


CONVERGENCE OF BRAZILIAN ACCOUNTING STANDARDS RELATED TO AUDITING TO THE PARAMETERS OF THE INTERNATIONAL FEDERATION OF ACCOUNTANTS: A BIBLIOMETRIC ANALYSIS

 <https://doi.org/10.56238/sevened2025.021-004>

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ABSTRACT

In this article, a bibliometric analysis of articles referring to the convergence of Brazilian accounting standards to the standards of the IFAC - International Federation of Accountants is made. It is observed that Brazilian accounting standards, since 2010, have converged to international standards and that this has had a significant impact on auditing in Brazil. The research focused on articles published between 2016 and 2022 in Qualis A and Qualis B journals, searching for the terms "accounting", "auditing", auditing and auditor. The research used statistical and mathematical techniques in order to analyze the scientific production and was based on the laws of Bradford, Zipf and Lotka to measure the relevance of the journal, the occurrence of keywords and the productivity of the authors. In order to present the results of a research on convergence to international standards and its impact in Brazil, a bibliometric analysis was used in 149 (one hundred and forty-nine) articles, showing an increase, as of 2019, in the number of publications by Brazilian authors on auditing. In addition, it was observed that the recurring themes in the analyzed articles include information asymmetry, control of the border, risk management and perception of corruption. It was concluded, from the bibliometric data collected, that the researched theme is relevant, current and that it opens opportunities for new studies, especially comparative analyses between publications on the subject in Brazilian journals and in international journals.

Keywords: Bibliometric Analysis. Auditing. Accounting. Auditor. Audit.

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INTRODUCTION

The accounting audit is a scientific procedure that certifies the elements of *aziendal* wealth, accounted for in various entities in order to mitigate or eliminate tax, corporate, environmental, and environmental risks. As of 2016, thanks to the process of convergence of Brazilian accounting standards to IFAC standards, significant changes have occurred in the audit procedures.

The dissemination of PAA's affects, as Sirois, Bedard and Bera (2017) demonstrate, the process of acquiring information. In their research, they used a sample of 98 Canadian students, dividing them into four different groups. Its purpose was to demonstrate how the presentation of the PAA's, and their detailing, influences the acquisition of information. The results of his research showed that the PAA's in general terms did not have a significant effect. However, the impact of the issues on the accounting numbers exerted greater relevance and drew the attention of users. The authors also observed that the dissemination of several PAA's ends up diverting the attention of users from the demonstrations to these subjects.

The complexity of global business has increased, requiring a new positioning of auditing firms. In Brazil, NBC-TA 701 introduced the "Main Audit Matters" section, that is, it defined which are the areas with the greatest risk of misstatements, which areas involve significant judgment and which facts or transactions are most significant in a given period

Christensen, Glover and Wolfe (2014) conducted an experiment with 141 non-professional investors, but graduated from North American business schools. The results of his experiment showed that PAAs affect the investment decision. Investors exposed to standard audit reports (without PAAs) and those in which PAAs were reported in footnotes to the Management Report changed their decisions to a lesser extent. On the other hand, authors showed that when the solutions of the PAA's were presented, the decision was maintained, that is, that the proposal to solve the reported problems increases investor confidence.

In other studies, carried out in several countries, the results suggest that PAAs reduce auditors' perception of responsibility for reported problems (Kachelmeier, Schmidt, & Valentine, 2017). PAAs, as observed in the studies carried out, reduce the risk of litigation for auditors (Backof, Bowlin, & Goodson, 2017). The disclosure of PAAs, which gives management and auditors the responsibility for greater transparency, enabling users to have a larger set of data so that they can decide more assertively (Brasel, Doxey, Grenier, & Reffett, 2016; Boolaky & Omoteso, 2016).

In this article, considering the convergence of Brazilian accounting standards to IFAC parameters and standards, we sought to analyze the scientific-academic production on accounting topics and objects, more specifically auditing, performing a bibliometric analysis that made it possible to identify the impact of the internationalization of accounting standards on the auditor's work, especially the PAA's and their influence on the communication of financial statements on investors' decisions.

The bibliometric research allowed the quantitative analysis, that is, statistics and mathematics of the highlighted themes and objects – auditing, auditor, accounting, audit – and used as a parameter and foundation the laws of Bradford, Lotka and Zipf. Based on these three laws, the relevance of the chosen journals was identified, the productivity of the authors of the chosen articles was measured, and the frequency of keywords in the texts was analyzed. The three laws highlighted allowed us to understand how the distribution of scientific production took place, what is the productivity of researchers on the theme and the object of the research highlighted in this article.

