

Bibliometric Analysis of the Accounting Research in Intangible Capital Journal

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Abstract: This study aims to analyze the research in accounting published in Intangible Capital journal in the last twelve years (2012-2022). The main goal is to identify past trends and future research opportunities. Based on bibliometric techniques, the study was carried out through the collection of papers published in Intangible Capital journal, in the period of 2012-2022. The area of financial accounting is the most studied, with studies on the private sector prevailing, applying predominantly a quantitative research approach and applying document and content analysis as the preferred data collection method. We highlight the works in co-authorship with 2 and 3 authors; the authors being mostly female and coming especially from Spanish universities, which is why Spain is the most studied country in the sample papers. Therefore, the areas of public accounting and teaching and research in accounting are areas that are not yet properly represented in this journal.

Keywords: accounting; intangible capital; bibliometric analysis.

1 Introduction

The increase in accounting research has been accompanied by using different research methodologies, namely the use of bibliometric studies. As Ribeiro (2017) points out, there has been an increase in bibliometric studies, since 2007, in the areas of accounting and administration.

Originating in the designation of “statistical bibliography” (Silva et al., 2016), bibliometrics is “a methodology for counting bibliographic contents” (Yoshida, 2010, p.58), which applies “statistical and mathematical techniques to describe aspects of literature” (Araújo, 2006, p.12), that is, it aims to carry out a quantitative analysis of the information, allowing to conclude on the dissemination of scientific production in a given area, the existing gaps and the paths to follow.

Bibliometrics, or bibliometric studies, can analyze various research sources (scientific journals, conferences, among other databases). Regarding bibliometric studies in journals, in which this investigation fits, as stated by Baker et al. (2022b) it is important to carry them out, as they allow a good understanding of a specific journal, namely its characteristics and trends, in order to differentiate it from other journals, implying greater interest and contributions on the part of its stakeholders (Silva, 2017). In addition, due to the great technological advances, the publication of scientific papers in specialized journals establishes an important link between the scientific and academic environment and society today (Furtado, 2021). According to Gonçalves (2013), many researchers seek to publish their studies in journals recognized for their quality, as these contribute to the creation of a good reputation for them. Thus, knowing the research profile of a journal allows researchers to assess whether it meets pre-established standards. On the other hand, it can provide opportunities for future researchers to diversify, or even innovate, the areas and research methods identified. Oler et al. (2010) add the importance of conducting studies of this type to characterize research in the accounting area.

The target scientific journal of this research is the Intangible Capital journal, because it is a scientific journal of recognized merit, which contributes to the development of research and knowledge. This journal aims to publish scientific, theoretical, and empirical papers that contribute to the dissemination and scientific development of management and organizational science, encompassing papers in the areas of management, management of intangibles, human resources management, psychology, education, accounting, between others. To speed up the review and editing process and reduce publication costs, Intangible Capital is an open access online publication, with three regular publications per year, having, in some years, some special publications on specific topics of search. It should also be noted that the journal is indexed in the main databases, specifically in the Web of Science (JCR-ESCI - Emerging Sources Citation Index) and in Scopus (Q3) (SCImago Journal & Country Rank - SJR 2021: 0.341).

In this context, this paper aims, through a bibliometric study, to analyze the research in accounting, in the scientific journal Intangible Capital, from 2012 to 2022, in order to characterize this scientific production, identify gaps and define future research opportunities.

For the development of this study, a qualitative methodology was followed, in its theoretical framework, and a quantitative methodology, using descriptive statistics, in the analysis of the results obtained. As a data collection method, a document and content analysis were carried out.

2 Literature Review: bibliometric studies on accounting research

In the literature, it is easy to see that, in recent years, bibliometric studies in accounting area have been encouraged, since this type of studies allows to identify and map a set of variables capable of highlighting possible research gaps, whether theoretical or empirical terms, that may be investigated in the future.

Table 1 presents the main variables analyzed in bibliometric studies carried out in accounting area.

Table 1. Variables studied in bibliometric studies in accounting

Variable	Characteristics
Year	Paper publication year; number of papers per year; number of papers per journal edition, etc.
Authors' Affiliation – Country	Author's country of academic affiliation
Authors' Affiliation – Continent	Author's continent of academic affiliation
Author's Affiliation – university	Teaching institution linked to the author
Type of academic link	Number of teaching institutions to which the article is linked
Author - Name	Author name most influential authors
Type of Authorship	Collective (number of authors per article) or individual
Gender	Male and Female
Sector	Distribution of articles by sector (public, private, non-profit)
Subsector	Distribution of articles by subsector
Methodological Approach	Approach type: qualitative; quantitative; qualitative-quantitative
Nature	Study Nature (descriptive; exploratory; exploratory-descriptive; explanatory; etc.)
Paper Methodology	Main Methodology (Literature Review or Empirical Study)
Data Collection Method/Procedure	Main data collection methods (Database, case study, survey, interviews, document analysis; content analysis; multiple)
Paper topic/area	Main topic/area of the article (financial accounting, management or cost accounting, auditing, social and environmental accounting, public accounting, taxation, accounting history, education, and research in accounting, etc.).
Paper Subtopic/area	Identify the most studied subjects/subtopics in each theme or area.
Theory	Support theory in explaining the results (agency, institutional, contingency, legitimacy, innovation, stakeholders, economics, etc.).

Variable	Characteristics
Country	Country where the study was carried out. Number of articles per country.
Source	Main references sources (books; journals; websites; book chapter; conferences; master dissertations; PhD thesis; etc.).
Journal	Main journals that publish a specific theme or area.
Citations	Number of citations to articles published in each journal.

