclusions

In this study, we have examined the content characteristics of KAMs, and if the content characteristics of KAMs are related to the audit quality in the context of Bangladesh. Unlike previous studies that have examined the effect of KAMs reporting on the market reactions (Gutierrez *et al.*, 2018), we have examined if the number and contents of KAMs affect managerial opportunistic reporting and audit efforts and audit fees. We also linked the reasons discussed by auditors for identified KAMs. While previous studies failing to find significant market reactions to the KAMs disclosures focused on the number and types of KAMs, we have examined if the cross-sectional variations in the content characteristics of KAMs are related to audit efforts and if the managerial opportunistic reporting behavior is affected by the quality of KAMs disclosures. Our study includes the period from 2018 to 2021. We have used descriptive analysis, univariate test and multivariate regressions. This study adds to the growing body of literature that have documented mixed evidence on the effect of KAMs reporting on audit quality.

External audit is considered as monitoring mechanism to reduce the agency conflict. In the developing country context like Bangladesh where other mechanisms of corporate governance are ineffective or nonexistence, external audit can play significant role in reducing the agency costs. Because the auditors can apply significant level of professional judgments in the identification and descriptions of KAMs, the KAMs reporting requirement can play a significant role in reducing the agency costs. Our findings in this study support this conjecture. Specifically, earnings management via discretionary accruals, small positive earnings surprise, and below the line items decreases during the post-KAMs period compared to the pre-KAM period. Cross-sectional examinations suggest that the content characteristics of KAMs (such as reasons identified for KAMs, disclosure specificity of KAMs, and idiosyncrasies of KAMs) are associated with different proxies of audit quality. Specifically, when the auditors disclose idiosyncratic reasons for the identified KAMs, when majority of the KAMs disclosed for firm is idiosyncratic and the descriptions of the KAMs are client specific, managerial opportunistic earnings manipulations decreases. Hence, the content characteristics of KAMs are significant indicators of audit quality. Moreover, auditors' KAMs disclosures can significantly control managerial opportunistic reporting behavior. Our findings also suggest that auditors disclose lengthier KAMs when the client manage earnings via discretionary accruals or below the line items, implying that auditors use the KAMs reporting to forewarn users of the opportunistic earnings management.

Although in the pre-post analysis, we do not find evidence of changes in audit fees, we find that the cross-sectional variations of the content characteristics of KAMs are associated with audit fees. Specifically, auditors identify more idiosyncratic KAMs and more specific information for identified KAMs for clients that provide higher audit fees. Moreover, we find evidence that the audit report lag has increased after the introduction of KAMs. The cross-sectional variations in the content characteristics of KAMs are also associated with the time taken by auditors to complete the audit, implying that auditors to report client specific and idiosyncratic KAMs, auditors need to put in place higher audit efforts.

Our findings contribute to the growing body of research that have examined the effect of KAMs reporting on the market reactions in the context of developed countries (Gutierrez *et al.*, 2018; Lennox *et al.*, 2022; Seebeck and Kaya, 2022). We contribute by providing evidence from a developing country context. Our findings contribute by showing that mangers' reporting behavior (via DA, SP and BL) is affected by the introduction of the KAMs reporting requirements, and by the cross-sectional variations in the content characteristics of KAMs. Also, the cross-sectional variations of the contents of KAMs affect the audit fee and the time auditors take to conclude the audit. Although early studies have failed to find immediate market reactions to KAMs reporting (Gutierrez *et al.*, 2018; Lennox *et al.*, 2022), our findings imply that in the context of developing countries, the KAMs reporting has the potential to improve the audit the quality and control the opportunistic reporting behavior of managers. Our findings are consistent with that of Zeng *et al.* (2021) in the context of China, who also document increase in audit quality after the implementation of KAMs. Our findings also support the theoretical conjecture made by Chen *et al.* (2019) that the KAMs reporting requirements are supposed to enhance the audit quality in the context of developing and emerging economies where information asymmetry is higher, and the corporate governance is poor. Our findings are in contrast with Segal (2017) who document that manager in South Africa do not pay any attentions to the KAMs reported by auditors. Our findings imply that external audit can play a significant role in reducing the agency problem when other governance mechanisms are weak or ineffective.

