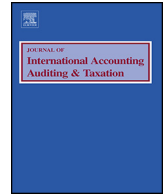




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Research on International Standards on Auditing: Literature synthesis and opportunities for future research



Elina Haapamäki^{a,*}, Jukka Sihvonen^b

^a University of Vaasa, School of Accounting and Finance, P.O. Box 700, FI-65101, Finland

^b Aalto University, School of Business, P.O. Box 11000, FI-00076, AALTO, Finland

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ABSTRACT

Research on International Standards on Auditing (ISAs) would greatly benefit from a research framework that categorizes the research streams related to ISAs and suggests areas for future research. This paper reviews the current research related to ISAs and develops a framework for analysis going forward. We identify seven main research streams: the development and history of ISAs; adoption of ISAs; association between national auditing standards and ISAs; financial reporting quality; audit reports; audit efficiency; and International Financial Reporting Standards (IFRS) compliance. For each research stream, the main results are summarized. At the conclusion of our literature reviews for each research stream, we suggest areas requiring further examination.

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1. Introduction

Researchers are increasingly focusing on International Standards on Auditing (ISAs), and prior research suggests that ISAs are as essential as International Financial Reporting Standards (IFRS) in ensuring that a country's financial system is sound and stable (Boolakay & Omoteso, 2016; Boolakay & Soobaroyen, 2017; Fraser, 2010). However, no comprehensive review of ISA research currently exists. This paper develops such a review to analyze the knowledge from ISA research, revealing, for example, that the results for many drivers of adoption of ISAs are consistent across studies. This synthesis also suggests that ISAs are positively affecting financial reporting quality, and audit efficiency is more observable when the audit is conducted using ISAs. ISAs promote auditor behavior that contributes to effective audits (e.g., Burns & Fogarty, 2010). For instance, ISAs have wider implications for increasing auditor skepticism. When examining IFRS compliance, prior studies indicated that there is an association between IFRS compliance and the use of ISAs. In addition, previous studies revealed that even when ISAs are adopted, several countries' audit reports are not perfectly conforming to the content and structure of reports standardized by the International Federation of Accountants (IFAC) (e.g., Fakhfakh & Fakhfakh, 2010). This can be due to the inconsistent implementation of ISAs.

This literature synthesis has three primary objectives. The first is to provide a comprehensive overview of current academic knowledge about ISAs. The second is to identify key topics and issues that appeared in the previous literature. Finally, the third objective is to suggest fruitful future research opportunities. The remainder of the paper is organized as follows. Section 2 presents relevant background information on the topic. Section 3 presents the definition of ISAs and explains the method used to conceptualize this synthesis. Section 4 presents the examination of the theoretical and empirical literature

* Corresponding author.

E-mail addresses: elihaa@uva.fi (E. Haapamäki), jukka.sihvonen@aalto.fi (J. Sihvonen).

and provides a comprehensive list of topics examined in prior studies. In Section 5, the citation analysis is presented. Finally, Section 6 summarizes the conclusions.

2. Background

Why synthesize studies related to ISAs? As globalization expands, the need for commonly understood financial information increases (Fraser, 2010). High quality audits may increase the credibility of financial statements, and may reduce agency costs and the cost of capital (Minnis & Shroff, 2017; Vanstraelen & Schelleman, 2017). Burns and Fogarty (2010, p. 311) argued 'many elements lead to quality audits; however, the development and existence of appropriate, high-quality standards is the first step on the road.' In addition, Boolaky and Soobaroyen (2017, p. 59) support the harmonization of accounting and auditing standards as 'beneficial to the development of an effective and efficient global economy through the provision of relevant and credible accounting information to users and markets.' Furthermore, Leuz and Wysocki (2016, p. 538) argued that 'disclosure regulation or reporting standards need to be enforced and hence are unlikely to be effective without reliable auditing.' Therefore, it can be cautiously suggested that reliable auditing can be achieved by harmonizing auditing practices, and the process of harmonization and implementation of ISAs has culminated in significant attempts at convergence around the world in the last decade (Boolaky & Soobaroyen, 2017). However, relatively little research exists on the adoption and the degree of commitment to international auditing standards and, specifically, ISAs (Needles, Ramamoorti, & Shelton, 2002; Simunic, Ye, & Zhang, 2017), even though ISAs are considered a key standard for sound financial systems. In this context, it is vital to synthesize the previous ISA-related literature published in peer-reviewed high-quality accounting and auditing journals.

3. Terminology and methodology

3.1. Definition of ISAs

ISAs are professional standards for the performance of financial audits of financial information. These standards are issued by the IFAC through the International Auditing and Assurance Standards Board (IAASB). The aim of the ISAs is to serve the public interest by enhancing the quality and uniformity of audit practices throughout the world and strengthening public confidence in the global auditing and assurance profession. The final set of clarified standards comprises of 36 ISAs.

3.2. Method

To introduce, summarize, and analyze the extent of research on ISAs, a list of published studies was collected using the following methods. The articles reviewed were identified by a systematic process that combines electronic and manual research. Combinations of keywords used to search for relevant studies include: "International Standards on Auditing", "international auditing standards," and "ISA/ISAs." An electronic search was performed using Scopus. The search included publications up to April 1, 2018. We also conducted a manual search by tracking down references in collected studies to guarantee that all relevant papers were included in the analysis.

Our search identified 59 papers related to ISAs published between 1992 and 2018. Table 1 provides a count of the studies reviewed, grouped by source journal, while Table 2 presents the key research findings of the papers we identified. As shown in Table 1, the papers were published in a wide group of journals, including many prominent accounting journals, such as *Accounting, Organization, and Society*; *Contemporary Accounting Research*; *The International Journal of Accounting*; *The International Journal of Auditing*; and *Australian Accounting Review*. The highest number of ISA-related studies is published in *the Managerial Auditing Journal*. The acceptance of ISA-related studies in major accounting and auditing journals emphasize its significance in accounting and auditing literature. Fig. 1 presents trends of ISA-related studies in accounting and auditing literature over the period between 1992 and 2017.

After the articles were identified, we carefully read each article. Since our research goal was to review research on ISAs, we had no predispositions as to the topics that might be studied. Based on an initial review of each paper, we made notes about their research questions and hypotheses. Then we searched for similarities and differences among the papers, which resulted in the identification of several research streams. Within these streams, we then developed taxonomies to characterize and synthesize the literature. Fig. 2 presents the research streams identified, and it also presents the number of articles within each stream. These research streams should not be considered as isolated from each other; they are overlapping, but each section stands alone as much as possible.

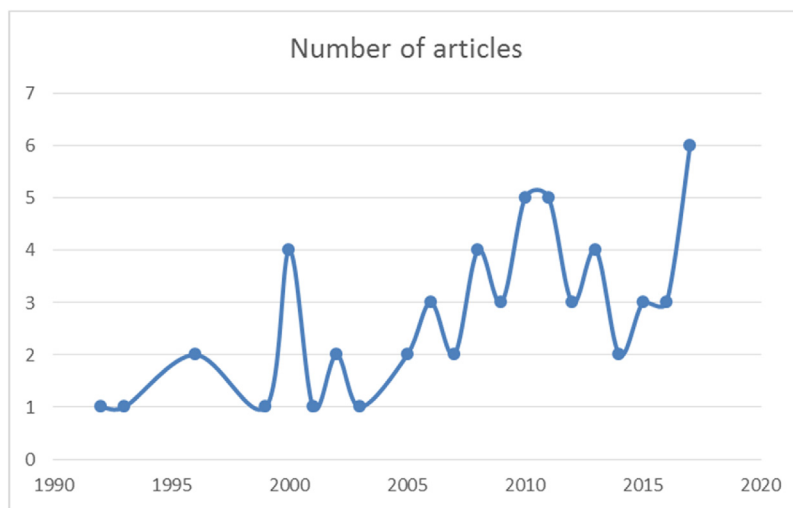
4. Previous theoretical and empirical literature

We identified seven research streams, based on our analysis of the 59 articles reviewed. We aim to provide a context for understanding the issues examined in the ISA studies and to evaluate the contributions of that literature. Thus, this section concentrates on the research streams identified, and it also provides a useful framework of the most frequently examined ISA research topics in the accounting and auditing literature. Within the seven research streams identified, a wide variety of issues are investigated. The aim is to describe the research conducted in each area with the goal of developing a cohesive

Table 1

Journals where reviewed studies published.

Managerial Auditing Journal	13
The International Journal of Accounting	6
Australian Accounting Review	4
International Journal of Auditing	4
International Journal of Disclosure and Governance	3
Journal of International Accounting, Auditing and Taxation	3
Abacus	2
Accounting, Organizations and Society	2
Asian Review of Accounting	2
Auditing: A Journal of Practice and Theory	2
Contemporary Accounting Research	2
European Accounting Review	2
International Journal of Accounting, Auditing and Performance Evaluation	2
Accounting, Auditing and Accountability Journal	1
Accounting Horizons	1
Accounting in Europe	1
Advances in Accounting Behavioral Research	1
Advances in International Accounting	1
Behavioral Research in Accounting	1
International Journal of Accounting and Information Management	1
Journal of Accounting, Auditing and Finance	1
Journal of Accounting and Public Policy	1
Journal of International Accounting Research	1
Journal of International Financial Management and Accounting	1
The Accounting Review	1
Total	59

**Fig. 1.** Trends of ISA related studies in accounting and auditing literature over the period of 1992-2017.

taxonomy. As each section presents the results and implications of prior studies, each section also ends with suggestions for fruitful future research. [Table 3](#) summarizes the ideas for future studies.