There are also papers that associate different variables, such as collection method vs. area; collection method vs. subtopic; area vs. theory; area vs. gender; collection method vs. gender; area vs. country; area vs. continent; collection method vs. country; collection method vs. continent; among others.

These studies allow the dissemination of academic discussion on the evolution of a given theme, allowing the reflection on the subject area of study (İyibildiren et al., 2023; Poje & Groff, 2022; Cortés-Sanchez, 2020; Balstad & Berg, 2020; Bharati, 2021; Cepêda et al., 2021; Monteiro & Cepêda, 2021; Rodrigues et al., 2021; Merigo, & Yang, 2017; Andrade & Muyllder, 2010).

Table 2 presents a summary of some bibliometric studies developed by different authors on research carried out in accounting published in scientific journals (Rua et al., 2022; Quesado et al., 2021; Quesado & Rua, 2020, 2019). It should be noted that, despite most bibliometric studies found in the literature, using databases as a method of collecting information, namely Scopus and the Web of Science, in our study we only focused on bibliometric studies on scientific production in journals to meet the objective we set ourselves here.

Table 2. Bibliometric studies in accounting published in scientific journals

Author(s)	Purpose	Conclusions
Cardoso et al. (2005)	Analyze the scientific research in accounting between 1990 and 2003 in Brazilian journals: PPE- <i>Pesquisa e Planejamento Econômico</i> , RAC- <i>Revista de Administração Contemporânea</i> , RBE- <i>Revista Brasileira de Economia</i> , RAP- <i>Revista de Administração Pública</i> , RAE- <i>Revista de Administração de Empresas</i> , e RAUSP- <i>Revista de Administração</i> .	Of the total of 2.037 articles published in this period, 2,95% were identified as accounting, which reveals a low volume of publications in the area of accounting in the analyzed journals; Concentration of published research, with few authors with a relevant number of articles, and many not directly linked to graduate and master's programs in accounting.

Author(s)	Purpose	Conclusions
Lindquist & Smith (2009)	Evaluate the type of research published in the Journal of Management Accounting Research in the first 20 years of its existence.	The articles are essentially on the theme of management control; Research in Management Accounting is heavily influenced by economic theory; The analytical method and the survey method are the most used.
Espejo et al. (2009)	Analyze the thematic and methodological trends of publications in the Accounting, Organizations & Society (AOS), in <i>Revista Contabilidade & Finanças</i> (RCF) and in The Accounting Review (TAR) from 2003 to 2007.	Predominance of the theme aimed at external users; Higher occurrences of economic rationality approach, however, with a downward trend; Behavioral and institutional research approaches were ascendant; The most productive authors were responsible for 14,1% of the analyzed scientific production; Only 2,6% of the authors were published in more than one journal; Continuous research process in accounting in Brazil.
Scapens & Bromwich. (2010)	Identify the type of papers published from 2000 to 2009 in the journal Management Accounting Research.	Themes related to the management of intellectual capital and intangibles, such as the Balanced Scorecard and benchmarking, are the most investigated; Greater concentration of articles published by British authors; The most used research methods are case studies and analytical or mathematical methods; The Institutional Theory is the most used to explain the results; Diversification in the type of research published in the journal.
Roza, Machado & Quintana (2011)	Characterize the scientific production on public accounting in <i>Revista de Administração Pública</i> (RAP) in the period 2004-2009.	Predominance of empirical studies, instead of theoretical studies, in scientific research in public accounting; The predominant theme in the papers was the control and transparency of public accounts; We highlight the papers published in co-authorship.

Author(s)	Purpose	Conclusions
Avelar et al. (2012)	Analyze the scientific research in accounting between 2000 and 2009 in the main Brazilian journals in the area.	There is a continuous and clear trend towards an increase in the number of articles published over time; Predominance of articles in the area of financial accounting compared to other areas of accounting; Growing predominance of the quantitative research approach; The main methods used for data collection were documentary research and external databases.
Ribeiro (2012)	Study the accounting research in articles published in the European Accounting Review from 2007 to 2011.	The predominant area of investigation is financial accounting; The tax area has little representation; The male gender and co-authorship research stand out; The United Kingdom was the country that registered the most publications in the journal; Research focuses mainly on empirical studies, with existing databases being the main method for data collection.
Correia (2013)	Characterize the research in management accounting published in the journals: Accounting Organization and Society, and The Accounting Review	The results showed that publications by the Accounting Organization and Society and The Accounting Review are different; The most discussed topic in management accounting research was performance evaluation; The most used data collection methods were experimentation and case study, the first was more used by male authors and affiliates in the American continent and the second by female authors and affiliates in Europe.
Ribeiro (2013)	Study the academic production in <i>Revista Contemporânea de Contabilidade</i> during the period 2004-2012.	Collaborated articles represent the majority of articles published in the journal; The main themes addressed in the publications were cost accounting, education and research in accounting, environmental accounting, corporate governance, and organizational performance.