The theme of the research that was carried out and of this article that publishes its result is justified by the relevance of the new auditing standards and the need to make known what they are and what is the importance of the reported PAA'S in the transparency of the reports and in the decision making of investors.

The bibliometric data collected indicated the existence of scientific studies in the world related to the main auditing subjects. The research carried out, taking into account the bibliometric aspects on the themes and objects, especially the terms or keywords highlighted, allows us to verify the level of papers presented, the diversification of authors, the diversification of countries and a range of themes that corroborate with the NBCs TA converged with the world to enrich the field of studies in this area.

First, a review of the bibliography on the subject and the objects corresponding to the internationalization of Brazilian accounting standards, especially its impact on the audit work, is made. In order to evaluate the impact of the convergence of Brazilian standards to international standards, keywords related to auditing, auditor, *accounting*, auditing and other terms or expressions related to it were chosen in a significant number of articles from specialized journals with good scientific certification. Statistical and mathematical procedures of bibliometrics were used for the identification and analysis of these keywords and expressions. Then, conceptual considerations were made about the chosen methodology, that is, the bibliometric analysis, and the criteria for choosing the articles that were used as data to be analyzed were demonstrated. Finally, the analysis and discussion of the results was carried out, demonstrating the relevance of the theme

and the object addressed in the bibliometric research.

LITERATURE REVIEW

The accounting audit is the scientific procedure related to the certification of the elements of the *aziendal* wealth, accounted for in foundations, associations, business companies and simple companies. Attie (2011) describes it as an "accounting specialization aimed at testing the efficiency and effectiveness of the equity control implemented with the objective of expressing an opinion on a given data.

The audit aims to minimize or eliminate fiscal, corporate, environmental, labor, social security, systemic or non-environmental risks. To fulfill its purposes, that is, to achieve what defines and characterizes it, it is necessary to verify the financial statements, item by item, also examining documents, books and records that evidence the data shown therein, as well as the auditing standards and procedures, not limited only to what is recorded, but also to the information that has been neglected in some way. Therefore, the audit must have all the evidence that is within its reach so that it is possible to determine the ownership of the accounting records.

Since 2016, according to Hoog (2007), due to the process of convergence of Brazilian accounting standards to international standards, through an agreement with the *International Federation of Accountants* (IFAC), significant changes have occurred in the procedures related to financial statements and, of course, in the practice of auditing.

Global business has changed its characteristics and the growing potential of corporate transactions and the increase in the complexity of accounting judgments that involve the day-to-day of a company constantly corroborate the new positioning of auditing firms. However, it is not enough just to have a new position of the audit firms, but to reflect on the informational relevance of the audit report (Defond and Zhang, 2014).

NBC TA 701 (2016) introduced a new section to the independent audit report, entitled Main Audit Matters (PAA's), which are matters that, according to the auditor's professional judgment, were the most relevant in the course of the audit engagement. The importance of this new topic lies in offering information users a more informative, objective, and reliable report (Cortés, Coelho, and Alberton, 2019).

The PAA's that are selected from among the subjects communicated to those responsible for governance, provided greater clarity and transparency to the reports. IAS 701 (2016) indicates that the auditor must take into account three factors in the selection of material matters, namely: a) according to the auditor's assessment and understanding

of the company and its environment, areas evaluated with the highest risk of material misstatements or significant risks identified in the audit processes, according to NBC TA – 315; b) areas that involve significant judgment by the auditor, as well as by the entity's own management, with a high degree of uncertainty in estimates, as parameters used in the measurement of some financial estimates, which may be assessed as significant risks, due to the fact that they are complex areas of the financial statements and of understanding of users; and c) significant facts or transactions during the period, which produce effects on the audit or on the statements. Related to complex judgments about such facts and transactions, and may be considered unusual for the entity (Cortés, Coelho and Alberton, 2019).

METHODOLOGICAL PROCEDURES

Bibliometric research is based on the application of statistical and mathematical techniques to perform a quantitative analysis of information when it seeks to trace characteristics of literature. He uses quantitative rather than discursive methods when he describes that "the use of quantitative methods in the search for an objective evaluation of scientific production is the central point of bibliometrics" (Araújo, 2006)., as it appears, according to Rodrigues, Tavar, Nogueira and Librelotto (2016), to be an important tool for analyzing the state of an intellectual production related to a given subject. According to Camargo, Zanetti and Celere, 2010), it addresses the measurement, according to quantitative parameters, of written communication in order to estimate documents, words, bibliographic data, among others.