4.1. Development and history of ISAs

Early studies focused on the importance of ISAs and on the development and history of auditing standards harmonization. [Roussey \(1992\)](#) argued that there is an obvious need for auditing standards that can be used for international investment and other multinational business purposes. In 1991, the IAPC (the International Auditing Practices Committee, the IAASB's predecessor) voted to enter into a major project to "codify" the ISAs. [Roussey \(1996, p.138\)](#) suggested that the purpose of codifying the ISAs was to 'identify and highlight the basic principles and essential procedures contained in the existing standards, including rewriting to conform to the new codification format.' The codifications actions described by [Roussey \(1996\)](#) had a profound impact on the accountancy profession by completing the basic body of standards suitable for use in auditing financial statements and creating a more user-friendly and useful set of standards. [Roussey \(1996, p. 146\)](#) predicted that 'these actions would encourage national accountancy bodies to take new action on the acceptance of ISAs as national standards or as a basis for developing national standards.' Moreover, [Loft, Humphrey, and Turley \(2006\)](#) analyzed how

Table 2
Studies on International Standards on Auditing.

Author(s)	Research topic	Type of the paper	Findings/Conclusions that are related to ISAs
Panel A. History and development of ISAs			
Roussey, 1992	Developing international accounting and auditing standards for world markets	Research note	Concluded that harmonization of accounting and auditing standards is a worthwhile goal.
Roussey, 1996	New focus for the ISAs	Research note	Discussed some important changes that happened in the development of ISAs and the effect on the auditor performing audits in accordance with these standards for national or for international purposes in the 1990s. These changes created a useful set of standards.
Lopéz Combarros, 2000	Accounting and financial audit harmonization in the EU	Research note	Revealed that the move towards internationally harmonized reporting requires auditing to be harmonized throughout Europe, which means adopting ISAs. This can increase credibility to accounting information and stimulate confidence.
Loft et al., 2006	Changing governance and accountability structures at the IFAC	Qualitative review of official reports, consultation documents and related responses	Concluded that governance of auditors who use ISAs has become a matter of global importance and therefore governance structures should be reconfigured.
Fraser, 2010	A single set of worldwide auditing standards: The road is long . . .	Research note	Explored the case for convergence on ISAs and encouraged national regulators and others involved in the standard-setting process to support ISA harmonization.
Panel B. Adoption of ISAs			
Boolaky, 2011	Auditing and reporting in Europe: an analysis using country-level data.	Empirical study using regression analysis	Found that not all EU countries are fully compliant with ISAs.
Boolaky & Cooper, 2015	Comparing the strength of auditing and reporting standards and investigating their predictors in Europe and Asia.	Empirical study using regression analysis	Aimed to compare the strength of auditing and reporting standards (SARS) in Europe and Asia. Found that where IFRS is mandatory, ISA is not always mandatory. Countries in Europe are ahead of Asia in terms of IFRS and ISA adoption.
Boolaky & Omoteso, 2016	ISAs in the international financial services centres: What matters?	Empirical study using regression analysis	Investigated factors influencing ISA adoption. Revealed that political, economic, social and legal factors influence ISA adoption.
Boolaky & Soobaroyen, 2017	Adoption of ISA: Do Institutional Factors Matter?	Empirical study using regression analysis	Using neo-institutional theory, investigated determinants of ISA adoption. Concluded that coercive, mimetic, and normative pressures significantly influence ISA adoption.
Yapa et al., 2017	The professionalization of auditing in less developed countries: the case of Sri Lanka	Qualitative study using interviews and documentary review	Found that the local professional accounting body, the Institute of Chartered Accountants of Sri Lanka (CASL) is actively involved in the adoption of ISAs.
Panel C. Association between national auditing standards and ISAs			
Wallage, 1993	Internationalising Audit: A study of audit approaches in the Netherlands'	Qualitative study using questioners and documentary review	Suggested reasons for significant differences in implementation of ISAs in the Netherlands.
Lin & Chan, 2000	Auditing standards in China - A comparative analysis with relevant international standards and guidelines.	Qualitative study using documentary review	Analyzed motivations for the development of auditing standards in China. Concluded that Chinese standards most closely resembled ISAs on many important dimensions.
Brody et al., 2005	Auditing standards in Poland: past, present and future	Qualitative study using documentary review	Highlighted the importance of education in the process of audit harmonization and argued that audit regulatory structures must be conducted by parallel improvements in the rules and practices of other professions.
Dellaportas et al., 2008	Internationalizing auditing standards: stakeholder views on Australia's strategic directions.	Qualitative study using questioners and documentary review	Internationalization of Australian auditing standards examined using stakeholder submissions to the SDP (strategic directions paper) and comparing the proposed and approved strategic directions frameworks of the AUASB. The approved strategic directions are consistent with the majority of respondents' views, which supported minimal divergence from ISAs.

Table 2 (Continued)

Author(s)	Research topic	Type of the paper	Findings/Conclusions that are related to ISAs
Mennicken, 2008	Connecting worlds: The translation of international auditing standards into post-Soviet audit practice	Qualitative study using interviews and documentary review	Analyzed the use and distribution of ISAs within a Russian audit firm, as it confronts the obstacles of the global harmonization. Described this process as one of “connecting worlds” and translation.
Samaha & Hegazy, 2010	An empirical investigation of the use of ISA 520 “analytical procedures” (APs) among Big 4 versus non-Big 4 audit firms in Egypt	Empirical study using questionnaire survey	Found that ISA 520 was not that effective in stimulating significant change for the use of APs. This was due to lack of training and awareness of auditing standards, insufficient materials about auditing standards taught at universities, and poor English skills.
Duhovnik, 2011	Time to endorse the ISAs for European use: the emerging markets’ perspective	Qualitative study using documentary review	Examined the endorsement of the ISAs in Slovenia, an emerging market economy. Emphasized importance of a unified audit approach for the overall quality of auditing and argued that the clarified ISAs are the best instrument available to unify auditing in Europe.
Samsonova-Taddei, 2013	Social relations and the differential local impact of global standards: The case of ISAs.	Qualitative study using interviews and documentary review	Documented three types of responses by local audit firms to the implementation of ISAs in Russia, namely: (1) those that claim to follow the national auditing standards modelled on ISAs and mandated by audit law; (2) those that voluntarily provide ISA audits in accordance with original ISAs; and (3) those that provide pseudo audits (‘black audits’) and ignore auditing standards.
Panel D. Financial reporting quality and ISAs Favere-Marchesi, 2000	Audit quality in the Association of Southeast Asian Nations (ASEAN).	Empirical study using questionnaire survey	Suggested audit quality could be improved in many ASEAN countries by requiring the use of ISAs.
Needles et al., 2002	The role of international auditing in the improvement international financial reporting.	Qualitative study	Suggested that the regulations and control of the quality of audits is the critical factor in achieving high-quality financial reporting. They argued that ISA adoption improves financial reporting quality.
Carson et al., 2006	Financial reporting quality in Australia	Empirical study using annual report data	Examined consequences when Australia revised audit reporting standard AUS 702 to align with many ISA concepts ISAs (ISA 700). Indicated that the changes to the audit reporting standards had a significant and desirable effect of improving disclosures in financial statements.
Zhou, 2007	Auditing standards, increased accounting disclosure, and information asymmetry: Evidence from an emerging market.	Empirical study using regression analysis	Found that the cost of information asymmetry was substantial in Chinese order-driven emerging markets. Results highlighted that auditing regulation can permanently reduce long-run information asymmetry risk in capital markets.
Sami & Zhou, 2008	Do auditing standards improve the accounting disclosure and information environment of public companies? Evidence from the emerging markets in China.	Empirical study using regression analysis	Examined the impact of increased accounting disclosure following the implementation of the first set of auditing standards in China modelled after ISAs. Revealed a decrease in earnings management, implying an increase in earnings quality.
Humphrey et al., 2009	The global audit profession and the international financial architecture: Understanding regulatory relationships at a time of financial crisis.	Research note	Argued that to achieve financial stability IFRS and ISAs should be adopted. The use of IFRS and ISA for the preparation and audit of financial reports is expected to increase transparency for global investors.
del Corte et al. 2010	Effective use of qualitative materiality factors: evidence from Spain.	Empirical study using questionnaire survey	Showed that the majority of auditors and preparers agree on the issuance of qualified audit reports when the financial statements contain uncorrected misstatements that are below the materiality levels but are related to qualitative materiality factors included in ISA 450.
Coram et al., 2011	The Communicative Value of the Auditor’s Report	Verbal protocol analysis (VPA), for some of the participants a questionnaire/ interview approach was used	Suggested that auditors’ reports are important to analysts in that they signal a level of reliability in the financial statements. However, the content of the auditor’s report, including the additional content of the recently issued longer form auditor’s report (ISA 700, ASA 700), generally was not used by Australian analysts.

