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Trending technology hashtags in the field of accounting: a bibliometric analysis

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Abstract

Purpose – This research aims to intuit the trending technology hashtags (artificial intelligence (AI), blockchain, big data, cloud, enterprise resource planning (ERP), information and communication technology (ICT)) in the field of accounting by providing a bibliometric overview of research articles published in 28 years.
Design/methodology/approach – A bibliometric analysis of R software was used in this study. The Scopus database was considered to identify the broad research trends related to technology hashtags in the field of accounting from 1984 to 2021, as well as to gain a better understanding of the growing technology research hashtags in that period.
Findings – The bibliometric analysis reveals that the trending research topic focused on technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting has become important after 2010, as references and number of publications found before that year are scarce. The six trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) framework for accounting were outlined in this study.
Research limitations/implications – This research examined the trending technology hashtags in the field of accounting. Only scientific papers published in the Scopus database were analyzed.
Practical implications – This research will be able to understand the trending technology hashtags in the field of accounting, as it identifies the most frequent words, cloud (146), big data (91), AI (65), ERP (76), blockchain (6) and ICT (14). It also aids practitioners and scholars in detecting gaps in the existing literature as well as future research trends.
Originality/value – This research result could be a useful resource for researchers, practitioners and accounting professionals who are interested in the latest technology hashtags in the field of accounting. The current research establishes a new framework on the role of trending technology hashtags in accounting research (accounting technology hashtags, framework) comprising of six research pathways (RP) in the four branches of accounting that future researchers can use to think about and construct their study designs in the field of accounting.

Keywords Accounting, Artificial intelligence, Blockchain, Big data, Cloud, Enterprise resource planning, Information communication technology

Paper type Research paper

1. Introduction

The accounting field underwent a significant technological revolution around the end of the 20th century. The accounting field is rapidly changing due to efficiency made possible by emerging technologies. The evolution of vibrant accounting technologies has resulted in an increase in the automation of accounting systems. General electric is credited as being the first corporation to implement a computerized accounting system in 1954. Presently, accounting is a field where information technology (IT) has become well-known in this fourth industrial revolution (4IR) era, as businesses use cutting-edge technologies in their day-to-day

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operations. The use of technology makes it easier to keep track of a company's financial transactions. As a result of advances in IT, artificial intelligence (AI), blockchain, big data, cloud, enterprise resource planning (ERP) and information communication technology (ICT) have all emerged. Therefore, it is worth understanding how the evolution of technological hashtags has changed over time in the accounting profession.

AI systems have a level of consciousness that is as near to that of humans as possible. AI can mimic human-like activities and retorts in the right perspective and will have self-driven thoughts and responses (Reynoso, 2019). AI, the philosophy of robots thinking, behaving and performing in the same or comparable ways as humans) has inadvertently entered the corporate world as a necessary activity (Dhamija & Bag, 2020). Blockchain technology is considered the most turbulent and effective technology tool which have been used in latest years, and also introduces a whole new method of recording, classifying, summarizing and storing accounting transactions (Lu, Huang, Azimi, & Guo, 2019; Maffei, Casciello, & Meucci, 2021; Tan & Low, 2017). Financial information is more transparent, more reliable and more auditable with blockchain technology in the accounting field (Tiron-Tudor, Deliu, Farcane, & Dontu, 2021). Evolving smart technologies, such as big data internet of things (IoT), AI and blockchain, may perhaps direct the need for implementing an open and flexible system to maintain accounting transactions through knowledge translation in the accounting field (Kozlowski, 2018; Stainbank & Gurr, 2016). Accountants who have a comprehensive knowledge of the big data life cycle and data governance will be able to continue and improve their role as custodians of accounting data in the 4IR era (Coyne, Coyne, & Walker, 2018). The transition of traditional accounting to the cloud is considered a new solution that can save a great deal of assets by small and medium enterprises. Cloud facilitates to provide everything from organization website, email and company's digital store to consummation with firm accounting. On a worldwide scale, the significance of cloud computing is apparent, and it will also serve as a foundation for future financial market revolutions (Moudud-Ul-Huq, Asaduzzaman, & Biswas, 2020). ICT has long been regarded as a critical component of a successful and efficient accounting system, with the potential to considerably improve companies' operational performance (Thottoli, 2021). ICT has a major role in how accounting professionals conduct audits (Thottoli, Thomas, & Ahmed, 2019).

Despite the fact that technology has improved tremendously, the accounting profession continues to face many challenges as a result of recent technological advancements in AI, blockchain, big data, cloud, ERP and ICT. The fast-changing nature of IT technologies is one of the challenges that an accounting firm would confront while investing in IT. A socio-cultural perspective on technology encourages one to question long-held accounting assumptions, allowing one to consider more futuristic accountability models (McGuigan & Ghio, 2019). Many issues arise as a result of blockchain technology, particularly in the field of accounting and auditing (Secinaro, Dal Mas, Brescia, & Calandra, 2021).

The majority of the research focuses on a single accounting technology hashtag of AI, blockchain, big data, cloud, ERP or ICT. However, academicians and researchers have been looking for recent trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting. Thus, the main aim of this paper is to intuit the trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting by providing a bibliometric overview of research articles published over 28 years.

By discovering the trending technology hashtags in the field of accounting, the researchers can support scientific and academic development. Hence, this study addressed the following research questions:

RQ1. Which journals and articles have published the highest number of articles on accounting technologies?

RQ2. What are the trending technology hashtags (frequently appearing keywords) in the field of accounting?

RQ3. What are the future avenues for research in the field of accounting technologies?

This paper structured as its first section as an introduction followed by section 2, review of literature, section 3, the research methodology, section 4, results, section 5, discussion, section 6 conclusions and section 7 describes limitations and implications of the study.

2. Review of literature

The growing trend of technological advancements in the field of accounting, its challenges and trending topics such as AI, blockchain, big data, cloud, ERP and ICT are important among academicians and researchers. Gray, Chiu, Liu, and Li (2014) assessed the efficiency of AI research in the accounting profession and came to know that the research on the expert system was at its peak in the early 1990s.

Pizzi, Venturelli, Variale, and Macario (2021) examined the implications of digital transformation on management auditing using bibliometric analysis. Centobelli, Cerchione, Del Vecchio, Oropallo, and Secundo (2022) seek to develop, build and assess a blockchain platform in the accounting domain from the perspective of the ecosystem. Lombardi, de Villiers, Moscariello, and Pizzo (2021) and Lamboglia, Lavorato, Scornavacca, and Za (2021) were presented as comprehensive review of blockchain technology's impact on auditing, including content and bibliometric analysis, with the goal of identifying trends of research areas, and a future research agenda. Abad-Segura and González-Zamar (2020) seek to analyze present and future paths of research on new technologies in corporate accounting around the world from 1961 to 2019. To do so a bibliometric method has been applied to 1126 research papers on the subject in order to acquire data on scientific production and the key subject areas. Arnaboldi, Busco, and Cuganesan (2017) drew an agenda for exploring the link among technology-enabled networks, for instance, big data and the functions of accounting. The impact of cloud computing on global accounting information systems was substantiated by Moudud-Ul-Huq *et al.* (2020). The effect of proficiency and use of the latest accounting computer software among small and medium entrepreneurs (SMEs) were studied by Thottoli (2021).