Among the various laws and principles existing within bibliometrics, three stand out: Bradford's Law, Zipf's Law, and Lotka's Law. Figure 1 shows the three types of bibliometric laws.

Figure 1 - Types of Bibliometric Laws

	BRADFORD'S LAW	ZIPF'S LAW	LOTKA'S LAW
Measure	Degree of attraction of the journal	Keyword Frequency	Author productivity
Criterion	Journal reputation	Ordered list of themes	Size-frequency
Goal	Identify the most relevant journals that give greater outlet to a specific topic	Estimate the most recurrent themes related to a field of knowledge	To survey the impact of an author's production in an area of knowledge

Source: Chueke and Amatucci (2015)

Bradford's Law (or Law of Dispersion) emerged with the aim of identifying the extent of publication of scientific articles on a given topic in specialized journals on the subject, making it possible to assess the degree of relevance of journals that work in

specific areas of knowledge; Lotka's Law (or Inverse Square Law) estimates the productivity of authors and refers to the fact that while a small number of researchers produce a lot in a given area, a large number of researchers produce little, that is, most scientific productions are carried out by a few authors; and Zipf's Law (or Law of Least Effort) measures the frequency with which certain words appear in various texts, making it possible to list and order certain terms on a given subject (Souza Jr., Parisotto and Palmisano, 2016).

DATA COLLECTION

In the present study, the method was applied to publications on this theme, in journals with Qualis A and Qualis B. The choice for this base is essentially related to the fact that this is one of the most relevant sources of technical and scientific literature considered by the scientific academic community in Brazil.

The study was limited to the period between 2016 and 2022, as it was intended to gather works after the implementation of the convergence of Brazilian accounting standards to international standards.

The research was carried out in order to observe in the set of articles chosen and analyzed, as seen in the table below, for this investigation that contained the terms "accounting", "auditing", auditor, audit.

Journals ranked for the survey	
ISSN	TITLE
2559-6004	Accounting & management information systems
1030-9616	Accounting research journal
2443-4175	Asian journal of accounting research
0103-734X	Accounting view & magazine
1984-3925	Journal of accounting, management, and governance (jamg)
0967-5426	Journal of applied accounting research (online)
1061-9518	Journal of international accounting, auditing & taxation
1984-3291	Accounting journal of the master's degree in accounting sciences at UERJ
2238-5320	Management, Finance & Accounting Journal
1982-7342	Society, accounting and management (UFRJ)
0210-2412	Spanish journal of finance and accounting/revista española de financiación y contabilidad

This search resulted in a total of 149 articles. To support the analysis of these results, a table was created in a spreadsheet with the following structure:

- Journal where the article was published,
- Article title,
- Year and semester,
- Author's name,

- University
- Country
- Keywords,
- Goal.

ANALYSIS AND DISCUSSION OF THE RESULTS

The data analysis permeated points such as the number of publications on the subject, keywords that were used the most and word cloud taken from the objectives of the articles investigated consistent with the main auditing subjects published

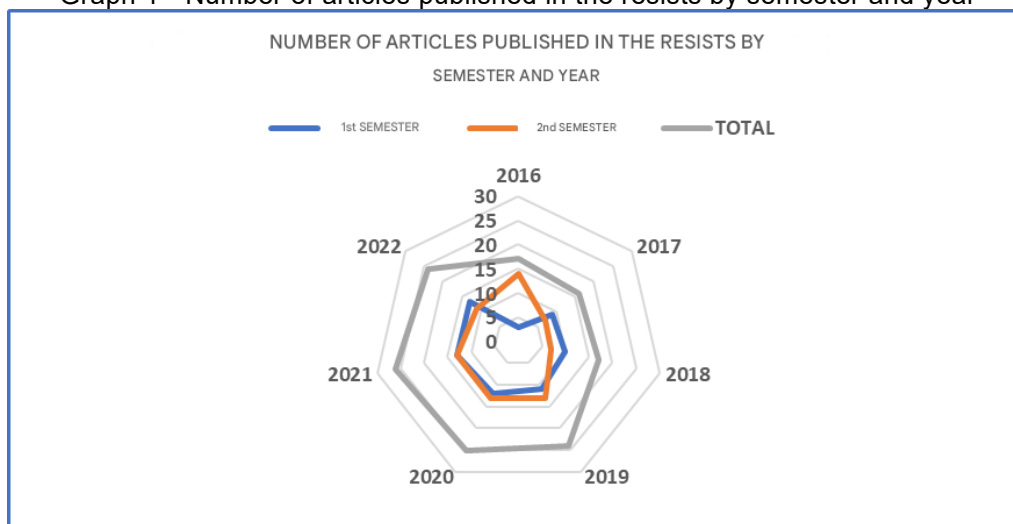
From this aspect, it was observed that, as shown in Table 1, within the defined period, 149 articles were published in the 13 edited journals, addressing topics pertinent to the research.