Our findings have significant implications for regulators, audit firms, and other stakeholders. Our findings imply that the KAMs reporting has the potential to play significant monitoring role in reducing the opportunistic behavior of managers. Hence, KAMs reporting can play a significant role in reducing the agency problem. For regulators, shareholders, and corporate managers, our findings imply that if the audit quality is to be increased, the audit effort should be supported by appropriate amount of audit fee.

Our content analysis suggests significant variations in the content characteristics of KAMs reported by auditors in Bangladesh. Auditors in Bangladesh report higher number of KAMs compared to other countries (Pinto and Morais, 2019; Suttipun, 2020; Kend and Nguyen, 2020; Abdullatif and Al-Rahahleh, 2020). Moreover, auditors in Bangladesh report higher level of industry generic KAMs and lower level of idiosyncratic KAMs. Disclosures are short and descriptions are generic. Regardless the disclosure quality of KAMs, we find that the audit quality has increased in the post-KAMs period compared to the pre-KAMs period.

The findings of our study should be interpreted with caution. We have examined only the first four years after the implementation of the KAMs reporting requirements. Because the KAMs reporting is a new concept to all stakeholders, managers may be cautious in their opportunistic reporting after the introduction of the KAMs, which may not prevail in the long run. The monitoring role of KAMs reporting may be different in other developing countries with different corporate governance and auditing environments. To generalize the findings more research is needed on the newly introduced KAMs reporting practices in the context countries with different legal, institutional and governance environments. More research is also needed on the effect of KAMs reporting on other stakeholders. Also, we have relied on inferential testing. Qualitative research is needed in the field level engaging with auditors, managers and regulators to better understand the impact of the KAMs on different stakeholders.

Notes

1. Burke *et al.* (2021) finds that average KAM words 366.453 and average Response words 313.581 total average words per KAM 680.34
2. Suttipun (2020).

References

Abdullatif, M. and Al-Rahahleh, A.S. (2020), "Applying a new audit regulation: reporting key audit matters in Jordan", *Internal Journal of Auditing*, Vol. 24 No. 2, pp. 268-291, doi: 10.1111/ijau.12192.

Azim, M.I. and Ahmed, M.U. (2021), "Audit conservatism or opinion shopping? Audit reporting challenges in a developing country", *Accountancy Business and the Public Interest*, Vol. 20 No. 2021, pp. 340-357.

Belal, A., Spence, C. and Zhu, J. (2017), "The big 4 in Bangladesh: caught the global and local", *Accounting, Auditing and Accountability Journal*, Vol. 30 No. 1, pp. 145-163, doi: 10.1108/AAAJ-10-2014-1840.

Bepari, M.K. (2022), "Audit committee characteristics and key audit matters (KAMs) disclosures", *Journal of Corporate Accounting and Finance*, Vol. 00, pp. 1-21, (early cite) doi: 10.1002/jcaf.22587.

Bepari, M.K., Mollik, A., Nahar, S. and Islam, M.N. (2022), "Determinants of accounts level and entity level key audit matters: further evidence", *Accounting in Europe*, Vol. 19 No. 3, doi: 10.1080/17449480.2022.2060753.

Brasel, K.R., Doxey, M.M., Grenier, J.H. and Reffett, A. (2016), "Risk disclosure preceding negative outcomes: the effects of reporting critical audit matters on judgments of auditor liability", *The Accounting Review*, Vol. 91 No. 5, pp. 1345-1362.

Burke, J., Hoitash, R., Hoitash, U. and Xiao, X. (2021), "The determinants, textual properties, and consequences of U.S. critical audit matter disclosures", doi: 10.2139/ssrn.3635477, SSRN, available at: https://ssrn.com/abstract=3635477

Chen, K.C. and Yuan, H. (2004), "Earnings management and capital resource allocation: evidence from China's accounting-based regulation of rights issues", *The Accounting Review*, Vol. 79 No. 3, pp. 645-665, doi: 10.2308/accr.2004.79.3.645.

Chang, Y.-T., Chi, W. and Stone, D.N. (2022), "Is client-specific information useful to investors? Evidence from key audit matter reports", *Journal of Accounting, Auditing and Finance*, p. 0148558X2210918.

