Received: 10 January 2020 | Revised: 10 July 2020 | Accepted: 27 August 2020

DOI: 10.1111/ijau.12205

ORIGINAL ARTICLE

WILEY

Investigating recent audit reform in the Australian context: An analysis of the KAM disclosures in audit reports 2017–2018

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Funding information
Accounting and Finance Association of Australia and New Zealand, Grant/Award Number: Research Grants Scheme 2018; AFAANZ; CPA Australia, Grant/Award Number: Global Perspectives Research Grant Scheme 2018

The aim of this study is to explore the new Australian auditing regulations around Key Audit Matters (KAMs), fully adopted since 2017, by reporting on matters published in over 3,000 Australian statutory audit reports from 2017 to and including 2018 reports. The study provides the first evidence on whether auditors used the same or different disclosures related to audit procedures when reporting on the same KAM in the second year in Australia. The findings suggest the most common KAM disclosures are related to “impairments of goodwill and intangible assets,” “revenue recognition,” “asset valuation,” “acquisitions,” and “exploration and evaluation.” Around 70% of Australian auditees had the same KAMs disclosed in both years 2017 and 2018. The study found differences between large and small audit practitioners related to the average number of KAMs disclosed and the average number of audit procedures undertaken per KAM. There were also differences found between industries and auditee size.

KEYWORDS
Audit Firms, Audit Markets, External Audit, Key Audit Matters

1 | INTRODUCTION

The traditional audit report was considered to contribute to the audit expectation gap, and its standardized form and language detracted from its usefulness (Humphrey, Loft, & Woods, 2009). Users viewed the audit report as a pass/fail document of little relevance (Mock et al., 2012) or as a symbol with little communication value (Almulla & Bradbury, 2019). Regulators such as the International Auditing and Assurance Standards Board (IAASB) and the Public Company Accounting Oversight Board (PCAOB) in the United States identified user demand for more information in the auditor's report instead of the established “pass” or “fail” opinion (Li, Hay, & Lau, 2018). The most notable feature of the new form reports is a section termed key audit matters (KAMs). The purpose of KAMs is to disclose financial reporting risks, thereby enhancing the communication value of the audit report. KAMs are financial reporting matters that, in the auditor's professional judgment, require significant auditor attention during the audit (Auditing Standard ASA/ISA (701), 2015). KAMs are determined from the same pool of matters communicated to those charged with governance (ISA 701, para. 7) and require auditors to consider issues where there is a high risk of misstatement, where there is significant management judgment, and where the effect of a transaction is significant. When disclosing KAMs, the standard requires the auditor to explain why the matter is important, how it was addressed, and to reference any relevant financial statement disclosures. Some researchers and commentators believe that the new audit reporting requirements are likely to increase auditor's accountability and professional skepticism, which should result in improved audit quality (IAASB, 2013; Peecher, Solomon, & Trotman, 2013). Others suggest that the new audit reporting requirements may impose additional pressure on auditors, and thus have an adverse effect on audit quality (KPMG, 2015). These mixed views ensure (and the uncertainty they create) research is needed to explore the informational value of KAMs, their impact on audit quality and whether any further reforms are required to audit reports.

The new auditing standard ISA 701 applies to audits of complete sets of general purpose financial statements of listed entities and when the auditor otherwise decides to communicate KAMs in the auditor's report (Pratt, 2016). KAMs are selected from matters communicated with those charged with governance and are determined by considering areas of higher risk; significant auditor judgments; and the effect on the audit of significant events or transactions (Pratt, 2016). In describing KAMs in the auditor's report, the auditor is required to include the reason a matter was considered a KAM and how the auditor dealt with the matter. The overall objective of these expected improvements in audit reporting (i.e., the reporting of KAMs) was to respond to calls for auditors to provide more relevant information to users based on the audit that was performed. Accordingly, the new requirements and layout are aimed at enhancing the informational value of the auditor's report to shareholders in Australia (Pratt, 2016).

The aim of the study is to explore the new Australian auditing regulation around KAMs, fully adopted since 2017, by reporting on matters published in over 3,000 Australian statutory audit reports from both years 2017 and 2018. We employ textual analysis (specifically partial latent semantic analysis) at the word level by initially running a frequency test for large and small auditors and then using concept links for KAMs. Then we conduct a topic extraction analysis in order to examine whether there are systematic differences between large and small auditors regarding the KAMs and audit procedures they use. By investigating the changes in the audit procedures (2017 and 2018), after the initial year of implementation (of the KAMs reform) and in the second year, the study will provide initial evidence on whether auditors used the same or different disclosures related to audit procedures when reporting on the same KAM in the second year. The main research questions developed for this study are:*RQ1* What are the observable differences between larger/smaller auditors, different industries and larger/smaller-sized audit clients when investigating reported KAMs in Australia during the initial two years of implementation (i.e., 2017 and 2018)?

RQ2 In the initial two years of implementation in Australia, do reported KAMs (that are repeated in both years) convey any changes in the accompanying disclosed audit procedures?

The data was analyzed to find differences between auditors of similar or different sizes, different industries, and among similar-sized audit clients. Around 70% of Australian auditees had the same KAMs disclosed in both years 2017 and 2018. The study found differences between large and small audit practitioners related to the average number of KAMs disclosed and the average number of audit procedures undertaken per KAM. There were also differences found between industries and auditee size. This investigation has implications for stakeholders impacted by new Australian audit reforms, as our findings will help them to understand if the disclosure and reporting of KAMs has improved the usefulness and relevance of audit reports. This present study will help regulators, standard setters, and other stakeholders understand what observed changes in audit reporting had occurred in 2017 and 2018.

Thus, the in-depth level of analysis of this study should help inform regulators and standard setters on the informational value of KAMs. It will assist them in determining whether more regulatory intervention is required. For the audit report preparers, the study has the potential to inform auditors on the overall outcomes of this reform in Australia. The study would allow auditors to reevaluate their implementation of the KAMs reform given the new knowledge that will be provided by our research findings. Our study will make contributions such as indicating that Australian audit firms have complied with the recommendations from the IAASB (2013), and ISA 701. Our findings can also be compared with prior studies, such as Bédard, Coram, Espahbodi, and Mock (2016), that examine the extent of KAMs disclosures in the audit report to determine whether KAMs are very much dependent on the audit firms' approach to the audit process and on the auditors' judgment. This present study will have policy implications by contributing to the debate on auditors' reforms in the wake of the corporate collapses of the early 2000s, the Global Financial Crisis (GFC), and the Hayne Royal Commission into Banking and Financial Services (2019) in Australia.

In the next section, we provide a review of prior research, on KAMs specifically. The description of the sample and research methodology adopted in the study is then presented, including a discussion of the study's research questions. This is followed by an analysis of the findings. The final part of the article concludes and discusses the implication of the research including limitations.

2 | LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 | Research on KAM disclosures: Their positive and negative impacts on auditing

Prior research conducted in the auditing field conveyed concern about the quality of the audit reports and labeled disclosures within those reports as inadequate (Church, Davis, & McCracken, 2008; Guiral-Contreras, Gonzalo-Angulo, & Rodgers, 2007; Vanstraelen, Schelleman, Meuwissen, & Hofmann, 2012). Further research highlighted the need to enhance the quality of those reports by providing higher quality information (Dobija, Cieślak, & Iwuć, 2013; Kranacher, 2011; Turner, Mock, Coram, & Gray, 2010). In response to these calls, regulators and standard setters (such as the International Auditing and Assurance Standards Board - IAASB) developed new standards. In December 2015, the new standard (ISA 701), on Key Audit Matters in the Independent Auditor's Report, was released. According to IAS 701, the inclusion of key audit matters in the audit report is an important concept that extends the auditor's role and requires the disclosure of the most significant risks facing the client in the audit opinion. It is expected that KAMs will “increase the prominence of potentially valuable information” (PCAOB, 2013, para. 16; Sirois, Bédard, & Bera, 2018) in the auditor's report and enhance the users' “ability to navigate and better understand increasingly complex financial reports” (IAASB, 2012, para. 9).

Christensen, Glover, and Wolfe (2014) consider KAM disclosures as concise and more easily accessible disclosures more so than any other underlying financial statement disclosures. The introduction of KAM disclosures in audit reports potentially increase the transparency of the auditors' report (Reid, 2015). Another study, Cordoş and Fülöp (2015), concluded that KAM disclosures are an important concept and have a positive effect on the audit process. Sirois et al. (2018) argued that KAM disclosures have a more specific nature, therefore they give the users a more specific view than other general statements and disclosures in the audit report. Sirois et al. (2018) refer to KAMs as having a “signalling effect” and a “substitution effect” (p. 143). For these reasons, KAMs are expected to draw the user's attention on the auditor's report and ultimately make the related financial statement disclosures more salient (Orquin & Loose, 2013). However, the regulators and standards setters have expressed their fears that the users may rely on KAMs as substitutes for other available information in the financial statements (IAASB, 2012; PCAOB, 2014), thus this is when the “substitution effect” comes into play (Sirois et al., 2018). For example, Kachelmeier, Rimkus, Schmidt, and Valentine (2019) examined the effect of KAMs on the areas of high measurement uncertainty of audit misstatement risk. Their study supports the view that the forewarning effect of KAM disclosures related to measurement uncertainty could mitigate perceived auditor responsibility for KAM-related material misstatements. Asbahr and Ruhnke (2019) argued that the auditors' adjustment decision, on which KAM disclosures to include, is not solely the result of the reasonableness assessment, as it may also be driven by the content of KAMs and other contextual factors (for example, the intention to retain an audit client). On the other hand, the reasonableness assessment is primarily determined by the auditor's judgment based on the subject matter or information and less by contextual factors (Asbahr & Ruhnke, 2019). These studies help us understand why Australia, like other countries, has adopted the KAM reforms and after the first 2 years of implementation allows research to be undertaken to investigate observable differences between Australian auditors, clients of different sizes, and different industries.