Author(s)	Purpose	Conclusions
Gonçalves (2013)	Provide an updated overview of accounting research in the journal Accounting and Business Research between 2007 and 2011.	<p>Most of the authors who have contributed to the journal are from the United Kingdom; Financial accounting is the most addressed research area;</p> <p>Databases are the most widely used collection method;</p> <p>The origin of the data used in the empirical studies are mostly from the United Kingdom; In most cases, the origin of the data is domestic, that is, most of the data come from the same place of origin as the authors of the article.</p>
Muteliha & Machado (2013)	Analyze the management accounting research published in Management Accounting Research between 2007 and 2011.	<p>The United Kingdom is the country of affiliation of authors with more articles published in the journal, as well as the most studied country;</p> <p>The most studied topic is performance evaluation;</p> <p>Product valuation methods are the least studied subject;</p> <p>Case studies are the main research method used, followed by data collection through surveys;</p> <p>The use of multiple methods, which allows methodological triangulation, is the least used.</p>
Silva & Zuccolotto (2014)	Evaluate the scientific production in the area of accounting theory published in <i>Revista de Contabilidade e Finanças</i> (RCF), in the period 2001-2010.	<p>We highlight the positivist research approach and normative studies;</p> <p>Empirical studies using different statistical tools stand out;</p> <p>The main bibliographic sources are international journals, books and dissertations and theses.</p>
Pedroni et al. (2016)	Examine the accounting research in six academic accounting journals from 1995 to 2014.	<p>The most researched themes in accounting are centred in the area of financial accounting;</p> <p>The most covered topics relate to earnings management, information disclosure, financial statements and capital markets, corporate governance and cost of capital.</p>

Author(s)	Purpose	Conclusions
Bujaki & Mcconomy (2017)	Evaluate the scientific production of Canadian accounting researchers in accounting journals from 2001 to 2013.	<p>Increased research in accounting over the years;</p> <p>41% of publications focus on financial accounting, 26% on auditing, 21% on management accounting, 5% on taxation and 7% on other areas;</p> <p>Women are less likely to be represented in lists of those most published in accounting journals;</p> <p>The University of Toronto has the highest number of publications in the period examined;</p> <p>The most productive individual researchers and the most productive institutions are highly correlated.</p>
Ribeiro (2017)	Analyze the profile and growth pattern of academic production of bibliometric articles in Brazilian journals in Administration, Accounting and Tourism areas from 1999 to 2013.	<p>The journals <i>Administração Contemporânea</i> and <i>Administração de Empresas</i> were the most productive;</p> <p>Bibliometric studies increased from 2007;</p> <p>The most published topics were: education and research in accounting, administration, strategy, management accounting, entrepreneurship, controllership, cost management, people management and marketing.</p>
Rodrigues & Ferreira (2018)	Bibliometric analysis of scientific production in accounting and public management in 2016 and 2017, in three specialty journals.	<p>The research focuses essentially on the European continent;</p> <p>The research carried out by researchers from the United Kingdom stands out;</p> <p>The case study is observed as the predominant methodology and the use of radical/alternative theories to explain the results;</p> <p>Public accounting was in this period the area that aroused the most interest to researchers.</p>

Author(s)	Purpose	Conclusions
Peixe, Rosa Filho & Passos (2018)	Analyze the articles on Public Management and Accountability in the Public Sector in Public Finance journals from 2005 to 2015.	<p>The scientific production in the area of Public Management and Accountability in the Public Sector is still scarce;</p> <p>The period 2010-2013 was the period with the highest number of publications;</p> <p>The most used methodological procedure is the case study;</p> <p>Predominance of descriptive and exploratory research;</p> <p>The research approach used is mostly qualitative;</p> <p>Data collection methods are essentially documental.</p>
Fusco & Ricci (2018)	Analyze the scientific production in socio-environmental accounting applied to the public sector in international academic journals.	<p>The results show that research on social and environmental reporting in the public sector is sparse and still at an early stage;</p> <p>The theme analyzed focuses on the reasons that lead public organizations to report information, the type of information disclosed and how it is done.</p>
Arraes, Fernandes & Silva (2019)	Investigate the publications on Accountability, from January 2013 to March 2018, in two of the main international journals with a qualitative approach in accounting area: Qualitative Research in Accounting & Management and Accounting, Organizations and Society.	<p>The case study, the bibliographic research and the document analysis are the main methodologies used in the studies;</p> <p>The most used data collection method is the semi-structured interview;</p> <p>The United States and the United Kingdom were the countries of origin for most of the authors.</p>
Oliveira et al. (2019)	Carry out a survey of research published in the journal <i>Contabilidade, Gestão e Governança</i> in the period 2015-2018.	<p>The journal's publication history within the analyzed period draws attention to the little variation between the four registered years;</p> <p>The works were published in only two languages;</p> <p>Outstanding authors do not have a high number of publications;</p> <p>The papers are essentially from Brazil.</p>

Author(s)	Purpose	Conclusions
Furtado (2021)	Analyze the research in Accounting in <i>Revista Contemporânea de Contabilidade</i> in 2020.	Most articles published in 2020 are composed of two or more authors; Brazil is the country of origin of authors with more articles published, followed by Colombia and Portugal; The most studied themes are related to the financial accounting and Finance area, followed by management accounting; The database is the main method used in the research.
Baker et al. (2022a)	Critically evaluate the research published by Contemporary Accounting Research between 1984 and 2021.	Research on auditing topics generates more citations than studies examining financial accounting topics; Diversification in terms of author affiliations, subject areas, and research methods.
Baker et al. (2022b)	Investigate the scientific production in the Review of Accounting Studies in its 25 years of existence.	Despite being recent, it is considered a leading magazine in the area of accounting; Diversity of published themes.
Baker et al. (2022c)	Analyze the research published in the Journal of Accounting and Public Policy between 1982 and 2021.	Considerable increase in the journal's productivity and academic influence since 1982; High number of citations to journal articles; Publications by authors from different countries.
Karami, Dolatzarei & Faraji (2022)	Provide a comprehensive overview of behavioral accounting research published in two journals: Behavioral Research in Accounting" and "Advances in Accounting Behavioral Research".	Emerging issues in recent years in the field of behavioral accounting research focus on "audit", "corporate governance", "fraud" and "ethics"; The United States is the country with the largest number of publications in this area.