Chen, Q., Jiang, X. and Zhang, Y. (2019), "The effects of audit quality disclosure on audit effort and investment efficiency", *The Accounting Review*, Vol. 94 No. 4, pp. 189-214, doi: 10.2308/accr-52286.

Dillard, J.F., Rigsby, J.T. and Goodman, C. (2004), "The making and remaking of organization context", *Accounting, Auditing and Accountability Journal*, Vol. 17 No. 4, pp. 506-542.

Duboisee, De, R.A. and Maroun, W. (2023), "How do auditor rotations affect key audit matters? Archival evidence from South African audits", *British Accounting Review*, Vol. 55 No. 2, doi: 10.1016/j.bar.2022.101099.

Firth, M., Mo, P.L.L. and Wong, R. (2012), "Auditors' organizational form, legal liability, and reporting conservatism: evidence from China", *Contemporary Accounting Research*, Vol. 29 No. 1, pp. 57-93, doi: 10.1111/j.1911-3846.2011.01081.x.

Focus Economic (2022), "Top 5 fastest-growing economies in the world", available at: https://www.focus-economics.com/blog/fastest-growing-economies-in-the-world (accessed 22 March 2022).

Gong, Q., Li, O.Z., Lin, Y. and Wu, L. (2016), "On the benefits of audit market consolidation: evidence from merged audit firms", *The Accounting Review*, Vol. 91 No. 2, pp. 463-488, doi: 10.2308/accr-51236.

Gul, F., Wu, D. and Yang, Z. (2013), "Do individual auditors affect audit quality? Evidence from archival data", *The Accounting Review*, Vol. 88 No. 6, pp. 1993-2023, doi: 10.2308/accr-50536.

Gutierrez, E., Minutti-Meza, M., Tatum, K.W. and Vulcheva, M. (2018), "Consequences of adopting an expanded auditor's report in the United Kingdom", *Review of Accounting Studies*, Vol. 23 No. 4, pp. 1543-1587, doi: 10.1007/s11142-018-9464-0.

International Auditing and Assurance Standards Board (IAASB) (2015), "Auditor reporting – key audit matters", *IFAC*, available at: http://www.ifac.org/sites/default/files/publications/files/Auditor-Reporting-ToolkitKAMOverview.pdf

International Federation of Accountant (IFAC) (2015), "How valuable is client confidentiality to you?", available at: https://www.ifac.org/global-knowledge-gateway/auditassurance/discussion/how-valuableclient-confidentiality-you-0

Islam, M.A. and Deegan, C. (2008), "Motivations for an organisation within a developing country to report social responsibility information", *Accounting, Auditing and Accountability Journal*, Vol. 21 No. 6, pp. 850-874.

Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3 No. 4, pp. 305-360.

Jiang, G., Lee, C.C. and Yue, H. (2010), "Tunneling through intercorporate loans: the China experience", *Journal of Financial Economics*, Vol. 98 No. 1, pp. 1-20, doi: 10.1016/j.jfineco.2010.05.002.

Kachelmeier, S.J., Rimkus, D., Schmidt, J.J. and Valentine, K. (2020), "The forewarning effect of critical audit matter disclosures involving measurement uncertainty", *Contemporary Accounting Research*, Vol. 37 No. 4, pp. 2186-2212.

Kao, J.L., Wu, D. and Yang, Z. (2009), "Regulation, earnings management, and post-IPO performance: the Chinese evidence", *Journal of Banking and Finance*, Vol. 33 No. 1, pp. 63-76, doi: 10.1016/j.jbankfin.2007.03.016.

Ke, B., Lennox, C.S. and Xin, Q. (2015), "The effect of China's weak institutional environment on the quality of Big 4 audits", *The Accounting Review*, Vol. 90 No. 4, pp. 1591-1619, doi: 10.2308/accr-50943.

Kend, M. and 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*, Vol. 24 No. 3, pp. 412-430, doi: 10.1111/ijau.12205.

Khan, A., Mihret, D.G. and Muttakin, M.B. (2016), "Corporate political connections, agency costs and audit quality", *International Journal of Accounting and Information Management*, Vol. 24 No. 4, pp. 357-374.

Köhler, A., Ratzinger-Sakel, N. and Theis, J. (2020), "The effects of key audit matters on the auditor's report's communicative value: experimental evidence from investment professionals and non-professional investors", *Accounting in Europe*, Vol. 17 No. 2, pp. 105-128.