2.2 | KAM disclosures and how they are impacted by client characteristics and different industries

While the IAASB expressed the view that between two to seven KAMs should be included for each audited entity, the type and number of KAMs disclosed in the auditor's report differs between clients. KAMs are dependent of the size and complexity of the analyzed entity, the nature, and conditions of its business, and “the facts and circumstances of the audit engagement” (IAASB, 2013; ISA, 701, p. A10). Nonetheless, auditors have some flexibility on the type, amount and extent of KAM information that is disclosed, the extent to which KAM disclosures will help close or narrow the expectations gap (Bédard et al., 2016). The content of KAM disclosures differs across various industries (Jafari, Molanazari, Rahmani, Azizkhani, & Bozorgasl, 2019) due to the nature of different industries. Sierra-García, Gambetta, García-Benau, and Orta-Pérez (2019) investigate the influence of auditor and client characteristics on the type and extent of KAM disclosed in the audit reports of the FTSE 100 companies in the United Kingdom during the period 2013 to 2016. Their findings demonstrated that Deloitte, EY, and KPMG tend to report fewer entity-level-risk KAMs than PwC, while KPMG and BDO report fewer account-level-risk KAMs than PwC. In general, Sierra-García et al. (2019) found that number and type of KAMs disclosed in the auditors' report is determined by both auditor and audit client characteristics. These studies support the need for investigating KAMs in audit reports by considering both auditor and client-based characteristics as the present study does when examining observable differences in reported KAMs in Australia during the initial two years of implementation (i.e., 2017 and 2018).

Asbahr and Ruhnke (2019) examined the accounting estimates reporting in the form of KAMs and the impact of the auditors' judgment on the accounting estimate. Their study found that skeptical action related to proposed adjustment amounts is considerably lower when the accounting estimate is reported as a KAM. Asbahr and Ruhnke (2019) concluded that the KAM disclosures do not affect auditors' skeptical judgments in the form of a reasonableness assessment of the accounting estimate. Their study also found that reporting KAMs is not affected by client pressure or client characteristics, furthermore, client pressure does not expand the moral licensing impact of the KAM disclosures.

We convey some research findings from some early reports (pre-implementation) from both Australia and New Zealand on KAMs, where both countries implemented KAM reforms a few years after the United Kingdom, France, and most of Europe. In Australia, an analysis of 56 audit reports of entities listed in the Australian Securities Exchange (ASX 500), with December 31, 2016, as financial year end, by KPMG in 2017 highlights that 155 KAMs were reported before the initial year of implementation. In New Zealand, 179 audit reports of public listed companies in New Zealand were analyzed, and a total of 293 KAMs were disclosed (XRB & FMA, 2017). The findings from these reports indicate that, while the most frequently reported KAMs in Australia were “impairment of goodwill and intangibles,” “revenue recognition,” “taxation,” and “acquisitions” (KPMG, 2017), in New Zealand the most frequent KAMs were “intangible assets,” “impairment of goodwill,” and “investments in related entities” (XRB & FMA, 2017). Our study builds on these earlier reports with a more comprehensive sample of companies from 2017 onward, with a more in-depth analysis of KAM disclosures and our study's new facet, the analysis of audit procedure disclosures related to KAMs.

2.3 | The Effect of KAM disclosures on financial statement users

There have been mixed findings in the accounting literature about the effect of KAM disclosures on the financial statement and audit report users. Prior studies on KAM suggested that KAM disclosures have a limited effect on users from the perspective that those disclosures improve the informativeness of the audit report. For example, Christensen et al. (2014) found that users were less likely to consider the company stocks as an investment by considering KAM disclosures; Sirois et al. (2018) found that users relied on the KAMs to focus attention on particular aspects of the financial statements; and finally, studies such as Kachelmeier, Schmidt, and Valentine (2014); Brasel, Doxey, Grenier, and Reffett (2016) and Brown, Majors, and Peecher (2014) found that users perceived KAMs as disclaimers of liability. However contrary, other studies such as Backof, Bowlin, and Goodson (2014) and Gimbar, Hansen, and Ozlanski (2015) found greater perceived liability with KAM disclosures. Some other studies presented mixed findings on the benefits of KAM disclosures. Lennox, Schmidt, and Thompson (2018) concluded that the KAM disclosures were not incrementally important to the market and that they did not increase audit fees. Reid, Carcello, Li, and Neal (2015) found a small increase in audit fees, whereas Gutierrez, Minutti-Meza, Tatum, and Vulcheva (2015) conveyed KAM disclosures have no effect on audit quality, audit fees, and the number of risks identified by the auditor.

Some prior studies found that KAM disclosures brought benefits to users, for example, the number of KAMs mentioned in the auditor's report also influences participants' information acquisition (Sirois et al., 2018). For instance, when KAMs are conveyed, the users pay less attention to both KAM and non-KAM-related disclosures when three or more matters are communicated than when only one matter is communicated in the auditor's report (Sirois et al., 2018). Similarly, Carver and Trinkle (2017) found that KAM disclosures decreased the readability of the auditors' report and the perception of management credibility. Furthermore, investors may not understand KAM disclosures when they are released in an auditors' report with an unqualified opinion (Pelzer, 2016). This present study highlights what aspects of KAMs users might pay attention to, thus whether that is captured via the textual analysis or the topic extraction analysis, our study should help answer if there was a necessity for auditors to change audit procedures from year one to year two, and for which KAM topics, as users will take more interest in those ones.

Examined from the investor's perspective, while prior accounting literature argued that KAM disclosures has no communicative value for nonprofessional investors, they still contribute greatly to professional investors in that they demonstrate more about company's economic status (Köhler, Ratzinger-Sakel, & Theis, 2016). The standards (issued by IAASB and PCAOB) do not specify exactly how KAMs need to be described and addressed in the auditor's report other than the recommendation for a brief overview of the audit procedure's implementation (IAASB, 2015, 13(b); PCAOB, 2017). Most of the KAM disclosures provide a summary of the audit procedures undertaken. Sirois et al. (2018) argued that the users' gain benefits from this summary as it facilitates conclusions that users can make about the audit being sufficiently completed.

2.4 | Theoretical framework

The fineness theorem posits that a finer information structure will result in greater benefits to the decision maker. That is, the information in set X is said to be as fine as or finer than the information in set Y if X is a subpartition of Y (Demski, 1973). Consistent with the fineness theorem, KAM data is more accurate as it allows the investor or analyst to better integrate similar individual entity data with external sources of information such as relevant industry data. Previous research has found that KAM disclosures are relevant and useful to investors (e.g., Christensen et al., 2014; Köhler et al., 2016). The extent of the reliance on information such as KAM disclosures may be determined by the reputation of the external auditor or brand name, and if so, we would expect that information asymmetry will be proportionally reduced. The trust in the auditors' work by the investors also builds on the information of the company, such as product, market, and financial information, not just the auditor's reputation (Kollmann & Kuckertz, 2010). Therefore, in relation to financial information, there is a reliance on the accounting numbers produced by the audited company based on the established criteria of the accounting standards, and the audit report of the external auditor. To identify key audit risks, the investors now solely rely on the disclosures of the external auditor and any other information that is publicly available, however, as they proceed to the stages where they make investment decisions, they would shift their reliance to their own advisors and the representations made by management of the audited company, and thus rely less on the accounting numbers and the work of the external auditor. This supports the Lennox et al. (2018) study that indicated that investors do not believe that the new information provided by KAM disclosures increases informative content. However, as mentioned before, Sirois et al. (2018) found that users of financial statements relied on the KAM disclosures to focus attention on particular aspects of the audited financial statements.

3 | RESEARCH APPROACH

3.1 | Method

All audit reports that we could obtain from the Australian Securities Exchange (ASX) after the end of reporting period for 2016–2017 were used and analyzed using content and textual analysis, to investigate the actual reported KAMs in both 2017 and 2018 and analyze the content of the audit procedures disclosed. This study focused on whether auditors used the same or different disclosures related to audit procedures when reporting on the same KAM in the second year. The data collected includes for the years 2017 and 2018: client names and ASX code, industry membership of client, auditor names, information on auditor switches, client size (ASX 200 or other), reported KAMs for both years, and differences in audit procedures for repeated KAMs in the years 2017 and 2018.

