A Bibliometric Analysis of Knowledge Sharing in the Field of Management, Business and Accounting Based on Scopus Database

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Abstract

    As the global economic landscape has transitioned from an industrial economy to a knowledge-based one, primarily driven by the rapid advances in science and technology, it is highly advisable for businesses to incorporate knowledge management and sharing as integral components of their strategic approach. To achieve this objective, this bibliometric analysis focused on 5341 journal papers related to knowledge sharing published from 2013 to October 2023, sourced from the Scopus database, and harnessed the power of VOS viewer software. The study aims to offer insights into the volume, trends, geographic distribution, influential journals, highly-cited organizations, key authors, and predominant themes within the knowledge sharing domain. The review underscores the emergent significance of knowledge sharing and highlights its potential as a subject deserving of further scholarly exploration. It is anticipated that this research will serve as a valuable foundation for future researchers delving into the intricacies of knowledge sharing.

Keywords: Knowledge Sharing, Bibliometric Analysis, Scopus Database, Vosviewer Software

Introduction

Knowledge is increasingly seen as a key organizational asset and a source of competitive advantage, and it is undoubtedly the most significant driver of innovation in the increasingly globalized economy of today (Haider, Akbar, Tehseen, Poulova, & Jaleel, 2022). However, having access to knowledge resources alone does not ensure success (Hislop, 2013; Hussein, Singh, Farouk, & Sohal, 2016). Employees of an organization must share and put knowledge into practice to create a sustained, competitive advantage (Ahmad & Karim, 2019; Cabrera & Cabrera, 2005; Dalkir, 2013; Nonaka, Toyama, & Konno, 2000). This is consistent with the statement of Dale Carnegie (1888–1955), a well-known American author, he held the view that "knowledge is not power until it is applied", since only when knowledge is applied, it can be used to make better decisions, solve problems and achieve goals.

Knowledge Management (KM) is a group of procedures that control the production, sharing, and use of knowledge to advance organizational objectives (Chyi Lee & Yang, 2000). Knowledge sharing (KS) is part of the KM life circle and is one of the most important organizational processes, it is the main aspect of KM and has already been widely researched and due to its importance, many researchers have researched different aspect of it (Goswami & Agrawal, 2022; Haider et al., 2022; Han, Hovav, & Hemmert, 2022; Le & Nguyen, 2022; Ng, 2022) and revealed some of the rules about it. According to prior studies, knowledge sharing has been shown to save costs, hasten the creation of products, boost customer happiness, and improve performance and innovation (Ozer & Vogel, 2015; Wang & Noe, 2010).

In order to facilitate a more in-depth and systematic study of KS by subsequent scholars, it is important to review the previous studies. Several scholars have already conducted reviews on KM and KS. Ahmad and Karim (2019) conducted a systematic review and summarized the results of earlier studies on the effects of KS in organizations. Farooq (2022) perform a bibliometric study of KM articles published between 1988 and 2021 in journals included in the Scopus database. After searching through various databases, it is easy to see that there are few review articles on KS in the last three years and even no bibliometric review. KS has been published in a large number of articles in recent years, so there is an urgent need for a review article to summarize it and show the direction for subsequent research.

This bibliometric analysis sheds light on the evolution of literature and seeks to advance related research. The main contribution of this research is: (1) provide a comprehensive bibliometric review of KS; (2) Give directions to future research. The rest of this paper is structured as follows: research methodology; results; discussion; conclusions, limitations, and future research.

Research Methodology

To track the state-of-the-art in the field of KS and identify its evolution, we choose bibliometric analysis as our analytical method. According to Pritchard (1969), bibliometric analysis is the study of bibliographic records using math and statistics. In bibliometric analysis, academic publications are quantitatively analyzed using mathematical and statistical models to identify indicators of scientific activity and research achievement (Zyoud, Al-Jabi, Sweileh, & Waring, 2015). This technique is frequently employed in literature reviews in order to reveal the fundamental structure of a study topic through a neutral examination, preventing the results from being skewed by the researcher's point of view (Tranfield, Denyer, & Smart, 2003). The value of bibliometric analysis has increased recently since it provides precise

information on a certain subject (Van Eck & Waltman, 2017), especially in business research (Khan et al., 2021; Kumar, Lim, Pandey, & Christopher Westland, 2021).