Table 2 (Continued)

Author(s)	Research topic	Type of the paper	Findings/Conclusions that are related to ISAs
Gold et al., 2011	The ISA 700 Auditor's Report and the Audit Expectation Gap – Do Explanations Matter?	Experiment study	Found that explanations of the ISA 700 auditor's report do not result in a smaller expectation gap and suggested that the audit opinion alone may signal sufficient relevant information to users, and despite the underlying objective of the revised ISA 700, the presence of the (quite extensive) ISA 700 explanations do not affect the expectation gap.
Kleinman et al., 2014	Audit quality: A cross-national comparison of audit regulatory regimes	Qualitative study using questionnaire survey	Examined the audit regulatory practices of public company auditors and discussed the obstacles to engage in intra-national audit, cross-national audit, and the challenges posed by differences in auditing standards. They included the effects of national culture, investor legal protection, economic development, and varying financial standard sources.
Simunic et al., 2015	Audit Quality, Auditing Standards, and Legal Regimes: Implications for International Auditing Standards	Analytical study	Argued that optimal auditing standards for a country are a complex function of its legal system, and audit quality depends on the legal system and the characteristics of auditing standards under which auditors operate.
Simunic et al., 2017	The joint effects of multiple legal system characteristics on auditing standards and auditor behavior.	Analytical study	Derived the impacts of legal system characteristics and auditing standards on auditor behavior (audit quality) and provided implications for the adoption of ISAs.
Lento & Yeung, 2017	Earnings benchmarks, earnings management and future stock performance of Chinese listed companies	Empirical study using regression analysis	Found higher levels of income increasing discretionary accruals around the earnings level benchmark relative to the earnings surprises and earnings changes benchmark. Found also a negative relationship between abnormal stock returns and firms with low earnings and higher discretionary accruals. Results indicate that even after the adoption of IFRS and ISA, the managers employ earnings management strategies in order to meet key earnings benchmarks.
Noh et al., 2017	The effect of the dependence on the work of other auditors on error in analysts' earnings forecasts	Empirical study using regression analysis	Found a positive relationship between dependence on the work of other auditors and error in analysts' earnings forecasts, suggesting that more dependence on the work of other auditors decreases the quality of the audit of consolidated financial statements.
Boolakay et al., 2018	The Perceptions and Determinants of Auditing and Reporting Quality in the Asia-Pacific Region	Empirical study using regression analysis	Concluded that IFRS adoption is having a significant impact on auditing and reporting quality (ARQ). However, adoption of ISAs is only moderately significantly associated with ARQ.
Panel E. Audit reports and ISAs King, 1999	The measurement of harmonization in the form and content of the auditor's report in the European Union	Empirical study using annual report data	Determined the degree of harmonization in the form and content of the auditor's report in the EU and used the basic elements of the auditor's report listed in the ISAs.
Gangolly et al., 2002	Harmonisation of the auditor's report	Empirical study using annual report data and survey data	Examined the association between the ISA 13 and the harmonization of the audit report standards and the audit reports issued. The results suggested a less cohesive cluster structure for the post-ISA 13 reports and that the harmonization of the audit report increased since the issuance of ISA 13.
Farrugia & Baldacchino, 2005	Qualified audit opinions in Malta	Empirical study using annual report data	Concluded that Maltese companies, which were required to be audited, have an apparently high rate of audit qualifications and auditor's reports of non-Big4 audit firms are often deficient or even incompatible with the wording of the ISAs.
Fakhfakh & Fakhfakh, 2007	The wording of Tunisian audit reports: a comparative study with international principles	Empirical study using annual report data	Showed that Tunisian audit reports are not perfectly compliant with the content and structure of reports standardized by the IFAC. This difference can be explained by the attributes of the Tunisian accounting and auditing environment.

Table 2 (Continued)

Author(s)	Research topic	Type of the paper	Findings/Conclusions that are related to ISAs
Fakhfakh et al., 2008	The impact of harmonisation by the IFAC: An empirical study of the informational value of Tunisian auditors' reports.	Empirical study using annual report data	Examined the impact of the Revised ISA700 in terms of the wording characteristics of Tunisian auditors' reports. The audit reports examined are not fully compliant with all the elements enumerated by this new standard.
Fakhfakh & Fakhfakh, 2010	The impact of Revised ISA 700: an international empirical comparison	Descriptive and analytical study	The new ISA on the auditor's report proposes a new wording of the auditing opinion to the accounting professionals and the users of the financial statements. Showed that the international audit report must be concretized by the reduction of informational asymmetry between users of accounting data.
Sormunen et al., 2013	Harmonisation of audit practice: Empirical evidence from going-concern reporting in the Nordic Countries.	Empirical study using regression analysis	Findings supported IFAC's concerns that local implementation of the ISA does not guarantee the development of consistent practice.
Fakhfakh, 2016	Linguistic performance and legibility of auditors' reports with modified opinions: An advanced investigation based on the ISAs on audit reports.	Empirical study using linguistic features and assisted by a text analysis software	Assessed the level of understandability of the modified audit reports recommended by the ISAs. From the perspective of linguistic performance, the international standardization of audit reports was not perfect.
Panel F. Audit efficiency Colbert, 1996	Colbert (1996) compared two concepts that crucial to planning and performing the audit work: audit risk and materiality	Qualitative study	Compared two concepts crucial to planning and performing the audit work: audit risk and materiality. Emphasized that the comparison between ISAs and US guidance indicates many similarities and a few differences between the standards.
Bedard et al., 2001	Auditor's consideration of fraud: How behavioural research can address the concerns of the standard setters	Literature review	Analyzed the extant behavioral literature on fraud according to four basic issues identified. Noted the importance of each issue, and how each is addressed in current U.S. auditing standards (SAS 82) and in the proposed revision of ISA 240.
McKee, 2006	Increase your fraud auditing effectiveness by being unpredictable!	Analytical study	Argued that some frauds more easily carried out because auditors are too predictable. Suggested that according to ISAs (ISA 240), one response to fraud risk is to incorporate an element of unpredictability in the audit plan.
Trotman et al., 2009	Impact of the Type of Audit Team Discussions on Auditors' Generation of Material Frauds	Experiment study	ISA 315 and ISA 240 similarly require audit team members to discuss the susceptibility of the entity's financial statements to material misstatement due to fraud or error. Their interacting group fulfils the requirement of the ISAs. They introduce the pre-mortem technique to the auditing literature as a form of interacting group. They examined its impact in a fraud detection situation but note that it has wider implications for increasing auditor skepticism.
Burns & Fogarty, 2010	Approaches to auditing standards and their possible impact on auditor behavior	Qualitative study	High-quality auditing standards promote auditor behavior that contributes to the effective audit. Suggested that standard setters should consider promoting the sound exercise of professional judgment.
Hellman, 2011	Chief Financial Officer Influence on Audit Planning	Qualitative study using semi-structured interviews	Argued that CFOs often assume the role of those charged with governance rather than the role of management during the audit-planning phase, which may have implications for ISA 300 (Planning an audit of financial statements).
Fukukawa et al., 2011	Client Risk Factors and Audit Resource Allocation Decisions	Empirical study using archival data	Found that individual client risks empirically group together in a way similar to categories discussed in recent auditing standards. Showed significant relationships between audit resource allocation decisions and broad risk factors.

Table 2 (Continued)

Author(s)	Research topic	Type of the paper	Findings/Conclusions that are related to ISAs
Miller et al., 2012	Do auditors assess inherent risk as if there are no controls?	Experiment study	Contrary to auditing standards' definition of inherent risk, it appears that auditors presume some level of expected control effectiveness when assessing inherent risk and they may increase the risk of material misstatement in response to internal control deficiencies. Such a presumption is inconsistent with ISA 200's definition of inherent risk.
Morrill et al., 2012	Internal Control Assessment and Interference Effects	Experiment study	Auditors who identified risks first identified more, and more important, internal control deficiencies than did auditors identifying controls first. The number of risks identified was not significantly different between the two groups. Suggested that audit efficiency and effectiveness depend on the sequence in which internal control evaluation subtasks are performed.
Kandemir, 2013	The EU law on auditing and the role of auditors in the global financial crisis of 2008	Research note	Argued that auditors could avoid misconduct transactions through their role of professional skepticism. The ISAs state that it is the auditor's responsibility to obtain reasonable assurance for financial statements that are free from material misstatement caused by fraud or error (ISA 240).
Stewart & Kinney, 2013	Group Audits, Group-Level Controls, and Component Materiality: How Much Auditing Is Enough?	Analytical study	Their Bayesian group audit model formally incorporated group auditor knowledge of group-level structure, controls, and context as well as component-level constraints imposed by statutory audit or other requirements. Results suggested group-level controls and structured subgroups of components are central to efficient group audits.
Ruhnke & Schmidt, 2014	Misstatements in Financial Statements: The Relationship between Inherent and Control Risk Factors and Audit Adjustments	Empirical study using regression analysis	Showed that audit adjustments vary systematically, as proposed by the audit risk model. Specifically, the integrity and competence of the client's management, economic position, entity-level control strength, and internal control system are associated with the number and relative magnitude of audit adjustments.
Alles, 2015	Drivers of the Use and Facilitators and Obstacles of the Evolution of Big Data by the Audit Profession	Qualitative study	Indicated that ISAs, technological advances, and market forces are some of the facilitators and obstacles that will determine the use of Big Data by auditors.
Lee & Park, 2016	Characteristics of the internal audit and external audit hours: evidence from S. Korea	Empirical study using regression analysis	Found that the number of internal auditors relative to the number of employees is associated with the number of external audit hours. This suggests that the greater the availability of internal auditors, the greater their contribution will be to the financial statement audit and the more efficient the audit.
Sunderland & Trompeter, 2017	Multinational Group Audits: Problems Faced in Practice and Opportunities for Research	Research note	Concluded that when a global firm is involved in multinational group audits, it is important for auditor judgment in other countries to be consistent with the home country of the parent entity.
Panel G, IFRS compliance and ISA Street & Bryant, 2000	Disclosure level and compliance with IASs: A comparison of companies with and without U.S. listings and filings	Empirical study using regression analysis	Revealed that greater disclosure is associated with an accounting policies footnote that specifically states that the financial statements are prepared in accordance with IASs and an audit opinion that states that ISAs were followed when conducting the audit.
Glaum & Street, 2003	Compliance with the disclosure requirements of Germany's new market: IAS Versus US GAAP.	Empirical study using regression analysis	IFRS compliance is associated with references to the use ISA in the audit opinion.
Hodgdon et al., 2009	Compliance with International Financial Reporting Standards and auditor choice: New evidence on the importance of the statutory audit	Empirical study using regression analysis	Suggested that IFRS compliance was positively related to the choice of auditor after controlling for firm size, profitability, leverage, degree of international diversification and whether a firm has a U.S. listing or was audited according to ISAs.