From the studies presented in Table 2, we find that the predominant area of research is financial accounting, using approaches based on case studies and favoring the use of databases, as a way of collecting information, and work carried out in co-authorship.

We also observed that bibliometric studies on scientific production in accounting, published in specialized journals, were essentially carried out in Brazil and the United Kingdom. It is noteworthy that research in this area is still scarce, which highlights the need to develop more research, constituting an opportunity for future research.

3 Methodology

In order to know a phenomenon without modifying it, we resorted to carrying out a descriptive, exploratory research and bibliometric analysis.

Considering the objective of bibliometric studies, to measure and characterize the scientific production and its dissemination (Roza, Machado & Quintana, 2011), this study intends to analyze and characterize the scientific production in accounting, published in the scientific journal *Intangible Capital*, in the years from 2012 to 2022, to define trends and future research opportunities. The choice of this journal is because it is a recognized journal, providing a great contribution to the development of research and knowledge. We opted for the last eleven years of publications to have a current view of research in accounting published in that journal.

For this, it was necessary to go to the *Intangible Capital* journal website and proceed, in a first phase, in early March 2023, to search for papers in accounting area, among all those published, in the years analyzed. This implied resorting to the bibliographic collection of papers and the analysis of their content as a data collection method.

It should be noted that, as an aid in the classification of items by area, the “JEL Codes” assigned to each item were consulted, with special consideration for code M41 – “Accounting”. However, a more precise filtering was carried out, taking into account the title, abstract, keywords and content of the papers, also considering some papers whose main area was not defined in the JEL Code M41, but which covered accounting themes. This allowed us to restrict our sample to 40 papers.

In accordance with the above, table 3 presents the data related to the operationalization of the research.

Table 3. Research operationalization

Journal	Intangible Capital
Keywords	“Contabilidad” and “Accounting”
Delimitation	Present in the topic (title, abstract, keywords, JEL Codes)
Filter (period)	2012-2022
General Result	40 papers

According to the previous table, the sample is composed of a total of 40 papers in accounting area, which represents about 13% of the total population (the population corresponds to a total of 314 papers published, in all areas, in the journal *Intangible Capital*, in the analyzed years).

Once the papers in the sample were selected, in a second phase, they were analyzed in terms of content, collecting information such as: the number of papers in the sample per year, the areas of accounting addressed, the sector studied, countries study target, research approach, data collection method, type of study (empirical or non-empirical), number of authors per paper (authorship or co-authorship), gender and affiliation of authors (country and institution of origin).

In a third phase, the collected information was centralized in an excel file, using descriptive statistics, which makes it possible to visualize, in a quantitative way, the absolute and relative frequency of the collected data based on the previously established categories, obtaining the results that appear in the next section.

4 Results

A first aspect analyzed concerns the number of papers in the sample per year. Thus, table 4 shows the number of papers in accounting area, published in each of the analyzed years.

Table 4. Number of papers in the sample by year of publication

Year	Number of papers	%
2012	1	2,5%
2013	8	20,0%
2014	5	12,5%
2015	0	0,0%
2016	9	22,5%
2017	7	17,5%
2018	6	15,0%
2019	1	2,5%
2020	2	5,0%
2021	1	2,5%
2022	0	0,0%
Total	40	100,0%

As we can conclude from the table presented, the papers in the sample are mostly from the years 2016 and 2013. Let's say that 42,5% of the papers in the sample were published in these two years.

It was precisely in those two years that the journal in question published more papers, in the total of the different investigation areas. We can even add that, in 2013, papers published in accounting area represent 16% of the total population in that same year; proportion that increases to approximately 18% of the population, in the year 2016.

Also stand out the years 2017 and 2018, with 17,5% and 15% of the sample, respectively.

It should be noted that, in the years 2015 and 2022, no papers in the accounting area were published in the analyzed journal. This fact can be explained, in part, by the fact that special issues of the journal were published in that period, in specific areas other than accounting.

A second aspect analyzed concerns the accounting area in which the sample papers fall. Table 5 presents the result obtained regarding this question.

Table 5 shows a total of 42 papers, this value is because there are two papers that cover more than one accounting area.

Table 5. Paper area

Accounting area	Number of papers	%
Accounting (generic)	4	10%
Financial Accounting	26	62%
Management Accounting	2	5%
Cost Accounting	6	14%
Public Accounting	1	2%
Environmental Accounting	2	5%
Teaching and Research in Accounting	1	2%
Total	42	100%

According to the table 5, papers in the financial accounting area predominate, with 62% of the sample. This conclusion is in line with the conclusions obtained in the studies by Avelar et al. (2012), Ribeiro (2012), Gonçalves (2013), Pedroni et al. (2016) and by Bujaki and McConomy (2017).

This is followed by the cost accounting area, with 14% of the papers in the sample. The least addressed areas of accounting are public accounting and teaching and research in accounting, each with only one paper, representing only 2% of the sample. Contrary to this conclusion, in the studies developed by Ribeiro (2013) and by Ribeiro (2017), the theme of teaching and research in accounting was one of the most addressed. Also contradicting the conclusion obtained here, in the study by Rodrigues and Ferreira (2018), public accounting was, in the analyzed period, the area that aroused the most interest to researchers.

Contrary to the conclusions obtained by Lindquist and Smith (2009), in the Intangible Capital journal there is not a considerable number of papers in the management accounting area, only 5% of the sample studies this subject.