Table 1 - Number of articles published in the revistas by semester and year.

YEAR	1ST SEMESTER	2ND SEMESTER	TOTAL
2016	3	14	17
2017	9	7	16
2018	10	7	17
2019	11	13	24
2020	12	13	25
2021	13	13	26
2022	13	11	24

It is noteworthy that the journals have themes focused on Accounting science, from which, in the data collection phase, only the articles inherent to the investigation of the main auditing subjects were extracted for analysis. For a better visualization of the data collected in Table 1, the column chart below was elaborated, which allows us to perceive, initially, that the dimension of annual publication of articles related to auditing grows from 2019 onwards. It is observed that the average publication, as of 2019, is 25 for every 13 journals, and the journals were classified every six months per year.

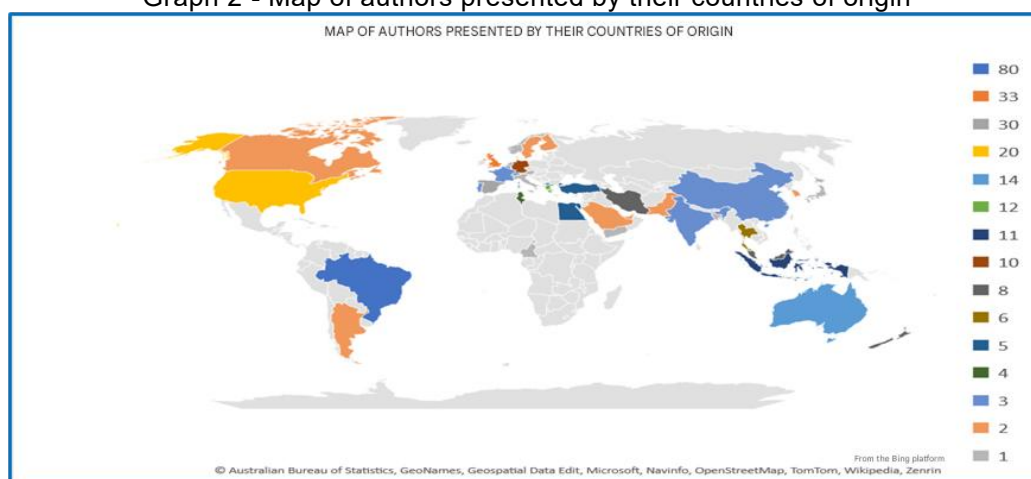
Graph 1 - Number of articles published in the resists by semester and year



This radar chart allows us to have a better view of the comparison between the data on the number of publications per year and in each semester.

In view of the number of publications per year and semester, the authors and their countries of origin were surveyed. In this way, we arrive at the countries that had the most authors publishing articles inherent to the investigation of the main audit subjects. The bibliometric data collected pointed out that the volume of articles with the main auditing subjects, in relation to the countries, was more present in Brazil, followed by the United Kingdom, Spain, USA, Australia, Greece, Indonesia, Germany, Iran, Malaysia and New Zealand. Such signaling can be better visualized through the Coropleth Map, comparing the distribution of authors by geographic regions in Graph 2.