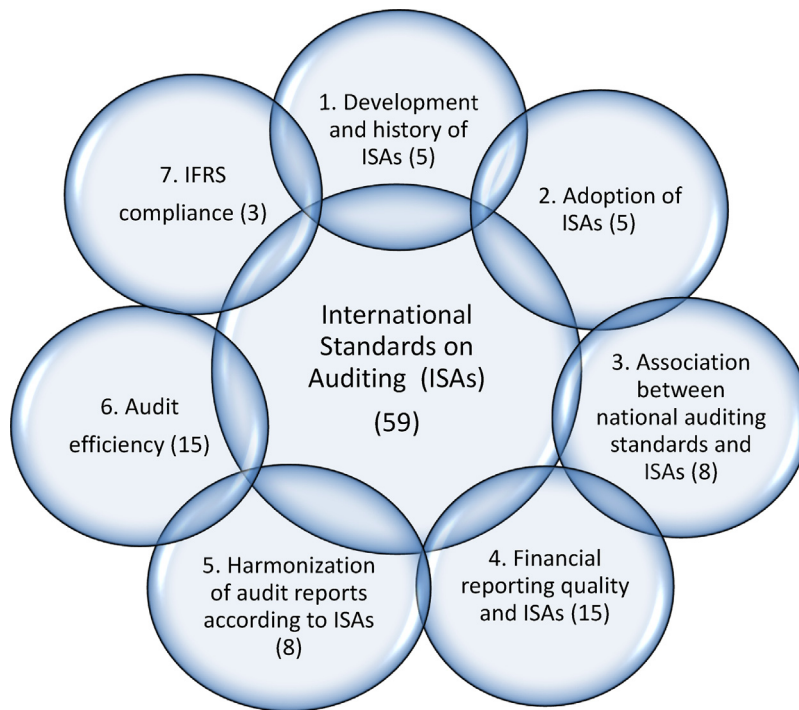


Fig. 2. Research streams identified and number of articles within each stream is in parentheses. 59 articles fulfilled the selection criteria.

successful IFAC is as an international standard setter with an established place in the global financial infrastructure, and reveals the increasing reliance on governance by experts, together with a growth in influence of the large, multinational accounting firms. They concluded that governance of auditors had become a matter of global importance.

Lopéz Combarros (2000) reviewed the evolution of financial reporting in the European Union (EU) and its likely impact on auditing in the future. The analysis posits that harmonization of financial reporting standards also requires harmonization of auditing standards throughout Europe (i.e., the adoption of ISAs). In addition, Lopéz Combarros (2000, p. 654) stated that the adoption of ISAs 'lends credibility to financial information and inspires confidence in national and international users of financial information, regardless of the nationality of the company issuing the information or of the auditor auditing it.' Lopéz Combarros (2000) concluded that unless financial statements are both prepared and audited in a standardized manner, it will be difficult to truly harmonize financial information in the EU.¹ Fraser (2010) analyzed the very practical implications of a changing world on the evolution of audits and auditors, specifically within the contexts of ISAs. Fraser (2010) highlighted the consequences of the coexistence of many national auditing standards and related legislation, and agreed that harmonization of ISAs contributes to cost reduction by facilitating compliance with the law in a global world, particularly for transnational audits. Fraser (2010) emphasized that investors are more likely to diversify their investments across borders if financial information is reliable by being audited using ISAs.

To summarize, several corporate scandals around the world proved the investor's need for accurate financial information. Even if ISAs gained global convergence, it should be questioned how this convergence is impacting on auditing in practice. Moreover, confirming the benefits of improved comparability, it should be also questioned whether the benefits of ISAs are sustainable. Development and history of ISAs in the EU have been examined; however, the history and development of ISAs in emerging and developing countries have not received the same attention. This should be the interest of researchers because it is often claimed that the international harmonization of auditing standards can be extremely beneficial to the development of a country (Boolakay & Soobaroyen, 2017). Future research could pay more attention to emerging and developing economies in this regard. Moreover, how can IFAC develop governance of auditors as a matter of global importance? Future studies could also address this research question.

¹ The EU Audit Reform, effective June 2016, renewed the mandate of the European Commission to adopt ISA at the EU level. While member organizations and regulators in EU Member States have adopted ISA at a national level, the prospect of EU wide adoption of ISA will further promote consistency and reduce the patchwork of rules within the region (IFAC, 2017).

Table 3

Suggestion for future research organized by research stream.

Research stream	Suggestions for future research
1. Development and history of ISAs	<ul style="list-style-type: none"> - How is the global convergence of ISAs impacting on auditing in practice? - How can IFAC develop the governance of auditors as a matter of global importance? - Are the benefits of ISAs sustainable (if the benefits of improved comparability are confirmed)? - How have the development and history of ISAs in emerging and developing countries happened? - Has the international harmonization of auditing standards been beneficial to emerging and developing countries?
2. Adoption of ISAs	<ul style="list-style-type: none"> - Which environmental and institutional factors are hindering the adoption and implementation process of ISAs? - Are there more convincing identification strategies when analyzing the capital market or macroeconomic effects of ISA adoption? - What are the consequences of ISA adoption? - How does the adoption of ISAs affect country's economic growth and/or stock market development? - What is the role of adoption of ISAs in financial crisis? - Are there any unintended consequences of ISA adoption?
3. Association between national auditing standards and ISAs	<ul style="list-style-type: none"> - How is the implementation process of ISAs planned, carried out and evaluated in different countries? Are there wide-ranging differences between jurisdictions? What is the role of institutions in this process? - Does the implementation bring tangible benefits? For instance, has the adoption of ISAs improved global comparability and increased cross-border information transfers? - Has the adoption of ISAs increased competition? - What are the ISA implementation effects in the long run?
4. Financial reporting quality and ISAs	<ul style="list-style-type: none"> - What is the role of the measure of financial reporting quality in ISA literature? For instance, could prior studies be replicated by using other measures for financial reporting quality? - What are the benefits of ISAs in different economies (i.e., open and developed economy versus closed economy)? - Does ISA adoption improve forecast accuracy? - Why having a single set of auditing standards is desirable from different perspectives?
5. Harmonization of audit reports according to ISAs	<ul style="list-style-type: none"> - How does the lack of homogeneous information affect investors' behavior? - What does the incompleteness of auditing harmonization signal to all users of financial statements? - How the incompleteness threaten the quality of the financial audit? - How could the compliance of audit reports be improved in countries where ISAs are adopted? - How could IFAC improve the policy of standardization?
6. Audit efficiency	<ul style="list-style-type: none"> - How should auditors enhance their performance in the light of professional skepticism and how could group audits performance be improved? - Has ISA implementation increased the audit efficiency remarkably? - Can more convincing identification strategies be developed when analyzing client risks? - How can Big Data opportunities improve the audit efficiency and audit quality? - How do audit standards encourage the use of Big Data?
7. IFRS compliance and ISAs	<ul style="list-style-type: none"> - How important is the auditor choice on IFRS compliance? - How important is the role of international auditing firms, auditing profession and quality audits in the implementation and compliance process of IFRS?

4.2. Adoption of ISAs

The second research stream focuses on the adoption of ISAs. In general, this research stream concentrates on identifying the determinants of ISA adoption and commitment to ISA harmonization. For instance, [Boolaky \(2011\)](#); [Boolaky and Cooper \(2015\)](#); [Boolaky and Omoteso \(2016\)](#), and [Boolaky and Soobaroyen \(2017\)](#) empirically investigated the determinants of ISA adoption and commitment to harmonization on a cross-national basis. By contrast, [Yapa, Ukwatte Jalathge, and Siriwardhane \(2017\)](#) examined factors influencing the adoption of ISAs in a single country. According to [Boolaky \(2011\)](#), not all EU countries are fully compliant with ISAs, making it more difficult for international investors to rely on information provided by companies. [Boolaky \(2011\)](#) suggested that basing audit practices on the ISAs would increase investor confidence and trust in financial information from EU companies. Hence, improved investor confidence could lead to an increase in investments. [Boolaky \(2011\)](#) classified jurisdictions into four grade categories: A, B, C, and D. Category A includes countries where ISAs are required by law. Category B describes countries where standard setters adopted ISAs. Countries whose national standards are ISAs belong to category C. All other countries belong to category D. [Boolaky \(2011, p. 42\)](#) suggested that 'investors can use this cluster analysis as a basis for determining the reliability of financial information for investment decisions.'

In contrast, [Boolaky and Cooper \(2015\)](#) evaluated and compared the strength of auditing and reporting standards (SARS) in 72 countries. They identified significant differences between Europe and Asia in SARS and the type and magnitude of predictors of SARS. They observed that ISA was not mandatory in all countries where IFRS was mandatory. Moreover, ISA adoption appeared to be more advanced in Europe than in Asia. 'SARS scores were higher in countries where ISAs had generally been adopted as the national standard but not in countries where ISAs were mandatory by law' ([Boolaky & Cooper,](#)

2015 p. 304). [Boolaky and Omoteso \(2016\)](#) continued to examine predictors of ISA adoption. They aimed to investigate the influence of international financial services centers (IFSCs) on the adoption of ISAs by countries belonging to the IFAC and assess the factors influencing ISA adoption in these centers. They argued that political, economic, social, and legal factors impact on ISA adoption by IFSCs. Therefore, [Boolaky and Omoteso \(2016\)](#) highlighted that Gross Domestic Product (GDP) was the most significant predictor of ISA adoption, followed by educational attainment. However, enforcement of securities and exchange regulations was positioned as a moderately significant predictor of ISA adoption. They argued that if an IFSC has a strong system of securities exchange regulations, it will be more likely to adopt ISAs. Finally, their findings suggested that if the IFSC is more democratic, then it is more likely to adopt ISAs.