In order to derive high-quality information from accounting disclosures and help readers of financial statements better understand their textual characteristics (i.e., meaning, pattern, theme, and structure of the text), experts from a number of different areas have been collaborating to create methods and tools that can be utilized to analyze the textual data in disclosure documents such as audit reports. Computational linguistics, natural language processing, and advanced statistics have enabled the development of effective text-mining techniques for financial accounting disclosure analysis (Yang, Dolar, & Mo, 2018). This study extracts textual information from audit report disclosures that may be beneficial in identifying differences in textual information provided by auditors of different sizes (Big Four and non-Big Four audit firms).

Latent semantic analysis (LSA), also known as latent semantic indexing, has been broadly applied in textual information retrieval in many fields, including accounting. This study partially utilizes LSA methods to apply these methods to audit reports in Australia. We first conduct textual analysis at the word level by running a frequency test for large and small auditors. Then in the next step, we conduct a topic extraction analysis in order to examine whether there are systematic differences between large and small auditors regarding KAMs and audit procedures they disclose. Since the application of LSA enables the weighing and ranking of topics, together with audit procedures extracted from the KAMs sections in audit reports, our results should help differentiate the focus of the themes and ideas between the two types of auditors (large and small). We also conduct KAM extractions based on the entire sample of companies and classifying individual observations into industries.

TABLE 1 Sample size, missing reports, and auditor switches

	Total Clients Listed	Final Sample of audit clients (2017–2018)
Australian Securities Exchange (ASX) Listed Companies (2018 peak)	2,026	
(−) less foreign companies, delisting's, IPOs, debt issuers.	(255)	
Initial Target Sample	1,771	
Missing reports 2017	(44)	
Missing reports 2018	(32)	
Final Sample with switches	1,695	
Auditor switches	(82)	
Final Sample (excl. switches)		1,613

3.2 | Data

From January 2017 to December 2017 there were initially 1973 ASX listed domestic companies on the ASX Ordinaries Index (ranging up to 2013 companies at its peak). From January 2018 to December 2018 there were initially 2018 ASX listed domestic companies on the ASX Ordinaries Index (ranging up to 2026 companies at its peak in the year 2018). Taking only domestic listed companies with tradable securities in both years, we collected annual reports for 1771 listed Australian companies. This excludes wholesale and retail debt issuers. Also excluded are foreign companies and ASX listed domestic companies audited by auditors based overseas and not operating out of Australia.

From this initial sample of 1,771 listed companies there were 44 missing annual reports from 2017, and 32 missing annual reports from 2018. This left the study with a final sample of 1,695 listed domestic companies, and over two years a sample of 3,390 audit reports. As Table 1 indicates, of the final sample of 1,695 companies, exactly 82 companies experienced an auditor switch between 2017

TABLE 2 Key Audit Matters (KAM) reported (counts) and two-year auditor averages (2017–2018)

Panel A

Number of KAMs Identified per Australian Auditor/s (Total Clients)	2017 N	2017 %	2018 N	2018 %	% Change (+/−)	Average KAM per audit client over 2-year period
Deloitte (134)	281	8.71%	250	7.83%	−0.88%	1.92
EY (186)	472	14.63%	455	14.24%	−0.39%	2.42
KPMG (151)	305	9.45%	300	9.40%	−0.05%	2.05
PwC (169)	481	14.91%	453	14.20%	−0.71%	2.66
NB4 (973)	1,688	52.31%	1,738	54.47%	2.16%	1.82
Total KAMs Australia	3,227	100%	3,196	100%		2.01

Panel B

Number of KAMs Identified for the Top 5 NB4 Auditor/s (Total Clients)	2017 N	2017 %	2018 N	2018 %	% Change (+/−)	Average KAM per audit client 2017	Average KAM per audit client 2018	Average KAM per audit client over 2-year period
BDO (214)	328	10.2%	325	10.2%	No change	1.71	1.64	1.68
Grant Thornton (134)	228	7.1%	222	6.9%	−0.2%	1.92	1.83	1.88
HLB Mann Judd (102)	147	4.6%	139	4.3%	−0.3%	1.61	1.62	1.62
Pitcher Partners (63)	111	3.4%	122	3.8%	0.4%	1.95	2.00	1.98
Bentleys (44)	94	2.9%	101	3.2%	0.3%	2.24	2.30	2.27
Total KAMs Australia	3,227		3,196					

TABLE 3 Descriptive data for sample companies per industry at June 30, 2018

GICS Code	Industry Name	No. of Clients per Auditor	Descriptive Data ($AUD) Market Capitalization	D/E Ratio
1	Energy	DTT (14), EY (17), KPMG (8), PwC (7), NB4 (96)	4,032,768,565	16%
2	Materials	DTT (26), EY (46), KPMG (36), PwC (32), NB4 (399)	3,851,476,232	10%
3	Capital Goods	DTT (6), EY (5), KPMG (11), PwC (5), NB4 (31)	3,348,323,574	24%
4	Commercial & Professional Services	DTT (6), EY (4), KPMG (4), PwC (4), NB4 (26)	1,622,778,971	33%
5	Transportation	DTT (2), EY (1), KPMG (4), PwC (4), NB4 (3)	518,413,430	62%
6	Automobiles & Components	EY (2), KPMG (2), NB4 (4)	476,091,729	47%
7	Consumer Durables & Apparel	DTT (5), EY (1), PwC (3), NB4 (9)	168,230,528	29%
8	Consumer Services	DTT (3), EY (10), KPMG (1), PwC (9), NB4 (20)	1,592,731,719	36%
9	Media	DTT (2), EY (9), KPMG (6), PwC (6), NB4 (20)	976,036,222	34%
10	Retailing	DTT (5), EY (11), KPMG (5), PwC (8), NB4 (16)	261,943,500	27%
11	Food & Staples Retailing	DTT (1), EY (1)	217,722,340	37%
12	Food, Beverage & Tobacco	DTT (8), EY (6), KPMG (5), PwC (8), NB4 (19)	4,753,355,879	38%
13	Household & Personal Products	DTT (2), PwC (1), NB4 (6)	428,291,298	19%
14	Health Care Equipment & Services	DTT (5), EY (8), KPMG (10), PwC (9), NB4 (41)	3,510,046,673	23%
15	Pharmaceuticals, Biotechnology & Life Sciences	DTT (5), EY (6), KPMG (1), PwC (5), NB4 (48)	4,013,308,800	6%
16	Banks	DTT (3), EY (4), KPMG (3), PwC (2), NB4 (3)	58,617,657,500	3%
17	Diversified Financials	DTT (10), EY (9), KPMG (7), PwC (11), NB4 (42)	1,938,197,880	23%
18	Insurance	EY (1), KPMG (3), PwC (5), NB4 (2)	6,412,682,217	30%
19	Real Estate	DTT (5), EY (15), KPMG (10), PwC (14), NB4 (22)	2,724,296,869	35%
20	Software & Services	DTT (8), EY (6), KPMG (11), PwC (9), NB4 (83)	1,995,064,375	10%
21	Technology Hardware & Equipment	EY (1), KPMG (2), PwC (2), NB4 (17)	1,342,723,709	17%
22	Semiconductors & Semiconductor Equipment	PwC (1), NB4 (4)	420,200,370	34%
23	Telecommunication Services	DTT (2), EY (1), KPMG (3), PwC (4), NB4 (7)	5,246,427,455	36%
24	Utilities	DTT (6), EY (3), KPMG (3), PwC (3), NB4 (12)	4,018,717,222	60%
Key:	Deloitte = DTT, KPMG, Ernst & Young = EY, PriceWaterhouseCoopers = PwC, Non-Big Four = NB4			

and 2018, so we have a sample of 1,613 companies with the same auditor reporting KAMs in both years.

Of the 1,613 companies that had no auditor switch in those years, exactly 973 companies were audited by non-Big Four audit firms (about 57%). The other 43% were audited by Deloitte (134), EY (186), KPMG (151), and PwC (169) (see also Table 2). Table 3 conveys the auditors' market share (per client) in our sample and some descriptive data on the sample companies, all aggregated by industry. In the largest industry "Materials," the non-Big Four auditors have close to 400 audit clients, whereas the most by any Big Four is EY with 46 clients. There are some industries, for example, "Food & Staples Retailing" that are only represented by two auditors with one client each in the sample, however, most other industries are well represented by all auditors.1 The descriptive data on companies is represented by Market Capitalization and the Debt to Equity (D/E) ratio as at the end of financial year June 30, 2018. Of interest is the Banking sector that has close to half the market capitalization of all the sample companies from the All Ordinaries ASX Index, and the lowest D/E ratio at 3% compared to all other industry sectors. This is highlighted here as further analysis in Tables 4 and 5, indicated higher levels of reported KAM disclosures in the banking sector in comparison to every other industry. The implications of these research findings are discussed further in both the findings and conclusion sections below. Most of the following tables exclude the auditor switch sample of 82 to allow for comparative tests of the changes related to the same auditor, however, the Tables 4, 5, 6, and 7 include these switched audits, when examining industry effects, client size effects and the characteristics of the switched audit cases.