Synthetic intelligence or computer system intelligence that models mental processes is known as AI. Reactive AI systems are a fundamental type of post-event normative AI. A limited memory AI system has derived from previously realized information, events or stored data (Shaffer *et al.*, 2020). One of the simplest methods for centralizing all accounting-related operations is through AI. Recently, it appeared that the advancement of big data and supercomputing technology has empowered AI (Duan, Edwards, & Dwivedi, 2019). The use of AI for control is found to be severely constrained, and complexity and cybernetics viewpoints are investigated by Losbichler and Lehner (2021) and they offer a variety of potential research directions that could revolutionize the use of AI in accounting management. Research streams of impact, innovation, AI and implication in the accounting field are considered technologies as the main factors that affect the accounting environment in specific situations in which it necessitates new and updated skills, proficiencies and abilities (Mancini, Lombardi, & Tavana, 2021). According to Chakraborty and Kar (2017), swarm intelligence is considered a crucial component of AI, that is progressively rising to prominence as more challenging situations call for solutions that may be less-than-ideal but are nonetheless feasible within a reasonable time. According to Hakim and Bahari (2021), the research study on blockchain technology in business management and accounting began in 2016 and found a threefold spike in 2019, later on with continuing growth. However, it is apparent that blockchain technology

research in the fields of business, management and accounting is on the upswing, though still in its initial phases and is expected to grow substantially in the future. As businesses prepare to use their information assets to create a competitive advantage, the relevance of big data science and big data analytics is rapidly increasing. Big data analytics' versatility enables both functional and organizational performance (Grover & Kar, 2017). The interest and demand for big data will remain to rise and it has been suggested to integrate big data into the curriculum by the educational institutions. To enhance forensic accounting practice, it was also suggested that big data topics be integrated into the forensic accounting curriculum (Rezaee & Wang, 2019). Because of the political and social sustainability needs imposed by smart city programs, the ERP system has begun as a new management accounting system (Alsaid, 2022). It has been proven that three factors of ICT, notably, ICT competency, ICT adoption and ICT training, have a significant relationship with audit practice; however, ICT confidence has shown a negative relationship. Thus, the appointment of ICT-competent employees, their ICT proficiencies and adequate ICT training helps practicing audit firms in executing audit tasks by applying customized audit software (Thottoli and Thomas, 2020). In order to support information-based decision-making in the finance sector, Singh *et al.* (2022) studied to analyze the advancements and applications of deep learning, reinforcement learning and deep reinforcement learning strategies.

Bibliometric tools are a meta-analytical scientific tool that encapsulates a group of bibliographic articles by examining their citations and co-citations with quantitative approaches to reveal the interconnectedness between publications based on numerous parameters. The bibliometric process identifies the most important research subjects for a specific topic (Mishra, Gunasekaran, Papadopoulos, & Dubey, 2018; Kim & McMillan, 2008; Apriliyanti & Alon, 2017; Martı nez-Lopez *et al.*, 2018). Researchers, Zupic and Čater (2015) and Dolhey (2019) are interested in their bibliometric studies in demonstrating a picture by presenting the research field by considering the keywords, citations, most relevant affiliations and bibliographic coupling of researchers.

3. Research method

3.1 Method

In recent times, bibliometric analyses have become more widely recognized across a range of academic disciplines (Turzo, Marzi, Favino, & Terzani, 2022). However, the level of transparency and reproducibility of such research was frequently undermined by the insufficient disclosure of the procedure for data collection, processing and analysis. From these principles, the author attempted to provide a novel, repeatable and transparent approach in the current study that academics might readily use in their upcoming studies.

Hence, a bibliometric analysis of R-tool software application called Bibliometrix was used in this study (Aria & Cuccurullo, 2017) for data analysis. The Scopus database was considered to identify the broad research trends related to technology hashtags in the field of accounting from 1984 to 2021, as well as to gain a better understanding of the growing technology research hashtags in that period. A bibliometric method is used to assess the research trends in accounting and technological innovation (Castriotta, Loi, Marku, & Naitana, 2019). A quantitative technique is used in the bibliometric analysis for the presentation, analysis and monitoring of published research articles. By offering a comprehensive, transparent and consistent review process, the bibliometric approach has the potential to improve review quality. Bibliometric approaches can be quite useful in literature studies (Aria & Cuccurullo, 2016). Even before the scholar starts reading, he or she is directed to the most influential publications, and the research areas are mapped objectively (Zupic & Čater, 2015).

The selection of research publications for bibliometric research analysis is crucial in ensuring validity and consistency. Selection of articles included were only those with a focus on the business management discipline contributed to the subject of trending technology hashtags in the field of accounting. Figure 1 shows a three-step procedure (setting up the database, refining data and analysis of data) for selecting research publications and interpreting the results (adapted from Za & Braccini, 2017). To begin, the researchers try to find a database with bibliometric data and then filter the main document set. The data set was able to understand the trending technology hashtags in the field of accounting, as it identifies the most frequent words ($n = 398$ publications) such as cloud (146), big data (91), AI (65), ERP (76), blockchain (6) and ICT (14).

3.2 Collection of data

The initial step was to conduct a search of the Scopus database using a broad research query. Scopus database is a well-known database that has significant coverage for peer-reviewed articles. It is considered as the most reputable database for the bibliometric type of research since it provides a comprehensive and high-impact data collection (Meho & Yang, 2007). The procedure was connected with a set of research queries initiated with literature papers related to recent technology and accounting (Caputo, Marzi, Pellegrini, & Rialti, 2018).

The resultant query was indeed the product of multiple iterations aimed at defining a research question as widely as possible to grab all relevant papers. The query was included