Moving on to a study of the analyzed sector, table 6 shows the number of papers that fall into the private, public, and cooperative sectors.

Table 6. Sectors under study

Sector	Number of papers	%
Private	34	83%
Public	6	15%
Cooperative	1	2%
Total	41	100%

It should be noted that there is one paper dedicated to the public and private sectors, hence the table has a total value of 41.

We conclude from table 6 that 83% of the papers in the sample study the private sector, with only 15% dedicated to the public sector and 2% to the cooperative sector.

Regarding the country studied in the sample papers, table 7 presents the results obtained.

Table 7. Countries studied

Country	Number of papers	%
Spain	26	62%
Portugal	2	5%
France	2	5%
United Kingdom	2	5%
Southeast Asia	1	2%
South Africa	1	2%
Italy	1	2%
Turkey	1	2%
Several countries (not specified) / International view	6	14%
Total	42	100%

Regarding table 7, we found a total of 42 papers, which is due to the fact that there are two papers that study more than one country (one paper studies France and the United Kingdom and another paper studies Italy and the United Kingdom).

From that table, we conclude that the most studied country is Spain with 62% of the papers. Naturally, this conclusion is closely related to the origin of the authors who, as we will see in Table 14, are mostly of Spanish origin. The fact that the Intangible Capital journal is published in Spain may also contribute to this, thus attracting interest for publication by authors from their own country. It should also be noted that there are six papers that develop works covering several countries (not specifying a studied country), giving an international vision to the developed study.

Moving on to the analysis of the applied research approach, this can be qualitative, quantitative, or both approaches can be applied simultaneously. Unlike quantitative research, which resorts to data quantification and statistics to “measure events objectively and precisely” (Proetti, 2017, p. 2), qualitative research does not quantify data, but it is about “a science based on texts (...) interpreted hermeneutically” (Günther, 2006, p. 202). Regarding the research approach, table 8 presents the results obtained.

Table 8. Research approach

Research	Number of papers	%
Qualitative	9	22,5%
Quantitative	19	47,5%
Both	12	30,0%
Total	40	100%

In the sample papers, the quantitative research approach predominates, with 47,5% of the total. Avelar et al. (2012) also reached a similar conclusion in their study. The application of

both approaches is also highlighted, applied in 30% of the papers. The least applied approach is qualitative, with 22,5% of the total. On the contrary, Peixe, Rosa Filho and Passos (2018) concluded, in their study, that the qualitative approach predominates. Regarding the applied data collection method, there can be several, namely: survey, interview, direct observation, document, and content analysis, or resorting solely to the literature review. The results obtained are shown in table 9.

Table 9. Data collection method

Data collection method	Number of papers	%
Survey	6	14%
Interview	2	5%
Direct observation	1	2%
Document and content analysis	29	67%
Literature review (only)	5	12%
Total	43	100%

It should be noted that there are papers that use more than one data collection method, hence a total of 43 papers, as shown in the table above. The predominant data collection method is document and content analysis, applied to 67% of the sample papers. This conclusion is in line with the conclusions obtained by Avelar et al. (2012) and by Peixe, Rosa Filho and Passos (2018).

The application of surveys as a data collection method is carried out in only 14% of the sample papers. On the other hand, the use of only the literature review as a data collection method was only applied in 12% of the papers, which also justifies the fact that the qualitative research approach is the least applied. Interview and direct observation are the least applied data collection methods. In the case of the interview, it may be because the collection of information is slow, resulting in a longer delay in the development of the investigation, which is why authors increasingly resort to alternative methods capable of shortening the investigation time.

About the study type, we can classify them as empirical or non-empirical (theoretical) studies. Table 10 shows the results obtained.

Table 10. Study type

Study type	Number of papers	%
Empirical	35	88%
Non- empirical	5	12%
Total	40	100%

In agreement with the conclusions obtained in the studies developed by Roza, Machado and Quintana (2011), Ribeiro (2012) and by Silva and Zuccolotto (2014), we conclude from table 10 that, in the sample analyzed, empirical studies prevail, representing

88% of the sample. In the sample studied, only five studies are considered non-empirical and correspond precisely to those that only resort to literature review (see table 9).

Now studying the papers characterization considering their authors, table 11 presents the number of papers presented in authorship and in co-authorship.

Table 11. Papers classification by authors.

	Number of papers	%
Authorship	6	15%
Co-Authorship	34	85%
Total	40	100%

According to table 11, the analyzed papers are mostly (85%) elaborated in co-authorship, and only six papers (15%) are presented in authorship. This allows us to conclude that there is an increasing preference for the joint development of papers, sharing knowledge and synergies in their elaboration. Roza, Machado and Quintana (2011) and Ribeiro (2012) also reached the same conclusion, predominating in their studies, papers in co-authorship.

Detailing the research, we proceeded to study the number of authors per paper, obtaining the results shown in table 12.

Table 12. Number of authors per paper

Number of authors	Number of papers	%
1 author	6	15,0%
2 authors	16	40,0%
3 authors	13	32,5%
4 authors	3	7,5%
5 authors	2	5,0%
Total	40	100%

According to table 12, papers in co-authorship with 2 and 3 authors prevail, representing a total of 72,5% of the sample. Co-authorship with 4 and 5 authors is the least prevalent. Furtado (2021) also concluded, in his study, that most published papers are composed of two or more authors.