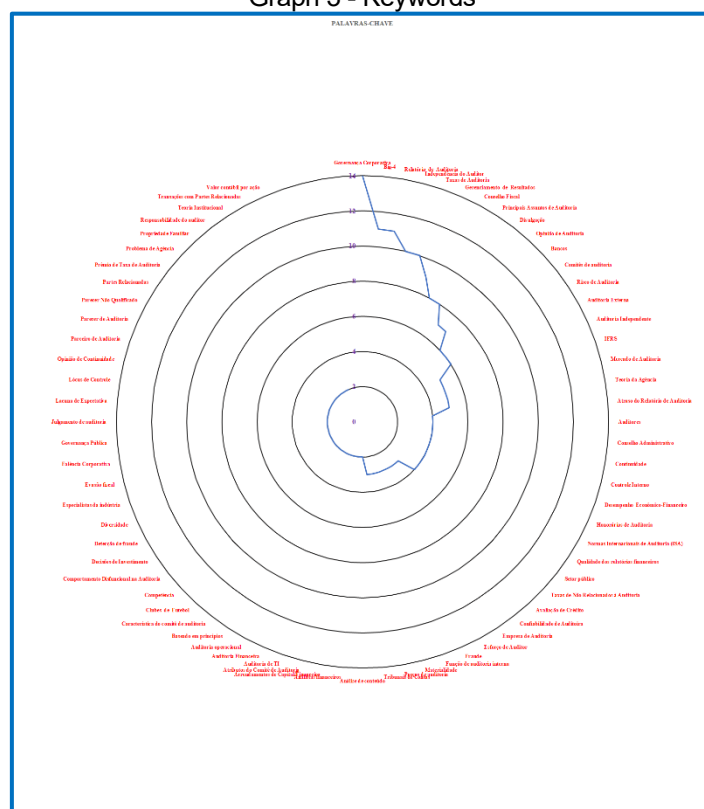
Graph 2 - Map of authors presented by their countries of origin



This Coropleth Map chart compares the distribution of authors by geographic regions in the period from 2016 to 2022.

In view of the number of publications per year and semester, the bibliometric data collected from keywords reached an amount of 684 words. Of these 684, after equal analysis, we arrived at an amount of 380 words, classified from 1 to 25 repetitions. Keywords with the name of the country were disregarded, as it is common in Asian countries to consider the country as one of the keywords. To make the graph, keywords with at least two repetitions were considered, thus converging to the investigation of the main audit issues addressed in the articles. In graph 3, below, it is possible to see the volume of these keywords and the sequence to be assigned to the main audit subjects.

Graph 3 - Keywords



This radar chart allows us to have a better view of the keywords, enabling a first result of the investigation of the main audit subjects addressed in the articles.

NBC TA 701 – Communication of Main Audit Matters in the Independent Auditor's Report, states that the communication of the main audit matters aims to make the audit report more informative, by providing greater transparency about the audit carried out. (CFC 2016) In the bibliometric study in question, common information was found in the objectives of the 149 articles that lead us to verify the investigation on the main audit subjects, such as information asymmetry, Corporate Governance attributes, adverse credit ratings, fraud control, corruption, investment decisions, financial disruption, corporate bankruptcy, governance factors, risk management, financial management, financial information, corporate insolvency, institutional investors, corporate governance

mechanisms, going concern opinions, going concern opinions, perception of corruption, capital providers, fraud reporting, financial reporting, continuity risk, information system. Thus, this additional information is in line with the communication of the main audit issues to the expected users of the financial statements, to help them understand the matters that, according to the auditor's professional judgment, were the most important in the audit of the financial statements in a given period.

The articles analyzed bring these subjects, helping users to better understand the entities and areas that involved significant management judgment in the audited financial statements. Figure 1 shows the Main Audit Issues described in the articles.

Figure 1 - Main Audit Issues



FINAL CONSIDERATIONS

In order to investigate the main audit subjects, a selection of articles published between 2016 and 2022 was made.

After bibliometric and content analyses, the research reveals that the publications present a significant number of articles published when searching for the term audit, auditing and auditor. Taking into account the keywords and the researched objectives of these terms, the investigation presents keywords. The research presents a result in the investigation of topics that are in accordance with the ISAs in view of the communication of the main audit matters in the independent auditor's report.

The bibliometric data collected indicate that there are scientific studies in the world that bring themes related to the main auditing subjects. The result of the research, taking into account the bibliometric and content aspects, is the level of works presented, the diversification of authors, the diversification of countries and a range of themes that corroborate with the TA NBCs converged with the world to enrich the field of studies in this area.

It is concluded that the theme is current and relevant and presents opportunities for the development of new studies with emphasis on this theme. Opportunities for new articles from this research are highlighted, confronting journals from other study groups, in the same period, of Brazilian publications versus international publications to bring an answer on the most recurrent themes, related to the main auditing issues and the advancement of auditing studies in the world and in Brazil.

This study was limited to the terms audit, auditing and auditor, and did not identify approaches from other studies related to the theme, which may have used different terms in the articles, which may be the object of future investigation.

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