[Boolaky and Soobaroyen \(2017\)](#) extended this investigation of ISA adoption on a worldwide basis. Informed by the neo-institutional perspective, they empirically investigated the determinants of ISA adoption and commitment to harmonization in 89 countries. [Boolaky & Soobaroyen \(2017, p. 59\)](#) 'reveal that the protection of minority interests, regulatory enforcement, lender and borrower rights, foreign aid, the prevalence of foreign ownership, educational attainment, and particular forms of political systems (i.e., the level of democracy) prevailing in a country are significant predictors of the extent of commitment to the adoption and harmonization of ISAs.' Their statistical analysis suggested that coercive, mimetic, and normative pressures have significant impacts on ISA adoption. Their findings imply that institutional factors are essential in the development of audit policymaking, practice, and regulation worldwide. Therefore, [Boolaky and Soobaroyen \(2017\)](#) findings are relevant to practitioners and academics currently debating how to address cross-country variability in the adoption of ISAs, as well as to professional educators responsible for providing ISA education and training. In contrast, [Yapa et al. \(2017\)](#) examined ISA adoption in a single country, Sri Lanka. Their findings suggest that the local professional accounting body, the Institute of Chartered Accountants of Sri Lanka (CASL), is actively involved in the auditing sector and the adoption of ISAs. CASL considered adoption of ISAs as a global trend and supported the adoption decision.

Our review identified studies analyzing the environmental and institutional factors influencing the harmonization of auditing practices. For instance, prior studies provide lists of factors positively affecting the adoption of ISAs. However, future studies could investigate in more detail which factors are the most significant obstacles or barriers to harmonization. National culture is argued to be one of the internal local factors that could affect the differences in national financial reporting ([Nobes, 1998](#)). [Alon and Dwyer \(2014\)](#) found that the adoption decision of IFRS is associated with a proxy for the level of nationalism, and a strong nationalistic atmosphere can signal that the society is cohesive and takes pride in its country and its local institutions. Therefore, it could be theoretically assumed that more nationalistic countries, especially among the developing countries, might resist adoption of ISAs. Moreover, future studies could look further into the economic significance of these examined factors, as well as in the magnitude of differences for these factors. We encourage researchers to develop more convincing identification strategies when analyzing the capital market or macroeconomic effects of ISA adoption. In addition, it would be very interesting to find answers to the following questions: What are the consequences of ISA adoption? How does the adoption of ISAs affect the country's economic growth or stock market development? Finally, how could future studies address whether there are any unintended consequences of ISA adoption?

4.3. Association between national auditing standards and ISAs

The third research stream relates to the association between national auditing standards and ISAs, and includes the following topics: 1) the development of auditing standards in European countries ([Brody, Moscovice, & Wnek, 2005](#); [Duhovnik, 2011](#); [Wallage, 1993](#)), Russia ([Mennicken, 2008](#); [Samsonova-Taddei, 2013](#)), and in China ([Lin & Chan, 2000](#)); 2) the differential local impacts of ISAs and internationalization of Australian auditing standards ([Dellaportas, Senarath Yapa, & Sivanantham, 2008](#)); and 3) the implementation of ISAs in Egypt ([Samaha & Hegazy, 2010](#)). Many of the studies analyze a specific country's implementation of ISAs. In one of the earliest studies of ISAs implementation, [Wallage \(1993\)](#) examined ISAs in the Netherlands. [Wallage \(1993, p. 556\)](#) identified factors influencing ISA implementation that could also be applied in other European countries: (i) the drive for more effectiveness and efficiency in auditing firms, as a consequence of increasing litigation and competition; (ii) the growing need for harmonization as a consequence of the internationalization of business; (iii) the existence of an expectations gap; and (iv) the increasing threat of intervention by government in the audit profession. He concluded that significant differences exist in the degree to which the ISAs are implemented in the audit approaches. Further, [Wallage \(1993\)](#) suggested that there are differences in effectiveness and efficiency in auditing practice, and called upon IFAC and the national audit regulators to reduce this expectations gap.

[Brody et al. \(2005\)](#) highlighted the importance of education in the process of ISA adoption in Poland, and further emphasized the difficulties in achieving successful practical implementation of audit standards in a way that benefits the economy. They clarified that it is not so much in the development and introduction of the necessary laws, because [Brody et al. \(2005, p. 46\)](#) noted that 'accounting and audit rules and practices can't be improved on their own, rather they have to be accomplished by parallel improvements in the rules and practices of other professions, such as law, banking, insurance, and financial services.' Moreover, [Duhovnik \(2011\)](#) had similar conclusions in his research in Slovenia and stressed the importance of a unified audit approach for the overall quality of auditing in Europe.

Other studies investigate ISAs in emerging markets. [Mennicken \(2008\)](#) examined interactions between processes of international rule-setting and local practices within a large post-Soviet audit firm. The research suggests that international accounting and audit standardization is not solely a top-down process, but is instead dependent upon networks of actors, instruments, and activities. Relatedly, [Samsonova-Taddei \(2013\)](#) explored variations in the adoption of ISAs in Russia by

investigating the effects of social dynamics among audit firms on their attitudes towards auditing standards. Samsonova-Taddei (2013, p. 531) presented ‘the local audit profession as a social network where the centre marks the starting point of standardization and is represented by the international audit firms that first introduced ISAs to Russia.’ In contrast, Lin and Chan (2000) analyzed the motivations for the development of auditing standards in China. They compared Chinese standards and ISAs in five areas: the auditor and attest function, independence, ethical principles and enforcement, audit evidence, and audit report. They conclude that Chinese standards closely resemble ISAs largely due to the relatively recent development of the accounting profession in China, but note the shortage of qualified accountants in China as a limiting factor.

In contrast, Samaha and Hegazy (2010) examined the use of ISA 520 “analytical procedures (AP)” in Egypt. They found that adopting ISA 520 did not lead to significant change in the use of APs in Egyptian audit engagements. Similar to other studies, Samaha and Hegazy (2010) cite the lack of qualified accountants as a limiting factor in fully implementing ISAs. Further, they highlighted the lack of adequate training and awareness of auditing standards, less qualified auditors, and more reliance on experienced ones. Finally, Dellaportas et al. (2008) examined the internationalization of Australian auditing standards by comparing stakeholder submissions to the strategic directions paper (SDP) of the Auditing and Assurance Standards Board (AUASB) and the AUASB’s proposed and approved strategic directions frameworks. The approved strategic directions were consistent with the majority view of the respondents who supported the minimal divergence from ISAs. Dellaportas et al. (2008) argued that wholesale adoption of ISAs may undermine Australian standard-setting expertise and Australia’s role in international standard-setting forums and discussions, but notes that this concern was not shared by the majority of the respondents.

To summarize and interpret from the above studies, education and knowledge are critical determinants that lead to successful adoption and implementation of ISAs in different countries. It would be very fruitful to know more about the implementation process of ISAs: how the implementation process is planned, carried out, and evaluated when it is finished. Moreover, this synthesis highlights the importance of institutions and their associations with the process of ISA implementation. However, the smooth transition of ISAs still leaves unanswered the questions of whether ISA implementation brought tangible benefits and, if so, at what cost. The scarce research in this field should motivate researchers to both replicate and extend these studies to different situations and diverse countries to determine the generalizability of the findings. For instance, has the adoption of ISAs improved global comparability and increased cross-border information transfers? Has the adoption of ISAs increased competition in ISA-adopting countries, especially for foreign firms? Finally, one available research opportunity lies in the examination of potential ISA implementation effects, using longer time series.

4.4. Financial reporting quality and ISAs

The fourth research stream analyzes the quality of financial information. More specifically, research on the financial reporting quality and ISAs has several parts: 1) the role of international auditing in the improvement of international financial reporting (BooLaky, Soobaroyen, & Quick, 2018; Carson, Ferguson, & Simnett, 2006; Favere-Marchesi, 2000; Humphrey, Loft, & Woods, 2009; Needles et al., 2002); 2) effective use of qualitative material factors and the quality of financial statements (del Corte, García, & Laviada, 2010); 3) the communicative value of audits (Coram, Mock, Turner, & Gray, 2011; Gold, Gronewold, & Pott, 2012); 4) auditing standards, increased accounting disclosure, and information asymmetry (Noh, Park, & Cho, 2017; Lento & Yeung, 2017; Sami & Zhou, 2008; Zhou, 2007); and 5) audit quality and a cross-national comparison of audit regulatory regimes (Kleinman, Lin, & Palmon, 2014; Simunic, Ye, & Zhang, 2015, 2017).

Favere-Marchesi (2000) examined audit quality in the Association of Southeast Asian Nations (ASEAN) and suggests that audit reports should follow ISAs and disclose the nature of the work performed, the standards applied, and the responsibilities attributed to financial statements. In addition, Favere-Marchesi (2000, p. 147) suggested that ‘the regulatory bodies should consider mandating the use of standard reports to remove any ambiguity in the reporting output and enhance the quality of the audited information.’ Favere-Marchesi (2000) concludes that audit quality could be improved in many ASEAN countries by bringing the audit reporting requirements up to par with ISAs. Needles et al. (2002) survey international auditing regulations and practices to discuss key conceptual issues surrounding international auditing harmonization and the implementation of ISAs. They concluded that regulations and audit quality control are critical factors for achieving high-quality financial reporting and argue that ISA adoption improves financial reporting quality. Supporting Needles et al. (2002) conclusions, Carson et al. (2006) analyzed financial reporting quality after adoption of AUS 702 (which aligned Australian auditing standards to ISAs). Their findings document a significant positive impact on disclosures in financial statements. del Corte et al. (2010) supports this conclusion, and also emphasized that most auditors agree on the issuance of qualified audit reports when financial statements contain uncorrected misstatements below the materiality levels but associated with qualitative materiality factors in ISA 450. Furthermore, they stated that this situation would have essential positive consequences on the development and results of current practice in auditing and on the quality of financial statements.