The benefit of a bibliometric study is that it creates conceptual connections between various analytical components (such as citations, keywords, and authors) and documents, enabling the structural mapping of a scientific field. Bibliometric analysis is useful for unraveling and documenting the cumulative scientific knowledge and evolutionary intricacies of established areas by making sense of enormous volumes of unstructured data in rigorous ways. Therefore, well-conducted bibliometric research may lay solid groundwork for expanding an area of study in novel and noteworthy ways (Donthu, Kumar, Mukherjee, Pandey, & Lim, 2021). Consequently, bibliometric studies make it possible for readers to understand current developments in the field, as well as historical patterns, and to plan for future study (Durieux & Gevenois, 2010).

Database selection
Although there are many reliable databases that can ensure the rigor of the study, such as Web of Science, Scopus, Google Scholar, PubMed, and so on. This study use the Scopus database as the basis for the bibliometric study because in terms of the quantity of journal coverage and citation analysis, Scopus outperforms Web-of-Science and Google Scholar (Falagas, Pitsouni, Malietzis, & Pappas, 2008; Zyoud et al., 2015). Gaviria-Marin, Merigó, and Baier-Fuentes (2019) suggested that Scopus has been an excellent substitute for Web of Science since it was created for citation analysis and bibliographic searches, allowing it to carry out the same search activities as Web of Science. Falagas et al. (2008) proposed that Scopus has a wider range of journals than PubMed and Web of Science, and its citation analysis is quicker and contains more articles than Web-of-Science's citation analysis. Based on the above discussion, this study chose Scopus database for the follow-up study.

Scope of the research
The scope of the research is the inclusion and exclusion criteria look for studies that offer solid evidence on the study issue (Kitchenham, 2004). In this study, there are three factors that make up the inclusion and exclusion criteria. First, this bibliometric study is limited to studies that related to knowledge sharing in the field of Management, Business and Accounting. Secondly, this research is based on data in the Scopus database from January 2013 to October 2023. Third, the document type of literature is article.

Search criteria
In conducting the literature screening, the following criteria were established: Firstly, the inclusion criterion required that the title, abstract or keywords of the article should contain the term "knowledge sharing". Secondly, only articles published in the last ten years, from January 2013 to October 2023 were taken into account. Third, restrict the subject area to business, management and accounting. Forth, limit document type to article. Consequently, 5341 papers met the criteria and were selected.

Measurement
A key bibliometric approach called "Science Mapping" uses a geographical representation to show the relationships between various scientific participants (Small, 1999). This methodology's goal is to illustrate the dynamic and structural elements of research (Börner, Chen, & Boyack, 2003; Cobo, López-Herrera, Herrera-Viedma, & Herrera,

2012). The advancement of computer hardware and software has made it possible to refine this technique, positioning it as an interesting methodological choice for assessing the networks and structures of research. Many software tools can be used to conduct the bibliometric analysis, such as VOS viewer, Citespace and COOC. VOS viewer is used in this research because it is most widely employed as a bibliometric software tool for conducting bibliometric mapping analyses (Pan, Yan, Cui, & Hua, 2018). The VOS viewer software was used in this study to analyze the literature since it can investigate links between highly cited authors, author collaborations, international cooperation, institutional affiliations, keywords, and other related knowledge (Hoppen & Vanz, 2016).