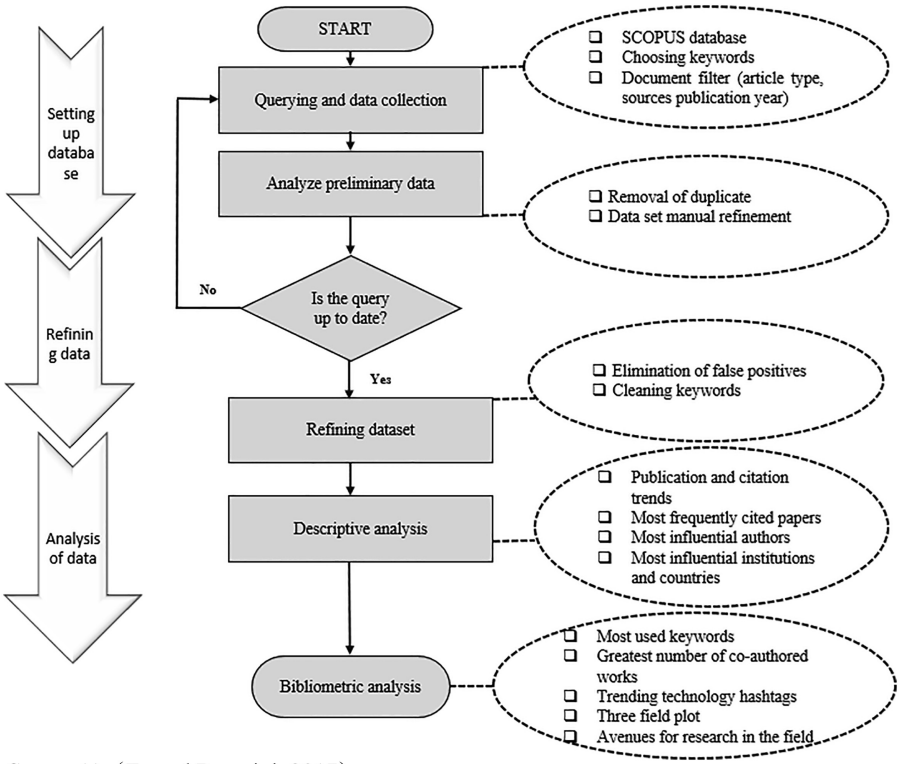

Figure 1.
Research etiquette

Source(s): (Za and Braccini, 2017)

as: "artificial intelligence" OR "AI" OR "blockchain" OR "big data" OR "bigdata" OR "cloud" OR "enterprise resource planning" OR "ERP" OR "information communication technology" OR "ICT") AND (accounting). Individually, the Scopus searches were performed using the previously specified keywords. The researchers made a detailed search that was restricted under titles. There were 398 articles generated in the process.

3.3 Analysis

The analysis (Table 1) revealed the details of the main information about data (timespan sources, documents, average years from publication, average citations per document, average citations per year per document and references); document type (article, book, book chapter, conference paper, editorial, note and review); document contents (keywords plus, author's keywords); authors (authors, author appearances, authors of single-authored documents and authors of multi-authored documents); and authors collaboration (single-authored documents, documents per author, authors per document, co-authors per document, collaboration index).

Description	Results	Percentage
Main information about data		
Timespan	1984:2022	
Sources (journals, books, etc.)	235	
Documents (*n*)	398	
Average years from publication	5.31	
Average citations per documents	458.5	
Average citations per year per document	143.4	
References	10660	
Document type		
Article	162	40.70%
Book	1	0.25%
Book chapter	21	5.28%
Conference paper	200	50.25%
Editorial	1	0.25%
Note	5	1.26%
Review	8	2.01%
n	398	100%
Document contents		
Keywords plus (ID)	1608	
Author's keywords (DE)	888	
Authors		
Authors of single-authored documents	96	11.58%
Authors of multi-authored documents	733	88.42%
Authors	829	100.00%
Authors collaboration		
Single-authored documents	118	
Documents per author	0.48	
Authors per document	2.08	
Co-authors per documents	2.4	
Collaboration index	2.62	

Table 1.
Main information

4. Results

The bibliometric analysis is presented in different sections which include journals publication related to accounting technologies, most cited papers and citations by year, most influential authors, most influential institutions and countries, authors number of coauthored works, corresponding authors coauthorship, frequently appearing keywords (trending technology hashtags in the field of accounting).

4.1 Most cited papers and citations by year related to accounting technologies

Only a little number of research studies has been done on trending hashtags in the field of accounting. Figure 2 shows for the past 28 years, the articles production rate is 10 articles per year, the mean total citation per article is 158, and the mean total citation per year is 41. Though, in the past 11 years, it has slightly increased to 32 articles per year. The average number of citations per article per year, in which the past 11 years from 2010 onward have shown the maximum number of citations – by an average of 300 to 500 citations per year. The most prolific year was 1984–2021. It also shows that there has been a significant increase in interest in the field of accounting technologies from 2011 onward.

4.2 Keyword, title, authors three-field plot

Figure 3 depicts the relationships between the author's keywords, title and authors. The "three fields plot" was used in this study to explore the relation between three different types of data. Only 20 keywords are used in Scopus-indexed articles, according to the analysis of the relationships between keywords, titles and authors. Big data, cloud computing, cloud accounting, ERP and AI are among the most frequently used keywords. Thus, it is thought-provoking to find the trending technology hashtags of the issues referred to by the articles. Despite the fact that it is in the "accounting" field of Scopus-indexed journals, it pays close attention to challenges in the field of accounting that are related to trending technology hashtags. Even though this study uses 20 of the keywords, the emphasis in the field of accounting is on technological hashtags.

The study looks at the highly prominent contributions in respect of most local cited sources with total local citations (Figure 4), indicates that the *International Journal of Accounting Information Systems* is the most-cited journal with 147 citations followed by *Management Accounting Research* 115, *Journal of Information Systems* 99, *Accounting Horizons* 86 and so on. *International Journal of Accounting Information Systems* journal is having the highest number of citations than any other journal in this discipline.

4.3 Source local impact by H *index and source growth over time:*

Trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting have the highest source local impact with 21 as portrayed in Figure 5.

4.4 Most influential authors

Figure 6 shows the top 20 relevant authors by a number of articles and the top 20 relevant local cited authors, respectively, for papers published between 1984 and 2021.

4.5 Author productivity

The articles examined were contributed by a total of 829 authors. Each author's contribution to the overall number of articles shown in Table 2 reveals that most of the authors 742 (89.51%) published only one article, whereas 61 (7.36%) authors have published two articles; 16 (1.93%) authors have published three articles; six (0.72%)