Kothari, S.P., Leone, A.J. and Wasley, C.E. (2005), "Performance matched discretionary accrual measures", *Journal of Accounting and Economics*, Vol. 39 No. 1, pp. 163-197, doi: 10.1016/j.jacceco.2004.11.002.

Lennox, C.S., Schmidt, J.J. and Thompson, A.M. (2022), "Why are expanded audit reports not informative to investors? Evidence from the United Kingdom", *Review of Accounting Studies*, Vol. 28 No. 2, doi: 10.1007/s11142-021-09650-4.

Minutti-Meza, M. (2021), "The art of conversation: the expanded audit report", *Accounting and Business Research*, Vol. 51 No. 5, pp. 548-581, doi: 10.1080/00014788.2021.1932264.

Muttakin, M. and Khan, A. (2014), "Determinants of corporate social disclosure: empirical evidence from Bangladesh", *Advances in Accounting*, Vol. 30 No. 1, pp. 168-175.

Nurunnabi, M. (2017), "Auditors' perceptions of the implementation of international financial reporting standards (IFRS) in a developing country", *Journal of Accounting in Emerging Economies*, Vol. 7 No. 1, pp. 108-133, doi: 10.1108/JAEE-02-2015-0009.

Ong, S.Y., Moroney, R. and Xia, X. (2022), "How do key audit matter characteristics combine to impact financial statement understandability", *Accounting and Finance*, Vol. 62 No. 1, doi: 10.1111/acfi.12811.

Osama, M.A. (2022), "Matters may matter: the disclosure of key audit matters in the Middle East", *Cogent Economics and Finance*, Vol. 10 No. 1.

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*, Vol. 25 No. 3, pp. 769-796, doi: 10.1111/ijau.12248.

Pinto, I. and Morais, A.I. (2019), "What matters in disclosures of key audit matters: evidence from Europe", *Journal of International Financial Management and Accounting*, Vol. 30 No. 2, pp. 145-162, doi: 10.1111/jifm.12095.

Rahman, D. and Oliver, B. (2022), "The readability of 10-K reports and insider trading profitability", *Australian Journal of Management*, Vol. 47 No. 3, 031289622110251-578, doi: 10.1177/03128962211025118.

Rahman, M.M., Hossain, M.M. and Bhuiyan, M.B.U. (2022), "Disclosure of key audit matters (KAMs) in financial reporting: evidence from an emerging economy", *Journal of Accounting in Emerging Economies*, Vol. 13 No. 3, doi: 10.1108/JAEE-11-2021-0355.

Reid, L.C., Carcello, J.V., Li, C., Neal, T.L. and Francis, J.R. (2019), "Impact of auditor report changes on financial reporting quality and audit costs: evidence from the United Kingdom", *Contemporary Accounting Research*, Vol. 36 No. 3, pp. 1501-1539.

Seebeck, A. and Kaya, D. (2022), "The power of words: an empirical analysis of the communicative value of extended auditor reports", *European Accounting Review*. doi: 10.1080/09638180.2021.2021097.

Segal, M. (2017), "ISA 701: key audit matters - an exploration of the rationale and possible unintended consequences in a South African", *Journal of Economic and Financial Sciences*, Vol. 10 No. 2, pp. 376-391.

Sierra-García, L., Gambetta, N., García-Benau, M.A. and 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", *The British Accounting Review*, Vol. 51 No. 3, pp. 227-240, doi: 10.1016/j.bar.2019.02.004.

Suttipun, M. (2020), "Factors influencing key audit matters reporting in Thailand", *Asian Journal of Accounting Perspective*, Vol. 13 No. 1, pp. 26-39, doi: 10.22452/AJAP.vol13no1.2.

Suttipun, M. (2022), "External auditor and KAMs reporting in alternative capital market of Thailand", *Meditari Accountancy Research*, Vol. 30 No. 1, pp. 74-93, doi: 10.1108/MEDAR-04-2020-0850.

Uddin, S. and Choudhury, J. (2008), "Rationality, traditionalism and the state of corporate governance mechanisms: illustrations from a less-developed country", *Accounting, Auditing and Accountability Journal*, Vol. 21 No. 7, pp. 1026-1051, doi: 10.1108/09513570810907465.