Results
The Yearly Output Of Articles, Growth Trends, And Country Distribution In The Field Of Ks Based On The Scopus Database

From January 2013 to October 2023, the total number of selected articles is 5341. The number is so large that it needs to be sorted out in detail. First, the number of articles issued in each year was counted to understand the trend of articles. Secondly, statistics by different countries were summarized to understand the number of articles issued in each country.
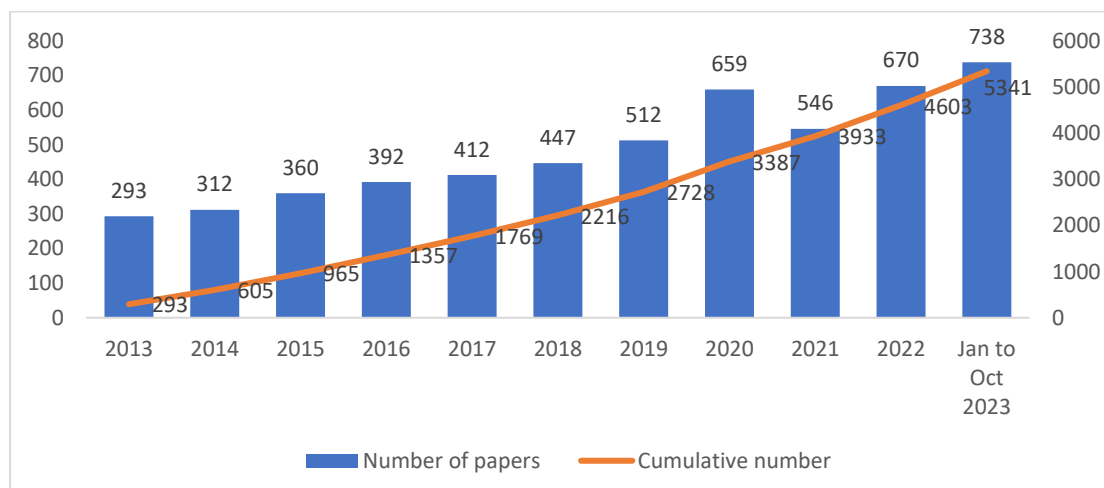

Figure 1. The annual and cumulative numbers of publications

Figure 1 depicts the annual publications and cumulative numbers of publications. The overall annual number of articles published showed an upward trend, from 293 articles in 2013 to 670 articles in 2022, showed a 1.3 fold increase. Although only the ten months of data are available for 2023, the number of publications is already as high as 738 articles, even more than any other years before. During the past ten years, year-over-year increase in issuance for all nine years except 2021. The largest increase was in 2020, with 147 more papers than in 2019, representing a 28.7% increase. However, in the following year 2021, this increasing trend did not continue, and the number of publications was a decrease of 17.1% compared to 2020. This year was a serious year for the Covid-19, which was strongly associated with the decrease in publication. In the following year 2022, the epidemic could be moderated and a record high of 670 articles were posted.
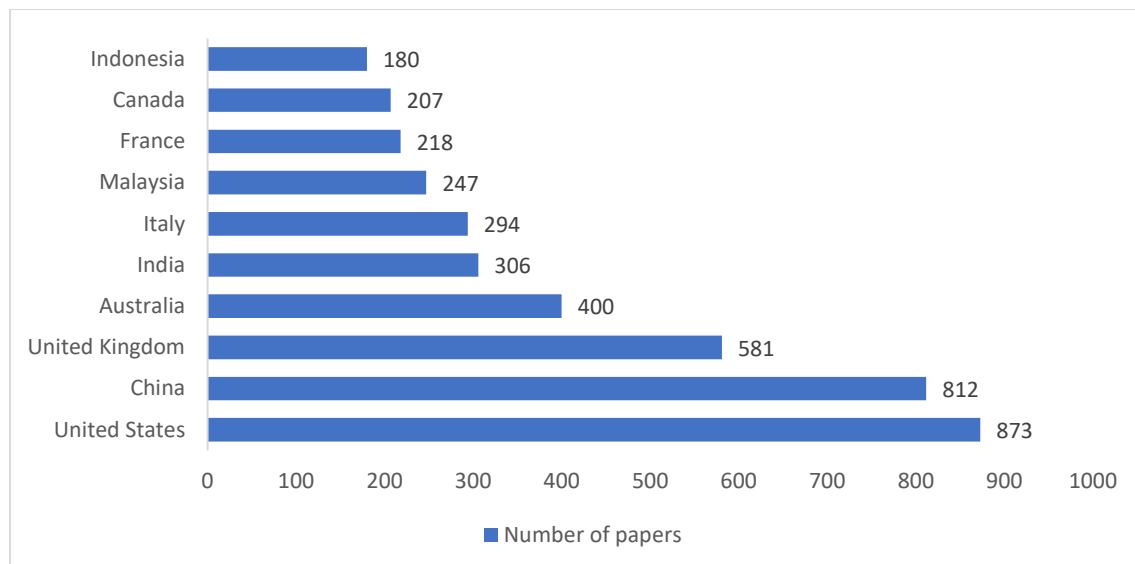
Figure 2. The number of publications in the top 10 countries