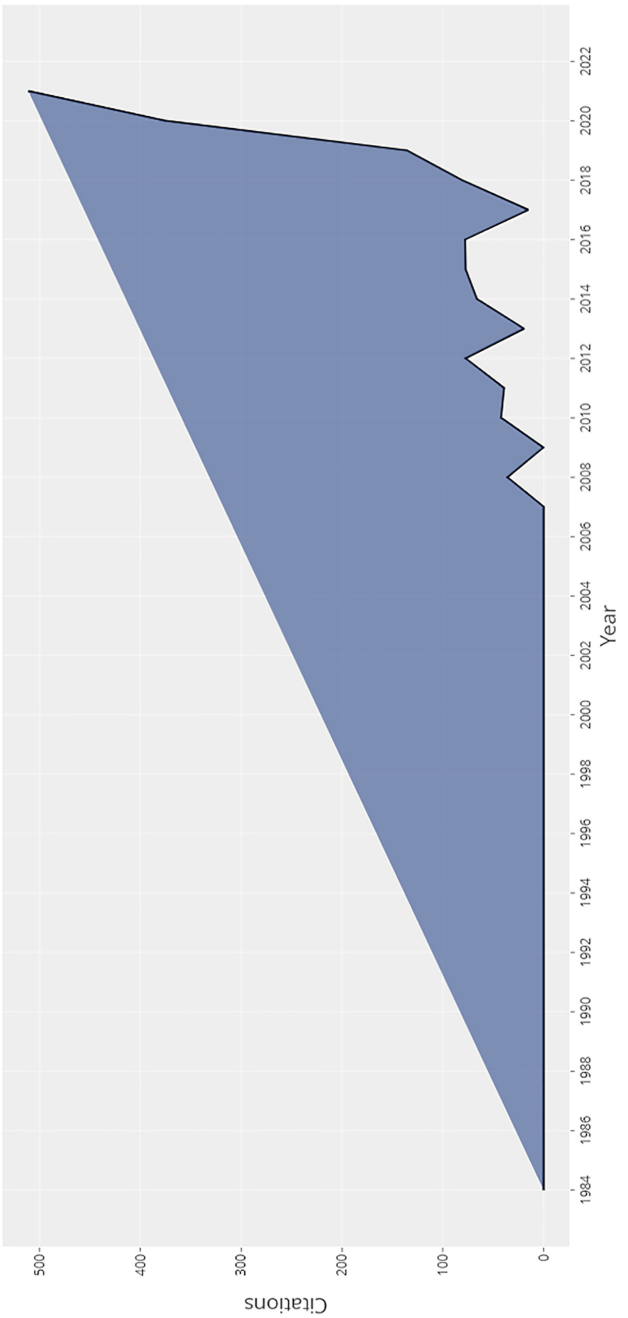

Figure 2.
Average article citations per year

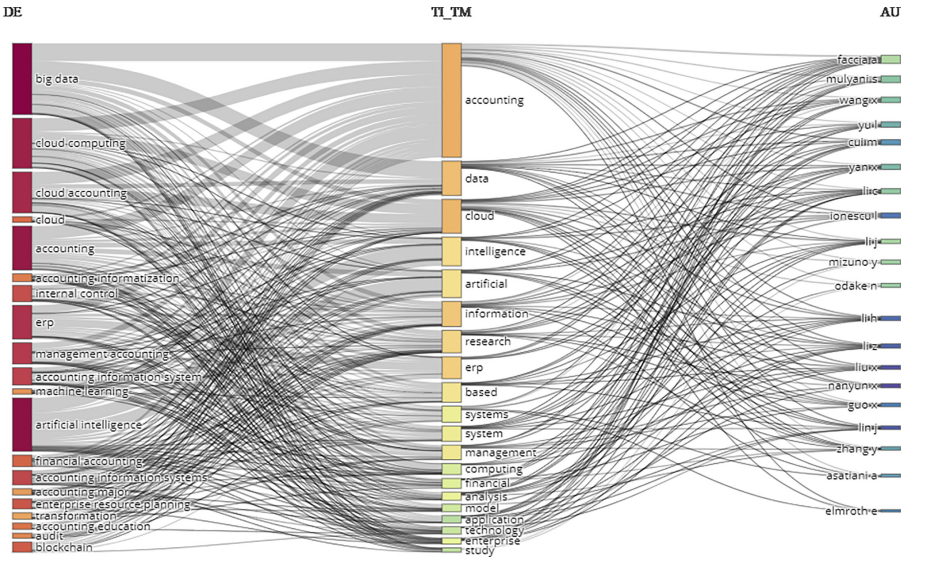

Figure 3.
Three-field plot

authors have published four articles; and only four (0.48%) authors have published five articles. Thus, the number of contributions to more than one article is much less in number that is 87 (10.49%).

Lotka's law (Lotka, 1926) indicates that the number of authors who make n contributions is approximately $1/n^2$ of those who make one contribution, within which n is frequently close to 2. The number of authors producing n articles is approximately proportional to $1/n^2$. If a hundred authors each contribute one paper at a certain period, 25 authors will contribute two articles, 11 will contribute three and so on. Therefore, in the current study Lotka's law was used to determine the number of predicted authors for a certain number of published papers. Given that, 742 authors have contributed only one paper each and the value of n will be derived easily. The following findings in Table 3 were obtained by setting the value of "n" to 2.

4.6 Most influential institutions and countries

4.6.1 Most 20 influential institutions. This section presents the most 20 prominent institutions about trending technology hashtags in the field of accounting that have related to this research. The number of articles published, as well as their affiliation is shown in Figure 7. Jilin Engineering Normal University and the University of Victoria are at the top in terms of the overall number of articles published.

4.7 Most influential countries

With 62,652 citations, China seems to be the most relevant country in terms of overall citations, followed by the USA with 6,039 citations. Though, on the extent of average citation per article, surprisingly, countries such as the Philippines, Spain and Korea are highest in the record with an average citation of 2021, 2011 and 1005.5, respectively. The most influential countries on this list are Sweden and Brazil with a number of average citations per article at 678.333 and 506.5, respectively (see Table 4).