In contrast, Coram et al. (2011) examined the communicative value of audits as a crucial part of the audit process. Coram et al. (2011) assert that communication allows users of financial reports to assess the quality of the audit, which also contributes to their assessments of financial reporting quality. Their findings suggest that ‘auditors’ reports, per se, are important to analysts in that they signal a level of reliability in the financial statements. However, the actual content of the auditor’s report, including the additional content of the recently issued longer form auditor’s report (i.e., ISA 700, ASA 700), was generally not studied by the Australian analysts (Coram et al., 2011, p.235). Indeed, the researchers find that attention

to content did not increase even when the participants were provided with a long-form auditor's report (as recommended by ISA 700). Therefore, the researchers conclude that users have a predetermined view as to what an unqualified auditor's report means. Gold et al. (2012) found similar results in their study of German auditors and financial statement users. They conducted an experiment where auditors and financial statement users read a summary of a firm's financial statements and an auditor's report, the latter manipulating the auditor's report to include the explanations mandated by ISA 700. Gold et al. (2012, p. 286) suggested that 'explanations of the ISA 700 auditor's report do not result in a smaller expectation gap.' Their findings highlight that the audit opinion alone may indicate adequate relevant information to users.

Zhou (2007) and Sami and Zhou (2008) examined the impact of increased accounting disclosure on the information environment, following the implementation of the first set of auditing standards in China. Zhou (2007) investigated the effects of implementing the new auditing standards on information asymmetry, as measured by the bid-ask spread in China, an emerging capital market in which ex-ante accounting disclosure was relatively low. The results highlighted that the cost of information asymmetry was considerable in China and the firms' experienced significant reductions in the bid-ask spreads after the adoption of the new auditing standards. In addition, 'the reductions in the bid-ask spreads were abrupt and permanent' (Zhou, 2007, p. 584). Zhou (2007, p. 584) stated that 'no significant result is found for firms in the control group with foreign ownership, whose financial statements were prepared in accordance with international accounting standards and were audited with international auditing standards.' Zhou (2007) concludes that auditing regulations can permanently reduce long-run information asymmetry risk in capital markets. Moreover, Sami and Zhou (2008) found that trading volume and price volatility increased after the implementation of the new auditing standards modeled after ISAs. Their results indicated that 'the informedness effect dominates the consensus effect when companies release public information under new auditing standards in an emerging market' (Sami & Zhou, 2008, p. 166). In addition, their analyses revealed a decrease in earnings management, implying an increase in earnings quality. Finally, they observed a decrease in the synchronicity of stock prices, suggesting an increase in the quality of firm-specific information available to investors.

Lento and Yeung (2017) examined whether Chinese firms use earnings management strategies after the adoption of IFRS, ISA, and the Split-Share Reform (SSR). They document 'significantly higher levels of income increasing discretionary accruals around the earnings level benchmark, relative to the earnings surprises and earnings changes benchmark' (Lento & Yeung, 2017, p. 503). The research reveals a negative and significant relationship between abnormal stock returns and firms with low earnings and higher discretionary accruals. Their findings indicated that even after the adoption of IFRS and ISA and the implementation of the SSR, Chinese-listed firm managers employ earnings management strategies to meet key earnings benchmarks. Lento & Yeung (2017, p. 503) suggested that 'recent regulatory reforms implemented by Chinese regulators have not eliminated or mitigated management's use of discretionary accruals to avoid reporting losses.' Thus, they argue that their findings are important and have significant implications for Chinese regulators contemplating the adoption of global standards. Noh et al. (2017) examined the association between dependence on the work of other auditors and error in analysts' earnings forecasts in Korea. Since 2014 in Korea, the new ISA no longer allows the principal auditor and other auditors to assume separate responsibilities; instead, the principal auditor is now required to be fully responsible for all audit work concerning consolidated financial statements.

Noh et al. (2017, p. 110) find 'a positive relation between dependence on the work of other auditors and error in analysts' earnings forecasts, suggesting that more dependence on the work of other auditors decreases the quality of the audit of consolidated financial statements.' However, they also find this relationship is weaker when the principal auditor is a Big 4 auditor or one with industry expertise, because such auditors provide higher-quality audit services. In addition, Humphrey et al. (2009) suggested that the use of IFRS in financial reporting and ISAs for the preparation and audit of financial reports would increase transparency for global investors. They argued that the inclusion of ISAs in the Financial Stability Forum's recommended list of standards was significant. Humphrey et al. (2009) stated that transparency is a key concept, which means that using international standards is essential to help prevent financial instability. They note that during the financial crisis, international regulators began to demand enhanced accounting capacity and capabilities in emerging and developing economies. Therefore, 'an agenda for future development began to emerge in terms of advancing ISAs as global standards, improving audit quality, and furthering the development of the IFAC as an organization serving the global public interest' (Humphrey et al., 2009, p. 813). A very recent study by Boolaky et al. (2018) echoes prior research and concludes that IFRS adoption is having a significant positive impact on auditing and reporting quality. However, they argue that adopting ISAs is less significant to audit and financial reporting quality than the adoption of IFRS.

Kleinman et al. (2014) extend the research to examine audit quality and does cross-national comparisons of audit regulatory regimes. They analyze the challenges in intra-national audits and cross-national audits, including the impacts of national culture, investor legal protection, economic development, and differing financial standard sources. While unable to document any impact on audit quality, they suggest the need for further research. In addition, Simunic et al. (2015) argue that uniform auditing standards may be less effective in cases where national legal systems vary.

Simunic et al. (2017) continued this line of research and analyzed the impacts of legal system characteristics and auditing standards on auditor behavior (as a proxy for audit quality). They posit legal regimes differ in the uncertainty concerning the outcome of legal proceedings (termed vagueness of legal systems) and in the average size of damage awards, which, in turn has implications for the adoption of ISAs. Therefore, they reason that countries where legal liability is high may be less likely to adoption ISAs because doing so may not induce optimal audit quality. Conversely, Simunic et al. (2017, p. 7) conclude that 'the adoption of ISAs by countries, such as China, where the legal system makes the recovery of damages from auditor's quite difficult, is not itself likely to result in a high level of audit quality.'

Studies to date address questions related to ISA adoption and financial reporting quality. However, future research may focus on detailed measures of both financial reporting and audit quality. Moreover, as the relationship between financial reporting and legal, cultural, and institutional factors indicates that the cost-benefit trade-off of ISA adoption is not uniform across countries. Future studies could address, for instance, if there are any benefits to using ISAs in a relatively closed economy. ISAs may prove to be economically beneficial by merely narrowing cross-country differences in financial reports and promoting international trade. However, the literature is silent as to why ISA adoption may improve analysts' forecast accuracy, how much comparability is optimal, and whether greater comparability necessarily promotes overall efficiency. As discussed earlier, financial reporting quality is determined not only by accounting and auditing standards, but also by a country's legal system, culture, and institutions. As a result, researchers should further examine the ability of global auditing standards, even if mandated, to achieve convergence in the quality of reported financial statements. So setting aside the achievability of global standardization, using different perspectives researchers should produce more evidence for why having a single global set of auditing standards is desirable.

4.5. Harmonization of audit reports according to ISAs

The fifth research stream examines harmonization of audit reports according to ISAs and concentrates on the degree of harmonization in the form and content of the audit report (Fakhfakh & Fakhfakh, 2010; Farrugia & Baldacchino, 2005; Gangolly, Hussein, Seow, & Tam, 2002; King, 1999). More precisely, on the wording characteristics of audit reports (Fakhfakh & Fakhfakh, 2007; Fakhfakh, Fakhfakh, & Pucheta-Martínez, 2008), the harmonization of audit reporting behavior in bankrupt companies (Sormunen, Jeppesen, Sundgren, & Svanström, 2013), and the linguistic performance and legibility of auditors' reports with modified opinions (Fakhfakh, 2016).

The harmonization of auditing reports is defined as 'the process, which aims at the reduction of the audit practices diversity and ensures their convergence in the matter of the audit communicative means' (Fakhfakh & Fakhfakh, 2010, p.276). According to this literature, the harmonization of auditing reports is important because it reduces informational asymmetry and the costs of information search (Fakhfakh & Fakhfakh, 2010). King (1999) determined the degree of harmonization in the form and content of EU auditor reports. The analysis used the basic elements of the auditor's report listed in the ISAs. The results revealed harmonization in three of the five elements of auditor reports related to form (i.e., appropriate title, date of the report, and listing of the location of the auditor's office). King (1999) suggested that adoption of the ISAs in the EU would accomplish harmonization of the form and content of auditor reports.

Gangolly et al. (2002) aimed to assess whether ISA 13 resulted in the greater international harmonization of audit reports. They surveyed IFAC members and analyzed the audit reports of 450 companies from 33 countries at two different points in time: pre- and post-ISA 13. The results suggested a less cohesive cluster structure for the post-ISA 13 reports. Based on this analysis, they concluded that the harmonization of audit reports increased after the issuance of ISA 13. Relatedly, Farrugia and Baldacchino (2005) examined Maltese companies and the harmonization of audit reports. The companies in their analysis were all required to be audited, irrespective of size, and had a high rate of audit opinion qualifications. They concluded that the auditor's reports of non-Big 4 audit firms are often deficient or even incompatible with the wording of the ISAs. In addition, Fakhfakh and Fakhfakh (2007) and Fakhfakh et al. (2008) examined the impact of Revised ISA 700 on the wording characteristics of Tunisian auditor reports. The audit reports examined were not fully compliant with all elements of Revised ISA 700. Fakhfakh and Fakhfakh (2010) conducted an international comparison of the impact of the Revised ISA 700. They studied the wording of 278 audit reports published in 41 countries and documented a lack of compliance, both in terms of form and content. For auditor's reports on consolidated financial statements, their results show that the accounting reports published in Greece, Lithuania, Luxembourg, and Poland reflect the highest conformity level to the international principles on audit reports. However, in both studies the authors find that the lack of conformity could be explained by the characteristics of certain countries' accounting models.