The next section introduces and conveys the findings of a detailed analysis of audit reports from ASX listed entities in the years 2017 and 2018, the first 2 years of the implementation of the KAMs audit reforms in Australia. The analysis considers the number of KAMs reported, changes in the KAMs reported, changes in audit procedures over the two-year period related to the reported KAMs, differences

TABLE 4 Key Audit Matters (KAMs) reported average per industry in 2018

GICS Code	Industry Name	No. KAMs (Avg) 2018
1	Energy	244 (1.82)
2	Materials	949 (1.71)
3	Capital Goods	126 (2.14)
4	Commercial & Professional Services	106 (2.26)
5	Transportation	34 (2.43)
6	Automobiles & Components	17 (2.13)
7	Consumer Durables & Apparel	34 (2.00)
8	Consumer Services	122 (2.71)
9	Media	95 (2.02)
10	Retailing	115 (2.35)
11	Food & Staples Retailing	6 (3.00)
12	Food, Beverage & Tobacco	116 (2.47)
13	Household & Personal Products	22 (2.44)
14	Health Care Equipment & Services	131 (2.15)
15	Pharmaceuticals, Biotechnology & Life Sciences	120 (1.79)
16	Banks	48 (3.20)
17	Diversified Financials	194 (2.28)
18	Insurance	30 (2.73)
19	Real Estate	140 (2.22)
20	Software & Services	246 (2.16)
21	Technology Hardware & Equipment	40 (1.74)
22	Semiconductors & Semiconductor Equipment	5 (2.50)
23	Telecommunication Services	55 (2.75)
24	Utilities	44 (1.76)
-	Not Classified (see footnote 1)	157
Total KAM Australia		**3,196 (2.00)**

between auditors and industries when reporting KAMs, and an examination of terminology used in both KAM headers and the audit procedures related to KAMs.

4 | FINDINGS

4.1 | Investigating reported KAMs in 2017 and 2018

The first level of analysis focused on the disclosed KAMs in both years. For this sample, the average Australian disclosed KAMs in 2017 was 2.02 and in 2018 it declined slightly to 2.00 (see Table 8). The Australia average over the 2 years was 2.01 (See Table 2). Between the two years all Big Four auditors had a small percentage decline in disclosed KAMs, whereas the non-Big Four audit firms had a + 2.16% increase in disclosed KAMs. According to Table 2, panel A, over the 2-year period PwC on average reported more KAMs per audit client (2.66) than any other firm, and only EY was close at 2.42. Both firms are well above the Australian average of 2.01, whereas KPMG (2.05) and Deloitte (1.92) sit close to the Australian average. The non-Big Four audit firms disclose on average less KAMs per client (1.82), which is significantly lower than most of the large firms, apart from Deloitte. Additional analysis of non-Big Four audit firms appears in Table 2 panel B where the top five non-Big Four audit firms based on client numbers (minimum 40 clients) in our sample are also investigated. Both BDO (214) and Grant Thornton (134) have more clients in the sample than Deloitte (134), and further BDO has on average more disclosed KAMs than both Deloitte and KPMG in both years 2017 and 2018. The KAM disclosures from BDO represent 10.2% of total KAMs disclosed in both years, whereas both KPMG and Deloitte are around 9% and 8%, respectively. Interestingly, the reported KAMs per client for BDO (1.68) is well below the Australian average (2.01), and below the average for non-Big Four audit firms (1.82). The third firm in the top five non-Big Four list (based on client numbers) HLB Mann Judd (1.62) is also well below the average for non-Big Four audit firms (1.82). Bentleys makes the list in fifth place and their average of 2.27 KAMs reported per client over the 2 years is much higher than the Australian average (2.01), and higher than both KPMG (2.05) and Deloitte (1.92). This indicates that not all smaller practitioners report less KAMs per client than the Big Four firms, however, Bentleys is a rare example. Pitcher Partners (1.98) also is above the average for non-Big Four audit firms (1.82), and only above Deloitte (1.92) from the Big Four firms. As we look further into smaller practitioners, the sample size of their clients in our sample is too small to make any meaningful analysis, so we kept the cut-off at a minimum 40 clients. Many of the other non-Big Four audit firms have less than 30 clients in our sample.

Table 8 indicates that most of the Big Four firms reported less KAMs in 2018 than initially in 2017, apart from KPMG that increased slightly from 2.03 to 2.06. Two firms that indicate notable declines in reported KAMs are Deloitte (2.01 to 1.82) and PwC (2.72 to 2.60). Although indicating a decline in 2018, PwC still on average reports more KAMs per audit client than any other Big Four firm in Australia. Table 8 includes concept links to give a better indication of what the most frequently reported KAM involves for each auditor. The most frequent key word is listed first in descending order for the top five, and ties are listed together.

From the sample, 3,227 reported KAMs were identified in 2017, and there was a slight decrease to 3,196 in 2018. This only includes the first five KAMs reported as it is very rare that an Australian auditor would identify more than five KAMs. In 2017 about 52.3% of the KAMs reported were from non-Big Four audit firms and of the Big Four PwC reported 481 (the largest at around 14.9% of the 3,227 KAMs). In 2018 about 54.5% of the reported KAMs were from non-Big Four audit firms and in that year EY reported the most from the Big Four 455 (around 14.2% of the 3,196 KAMs). Deloitte reported the least (among the Big Four) in both years 2017 and 2018, i.e. 281 (8.7%) and 250 (7.8%), respectively. However, Table 2 indicates in the sample that EY had the most clients at 186, while Deloitte had the least 134, so the reported KAMs by Deloitte would be expected based on client numbers to be less. Table 9 indicates that in both

TABLE 5 Main reported Key Audit Matters (KAMs) per industry in 2018

GICS Code	Industry Name	Key Words (Frequency)	Main KAMs (Concept links)
1	Energy	Exploration (74)	"Capitalised exploration and evaluation expenditure/assets"
2	Materials	Exploration (369)	"Capitalisation of exploration and evaluation expenditure/assets"
3	Capital Goods	Recognition (30)	"Revenue recognition"
4	Commercial & Professional Services	Goodwill (21)	"Valuation of Goodwill"
5	Transportation	Revenue (7)	"Revenue recognition"
6	Automobiles & Components	Valuation (5)	"Inventory valuation"
7	Consumer Durables & Apparel	Valuation (8)	"Inventory valuation"
8	Consumer Services	Goodwill (26)	"Goodwill and other intangible assets"
9	Media	Intangible (27)	"Valuation of intangible assets"
10	Retailing	Valuation (25)	"Valuation of Inventory"
11	Food & Staples Retailing	N/A – sample too small	-
12	Food, Beverage & Tobacco	Valuation (24)	"Valuation of biological assets"
13	Household & Personal Products	Intangible (5)	"Carrying value of intangible assets"
14	Health Care Equipment & Services	Valuation (21)	"Valuation of Intangible Assets, including Goodwill"
15	Pharmaceuticals, Biotechnology & Life Sciences	Intangible (26)	"Impairment assessment of intellectual property intangible assets"
16	Banks	Impairment (9)	"Loan impairment provisions"
17	Diversified Financials	Valuation (39)	"Valuation of investments"
18	Insurance	Valuation (9)	"Valuation of outstanding liability claims"
19	Real Estate	Investment (48)	"Valuation of investment properties"
20	Software & Services	Recognition (54)	"Revenue recognition"
21	Technology Hardware & Equipment	Recognition (8)	"Revenue recognition"
22	Semiconductors & Semiconductor Equipment	N/A – sample too small	-
23	Telecommunication Services	Revenue (16)	"Revenue recognition"
24	Utilities	Valuation (12)	"Valuation of generation assets"

TABLE 6 Reported Key Audit Matters (KAMs) by client size in 2018

Company Size	Key Words (Frequency)	Main KAM (Concept links)
Australian Securities Exchange (ASX) 200	Valuation (77) Goodwill (63) Impairment (56) Revenue (49) Recognition (41)	"Valuation of goodwill" "Valuation of NCA, including PPE and intangible assets" "Valuation of inventory"
Outside the ASX Top 200	Exploration (472) Evaluation (393) Valuation (351) Recognition (284) Impairment (276)	"Capitalised exploration and evaluation expenditure" "Exploration and Evaluation Assets – valuation" "Carrying value of exploration and evaluation assets"

years 2017 and 2018 the first reported KAM accounted for close to 50% of the total KAMs disclosed for those 2 years, whereas the second KAM accounted for just over 30% in both years, and in very few cases some companies had a fifth KAM (around 1% for both years). There was an even smaller number of cases where up to seven KAMs were reported, however, because this was just a handful of cases, we limited the analysis to the first five KAMs disclosed.