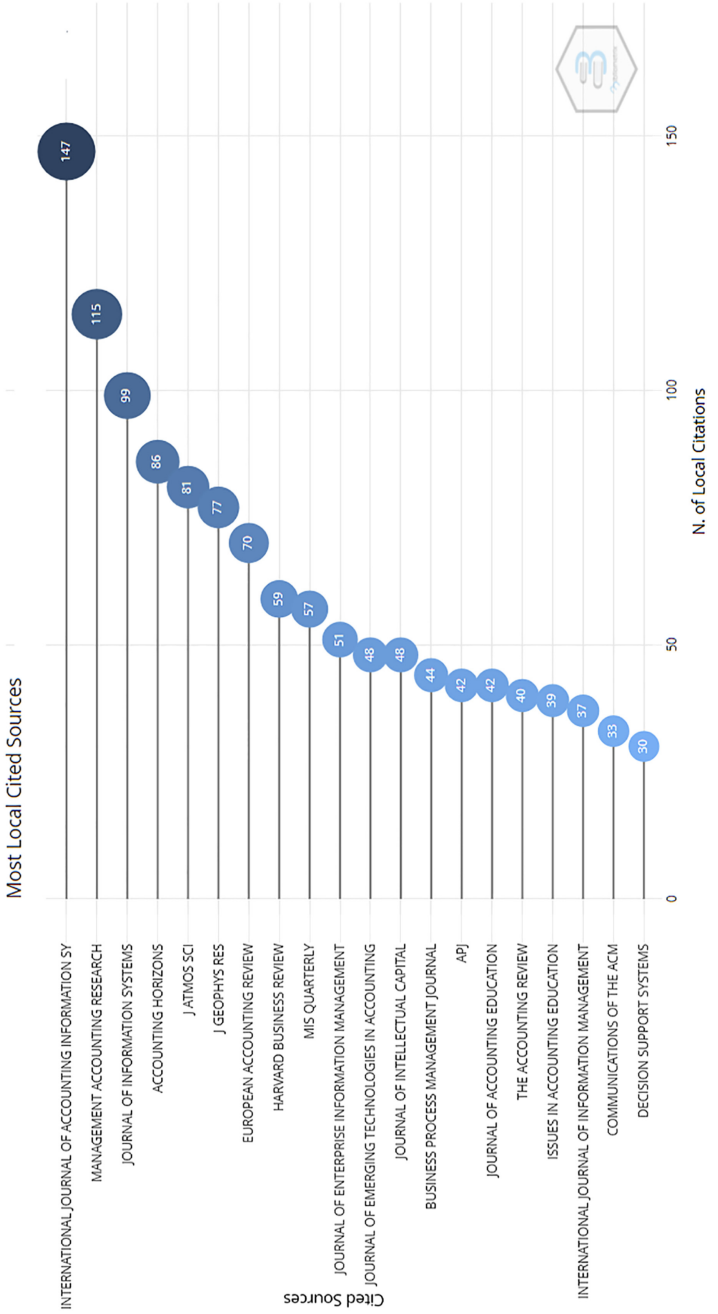

Figure 4.
Most local cited sources

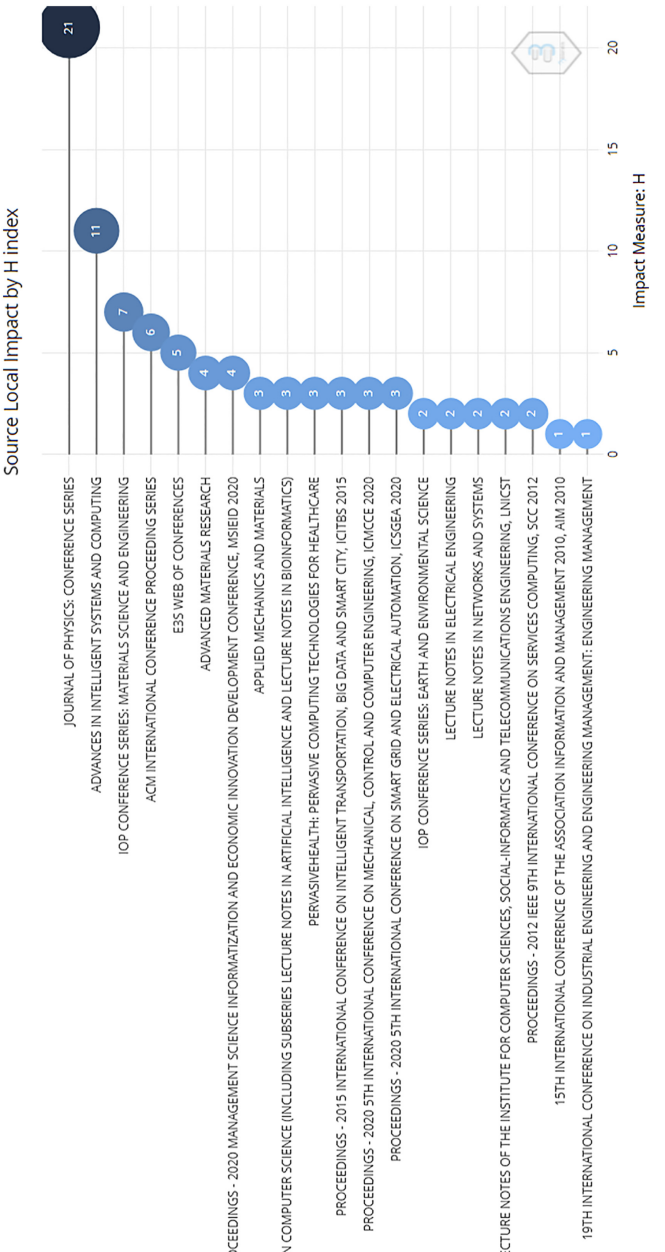

Figure 5.
Source local impact by *H* index

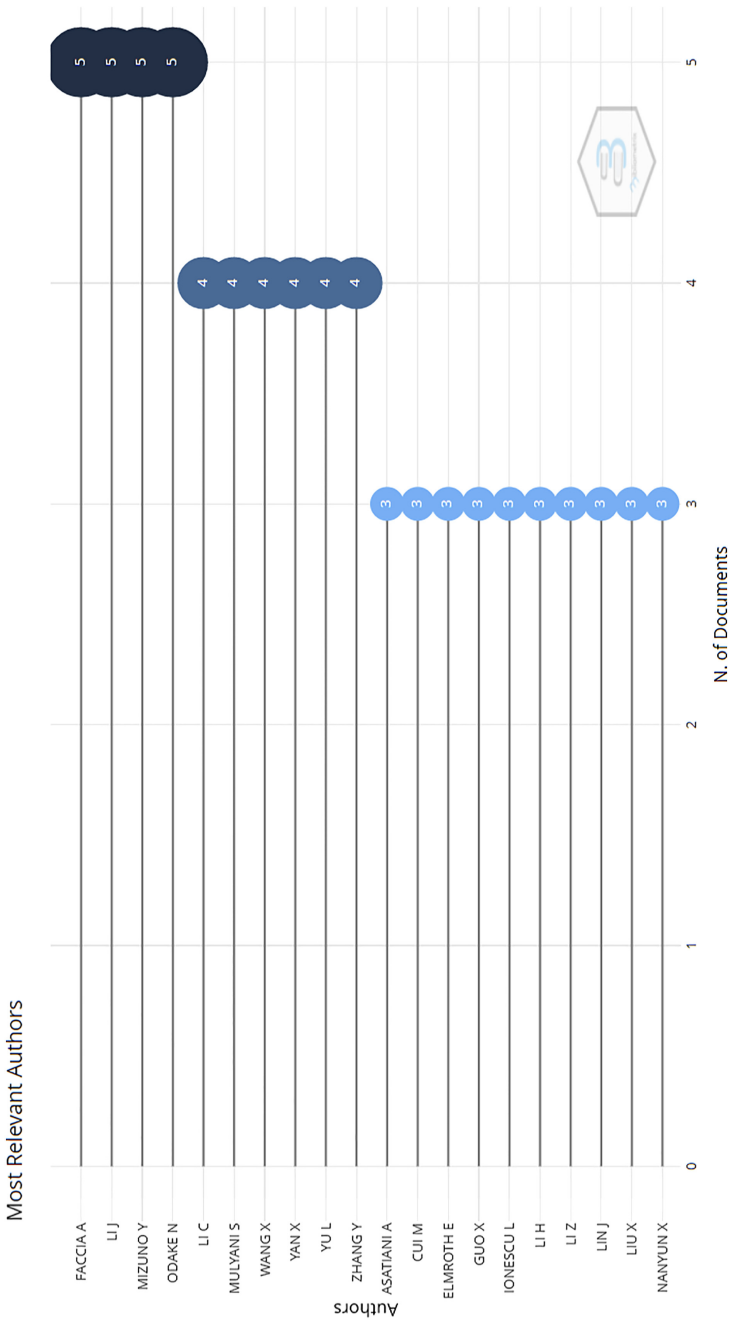

Figure 6.
Most influential authors

4.8 Authors' number of co-authored works

Table 5, author local impact by *h*-index, shows the most influential of five authors including their *h*-index, *g*-index, *m*-index, total citation (TC), number of articles published on each journal (NP) and publication year of a given period of the study with regards to trending technology hashtags in the field of accounting. Two of the authors, Al Naqbi MYK and Capitanio F, have an h-index of 2, while the rest 18 have an h-index of 1.