In contrast, Sormunen et al. (2013) studied the harmonization of audit-reporting behavior for bankrupt companies, for which going-concern opinions are expected in the auditors' reports. Their study, although limited to a particular standard, suggested that ISAs are inconsistently implemented. Sormunen et al. (2013) suggest the need for further research and investigation into the nature and magnitude of such differences and whether the identified cross-country differences are temporary or permanent. Their findings supported IFAC's primary concern that local implementation of ISAs does not guarantee the development of consistent practice. The recent study by Fakhfakh (2016) tried to assess the level of understandability of the modified audit reports that are recommended by the ISAs. From the perspective of linguistic performance, the international standardization of audit reports was not perfect. Moreover, it was found that the standardized illustrations of modified reports are not fully understandable by users of financial statements; thus, Fakhfakh (2016) suggested that this phenomenon should lead the IFAC to review its policy of standardization.

To date, the research has documented differences in both content and wording of audit reports. Future studies could address how the lack of homogeneous information affects the investors' behavior. The heterogeneity of audit reports can increase the informational asymmetry and produce unreliable information that affects the fairness of a financial situation. Thus, future studies could examine the following questions: What does the incompleteness of auditing harmonization signal to users of financial statements? Does the incompleteness of harmonization threaten the quality of the financial audit? How can the compliance of audit reports be improved in countries where ISAs are adopted? How could IFAC improve the policy of standardization?

4.6. Audit efficiency

The sixth research stream is related to audit efficiency, and includes: 1) studies that elaborate auditor behavior (Bedard, Simnett, & DeVoe-Talluto, 2001; Burns & Fogarty, 2010; Kandemir, 2013; McKee, 2006; Trotman, Simnett, & Khalifa, 2009), 2) audit risk assessment (Colbert, 1996; Fukukawa, Mock, & Wright, 2011; Lee & Park, 2016; Miller, Cipriano, & Ramsay, 2012; Morrill, Morrill, & Kopp, 2012; Ruhnke & Schmidt, 2014), 3) group audits (Stewart & Kinney, 2013; Sunderland & Trompeter, 2017); 4) big data (Alles, 2015); and 5) Chief Financial Officer (CFO) influence on audit planning (Hellman, 2011). Bedard et al. (2001) examined the issue of auditors' responsibility for financial statement fraud. Their study explored the actual and potential contribution of behavioral research in informing standard setters regarding auditors' consideration of fraud, and in assisting audit firms in implementing auditing standards in this area.

Bedard et al. (2001) analyzed the behavioral literature on fraud according to four basic issues: (1) the validity of the concept of a separate fraud risk assessment; (2) the identification and evaluation of risk factors in fraud risk assessment; (3) the effects of decision aids or decision aid design on evaluation of fraud risk; and (4) the relationship between a separate fraud risk assessment and other phases of the audit. They highlighted the importance of each issue, and how each is addressed in the proposed revision of ISAs (i.e. ISA 240). Burns and Fogarty (2010) suggested that high-quality auditing standards promote auditor behavior that contributes to effective audits. In addition, they stated (p.319) 'from a regulatory or standard setting perspective, it may be attractive to provide specific instruction with objective outcomes, but care must be taken to support and grow the auditor's ability to make sound judgments rather than to undermine it.' Finally, Burns and Fogarty (2010) concluded that ISAs need to assist auditors in identifying issues and making sound judgments.

Relatedly, Kandemir (2013) examined the EU auditing law and the role of auditors in the global financial crisis of 2008 to highlight the importance of professional skepticism in audit efficiency. The ISA 240 states that it is the auditor's responsibility to obtain reasonable assurance for financial statements that are free from material misstatement caused by fraud or error. Kandemir (2013, p. 222) concluded that 'the ISAs emphasize that auditors can't give absolute assurance to whether financial statements are free from material misstatement, but auditors should perform the audit in the light of professional skepticism.' In contrast, McKee (2006) argued that some frauds are more easily perpetrated or concealed because the auditors are too predictable. McKee (2006) suggested that, according to ISA 240, one response to fraud risk is to incorporate an element of unpredictability in the audit plan, and his study reviews a number of audit techniques which increase auditor unpredictability. The public expects the audit profession to do a better job at fraud prevention and detection. Finally, McKee (2006, p. 231) concluded that 'if all auditors routinely incorporate some elements of unpredictability into their audit approach, the audit profession will meet this expectation.'

Trotman et al. (2009) examined audit team discussions and auditors' generation of material frauds. They use a pre-mortem technique to analyze the impact of an interacting group in a fraud detection situation. They note that the technique has wider implications for increasing auditor professional skepticism. Trotman et al. (2009, p. 1115) stated 'ISA 315 and ISA 240 similarly require the members of the audit team to discuss, at the beginning of the audit, the susceptibility of the entity's financial statements to material misstatement due to fraud or error.' Hence, their interacting group fulfills the requirement of the ISAs. In contrast, Colbert (1996) compared two concepts that are crucial to planning and performing the audit work: audit risk and materiality. Colbert (1996) argued that differences between ISAs and US guidance implies that the two sets of standards require different levels of audit work; and this situation would be a concern to investors and auditors. However, Colbert (1996) comparisons indicate many similarities and few differences between ISAs and US guidance.

Fukukawa et al. (2011) used factor analysis to analyze how individual client risks are categorized into broad risk factors and the extent to which such broad risk factors are associated with audit engagement planning decisions. Thus, Fukukawa et al. (2011, p. 85) focused on audit planning at the engagement level and found 'that extracted client risk factors are largely consistent with a priori categorizations adopted by contemporary auditing standards and that all of the extracted factors have a significant impact on audit decisions.' However, Miller et al. (2012) examined whether auditors interpret the risk of material misstatement in accordance with current standards' definition of inherent risk. They surveyed and interviewed practicing auditors to gain an understanding of current risk assessment practice, and then evaluated whether these auditor's understanding of risk assessment is in line with current standards. Contrary to auditing standards' definition of inherent risk, they find that auditors presume some level of expected control effectiveness. Miller et al. (2012, p. 448) concluded that 'if auditors presume a level of control in assessing inherent risk, they may reduce audit effectiveness by estimating a lower risk of material misstatement that is appropriate.' ISAs require risk-based audits, where audit effort is concentrated on accounts and financial statement assertions where the risk of material misstatement is high, and assessing risk requires auditors to evaluate the auditee's internal control systems (Morrill et al., 2012). Morrill et al. (2012) argued that current standards and practice vary regarding the point at which risks are to be identified, but suggest that identification of more risks helps the auditor to identify more deficiencies in the control system. Overall, their findings suggest that 'audit effectiveness can be improved by identifying the risks to be addressed by the system before analyzing the controls' Morrill et al. (2012, p.88).

Ruhnke and Schmidt (2014) analyzed whether audit adjustments vary systematically with internal risk and control risk factors. Using proprietary data they extended the scope of prior studies by incorporating client-specific planning materiality in their design, thereby analyzing the relative magnitude of adjustments detected in the financial statement audits conducted by a Big 4 audit firm in Germany. Their findings indicate that audit adjustments vary systematically, as proposed by the audit risk model. Ruhnke & Schmidt (2014, p. 247) emphasized that 'the integrity and competence of the client's management, economic position, entity-level control strength, and internal control system are associated with the number and relative

magnitude of audit adjustments.’ They conclude that inherent and control risk factors are particularly strongly associated with income-affecting adjustments. Lee and Park (2016) study is motivated by ISA 610: “Using the work of internal auditors.” This ISA guides external auditors in using the work of internal auditors to obtain audit evidence and consult internal auditors for direct assistance. Therefore, based on ISA 315 (2016) and ISA 610 (2016), they investigate how external auditors improve audit efficiency by using the work of internal auditors. Their results suggested that the greater the availability of internal auditors, the higher their contribution is to the financial statement audit, resulting in greater audit efficiency. Hence, their findings provide evidence that ‘external auditors use the work of internal auditors with accounting and legal expertise to improve audit efficiency’ (Lee & Park, 2016, p. 629).

In contrast, the next two studies investigate group audits. Stewart and Kinney (2013) note that group auditors determine and implement appropriate component materiality amounts, which fundamentally affects group audit scope, reliability, and value. They develop a Bayesian group audit model that generalizes and extends the single component audit risk model to aggregate assurance across multiple components. Their results suggest group-level controls and structured subgroups of components are central to efficient group audits. Relatedly, Sunderland and Trompeter (2017) examined multinational group audits conducted in accordance with ISA 600. They analyzed information from auditors, regulators, and national standard setters to understand problems encountered in implementing the revised ISAs, and they find that ISA 600 is not well understood or consistently applied.

The final two studies are also related to audit efficiency, but take a different approach. Alles (2015) examines drivers of the use, contributors, and barriers of the evolution of “Big Data” by the audit profession. Hence, Big Data is argued to be one of the most significant developments in recent management practices. Given the growing importance of Big Data as a business instrument, Alles (2015) considers the extent to which Big Data will be embraced by the audit profession, and how usage will evolve. Alles (2015, p. 444) stated that ‘given the concerns about the quality of Big Data, as compared to transactional data, ISA 200 provides an approach that can be adapted to establish the reliance auditors’ place on Big Data analyses conducted by management; the sufficiency and appropriateness of audit evidence are interrelated.’ Therefore, Alles (2015) suggested that ISAs may not hinder auditors from using Big Data, but neither do ISAs encourage them to go outside of their comfort zone. Alles (2015) concludes that ISAs are some of the facilitators and obstacles that will determine the use of Big Data by auditors.