Textual analysis of the reported KAMs indicate differences between the Big Four and non-Big Four audit firms. The non-Big Four audit firms reported KAMs mainly related to "exploration and evaluation assets" or "exploration expenditure" or "capitalised exploration" as Table 8 indicates. Whereas the Big Four mainly reported KAMs related to the "Impairment of Goodwill or other intangibles," the "valuation of goodwill, Inventories, or Investment Properties," or "Impairments of non-current assets." Within the Big Four sample of KAMs reported, both KPMG and PwC similarly reported KAMs on mainly the "valuation of inventories," "investment properties," and the "impairment of goodwill," the other two large firms reported more on the "impairment of goodwill, other intangibles and non-current assets." Further analysis of KAM by key topics is provided in Table 10,

TABLE 7 Auditor switches in the years 2017 and 2018 (Key Audit Matters [KAMs] and audit procedures)

	Type of Switch				
	B4 to B4	NB4 to B4	B4 to NB4	NB4 to NB4	Total KAM
N	14	16	10	42	
KAM (avg) 2017	2.06	2.09	2.14	2.05	190 (2.07)
KAM (avg) 2018	2.07	2.07	2.16	2.03	188 (2.06)
No. of new procedures (avg)	86 (6.14)	76 (4.75)	27 (2.70)	136 (3.24)	
Key Words (Frequency) KAMs 2017	Goodwill (6) Impairment (4)	Impairment (8) Exploration (7)	Exploration (3) Going Concern (3)	Exploration (14) Evaluation (11)	
Key Words (Frequency) KAMs 2018	Impairment (6) Revenue (6)	Tax (7) Exploration (5)	Deferred (3) Exploration (2)	Exploration (15) Evaluation (11)	
Key Words (Frequency) Procedures 2017	Assessing (32) Comparing (21)	Management (22) Assessing (17)	Assessing (14) Accounting (9)	Management (59) Assessing (39)	
Key Words (Frequency) Procedures 2018	Assessing (48) Group (23)	Assessing (25) Group (19)	Management (14) Group (12)	Management (45) Assessing (44)	

however, the differences between the larger and smaller audit practitioners are mainly due to the nature of their client base and clients' industry, as the non-Big Four audit firms audit many junior exploration companies, thus their reported KAMs are mainly related to risks involving exploration and evaluation assets and capitalized expenditures.

Prior studies in auditing covering other countries (e.g., Switzerland, Hong Kong, Thailand, South Africa) reported the top KAM topics reported by auditors in those various countries, including Australia and New Zealand (the studies of the other countries were mainly before the year 2017). This study in Table 10 we report the number of KAMs disclosed under the Top 7 topics (in no particular order) of (1) Goodwill and Intangibles, (2) Plant, Property and Equipment (PPE), (3) Revenue Recognition, (4) Acquisitions, (5) Impairments, (6) Asset Valuation and (7) Exploration and Evaluation. These top 7 topics in both 2017 and 2018 encompass about 70% of total reported KAMs, so they represent most of the reported KAMs in Australia. The firm that on average reports the most KAMs per client, that is, PwC (2.66) mainly reported KAMs in 2017 (27.4%) and in 2018 (31.7%) in the topic area of "Asset Valuation." PwC appears to do much less work in the topic area of "Exploration and Evaluation" compared to the other Big Four firms, for example, PwC (their 5.1% average), other Big Four (on a 12.5% average). KPMG also similarly reported KAMs in "Asset Valuation" (2017: 28.0%, and 2018: 26.0%) but also was significantly reporting KAMs in the topic area of "Goodwill and Intangibles" (2017: 25.5% and 2018: 26.9%). EY was slightly more evenly spread in "Asset Valuation" (2017: 21.7% and 2018: 23.1%) and "Impairments" (2017: 20.8% and 2018: 19.1%), and finally, Deloitte was mainly reporting on "Goodwill and intangibles" (2017: 22.5% and 2018: 21.3%). The non-Big Four audit firms mainly reported KAMs on "Exploration and Evaluation" (2017: 29.8% and 2018: 31.4%) and "Goodwill and intangibles" (2017: 18.7% and 2018: 17.6%). Both Deloitte and EY had more reported KAMs in 2018 in the area of PPE than in 2017, however, reported less in 2018 on "Revenue Recognition" (EY) and "Acquisitions" (Deloitte), than in 2017. KPMG reported less on PPE in 2018, but more on "Revenue Recognition" in 2018 than in 2017. Finally, PwC reported less "Impairments" in 2018 than the prior year. The non-Big Four audit firms remained steady between the two years in terms of exhibiting little variability in the KAM topics they reported, no change greater than 2% in any direction between 2017 and 2018. Note for this part of the analysis some KAMs were counted under more than one topic, for example, "Impairment of Goodwill" was counted under both "Goodwill and intangibles" and "Impairments." Later in other tables presenting the analysis of results related to audit procedures, double counting by topic was not implemented.

4.2 | Investigating the disclosed audit procedures for each repeated KAM in 2017 and 2018

The main aim of the study's analysis of KAMs reported in Australia was to do a comparative analysis of the audit procedure changes between 2017 and 2018, where the same KAMs were reported in both years by the same auditor. Thus, for this section of the analysis, we only include repeated KAMs and excluded sample companies that switched auditors. In total we analyze 11,675 audit procedures in 2017 and 12,126 audit procedures in 2018. Table 11 indicates that most audit procedures are reported for the first KAM disclosed around 6,434 (average 5.31 audit procedures for KAM 1) in 2017 and 6,813 audit procedures in 2018 (average 5.20 audit procedures for KAM 1). In both years this progressively falls and by the time we got to the fifth disclosed KAM, very few audit procedures are reported as most audits do not have more than two KAMs disclosed as the Australian average for this sample is 2.01. Based on the Australia average KAM for each year, PwC undertakes more audit procedures for each KAM per client than any other auditor (2017: 5.70 audit procedures and in 2018: 5.77 audit procedures). This is consistent with the outcome that PwC also reports more KAMs than the other firms. Comparing PwC the other Big Four firms, the other firms conduct less audit procedures based on the Australian KAM average for each year

TABLE 8 Top 5 Key Audit Matters (KAM) keywords per auditor classification and KAM average per year (2017 and 2018)

	2017			2018		
Australian Auditor/s	Key Words (Frequency)	Main KAMs (Concept links)	Avg. KAMS per client	Key Words (Frequency)	Main KAMs (Concept links)	Avg. KAMS per client
Deloitte	Goodwill (30) Impairment (27) Exploration (24) Evaluation (23) Intangibles (23)	"Carrying value of goodwill" "Recoverability of goodwill" "Assessment of impairment of goodwill"	2.01	Goodwill (30) Impairment (21) Exploration (21) Evaluation (21) Valuation (21) Revenue (20) Recognition (19) Intangible (16)	"Carrying value of goodwill" "Recoverability of goodwill" "Assessment of impairment of goodwill"	1.82
EY	Impairment (58) Valuation (57) Recognition (52) Intangibles (42) Revenue (42) Goodwill (40)	"Impairment assessment of non-current assets" "Impairment testing of intangible assets" "Goodwill impairment assessment"	2.43	Impairment (59) Valuation (48) Intangibles (43) Revenue (43) Recognition (42) Goodwill (36) Evaluation (36) Exploration (36)	"Impairment testing of goodwill and other intangible assets" "Impairment of non-current assets"	2.41
KPMG	Valuation (81) Goodwill (40) Recognition (36) Revenue (30) Exploration (28)	"Valuation of goodwill" "Valuation of inventories" "Valuation of investment properties"	2.03	Valuation (83) Goodwill (41) Recognition (38) Revenue (35) Intangibles (30)	"Valuation of goodwill" "Valuation of inventories" "Valuation of investment properties"	2.06
PwC	Valuation (71) Impairment (68) Goodwill (45) Revenue (44) Tax (41)	"Valuation of investments" "Valuation of investment properties" "Impairment of Goodwill"	2.72	Valuation (80) Impairment (52) Goodwill (43) Tax (38) Revenue (37)	"Valuation of investments" "Valuation of investment properties" "Impairment of Goodwill	2.60
NB4	Exploration (305) Evaluation (253) Valuation (181) Impairment (152) Expenditure (149)	"Carrying value of exploration and evaluation assets" "Exploration expenditure" "Capitalised exploration"	1.80	Exploration (350) Evaluation (287) Expenditure (171) Valuation (170) Impairment (158)	"Carrying value of exploration and evaluation assets" "Exploration expenditure" "Capitalised exploration"	1.83
Total Avg. KAMs Australia			2.02			2.00

TABLE 9 Frequency of Key Audit Matters (KAMs) per year (first five KAMs)

	Year			
	2017		2018	
KAM (Number)	N	%	N	%
KAM (1)	1,598	49.25%	1,599	50.03%
KAM (2)	997	30.90%	991	31.00%
KAM (3)	450	13.94%	442	13.83%
KAM (4)	147	4.56%	123	3.85%
KAM (5)	35	1.08%	41	1.28%
Total	3,227	100%	3,196	100%

(Deloitte 2017: 4.64 and 2018: 4.71 average audit procedures), (EY 2017: 4.84 and 2018: 4.95 average audit procedures), and (KPMG, 2017: 4.88 and 2018: 5.21 average audit procedures). In 2018, only KPMG (5.21) comes close to PwC (5.77), which represents a significant rise in the number of audit procedures KPMG undertook between 2017 and 2018. Further analysis is required to understand the increased level of audit procedures that KPMG undertook in the second year. More about KPMG is discussed in the summary below. Going back to Table 10, KPMG was the only firm to have a shift in the main KAM reported. In 2017 for KPMG it was "Asset Valuation" (56), however, in 2018 their main KAM became "Goodwill and intangibles" (59). So, this potentially could be one possible explanation. The non-Big Four audit firms clearly undertake less audit procedures for each KAM per client in 2017 (3.63 average audit procedures) and in 2018 (3.68 average audit procedures), see Table 11.