It is also important to characterize the authors who developed the sample papers. A total of 40 papers has 99 authors, however 24 repetitions were removed, thus totaling 75 authors. These 75 authors were characterized according to their gender and affiliation (country and institution of origin). Table 13 shows the results obtained regarding the authors' gender.

Table 13. Authors gender

Authors' gender	Number of authors	%
Male authors	29	39%
Female authors	46	61%
Total	75	100%

According to table 13, female authors predominate, representing 61% of all authors. Male authors only represent 39% of the total. On the contrary, in the study developed by Ribeiro (2012) male authors predominated.

Regarding their affiliation, the country was studied, as well as their institution of origin. We found that all authors had several universities as their institution of origin. Table 14 shows the number of authors per country and the number of universities where the authors come from in each of these countries.

Table 14. Author's affiliation

Affiliation Country	Number of authors	Number of Universities (authors' affiliation)
South Africa	2	1
Algeria	2	2
Colombia	2	1
Slovakia	4	2
Spain	55	16
Indonesia	3	2
Italy	1	1
Portugal	3	2
Turkey	3	2
Total	75	29

According to table 14, the authors are mostly from Spain, hence, as we have seen, this is the country most studied by the sample papers. The 55 authors of Spanish origin come from 16 different universities. Table 15 shows the origin universities with more authors.

Table 15. Universities with more authors

University	Number of authors
University of Vic (Spain)	11
University of Barcelona (Spain)	7
University Pompeu Fabra (Spain)	6

Since the authors mostly come from Spain, it is understandable that the universities with the most authors coming from them are Spanish universities. Thus, the University of Vic stands out, with 11 authors from this university.

According to other studies analyzed, the authors affiliation essentially predominates in the country in which the journal is edited. For example, in studies such as Furtado (2021) and Oliveira et al. (2019), Brazil is the country affiliation of most of the authors; or by Arraes, Fernandes and Silva (2019), where the predominant countries of authors' affiliation are the United States and the United Kingdom.

5 Conclusions

Considering the current reforms of the national accounting systems of the most diverse countries, with a view to the harmonization of accounting at an international level, accounting has been a topic of interest to many researchers.

Bearing in mind that bibliometric studies make it possible to study the state of scientific production and identify gaps in research, this paper main objective was to contribute, through a descriptive, exploratory, and bibliometric analysis, to a better understanding of the current state of scientific production in the area of accounting, published in the scientific journal *Intangible Capital*, from 2012 to 2022.

From the bibliometric analysis carried out, it was possible to conclude that most of the sample papers are in the area of financial accounting (62%), with the private sector being the most studied with 83% of the papers. In addition, it was concluded that the quantitative research approach prevails (47,5%), followed by papers that apply, simultaneously in their studies, the qualitative and quantitative approaches (30%). As a data collection method, 67% of the papers resort to document and content analysis, with interviews and direct observation being the least applied methods. It was found that the analyzed studies are mostly empirical (88%), with 12% being theoretical (non-empirical) studies that resort only to a literature review as a data collection method. It should also be noted that, regarding the paper's characterization by author, works in co-authorship (85%) with 2 and 3 authors (72,5%) stand out. Finally, and regarding the characterization of the authors, these are mostly female (61%) and come from Spanish universities, which is why Spain is the most studied country in the sample papers.

Considering the results and conclusions obtained, gaps in accounting research were identified that constitute paths to be followed in future investigations. Thus, studies can be developed in the area of public accounting, as well as in education and research in accounting, namely studies applied to the public and cooperative sectors. Accounting research can be developed from a more international perspective, not just studying the countries of origin of the authors. For its preparation, interviews and direct observation may be used as data collection methods; or even just a literature review, resorting more to qualitative research approaches and non-empirical studies, as these are being less and less applied.

As limitations of the study, we can highlight the period of analysis that covered only the years 2012-2022, not covering all the years of publication of the journal under study. On the other hand, the fact that we analyzed only one specialty journal, does not allow us to generalize the results to other journals. Also noteworthy is some uncertainty inherent to the

type of classification and standardization of the studied variables. Nevertheless, we understand that the results of our study can substantially contribute to the growth of publications in the accounting area.

For future research, it is suggested to expand the study to other years of the journal and to other specialty journals, as well as, similarly to Cardoso et al. (2005), the content analysis of papers on a specific theme, as well as the acceptance criteria, in the journal, of accounting texts and the resources needed, to increase research in this area of knowledge. It is also intended to expand the research to other variables such as, for example, the theory supporting the investigation and discussion of the results; the most investigated subtopics within each general area of research; the type of organization studied within each sector; bibliographic sources used, among others. Finally, and given the digital age we live in, it would be equally interesting to carry out a bibliometric study on its relationship with accounting (Rodzi, et al., 2023; Lardo et al., 2022; Thottoli, 2022; Varma, Piedepalumbo, & Mancini, 2021; Alencar & Alves de França, 2020; Chiu et al., 2019; Silva & Niyama, 2019; Kumar, Sharma, & Salo, 2019; Ardianto, & Anridho, 2018).