Uddin, S. and Hopper, T. (2001), "A Bangladesh soap opera: privatisation, accounting, and regimes of control in a less developed country", *Accounting, Organizations and Society*, Vol. 26 Nos 7/8, pp. 643-672, doi: 10.1016/S0361-3682(01)00019-8.

Velte, P. (2018), "Does gender diversity in the audit committee influence key audit matters' readability in the audit report? UK evidence", *Corporate Social Responsibility and Environmental Management*, Vol. 25 No. 5, pp. 748-755.

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*, Vol. 21 No. 1, pp. 185-200.

Wilson, A. (2021), "'The art of conversation: the expanded audit report' – a practitioner view", *Accounting and Business Research*, Vol. 51 No. 5, pp. 582-584.

Witt, M.A. and Redding, G. (2013), "Asian business systems: institutional comparison, clusters and implications for varieties of capitalism and business systems theory", *Socio-Economic Review*, Vol. 11 No. 2, pp. 265-300, doi: 10.1093/ser/mwt002.

Wuttichindanon, S. and Issarawornrawanich, P. (2020), "Determining factors of key audit matter disclosure in Thailand", *Pacific Accounting Review*, Vol. 32 No. 4, pp. 563-584, doi: 10.1108/PAR-01-2020-0004.

Zeng, Y., Zhang, J.H., Zhang, J.J. and Zhang, M. (2021), "Key audit matters reports in China: their descriptions and implications of audit quality", *Accounting Horizons*, Vol. 35 No. 2, pp. 167-192, doi: 10.2308/HORIZONS-19-189.

Zhi, X. and Kang, Z. (2021), "Critical audit matters and stock price crash risk", *Frontier of Business Research in China*, Vol. 15 No. 6, pp. 1-25, doi: 10.1186/s11782-021-00102-z.

Further reading

Chen, J.Z., Nelson, K.K., Wang, Y. and Yu, L. (2020), "Key audit matters and the pricing of audit services: evidence from Hong Kong", doi: 10.2139/ssrn.3638540, SSRN, available at: https://ssrn.com/abstract=3638540 (accessed 15 December 2021).

Kitiwong, W. and Sarapaivanich, N. (2020), "Consequences of the implementation of expanded audit reports with key audit matters (KAMs) on audit quality", *Managerial Auditing Journal*, Vol. 35 No. 8, pp. 1095-1119.

Li, H., Hay, D. and Lau, D. (2019), "Assessing the impact of the new auditor's report", *Pacific Accounting Review*, Vol. 31 No. 1, pp. 110-132, doi: 10.1108/PAR-02-2018-0011.

Liao, L., Minutti-Meza, M., Zhang, Y. and Zou, Y., (2019), "Consequences of the adoption of the expanded auditor's report: evidence from Hong Kong", University Of Miami Business School Research Paper No. 3392449, doi: 10.2139/ssrn.3392449, SSRN, available at: https://ssrn.com/abstract=3392449

Mah'd, O.A. and Mardini, G.H. (2022), "Matters may matter: the disclosure of key audit matters in the Middle East", *Cogent Economics and Finance*, Vol. 10, p. 1, doi: 10.1080/23322039.2022.2111787.

Rautiainen, A., Saastamoinen, J. and Pajunen, K. (2021), "Do key audit matters (KAMs) matter? Auditors' perceptions of KAMs and audit quality in Finland", *Managerial Auditing Journal*, Vol. 36 No. 3, pp. 386-404.

(The Appendix follows overleaf)