Focusing now on the changes in audit procedures between the years 2017 to 2018, PwC again stood out with around 84.6% of its clients from the sample experiencing changes in audit procedures for the same reported KAMs in both years (see Table 12). PwC had an average of 3.77 changes in audit procedures per audit client. Compared to the other Big Four audit firms, that all had observed changes with audit procedures involving Goodwill, Intangibles, and Asset Valuation; PwC also had several changes in audit procedures related to "Revenue Recognition," and "Impairments." The changes in audit procedures we captured involve: (i) procedures no longer undertaken in

TABLE 10 Top 7 Key Audit Matters (KAMs) disclosed by topic (2017–2018)

Panel A										
KAM by Topic 2017	Deloitte (281)	%	EY (472)	%	KPMG (305)	%	PwC (481)	%	NB4 (1,688)	%
Goodwill and Intangibles	36	22.50%	34	15.39%	51	25.50%	62	22.07%	200	18.74%
PPE	14	8.75%	12	5.43%	17	8.50%	17	6.05%	27	2.53%
Revenue Recognition	19	11.87%	34	15.38%	29	14.50%	43	15.30%	136	12.75%
Acquisitions	23	14.38%	9	4.08%	16	8.0%	7	2.49%	96	9.0%
Impairments	19	11.87%	46	20.81%	5	2.5%	60	21.35%	134	12.56%
Asset Valuation	26	16.25%	48	21.72%	56	28.0%	77	27.40%	156	14.62%
Exploration and Evaluation	23	14.38%	38	17.19%	26	13.0%	15	5.34%	318	29.80%
Total	160	100%	221	100%	200	100%	281	100%	1,067	100%
Panel B										
KAM by Topic 2018	**Deloitte (250)**	**%**	**EY (455)**	**%**	**KPMG (300)**	**%**	**PwC (453)**	**%**	**NB4 (1,738)**	**%**
Goodwill and Intangibles	33	21.29%	57	19.06%	59	26.93%	64	23.62%	210	17.60%
PPE	19	12.26%	27	9.03%	12	5.5%	16	5.90%	39	3.27%
Revenue Recognition	21	13.55%	32	10.70%	38	17.35%	37	13.65%	141	11.82%
Acquisitions	11	7.09%	15	5.02%	17	7.75%	7	2.58%	100	8.38%
Impairments	19	12.26%	57	19.06%	7	3.20%	48	17.72%	148	12.41%
Asset Valuation	27	17.42%	69	23.08%	57	26.03%	86	31.73%	181	15.17%
Exploration and Evaluation	25	16.13%	42	14.05%	29	13.24%	13	4.80%	374	31.35%
Total	155	100%	299	100%	219	100%	271	100%	1,193	100%

Note. PPE = Plant, Property and Equipment.

TABLE 11 Procedures (counts) per first five Key Audit Matters (KAMs) disclosed in years 2017 to 2018

Panel A

	2017					
Australian Auditor/s	KAM1	KAM2	KAM3	KAM4	KAM5	Total Procedures per client/Average KAM (Aus)
Deloitte	612 (5.83)	332 (5.35)	119 (5.66)	40 (5.71)	12 (4.00)	4.64
EY	745 (5.17)	537 (4.75)	241 (4.92)	68 (4.25)	12 (6.00)	4.84
KPMG	693 (5.68)	395 (5.13)	156 (4.73)	58 (5.27)	-	4.88
PwC	832 (5.74)	501 (5.06)	320 (5.08)	98 (4.08)	45 (3.75)	5.70
NB4	3,259 (5.02)	1,446 (4.65)	487 (4.43)	83 (4.61)	22 (4.40)	3.63
Switched	293	128	74	45	22	-
Total	6,434	3,339	1,397	392	113	11,675 Procedures

Panel B

	2018					
Australian Auditor/s	KAM1	KAM2	KAM3	KAM4	KAM5	Total Procedures per client/Average KAM (Aus)
Deloitte	672 (5.95)	311 (5.36)	115 (5.23)	19 (6.33)	3 (3.00)	4.71
EY	756 (5.18)	569 (4.91)	244 (4.88)	61 (4.36)	22 (4.4)	4.95
KPMG	751 (6.06)	418 (5.29)	186 (5.31)	53 (4.82)	10 (5.00)	5.21
PwC	842 (5.72)	567 (5.06)	324 (4.98)	95 (4.31)	40 (3.64)	5.77
NB4	3,502 (5.05)	1,383 (4.59)	493 (4.52)	102 (4.86)	24 (4.80)	3.68
Switched	290	136	90	25	13	
Total	6,813	3,384	1,452	355	112	12,126 Procedures

2018, (ii) audit procedures replaced by different audit procedures in 2018, or first-time new audit procedures introduced in 2018 only. Between 2017 and 2018 there was a 6.4% increase in the number of KAMs with new procedures introduced in 2018, and not replacing procedures from 2017 for PwC (see Table 13). Deloitte and KPMG also had around a 5% increase, EY a 2.9% increase, whereas the non-Big Four audit firms had a slight increase 0.8%. The higher percentage change in audit procedures by PwC might just reflect that on average they undertake more procedures than all other firms. On the other hand, this may indicate several of their clients had issues with "Revenue Recognition" and "Impairments," thus extra work was required during those 2018 audits. In 2018, PwC introduced new audit procedures for several clients, not previously undertaken in 2017. The implications of this is that we would expect to see a rise in audit fees charged, but also this observation might be a response to the KAM reforms, where in the second year of implementation the auditor/s recognized the need for more audit procedures to be disclosed. Table 12 also indicates that EY had around 82.8% of its clients (in the sample) experiencing changes in audit procedures, whereas KMPG (69.5%) and Deloitte (57.5%) were significantly less. The non-Big Four audit firms at 45.6% significantly had a smaller number of clients experiencing changes in audit procedures between the years 2017 and 2018 for reported KAMs, at an average of 2.77 per client. For the Big Four auditors most changes in audit procedures occurred in KAMs involving "Goodwill and intangibles" and "Asset Valuation." For PwC they also had several audit procedures change in "Revenue Recognition" and "Impairments," whereas EY also had several audit procedures changes in "Revenue Recognition" and "Exploration and Evaluation." For the non-Big Four audit firms their main areas of changes in audit procedures for reported KAMs occurred within "Exploration and Evaluation" and Goodwill and intangibles." Across the board (between 2017 and 2018) the main KAM topic area (or key risk) that experienced changes in audit procedures performed by auditors was "Goodwill and intangibles".

In terms of the wording of the audit procedures, Deloitte used terminology more in common to the non-Big Four audit firms (see Table 13), such as "Assessing Management's … determination or methodology or processes," and so on, or using the wording "appropriateness of … ". The non-Big Four audit firms also used the same terminology to describe their audit procedures, however, they used the word "reviewing" very often, whereas the Big Four used "comparing" or "testing" more. Now comparing Deloitte to the other Big Four firms, rather than using the phrase "Assessing Management's … determination of … " the other Big Four firms use "Assessing Group's … determination of …," and so on. Most of the audit procedures reported for KAMs related to assessing disclosures in financial statements, and interestingly all audit firms or firm classifications use slightly different terminology, that is, Deloitte: "Assessing Appropriateness of Disclosures"; EY: "Assessing Adequacy of Disclosures"; KPMG: "Assessing Accuracy or Competence of Disclosures"; PwC: "Assessing Accuracy or Competency of Disclosures"; and non-Big Four audit firms: "Reviewing

TABLE 12 Key Audit Matters (KAMs) disclosed with changes in audit procedures between 2017 to 2018

	2018				
Australian Auditor/s	Total KAMs	No. of clients with new procedures	No. of clients with no new procedures	No. of new procedures per Topic	Avg number of new procedures per client
Deloitte	250	77 (57.5%)	57	Goodwill & Intangibles (32) PPE (9) Revenue Recognition (18) Acquisitions (22) Impairments (18) Asset Valuation (39) Exploration & Evaluation (3)	2.81
EY	455	154 (82.8%)	32	Goodwill & Intangibles (79) PPE (14) Revenue Recognition (63) Acquisitions (8) Impairments (36) Asset Valuation (129) Exploration & Evaluation (51)	3.77
KPMG	300	105 (69.5%)	46	Goodwill & Intangibles (107) PPE (9) Revenue Recognition (31) Acquisitions (10) Impairments (7) Asset Valuation (58) Exploration & Evaluation (31)	3.24
PwC	453	143 (84.6%)	26	Goodwill & Intangibles (114) PPE (6) Revenue Recognition (65) Acquisitions (14) Impairments (53) Asset Valuation (113) Exploration & Evaluation (23)	3.77
NB4	1738	444 (45.6%)	529	Goodwill & Intangibles (213) PPE (41) Revenue Recognition (122) Acquisitions (70) Impairments (59) Asset Valuation (145) Exploration & Evaluation (236)	2.77
Total Australia in 2018	3,196				

Appropriateness of Disclosures." There is not much change between the two years (2017 and 2018) within firms related to the wording of audit procedures, however, in 2018 for instance, EY uses "valuation" more than "testing," and KPMG uses in 2018, "testing" more than "evaluating," and PwC uses in 2018 "evaluating" more than "testing" compared to 2017, respectively.