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References

- Alencar, L., & Alves de França, A. (2020). Contabilidade e Tecnologia: Um Estudo Bibliométrico na Scientific Electronic Library Online (2001-2019), *Id on Line Revista Multidisciplinar e de Psicologia*, 14(50), 83-95.
- Andrade, J., & Muyllder, C. (2010). A Relevância dos Temas Inovação e Qualidade na Pesquisa Contábil: um Estudo Bibliométrico em Eventos Científicos no Brasil, *ABCCustos*, 5(3), 47-65.
- Araújo, C. (2006). Bibliometria: evolução histórica e questões atuais, *Em Questão*, 12(1), 11-32.
- Ardianto, A., & Anridho, N. (2018). Bibliometric analysis of digital accounting research, *International Journal of Digital Accounting Research*, 18, 141-159.
- Arraes, J., Fernandes, W., & Silva, M. (2019). Análise bibliométrica das pesquisas científicas sobre Accountability publicadas entre 2013 a 2018, *Revista de Contabilidade e Gestão Contemporânea*, 2(1), 26-37.
- Avelar, E., Santos, T., Ribeiro, L., & Oliveira, C. (2012). Pesquisa em contabilidade: uma análise dos estudos empíricos publicados em periódicos nacionais entre 2000 e 2009, *Revista Universo Contábil*, 8(3), 6-23.
- Baker, H., Kumar, S., Pandey, N., & Kraus, S. (2022a). Contemporary Accounting Research: A Retrospective between 1984 and 2021 Using Bibliometric Analysis, *Contemporary Accounting Research*, Forthcoming, In SSRN: <https://ssrn.com/abstract=4072988>.
- Baker, H., Kumar, S., Pandey, N., & Srivastava, A. (2022b). The Review of Accounting Studies at age 25: A retrospective using bibliometric analysis, *Review of Accounting Studies*, Forthcoming, In SSRN: <https://ssrn.com/abstract=4220449>.

- Baker, H., Kumar, S., Pattnaik, D., & Pandey, N. (2022c). The Journal of Accounting and Public Policy at 40: A bibliometric analysis, *Journal of Accounting and Public Policy*, 2022, 107003.
- Balstad, M., & Berg, T. (2020). A long-term bibliometric analysis of journals influencing management accounting and control Research, *Journal of Management Control*, 30, 357-380.
- Bharati, S. (2021). A Bibliometric Analysis of Behavioral Finance and Behavioral Accounting, *American Business Review*, 24(2), 198-230.
- Bujaki, M., & Mcconomy, B. (2017). Productivity in Top-10 Academic Accounting Journals by Researchers at Canadian Universities at the Start of the 21st Century, *Accounting Perspectives*, 16(4), 269-313.
- Cardoso, R., Neto, O., Riccio, E., & Sakata, M. (2005). Pesquisa científica em contabilidade entre 1990 e 2003, *Revista de Administração de Empresas*, 45(2), 34-45.
- Cepêda, C., Monteiro, A., Silva, R., & Silva, A. (2021). Accounting history: a bibliometric literature review, *Revista de Contabilidade e Controladoria*, 14(2), 77-105.
- Chiu, V., Liu, Q., Muehlmann, B., & Baldwin, A. (2019). A bibliometric analysis of accounting information systems journals and their emerging technologies contributions, *International Journal of Accounting Information Systems*, 32, 24-43.
- Correia, A. (2013). *A evolução da investigação em contabilidade de gestão nos últimos cinco anos: Accounting, Organization and Society e The Accounting Review*. Master Dissertation in Accounting, ISCTE, Lisboa.
- Cortés-Sanchez, J. (2020). A bibliometric outlook of the most cited documents in business, management and accounting in Ibero-America, *European Research on Management and Business Economics*, 26, 1-8.
- Espejo, M., Cruz, A., Lourenço, R., Antonovz, T., & Almeida, L. (2009). Estado da Arte da Pesquisa Contábil: Um Estudo Bibliométrico de Periódicos Nacional e Internacionalmente Veiculados entre 2003 e 2007, *Revista de Informação Contábil*, 3(3), 94-116.
- Furtado, C. (2021). *A Investigação em Contabilidade: revisão de estudos publicados na Revista Contemporânea de Contabilidade*. Master Dissertation in Accounting and Taxation, Universidade Lusófona de Humanidades e Tecnologias, Lisboa.
- Fusco, F., & Ricci, P. (2018). What is the stock of the situation? A bibliometric analysis on social and environmental accounting research in public sector, *International Journal of Public Sector Management*, 32(2), 207-228.
- Gonçalves, M. (2013). *Caraterização da Investigação em Contabilidade na Accounting and Business Research: Revisão de Estudos entre 2007 e 2011*. Master Dissertation in Accounting and Taxation, ISCTE, Lisboa.
- Günther, H. (2006). Pesquisa Qualitativa Versus Pesquisa Quantitativa: Esta É a Questão? *Psicologia: Teoria e Pesquisa*, 22(2), 201-210.
- İyibildiren, M., Eren, T., & Ceran, M. (2023). Bibliometric analysis of publications on web of science database related to accounting information system with mapping technique, *Cogent Business & Management*, 10(1), 2160584.
- Karami, Gh., Dolatzarei, E., & Faraji, O. (2022). Twenty-One Years of the Behavioral Accounting Research: A Bibliometric Analysis, *Empirical Studies in Financial Accounting Quarterly*, 19(75), 165-201.
- Kumar, P., Sharma, A., & Salo, J. (2019). A bibliometric analysis of extended key account management literature, *Industrial Marketing Management*, 82, 276-292.