Appendix

Variables	Definitions	Data source
Dependent variables		
DA	Absolute value of discretionary accruals calculated using modified Jones model as per Kothari *et al.* (2005)	Annual Report/Osiris
SP	Small positive earnings surprise (SP) which takes the value of 1 if the firm's ROE is between 0 and 0.02, otherwise 0 (Zero)	Annual report/Osiris
LN(LAG)	Natural log of audit report lag (LNLAG) defined as the natural log of days from the financial year end to the date of auditor's signing the audit report	Audit report
BL	The adoption of below-the -line non-core earnings (BL) which is the sum of investment net income, profits from other operations, and non-operating income deflated by total assets	Annual report
FEE	Natural log of audit fee	Annual report
Independent variables		
POST	Dummy variable taking a value of 1 for post-adoption period (2019), 0 for pre-adoption period (2017)	Annual reports
KAMN	Number of Key Audit Matters reported for the client in any particular year	Audit reports
SPECIFICITY	Specificity score calculated following Bepari (2022) and motivated by Zeng *et al.* (2021). We follow the method used in Bepari (2022) which in turn follows Zeng *et al.* (2021). We calculate disclosure score for each KAM based on 4 specific items disclosure in the KAM. *Specificity 1:* 1 if specific product, division, segment, geographic areas affected by the KAM is disclosed, 0 otherwise; *Specificity 2*: 1 if the reason explained provides firm specific information, 0 otherwise; *Specificity 3:* 1 if specific monetary value relating to the item has been mentioned, 0 otherwise; *Specificity 4:* 1 if the monetary value has been expressed as a percentage of a line item (e.g. total assets) in the balance sheet or income statement, 0 otherwise. We then calculate the total score for each KAM and add the total score for each KAM to calculate a composite total score for each firm year observations	Own coding, based on data from audit reports
SIMILIARITY	SafeAssign score for reported KAM. In calculating the SafeAssign score, we have compared all KAMs reported by all firms in the same industry	Calculated using SafeAssign software
READABILITY	Flesh-Readability Score (calculated using Microsoft word)	KAMs section of audit report. Calculated using Microsoft word
LENGHTS	Number of words reported as KAMs. We use the natural log value in the regression	Number of words in the KAM section of the Audit report
FIRMSPECIFIC	We follow the method used in Bepari (2022) which considers the method followed by Zhi and Kang (2021) and Abdullatif and Al-Rahahleh (2020). Proportion of firms specific KAMs to total number of KAM disclosed by the auditor for firm i in year j. Hence, FIRMSPECIFIC is a ratio measure. To identify firm specific KAMs, we follow Bepari (2022) who has developed a measure "FirmSpecific" taking into consideration both Abdullatif and Al-Rahahleh (2020), and Zhi and Kang (2021). We follow a dual approach. Consistent with Zhi and Kang (2021), we consider all KAMs that are not one of the top 4 KAMs in the industry as Idiosyncratic KAMs. Moreover, we consider a KAMs as firm specific Idiosyncratic KAM if it scores 100% in the SPECIFICITY score and more than 50% discussion in that KAM relates to firm specific information *(SPECIFICITY 5)*	Audit reports
REASON1	1 if the auditor has mentioned REASON1 identified in Table 4 for any KAMs disclosed for the client in year t, 0 otherwise	Audit reports
REASON2	1 if the auditor has mentioned REASON2 identified in Table 4 for any KAMs disclosed for the client in year t, 0 otherwise	Audit reports

Table A1.
Definitions of variables and sources of data

(*continued*)

Variables	Definitions	Data source
REASON3	1 if the auditor has mentioned REASON3 identified in Table 4 for any KAMs disclosed for the client in year t, 0 otherwise	Audit reports
REASON4	1 if the auditor has mentioned REASON4 identified in Table 4 for any KAMs disclosed for the client in year t, 0 otherwise	Audit reports
REASON5	1 if the auditor has mentioned REASON5 identified in Table 4 for any KAMs disclosed for the client in year t, 0 otherwise	Audit reports
REASON6	1 if the auditor has mentioned REASON6 identified in Table 4 for any KAMs disclosed for the client in year t, 0 otherwise	Audit reports
Control variables		
AGE	Number of years since the company went into IPO. To minimise the scale difference, we use natural log value of the age	DSE
SIZE	The natural log of total assets	Annual Report/Osiris
ROA	Operating income divided by total assets	Annual Report/Osiris
LOSS	A dummy variable taking the value of 1 if the firm has reported loss during the period, 0 otherwise	Annual Report
LEV	Total liability divided by total assets	Annual report/Osiris
CFO	Cash flows from operating activities divided by total assets	Annual report/Osiris
VOLATILITY	Standard deviation of annual revenue divided by total assets over previous four years	Calculated using data from Annual report/Osiris
COMPLEX	Number of business segments	Annual Report

Source(s): Authors' own work

Table A1.

Corresponding author
Md Khokan Bepari can be contacted at: khokan552@yahoo.com