TABLE 13 Keywords and the main audit procedures in years 2017 and 2018

Panel A			
	2017		
Australian Auditor/s	Key Words (Frequency)	Main Procedures (Concept link)	No. of KAMs with new procedures
Deloitte	Assessing (283) Management (271) Evaluating (137) Appropriateness (120) Testing (96)	"Assessing Management's..." (Process/Methodology) (Determination of …) "Assessing Appropriateness of Disclosures"	88 (31.3%)
EY	Assessing (561) Group (410) Assumptions (195) Considering (159) Testing (153)	"Assessing Group's …" (Cash Flow Forecast) (Assumptions) "Assessing Adequacy of Disclosures"	229 (48.5%)
KPMG	Group (321) Assessing (274) Comparing (184) Accounting (163) Evaluating (133)	"Assessing Group's …" (Determination of …) "Assessing Competence" "Assessing Accuracy of …"	147 (48.2%)
PwC	Group (329) Assessing (244) Comparing (241) Testing (174) Evaluating (159)	"Assessing Group's …" (Identification of …) "Assessing Competency" "Assessing Adequacy"	214 (44.5%)
NB4	Management (1233) Assessing (1142) Reviewing (713) Evaluating (462) Assumptions (398)	"Assessing Management's …" (Determination of …) (Allocation of …) "Reviewing Appropriateness of Disclosures"	499 (29.6%)
Total for Australia			1,177 (36.5%)
Panel B			
	2018		
Australian Auditor/s	Key Words (Frequency)	Main Procedures (Concept link)	No. of KAMs with new procedures
Deloitte	Assessing (277) Management (273) Evaluating (135) Appropriateness (114) Testing (101)	"Assessing Management's..." (Process/Methodology) (Determination of …) "Assessing Appropriateness of Disclosures"	90 (36.0%)
EY	Assessing (563) Group (392) Considering (211) Assumptions (187) Valuation (166)	"Assessing Group's …" (Cash Flow Forecast) (Assumptions) "Assessing Adequacy of Disclosures"	234 (51.4%)
KPMG	Group (324) Assessing (279) Accounting (194) Comparing (174) Testing (142)	"Assessing Group's …" (Determination of …) "Assessing Competence" "Assessing Accuracy of …"	159 (53.0%)
PwC	Group (383) Assessing (256) Comparing (238) Evaluating (173) Testing (164)	"Assessing Group's …" (Identification of …) "Assessing Competency" "Assessing Adequacy"	231 (50.9%)
NB4	Management (1255) Assessing (1161) Reviewing (739) Evaluating (495)	"Assessing Management's …" (Determination of …) (Allocation of …) "Reviewing Adequacy of Disclosures"	528 (30.4%)

(Continues)

TABLE 13 (Continued)

Panel B			
	2018		
Australian Auditor/s	Key Words (Frequency)	Main Procedures (Concept link)	No. of KAMs with new procedures
	Testing (407)		
Total for Australia			1,242 (38.9%)

Note. KAM = Key Audit Matters.

4.3 | Further testing: Industry effects, client size and auditor switches

The reported results so far indicate major differences between the Big Four auditors and the non-Big Four audit firms, in terms of the number of KAMs reported per client, the topic areas (key risk) covered by the KAMs disclosed, and the number of audit procedures undertaken by auditors related to each KAMs. Factors such as audit quality, auditor resources, and audit fees would impact these observed differences. Also, the major differences observed are driven to some extent by industry factors and audit client size. This section focuses on industry effects and client size, and in the final investigation we investigate the 82 cases where auditor switches occurred between 2017 and 2018.

Table 7 conveys the number and average KAM disclosed per industry in 2018. The highest average belongs to the Banking sector (3.20), followed by Telecommunication Services (2.75), Insurance (2.73), and Consumer Services (2.71). There is a clear difference between the Banking industry and the other industries, and perhaps in the period leading up to the findings of the Hayne Royal Commission into Misconduct in the Banking, Superannuation, and Financial Services Industry in 2019, there was extra focus or scrutiny by auditors in the Banking industry and its key audit risks. The Banking sector is 1.6 times higher than the Australian KAM average (2.00) in 2018. The Banking sector average is almost double the Materials sector average (1.71), which is the lowest average in the range (3.20 to 1.71) during 2018. Banking is around 1.9 times higher than the Materials sector. As mentioned before, Sirois et al. (2018) found that users of financial statements relied on the KAM disclosures to focus attention on particular aspects of the audited financial statements. Thus, in the banking industry, which has been under intense parliamentary scrutiny, the disclosure of key risks would assist with information asymmetry concerns, and help investors focus on particular financial accounts. This may lead to information asymmetry being proportionally reduced where a brand name Big Four auditor is engaged, as a brand name effect had been observed by prior research (Craswell, Francis, & Taylor, 1995) in industries that require specialist auditors, such as banking. The main KAM reported in the Banking sector is related to "Loan impairment provisions." In Telecommunication Services the KAMs most disclosed related to "revenue recognition," with Insurance it was "Valuation of outstanding liability claims," and finally in Consumer Services the main reported KAM was "Goodwill and other intangible assets" (see Table 5). Note there were some audit clients that could not be classified into the 24 ASX industry sectors after reviewing the website (www.asx.com.au). In 2018 that related to 157 KAMs out of the total 3,196 KAMs.

Table 4 also discloses the industries with the lowest reported KAM averages in 2018 those being the largest ASX Coded Industry, that is, Materials (1.71), Technology, Hardware, and Equipment (1.74), Utilities (1.76), and Pharmaceuticals, Biotechnology, and Life Sciences (1.79). Close to one-third of all KAMs reported are from the Materials sector alone, and many of the auditors are non-Big Four audit firms. The main KAM disclosed in the Materials sector related to "Capitalised exploration and evaluation expenditures or assets" (see Table 5). In some industries further analysis was not possible due to the small number of observations.

An investigation by Company size in Table 6 indicates that the main KAM reported for the Top ASX 200 companies is different than those outside the ASX 200. For the top ASX 200 (the larger listed companies) the main KAMs disclosed relate to the "Valuation of Goodwill and intangibles, or non-current assets like PPE, or the valuation of Inventories." For the smaller end of the listed market the main KAMs disclosed relate to "Capitalised exploration and evaluation expenditures, or the Valuation of exploration and evaluation assets."

The investigation of the 82 cases of auditor switching from 2017 to 2018 covers the four scenarios that can occur during a switch (Table 7). Out of the 82 cases exactly 42 (51%) involved audit clients switching from a non-Big Four audit firm to another non-Big Four audit firm. Switching from a Big Four to non-Big Four audit firm only was observed 10 times out of the 82 cases, and some of these cases involved clients with going concern issues. For these cases while there were KAMs indicating going concern issues in 2017, these were not highlighted in the KAM disclosures in 2018 with their new auditors. Although there are limited cases in our sample, there might be concerns raised around the observation that in 2017 when the clients had a Big Four auditor going concern issues were raised, however, in 2018 when the new auditor was a non-Big Four audit firm, the going concern issues did not appear in KAM disclosures. Also, this might indicate some Big Four audit firms off-loaded riskier audit clients to non-Big Four audit firms, however, the analysis cannot verify this. The average KAMs in both years for these 82 cases was consistently around 2.07 in 2017 and 2.06 in 2018. Interestingly, when there was a switch from a Big Four to another Big Four (6.14) or a switch from a non-Big Four audit firm to Big Four (4.75), the average number of new audit procedures for each KAM in 2018 was higher than for other types of switches (where the new auditor was a non-Big Four

TABLE 14 Summary table: Highlights of the main findings

	Auditor				
	PwC	EY	KPMG	Deloitte	NB4
Number of Clients in Sample (excludes switches)	169	186	151	134	973
Total Reported KAMs 2018 (excludes switches)	453	455	300	250	1738
KAM average (2017–2018) per client	2.66	2.42	2.05	1.92	1.82
Main KAM Topic 2017	Asset Valuation	Asset Valuation	Asset Valuation	Goodwill & Intangibles	Exploration & Evaluation
Main KAM Topic 2018	Asset Valuation	Asset Valuation	Goodwill & Intangibles	Goodwill & Intangibles	Exploration & Evaluation
Average Total audit procedures per client, based on the average KAM in 2018	5.77	4.95	5.21	4.71	3.68
Number of clients with changes in audit procedures in 2018 (%)	84.6%	82.8%	69.5%	57.5%	45.6%
Average number of changes in audit procedures per client	3.77	3.77	3.24	2.81	2.77
Main KAM Topic with changes in audit procedures	Goodwill & Intangibles (114)	Asset Valuation (129)	Goodwill & Intangibles (107)	Asset Valuation (39)	Exploration & Evaluation (236)

Note. KAM = Key Audit Matters.

audit firm). This indicates that the new Big Four auditors found that in the second year they needed to increase the number of audit procedures per KAM, in comparison to the work undertaken by the previous auditor in 2017. This indicates that in the initial first year the Big Four audit firms undertake more audit work and procedures on new clients, irrespective of whether the former auditor was a Big Four or non-Big Four audit firm. This might mean higher audit fees being procured in the initial year of the new engagement, or the new auditor being over cautious related to identified audit risks with newer clients. Most of those KAMs involved "Impairments" in those cases where the new auditor was a Big Four in 2018 (see Table 7). Future research could focus specifically on auditor switches only (and over several years) to better answer some of these questions related to audit fees and going concern issues.