Top ten countries with highest publications are listed in figure 2. The United States and China are at the clear leading position with 873 articles in United States and 812 articles in China. Among these top ten countries, 6 are developed countries (United States, United Kingdom, Australia, Italy, France and Canada) and 4 are developing countries (China, India, Malaysia and Indonesia), this means that developed countries dominate research in related fields.

Analysis Of Influential Journals Having The Highest Citation Impact In Ks-Related Research Based On The Scopus Database

Citation is one of the important criteria to measure the quality of a journal. According to the statistics of VOS viewer, these 5341 articles were from 978 different journals. Table 2 listed the top 10 journals having the highest citation impact. These ten journals accounted for 864 articles, representing 16% of the total number of article. The total number of citation for these ten journals is 34015, and the average citation per article is 39.

From table 1, it is easy to recognize that Journal of knowledge management is in the leading position in the related research area with 346 articles and 13718 citations, both of these indicators are significantly higher than their counterparts in the other nine journals. Regarding the number of papers, it is 214 higher than the 132 papers of the second place journal: knowledge management research and practice. The citation is 3.1 times higher than the second-ranked journal: journal of business research, with 9333 more citations in number.

The average citation of these top 10 journals is 39. Two journals that deserves special attention are the international journal of information management and information and management, which has only 35 or 32 articles, but with a citation count of 2082 or 1884 and an average citation count of 59, significantly higher than other journals, proving that the two journals are of high quality despite the small number of articles published. The top one journal: journal of knowledge management, although its total number of citations is high, the average number of citations is not so high, just one above the average of the top 10 journals.

Table 1.
Top 10 journals having the highest citation impact on KS

Ranking	Journal Name	Documents	Citations	Average citation
1	Journal of Knowledge Management	346	13718	40
2	Journal of Business Research	90	4385	49
3	Journal of Cleaner Production	66	3231	49
4	International Journal of Information Management	35	2082	59
5	Knowledge Management Research and Practice	132	2059	16
6	Information and Management	32	1884	59
7	International Journal of Contemporary Hospitality Management	41	1819	44
8	Technological Forecasting and Social Change	47	1771	38
9	Industrial Marketing Management	33	1674	51
10	Management Decision	42	1392	33
TOTAL		864	34015	39

Analysis Organizations Have The Highest Citation Impact On Ks Research Based On The Scopus Database

The 5341 articles being studied came from 10587 organizations. Among them, there are 39 organizations with more than 5 articles and 14 organizations with more than 7 articles. Table 3 listed the top ten organizations with highest citations. The total number of articles issued by these ten organizations is 83, accounting for 1.6% of all articles issued.

From Table 2, it is obviously that the organization with the highest number of publications came from Italy, which ranked third in citations, after Lappeenranta University of Technology and Mcmaster University, which ranked first and second with 641 and 635 citations, respectively. The second-ranked institution, Mcmaster University from Canada, ranked first in average citations, proving the institution's high impact in knowledge-sharing research.