4.9 Corresponding authors' co-authorship

4.9.1 Co-occurrence network. The author's keyword co-occurrence network identified a total of 39 keywords for the total publications, which were divided into four clusters. As shown in Figure 8, "Big data," "cloud accounting," "cloud computing," "artificial intelligence" and "ERP" were the most often used co-occurrence keywords.

Figure 9 depicts a collaboration network between some of the top four institutions; networks nodes represent institutions and edges reflect collaborations. The thickness of the lines in this diagram shows the number of times the four institutions have collaborated between Coventry University, American University, American University in the Emirates academic city and the American University of Malta Triq Dom Mintoff.

The global collaboration network between countries is depicted in Figure 10, which is shown in four clusters with distinct colors, such as red, blue, green and purple. The red cluster is basically made up of countries such as China, the USA, Canada and Finland. The blue cluster includes the United Kingdom, Australia, Italy and Malta. The green cluster includes Saudi Arabia, India and Jordan, while the purple cluster includes Portugal and Brazil. This could be related to the fact that trending technology hashtags are used by countries in a variety of ways in the field of accounting.

4.10 Frequently appearing keywords (trending technology hashtags in the field of accounting):

As illustrated in Figure 11, the core emphasis of trending hashtags in the field of accounting, "cloud", began in the year 2000. The period among the years 2010 to 2021 is a key period in the use of trending technology hashtags in the field of accounting area in which the technology topics grew with the high occurrence such as "big data", "artificial intelligence," "cloud

Table 2. Author productivity

Number of papers	Authors (observed) Number	(%)
1	742	89.51
2	61	7.36
3	16	1.93
4	6	0.72
5	4	0.48

Table 3. Number of expected authors derived with the value of $n = 2$

Number of papers	Number of authors (observed)	Number of authors (expected)
1	742	742
2	61	186
3	16	82
4	6	46
5	4	30

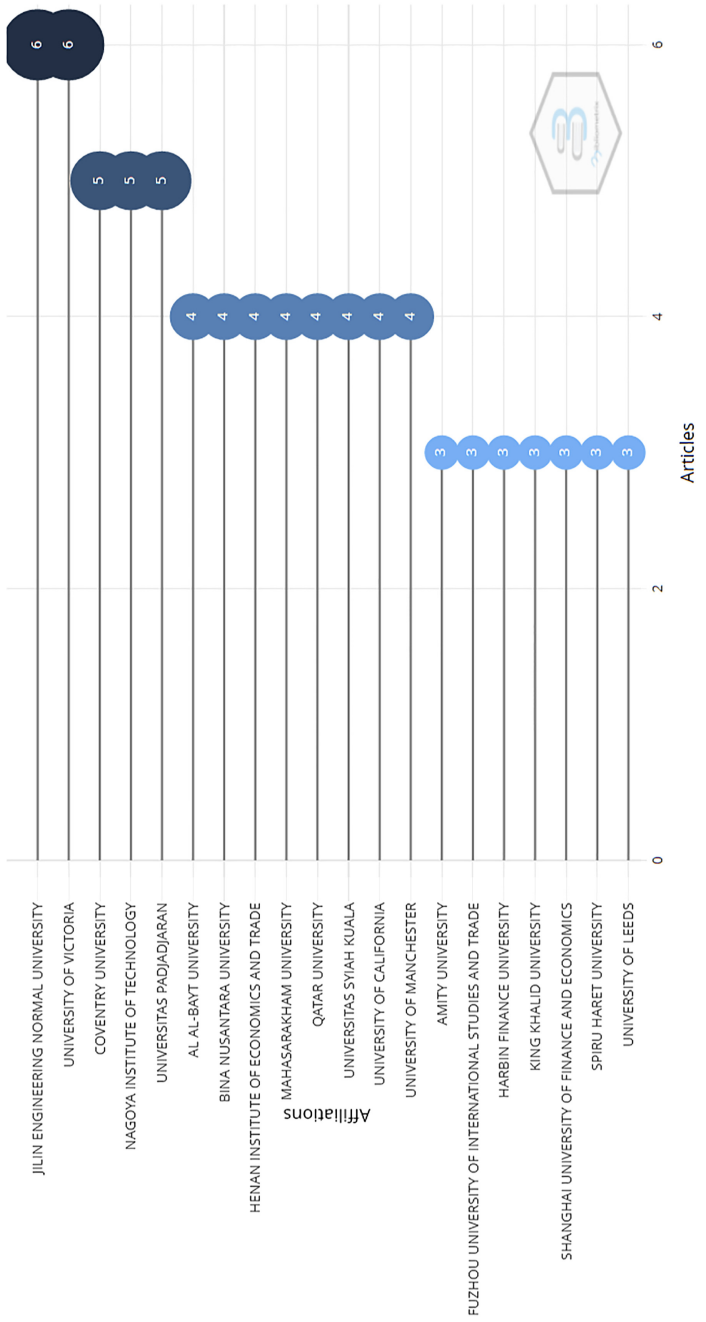

Figure 7.
Most influential institutions

Country	Total citations	Average article citations
China	62652	858.247
USA	6039	172.543
Sweden	2035	678.333
Brazil	2026	506.5
The Philippines	2021	2021
Korea	2011	1005.5
Spain	2011	2011
Germany	47	23.5
Australia	21	10.5
France	15	7.5
Poland	12	6
Iran	11	3.667
Indonesia	7	1.167
Slovenia	5	5
Saudi Arabia	4	1.333
The Czech Republic	3	0.6
Canada	2	0.2
India	2	0.667
Japan	2	2
Austria	0	0

Table 4.
Most influential countries

Authors	*h*_index	*g*_index	*m*_index	TC	NP	PY_start
Aarnikoivu A	1	1	0.111	22	1	2014
Abreu R	1	1	0.25	14	1	2019
Abu-Ghazaleh N	1	1	0.2	17	1	2018
Al Naqbi MYK	2	2	0.5	6	2	2019
Albin ML	1	1	0.059	6	1	2006

Table 5.
Author local impact by *h*-index

computing," "cloud accounting," "ERP," "blockchain" and "cloud". For the past seven years the frequency of the trending technology hashtags in the field of accounting has been increased.

4.11 Future avenues for research in the area of trending technology hashtags in the field of accounting

The current study has suggested future avenues for research in the area of trending technology hashtags in the field of accounting. In light of the following research questions developed in the current study, it makes some suggestions for a future agenda for research in trending technology hashtags in the field of accounting in this 4IR era:

RQ2. What are the trending technology hashtags (frequently appearing keywords) in the field of accounting?

RQ3. What are the future avenues for research in the field of accounting technologies?

From the above bibliometric analysis and the author's keyword search in the Scopus database during the year 1981–2021, the most frequent words found in the current study were cloud (147), big data (82), AI (64), ERP (62), blockchain (11) and ICT (5). It aids practitioners and scholars in detecting gaps in the existing literature as well as future research trends.