- Lardo, A., Corsi, K., Varma, A., & Mancini, D. (2022). Exploring blockchain in the accounting domain: a bibliometric analysis, *Accounting, Auditing & Accountability Journal*, 35(9), 204-233.
- Lindquist, T., & Smith, G. (2009). Journal of Management Accounting Research: Content and Citation Analysis of the First 20 Years, *Journal of Management Accounting Research*, 21, 249-292.
- Merigo, J., & Yang, J.-B. (2017). Accounting Research: A Bibliometric Analysis, *Australian Accounting Review*, 27(1), 71-100.
- Monteiro, A., & Cepêda, C. (2021). Accounting Information Systems: Scientific Production and Trends in Research, *Systems*, 9, 67.
- Muteliha, J., & Machado, M.J. (2013). A Investigação em Contabilidade de Gestão no Século XXI: Revisão de Estudos Publicados na Management Accounting Research, *Revista Iberoamericana de Contabilidad de Gestión*, XI(2), 1-19.
- Oler, D., Oler, M., & Skousen, C. (2010). Characterizing Accounting Research, *Accounting Horizons*, 24(4), 635-670.
- Oliveira, M., Porte, M., Sampaio, E., & Pereira, N. (2019). Pesquisa Bibliométrica da Produção Científica da Revista Contabilidade, Gestão e Governança no Período 2015-2018, *Revista Onis Ciência*, VIII(23), 39-56.
- Pedroni, V., Guerrazi, L., Serra, F., & Albanese, D. (2016). Investigación contable, un estudio bibliométrico: identificación de publicaciones relevantes y examen de la estructura intelectual, *Revista Contemporânea de Contabilidade*, 13(53), 53-91.
- Peixe, B., Rosa Filho, C., & Passos, G. (2018). Governança pública e Accountability: uma análise bibliométrica das publicações científicas nacionais e internacionais, *Revista Contemporânea de Contabilidade*, 15(36), 77-96.
- Poje, T., & Groff, M. (2022). Mapping Ethics Education in Accounting Research: A Bibliometric Analysis, *Journal of Business Ethics*, 179, 451-472.
- Proetti, S. (2017). As pesquisas qualitativa e quantitativa como métodos de investigação científica: um estudo comparativo e objetivo, *Revista Lumen*, 2(4).
- Quesado, P., & Rua, S. (2019, 1-2 February). A investigação em contabilidade no ensino superior politécnico em Portugal: uma análise bibliométrica. In *III International Forum on Management (IFM) Proceedings*, Évora.
- Quesado, P., & Rua, S. (2020, 5-7 March). Produção científica sobre contabilidade: um estudo de caso no ensino superior. In *IV International Forum on Management Proceedings*, Lisboa.
- Quesado, P., Rua, S., & Cardoso, C. (2021). Research in accounting: the case of Portuguese polytechnic higher education, *European Journal of Applied Business and Management (EJABM)*, 7(2), 21-35.
- Ribeiro, H. (2013). Revista Contemporânea de Contabilidade: uma análise do perfil da produção académica durante o período de 2004 a 2012, *Revista Contemporânea de Contabilidade*, 10(20), 3-28.
- Ribeiro, H. (2017). Bibliometria: quinze anos de análise de produção académica em periódicos brasileiros, *Biblios*, 69, 1-20.
- Ribeiro, J. (2012). *European Accounting Review: O Perfil da Investigação em Contabilidade na Europa*. Master Dissertation in Accounting, ISCTE, Lisboa.
- Rodrigues A., & Ferreira, A. (2018). Contabilidade e gestão pública: análise bibliométrica. In *XVIII Encontro AECA Proceedings*. Lisboa: ISCTE.

- Rodrigues, M., Alves, M.C., Oliveira, C., Vale, V., Vale, J., & Silva, R. (2021). Dissemination of social accounting information: A bibliometric review, *Economies*, 9(1), 1-25.
- Rodzi, N., Rahman, N., Noor, A., & Noor, M. (2023). Exploring Cloud Computing in Accounting Research Publication using a Bibliometric Analysis, *Jurnal Intelek*, 18(1), 176-185.
- Roza, M., Machado, D., & Quintana, A. (2011). Análise bibliométrica da produção científica sobre contabilidade pública no Encontro de Administração Pública e Governança (ENAPG) e na Revista de Administração Pública (RAP), no período 2004-2009, *ConTexto*, 11(20), 59-72.
- Rua, S., Silva, R., & Quesado, P. (2022, 14-15 July). Research in Public Accounting in the Years 2010 to 2020: A Bibliometric Analysis. In proceedings of the *International Conference on Applied Business and Management* (pp. 1087-1114), Porto.
- Scapens, R., & Bromwich, M. (2010). Management Accounting Research: 20 years on, *Management Accounting Research*, 21(4), 278-284.
- Silva, F., Santos, E., Brandão, M., & Vils, M. (2016). Estudo bibliométrico: orientações sobre sua aplicação, *Revista Brasileira de Marketing*, 15(2), 246-262.
- Silva, M. (2017). *Investigação em Auditoria Interna – Uma Análise Bibliométrica*. Master Dissertation in Accounting, Universidade de Aveiro, Aveiro.
- Silva, M., & Niyama, J. (2019). Bibliometric analysis of the evolution of scientific research in international accounting in the main English language journals, *Revista Ambiente Contábil*, 11(2), 65-87.
- Silva, S., & Zuccolotto, R. (2014). Propriedades dos estudos de teoria da contabilidade em um periódico científico brasileiro, *Enfoque: Reflexão Contábil*, 23(2), 35-53.
- Thottoli, M. (2022). Trending technology hashtags in the field of accounting: a bibliometric analysis, *LBS Journal of Management & Research*, 20(1-2), 34-56.
- Varma, A., Piedepalumbo, P., & Mancini, D. (2021). Big Data and Accounting: A Bibliometric Study, *The International Journal of Digital Accounting Research*, 21, 203-238.
- Yoshida, N. (2010). Análise bibliométrica: um estudo aplicado à previsão tecnológica, *Future Studies Research Journal*, 2(1), 52-84.