Hellman (2011) investigates the involvement and influence of CFOs in audit planning meetings. Hellman (2011) argues that in empirical studies from the auditor perspective, the influence of clients is typically linked to aspects that threaten audit quality. He highlighted that clients may not necessarily have bad intentions when they seek to influence audits. The results suggested that CFOs seek to influence audit planning, particularly with regard to internal controls and the selection and scope of entities subject to audit. Furthermore, Hellman (2011, p.247) concluded that ‘the CFOs often tended to assume the role of those charged with governance rather than the role of management during the audit planning phase, which may have implications for ISA 300.’

The early research in audit efficiency with respect to ISA compliance focused on auditor’s decisions. Future research may study Big Data in more depth. Research assessing the improvement (or lack thereof) of audit quality, audit efficiency, and professional skepticism after ISA adoption might also be interesting. Overall, although initial efforts tried to better understand the effects of the ISAs’ mandate on auditors’ decisions, this topic offers opportunities for future research. How should auditors improve their performance in the light of professional skepticism and how can we improve group audit performance? Moreover, by improving the monitoring and efficiency of decisions made by auditors, has ISA implementation increased the audit efficiency remarkably? We encourage researchers to develop more convincing identification strategies when analyzing client risks. Finally, future studies should concentrate on Big Data opportunities to improve the audit efficiency and audit quality, as well as how audit standards can encourage its use.

4.7. IFRS compliance and ISAs

The seventh and final research stream examines the relationship between ISA adoption and IFRS compliance. Hodgdon, Tondkar, Adhikari, and Harless (2009) suggested that audit quality should be higher when a large audit firm performs the audit, but that quality may also depend on the type of auditing standards employed. Prior studies indicated that IFRS compliance is also associated with references to the use of ISAs (Glaum & Street, 2003; Street & Bryant, 2000). For instance, Street and Bryant (2000) suggested that compliance is higher when a firm is audited using ISAs. They revealed that disclosure as well as International Accounting Standards (IAS)² compliance was positively associated with an accounting policy footnote specifically stating that the financial statements were prepared in accordance with IAS and an audit opinion stating that auditors followed ISAs.

Glaum and Street (2003) found that IFRS compliance was associated with references to the use of ISAs in the audit opinion, but was unrelated to industry, country of origin, profitability, multi-nationality, ownership structure, firm age, and growth. They found that the IFRS compliance level of the clients of non-Big 5 firms was significantly lower when the audit opinion referred to the use of ISAs or US GAAS than when no reference to these internationally recognized auditing standards was made. In addition, for companies audited by Big 5 firms, the reference to ISA or US GAAS had no discernible influence on

² IAS standards were published between 1973 and 2001, while IFRS standards were published from 2001 onwards.

Table 4

Citation analysis. 15 Most-cited articles in the field of ISAs.

Author(s)	Total citations (Google Scholar)	Total citations (Scopus)	Research stream
Alles, 2015	44	16	6
Favere-Marchesi, 2000	75	24	4
Glaum, & Street, 2003	331	89	7
Gold, Gronewold, & Pott, 2012	59	17	4
Hodgdon, Tondkar, Adhikari, & Harless, 2009	111	31	7
Humphrey, Loft, & Woods, 2009	223	85	4
King, 1999	22	11	5
Lin, & Chan, 2000	66	27	3
Loft, Humphrey, & Turley, 2006	118	55	1
Lopéz Combarros, 2000	44	5	1
Mennicken, 2008	130	56	3
Sami, & Zhou, 2008	42	14	4
Street, & Bryant, 2000	333	76	7
Trotman, Simnett, & Khalifa, 2009	45	22	6
Zhou, 2007	70	27	4

Notes: Research streams: (1) The development and history of ISAs; (2) adoption of ISAs; (3) associations between national auditing standards and ISAs; (4) financial reporting quality; (5) harmonization of audit reports according to ISAs; (6) audit efficiency; and (7) IFRS compliance.

the level of compliance. The role of the external auditor was also discussed in [Hodgdon et al. \(2009\)](#). Their results indicate that IFRS compliance was positively related to the choice of auditor after controlling for firm size, profitability, leverage, the degree of international diversification, and whether a firm had a US listing or was audited according to the ISAs. Thus, their findings indicate that while the significance of the coefficients of the other variables change depending on the model used, the coefficient of auditor choice is consistently significant in their models. Therefore, [Hodgdon et al. \(2009\)](#) provide evidence of the importance of auditor choice on IFRS compliance.

To conclude, empirical evidence on how ISAs affect IFRS compliance is very limited, and sample sizes are relatively small. Future studies could investigate more carefully how important the auditor choice is on IFRS compliance. Future studies should also examine, in more detail, the special role of international auditing firms and quality audits as a response to promote implementation and compliance with IFRS.

5. Citation analysis

Citation analysis is essential because it allows influential authors to be identified, which, in turn, provides researchers with a solid basis for positioning current contributions. Thus, we conduct citation analysis in the context of ISA-related studies. Google Scholar provides both citation counts and links to the sources of the citations ([Kenny & Larson, 2018](#)). We used Google Scholar to collect the number of citations for all 59 articles we reviewed. In total, the 59 articles are cited 2260 times. Twenty-two articles were cited between one and ten times, and three have yet to be cited. Fourteen articles were cited more than 40 times, with several each being cited over 300 times. The two most frequently cited articles both deal with IFRS compliance and ISAs (research stream 7), [Street and Bryant \(2000\)](#) and [Glaum and Street \(2003\)](#). The third most frequently cited study is [Humphrey et al. \(2009\)](#), which analyzes financial reporting quality and ISA adoption (research stream 4). Our observations regarding citation frequency are consistent with [Kenny and Larson's \(2018\)](#) conclusions that the development and adoption of IFRS is one of the most significant accounting developments in recent history. [Table 4](#) lists the most frequently cited articles from our sample and also classifies them according to our taxonomy.

We also used the Scopus database to conduct another citation analysis. Scopus is the world's largest abstract and citation database of peer-reviewed research literature. [Table 4](#) tabulates citation frequency according to Scopus data for all articles with more than 10 citations. The frequency of citations between Google Scholar and Scopus is largely consistent.

We were also interested to see if certain authors tended to focus on ISA research topics. [Table 5](#) presents the authors with the most number of articles in the ISAs Literature. A frequency analysis by author of our sample's 59 articles found that 14 authors published two or more articles. The most prolific author is Pran Boolaky, with five publications. His studies have concentrated mainly on the adoption of ISAs on a cross-country basis. However, his studies are not the most frequently commonly cited, presumably because none were published before 2011. The second most prolific author is Mondher Fakhfakh, with four publications. His publications examined mainly audit report harmonization. Hamadi Fakhfakh and Roger Simnett share third place with three publications each. Other researchers presented in [Table 5](#) have two articles published. [Table 5](#) also presents the research streams where the most prolific authors do their research.

6. Conclusions

This literature review synthesized extant research on ISAs. Seven research streams related to ISAs were identified: (1) the development and history of ISAs; (2) the adoption of ISAs; (3) the association between national auditing standards and ISAs; (4) the financial reporting quality and ISAs; (5) the audit reports harmonization, according to ISAs; (6) the audit efficiency and ISAs; and (7) how ISAs are associated with IFRS compliance. Literature syntheses are important because they allow

Table 5
Authors with the most number of articles in the ISAs Literature.

Article	Number of publications	Total Citations of articles (Google scholar)	Research stream(s)
Boolaky, Pran	5	28	2, 4
Fakhfakh, Mondher	4	17	5
Fakhfakh, Hamadi	3	12	5
Simnett, Roger	3	67	4, 6
Humphrey, Christopher	2	341	1, 4
Loft, Anne	2	341	1, 4
Mock, Theodore	2	63	4, 6
Park, Hyun-Young	2	1	4, 6
Simunic, Dan	2	7	4
Soobaroyen, Teerooven	2	3	2, 4
Street, Donna	2	664	7
Yapa, Prem	2	11	2, 3
Ye, Minlei	2	7	4
Zhang, Ping	2	7	4

Notes: Research streams: See Table 4.

influential research streams to be identified, and their interrelations to be revealed. This provides researchers with a solid basis for positioning current contributions and detecting new lines to future research. The international harmonization of auditing standards can benefit the development of an effective and efficient global economy by ensuring that users and the market receive relevant and credible accounting information. Therefore, we argue that ISAs are important and serve the public interest. This synthesis suggests that the globalization of auditing standards is one of the most significant regulatory changes in auditing. Our study contributes to the accounting and auditing literature in several ways. First, it reviews research papers focused exclusively on ISAs. Second, this review is of timely importance for regulators and researchers. For regulators, this synthesis highlights institutional factors and their associations with the process of ISA adoption. For researchers, this synthesis highlights the need for more empirical research in many areas. For instance, whereas ISA adoption and the convergence of national auditing standards with ISAs suggest that ISAs are a high-quality set of auditing standards, the economic consequences of this change should be examined more carefully. Research on the effects of ISA adoption on contracting and decision-making is still in its infancy, and very few published studies exist. Moreover, more research is needed on the effects of ISAs on audit quality and audit behavior.

This study also suggests that citation analysis involves the statistical treatment of scientific publications and provides data on the level of activity in a certain research field, allowing the outcomes to be used to evaluate the performance of research streams, researchers, and journals. Methodologically, this study builds on previous literature to deepen our understanding of ISA research. Finally, this synthesis suggests that now is the appropriate time to evaluate what we know and, more importantly, what we do not know about ISAs and trace the development of the streams of research linked to ISAs. In so doing, this paper aims to stimulate research in this field to improve knowledge of the adoption, implementation, and economic consequences of ISAs. Overall, additional studies conducted across a variety of dimensions are required before researchers can claim an adequate understanding of the mechanisms by which ISAs affect the various facets of a business.

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