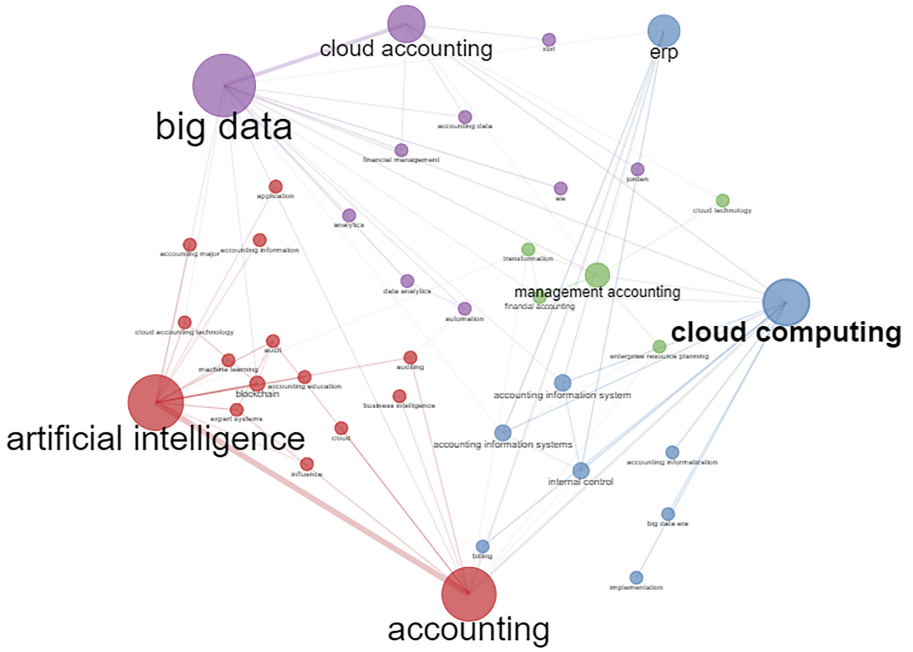

Figure 8.
Co-occurrence network

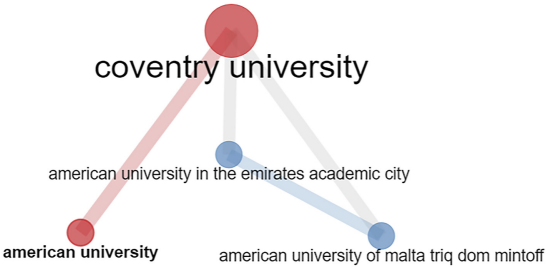

Figure 9.
Collaboration networks (institutions)

As a result, the current research establishes a new framework on the role of trending technology hashtags in accounting research (accounting technology hashtags, framework) comprising six research pathways (RP) in the four branches of accounting that future researchers can use to think about and construct their study designs in the field of accounting (Table 6).

Additionally, this study helps future researchers use diffusion of innovations theories and technology organization environment framework that might be used to identify other potential avenues in the accounting research field.

5. Discussion

To comprehend the research trends, the study was conducted quantitatively to know the trending technology hashtags in the field of accounting globally from 1984 to 2021. The necessity to evaluate scientific output and provide policy outcomes that are accessible to researchers and other related stakeholders has certainly encouraged the usage of bibliometric

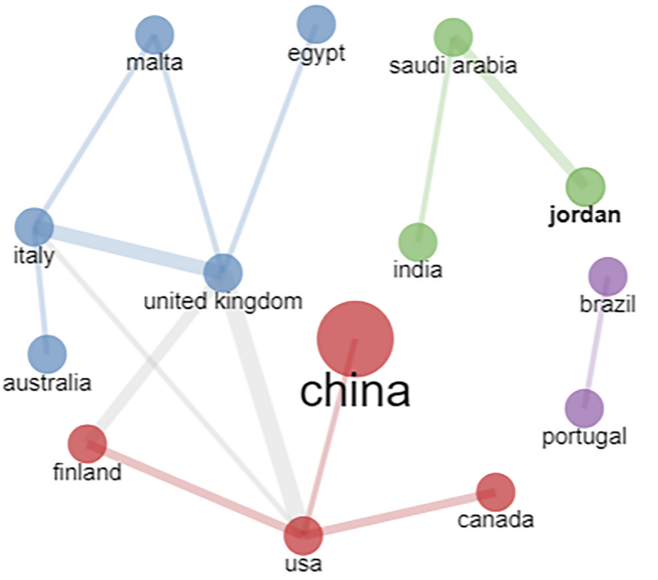

Figure 10.
Collaboration networks (countries)

methodologies. However, it can be questioned whether the growing trend of scientific publications is by reason of the present 4IR demand for this sort of study, as well as whether or not the research serves its purpose.

In total, 398 technology hashtags (AI, blockchain, big data, cloud, ERP and ICT in the field of accounting) documents were published during a 28-years period from 1984 to 2021. The literature on technology hashtags in the field of accounting has gradually increased. However, there has been a phenomenal growth in the literature of technological hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the last 12 years, from 2010 to 2021.

Over the course of the 28-year study period, the number of institutes, countries and collaborative research activities that involved trending technological hashtags in the field of accounting research observed a gradual increase. Figures 2–11 revealed that related literature began to publish in the year 2010 and after that, the number of publications and citations on accounting technology hashtags increased gradually. The most influential and prolific publications in trending technological hashtags in the field of accounting research, as well as details of the top 20 ranked highly influential journals, are shown in document citation analysis (see Tables 2–5). From this perspective, a variety of research publications have been recognized as key research papers. As a result, the current research establishes a new framework on the role of trending technology hashtags in accounting research (accounting technology hashtags, framework) comprising six RP in the four branches of accounting that future researchers can use to think about and construct their study designs in the field of accounting.

Technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) were considered under Scopus subject categories. *International Journal of Accounting Information Systems* is the most-cited journal with 147 citations followed by *Management Accounting Research* 115, *Journal of Information Systems* 99 and *Accounting Horizons* 86.

Jilin Engineering Normal University and the University of Victoria are at the top in terms of the overall number of articles published.