5 | CONCLUSION

The objectives of the present study are to: (1) investigate observable differences between larger/smaller auditors, different industries and larger/smaller sized audit clients in reported KAMs in Australia during the initial two years of implementation (i.e., 2017 and 2018); and (2) observe whether audit procedures disclosed, for the same reported KAMs, changed during those first two years in Australia. We found EY has the largest client base of any Big Four auditor at 186 clients in our sample (BDO has the largest overall with 214 clients) (see Tables 2 and 14). EY also had the highest reported number of KAMs of any auditor in both the years 2017 and 2018. However, it is PwC that has the average highest reported number of KAMs per client at 2.66 in both years. PwC also has the highest average total number of audit procedures per client (5.77) when the Australian average for KAMs is applied in 2018 (PwC also has the highest average in 2017: at 5.70). The implications of this observation are discussed below.

Our findings are consistent with the Sierra-García et al., (2019) study that examined FTSE 100 companies in the United Kingdom. In both these more developed countries, Australia and the United Kingdom, PwC disclosed the highest number of reported KAM disclosures in audit reports. Secondly, PwC in Australia also had more of its clients (84.6%) experience changes in audit procedures during the two years (2017 to 2018), at an average 3.77 changes in audit procedures per client (mainly in the area of goodwill and intangibles). Although, quantitative analysis alone cannot reveal answers to why PwC discloses more related to KAMs than all other Australian Big Four firms; we observe they are the only Big Four firm releasing materiality thresholds in their audit reports in Australia. Their approach for greater transparency with materiality disclosures might be linked to their policies related to KAMs implementation and disclosures, therefore explaining our observations. Nguyen and Kend (2020) found that PwC is persistent in its policy related to materiality disclosures, because to achieve a better understanding of the KAMs disclosed in audit reports, users of financial reports need to also understand the judgements made around materiality and audit scope.

Our study conveys that Australian audit firms have complied with the recommendations from the IAASB (2013), ISA 701 and our findings are consistent with prior studies, such as Bédard et al. (2016); that reported the number and extent of KAMs disclosed in the audit report is very much dependent on the audit firms' approach to the audit process, their policies and on the auditors' judgment. Deloitte on the other hand is at the other end of the spectrum, having the lowest number of reported KAMs per client 1.92 (out of the Big Four), the lowest average for both total audit procedures per client (based on the Australian KAM average), and lowest average for changes in audit procedures per client (2.81). The statistics related to Deloitte place it on similar averages to those observed for the smaller non-Big Four audit firm, and in fact BDO (a non-Big Four audit firm) have more KAMs disclosed than Deloitte for both years.

Around 70% of audit clients that had the same KAMs disclosed in both the years 2017 and 2018 experienced changes in audit procedures when audited by the same auditor in both years. This implies Australian auditors made a significant number of adjustments to audit processes and auditors' judgement from one year to the next, implying that the audit is not static and routine. However, most of the Big Four firms did not display much variation in reported KAMs and audit procedures between the years 2017 and 2018, except for KPMG. For instance, KPMG was the only Big Four to exhibit an increase in the average reported KAMs in the second year 2018 (all other Big Four firms had a decrease). While all auditors experienced some type of increase in average audit procedures in the second year (2018), KPMG experienced a significant rise (4.88 to 5.21). The main explanation for this would be that KPMG was the only firm of Big Four auditors between the two years (2017 to 2018) to experience a shift in the main KAM reported e.g. in 2017: “Asset Valuation”, and in 2018: “Goodwill and intangibles”. Although these percentage changes are small, typically around 2% in variation. When it comes to changes in audit procedures, KPMG had close to 107 observed changes in the “Goodwill and intangibles” topic area (key risk) between the two years. KPMG also had undertaken more “testing” procedures in 2018, than in 2017, when more “evaluating” audit procedures had been undertaken that year. The implications of these findings are that auditors are changing their approaches to audit testing and evaluation based on the nature of the accounts that have been identified as higher risk.

As mentioned above, across the board the main KAM topic area (or key risk) that experienced most changes in audit procedures between the years 2017 to 2018 was “Goodwill and intangibles.” This area was investigated related to audit quality by the recent Parliamentary Joint Committee Inquiry into The Regulation of Auditing in Australia. The inquiry focused on the work of auditors related to the valuation of intangibles more generally and not specifically related to KAM disclosures. Further investigation by standard setters, regulators and academics is required to better understand why this is a main area of key risk identification in KAMs in Australia, which seems to require auditors to make the most adjustments from year to year in their audit procedures. Perhaps greater guidance in the auditing standards needs to be considered, or a deeper understanding of the issues faced when auditing financial statements with material levels of goodwill and other intangibles, which future research could investigate.

The non-Big Four audit firms on average undertake less audit procedures for each KAM per client in 2017 (3.63 average audit procedures) and in 2018 (3.68 average audit procedures), than the Big Four firms. These findings can be somewhat explained by what the study Cordoş and Fülöp (2015) conveyed, that found while Big Four firms were more comfortable with including KAM disclosures in the audit reports, non-Big Four audit firms did not indicate the same level of high commitment to KAM disclosures in audit reports. This might indicate audit quality differences between the smaller practitioners and the Big Four firms. However, these observations might be related more to industry and client size effects. The present study indicated observed differences between industry sectors and client size.

The present study recommends that standard setters and regulators consider that differential reporting of KAMs might exist due to these factors, and that further debate in Australia continue about differential reporting requirements for smaller and larger listed entities. We also question whether having smaller listed companies disclosing KAMs is particularly useful to investors, and whether further consideration is required on the actual definition of what “listed” means, as the international definition is considered very broad. Some funds that have listed debt or hybrid products are getting caught under the definition of “listed”, and even though they are not ASX listed, these funds are required to disclose KAMs. Further consideration by standard setters and regulators is required to consider which entities should be disclosing KAMs to the Australian public and investors, and how to capture these most effectively.

Finally, this present study highlighted that the Banking sector attracts more KAM disclosures on average compared to any other industry in Australia. The increased proportion of key audit risks identified in that industry is more than any other industry because it might have attracted more scrutiny due to the Hayne Royal Commission into the banking sector in 2019. This is consistent with the fineness theorem which posits that a finer information structure will result in greater benefits to the decision maker (Demski, 1973), particularly in an industry under intense scrutiny. A reliance on financial information, such as KAM disclosures in an industry under such intensive scrutiny, will only lead to information asymmetry being proportionally reduced where the auditors' have a good reputation and brand name. The brand name effect has been examined in particularly industries by prior research, that require specialists' auditors, such as the banking industry (Craswell et al., 1995). Future academic research should involve gaining the views of auditors related to how the findings of the Hayne Royal Commission, in anyway, might have impacted the identification of key audit risks in the Banking sector.

As with all empirical research studies there are limitations to report, of which some might offer opportunities for further research. First, there are missing annual reports for both years 2017 and 2018. Second, we only investigate the first 2 years of the implementation of the KAMs reform in Australia. Future research should look at KAMs implementation beyond the initial 2 years and investigate if the reported KAMs have become more boilerplate in presentation.

ACKNOWLEDGEMENTS

Thank you for the financial support of CPA Australia and AFAANZ through their research grants schemes. Also, thanks to Dr. Mahesh Joshi and Dr. Prem Yapa from RMIT University for their helpful comments.

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ENDNOTE

[1] There are 128 audit clients (excluding two auditor switches) that remained unclassified into GICS industry classifications in Table 3. These cases are included in every table when analyzing KAM disclosures, except where the sample is divided into industry classifications, such as Tables 3, 4, and 5. Those 128 audit clients belong to Deloitte (10), EY (42), KPMG (16), PwC (17) and the NB4 (43).

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How to cite this article: Kend M, Nguyen LA. Investigating recent audit reform in the Australian context: An analysis of the KAM disclosures in audit reports 2017–2018. *Int J Audit*. 2020;24:412–430. https://doi.org/10.1111/ijau.12205