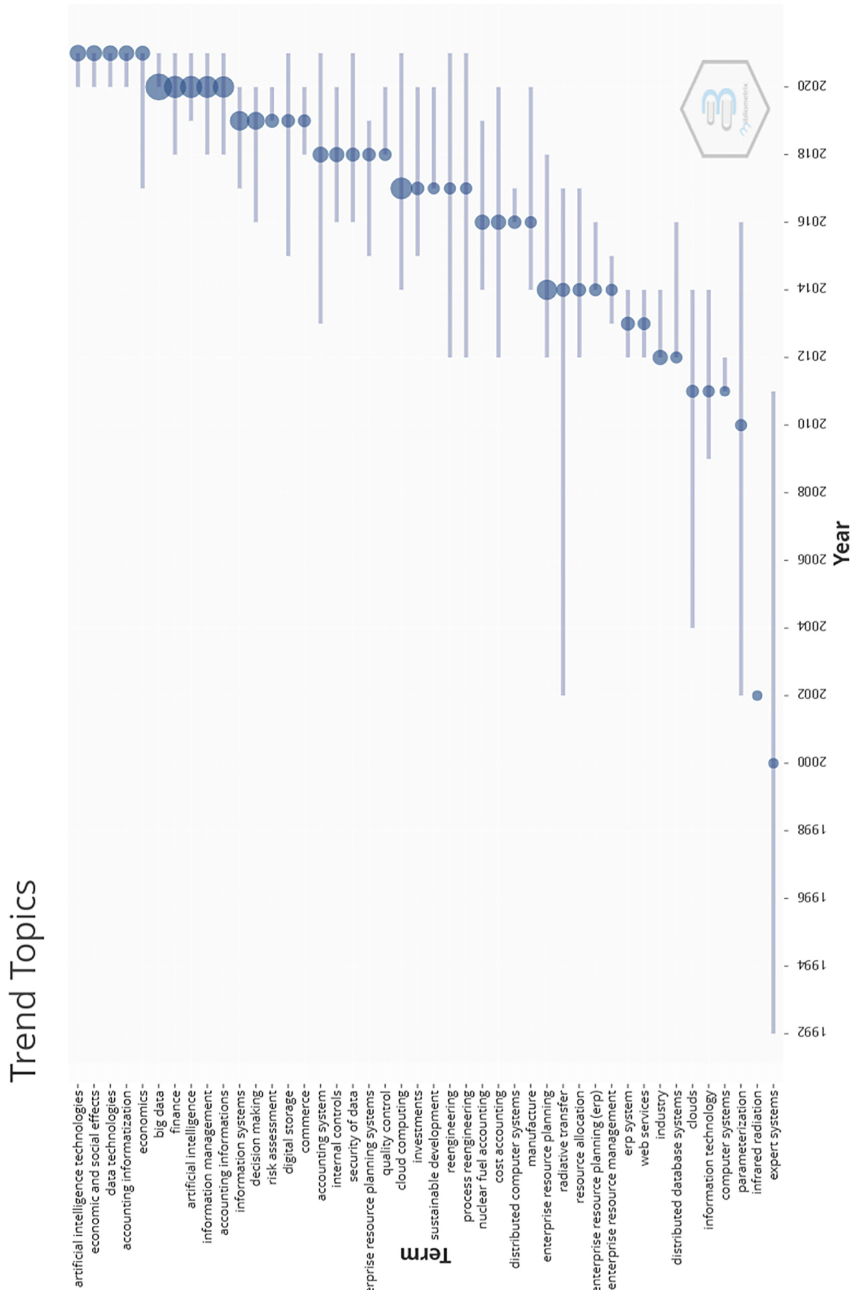

Figure 11.
Trend topics

Research pathways	Framework
RP1	• The emergence of artificial intelligence impacts managerial accounting • The emergence of artificial intelligence impacts cost accounting • The emergence of artificial intelligence impacts financial accounting • The emergence of artificial intelligence impacts auditing
RP2	• The growing use of ICT impacts managerial accounting • The growing use of ICT impacts cost accounting • The growing use of ICT impacts financial accounting • The growing use of ICT impacts auditing
RP3	• The emergence of big data impacts managerial accounting • The emergence of big data impacts cost accounting • The emergence of big data impact Financial accounting • The emergence of big data impacts auditing
RP4	• The broad concept of cloud impacts managerial accounting • The broad concept of cloud impacts cost accounting • The broad concept of cloud impacts financial accounting • The broad concept of cloud impacts auditing
RP5	• The broad concept of blockchain impacts managerial Accounting • The broad concept of blockchain impacts cost accounting • The broad concept of blockchain impacts financial accounting • The broad concept of blockchain impacts auditing
RP6	• The growing use of ERP impacts managerial accounting • The growing use of ERP impacts cost accounting • The growing use of ERP impacts financial accounting • The growing use of ERP impacts auditing

Table 6.
Framework of accounting technology hashtags

China, the USA, Sweden, Brazil, the Philippines, Korea and Spain were ranked first among the top seven most productive countries. In terms of the scientific output of trending technology hashtags in the field of accounting, China's contribution seems to be the most significant.

Probably, the evolution and organization of bibliometric analysis and citation effect in published papers over time, as well as within different disciplines, can emphasize the research trend. The goal was to examine the research findings that were established by retrieving data from the Scopus database because the conclusions of the bibliometric study are related to bibliographical materials. This research contributes to the understanding of the literature, the involvement, and affiliations of institutions, researchers, countries and citations of research articles in the field of trending technology hashtags in accounting. It is also a source for future scholars to suggest accounting technology hashtags, ramework for future researchers.

6. Conclusions

The term "trending technology hashtags" in the field of accounting was a part of the research papers on Scopus databases. The total yield of the scientific research on technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) for 28 years in the field of accounting on Scopus has been taken to 398 articles. The frequency of author publications can be used to assess the publication trend in any field of study. The main aim of this research was to intuit the trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting by providing a bibliometric overview. The research also provided to establish a framework for aspirant scholars in the field of accounting technology hashtags, allowing them to learn the number of publications, most prolific authors, affiliated institutions and collaboration of countries with regards to the latest trending technology hashtags in the field

of accounting libraries. The present data seem upright and auspicious technology research yield from the field of AI, blockchain, big data, cloud, ERP and ICT on accounting in the last 28 years. Though, numerous departures from research productivity on the latest technology exist in the field of accounting.

7. Implications and limitations of the study

From both theoretical and practical perspective, the results of this study have some implications. It represents the first attempt to understand the structure of knowledge acquired in the accounting field in the evolution of trending technology hashtags; this analysis assists academicians in identifying potential future research directions to address the growing need for technology-enabled accounting in businesses and to know and use trending technological topics in the accounting field. The authors consider that this research, by examining evolution of trending technology in the accounting field, helps future researchers to make six varied technology research frameworks in accounting field. Several studies focus on a single accounting technology hashtag of AI, blockchain, big data, cloud, ERP and ICT. Author believes that possible research avenues related to identify and assess, among copious latest technology-enabled accounting applications, the better technology to be used in businesses. However, academicians, researchers have been looking for recent trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting. Thus, the main aim of this paper is to intuit the trending technology hashtags (AI, blockchain, big data, cloud, ERP and ICT) in the field of accounting by providing a bibliometric overview of research articles published over the period of 28 years. This study suggests the necessity of broad international collaboration between researchers, academic institutions, governments and academic institutions to advance accounting technology research in a timely and effective manner.

One of the study's limitations is that the search results may not be able to include all studies on trending technology hashtags in the field of accounting. Accordingly, the performance of various databases, such as Scopus and Web of Science, may not be reliable in future investigations. For example, the data collection from the Scopus database has automatically generated the most prolific scientific article in the area through a specific feature named 'only title' that shows only related documents recognized immediately published. The use of bibliometric analysis by collecting data from multiple sources of the database would help for a more comprehensive study. For generalizability, future studies should include more scientific articles.

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