When we look at institutions in combination with nationality, it is easy to find that 4 of the institutions are from developed countries (Finland, Canada, Italy, United Kingdom and South Korea), and the other 6 are from developing countries (China, Arab and Iran). Of the six institutions from developing countries, four are from China. This demonstrates that China, as a developing country, has taken its place in the knowledge-sharing field. The fact that the top three institutions are all from developed countries again highlights the research leadership of developed countries.

Table 2.
Top 10 organizations having the highest citation impact on KS

Ranking	Organization	Nation	Documents	Citations	Average citation
1	Lappeenranta University Of Technology	Finland	9	641	71
2	Mcmaster University	Canada	7	635	91
3	University of Turin	Italy	10	612	61
4	Tongji University	China	9	494	55
5	Abu Dhabi University	United Arab Emirates	7	447	64
6	Hunan University	China	9	350	39
7	University Of Science And Technology Of China	China	7	272	39
8	University Of Isfahan	Iran	9	248	28
9	Tianjin University	China	8	186	23
10	Loughborough University	United Kingdom	8	166	21
Total			83	4051	49

Analysis Of The Pioneer Authors In The Field Of Ks That Have The Most Citations Based On The Scopus Database

The authors examined highly cited authors in the data set using the advanced visualization tool VOS viewer. The 5341 papers under consideration were written by a total of 5182 authors.

Table 3 presents the top 10 authors with the highest citation impact in the field of knowledge sharing. Notably, this table reveals several instances of tied rankings, resulting in a total of 15 authors being featured among the top ten. Out of these 15 authors, six are affiliated with institutions in China, three hail from the United States, and two are from India. Additionally, one author each originates from Canada, Vietnam, Australia, and South Korea. It's worth noting that among the seven countries represented, four are classified as developed nations, while the remaining three are considered developing.

At the pinnacle of this list, we find Leonardi, Paul M, from the United States. His total citations and average citations for his articles significantly surpass those of other authors, solidifying his status as the foremost scholar in the knowledge sharing field. Despite not securing the top one or two spots, the substantial presence of Chinese scholars in this ranking underscores their considerable influence and standing in the field.

Table 3.
Top 10 authors having the highest citation impact on KS

Ranking	Names of Authors	Nationality	Documents	citations	Average citation
1	Leonardi, Paul M.	United States	4	947	237
2	Serenko, Alexander; Bontis, Nick	Canada	3	484	161
3	Le, Ba Phong.; Lei, Hui.	Vietnam /China	4	480	120
4	Wu weili.; Lee yichih.	China/China	3	201	67
5	Tuan, Luu Trong	Australia	9	197	22
6	Naim, Mohammad Faraz.; Lenka, Usha	India/India	3	164	55
7	jr.	United States	4	156	39
8	Lin, Hsiufen	China	3	152	51
9	Park, Sunyoung; Kim, Eunjee	United States/ South Korea	3	141	47
10	Zhang Zhen.; Min Min.	China/China	3	101	34
Total			39	3023	78

Topic Words And Emerging Themes In Knowledge Sharing

The authors create a keyword map with VOS viewer software. They set the minimum number of occurrences for a keyword to 25 and discovered 69 keywords that met this criterion.

In Figure 3, the central focal point is knowledge sharing, denoted by the largest red dot. This concept is pivotal, with the following ten most frequently associated keywords: knowledge management, innovation, trust, social media, knowledge transfer, social capital, information sharing, sharing economy, collaboration, and absorptive capacity. While some elements, like knowledge creation, organizational performance, and innovation performance, appear as smaller nodes located in less densely populated areas, it is imperative to recognize them as emerging topics deserving increased attention and exploration.

Figure 3. Most frequent variables

Discussion

Using the VOS viewer software, this bibliometric study conducted a comprehensive analysis of articles related to knowledge sharing in the fields of management, business, and accounting. The data set was extracted from the Scopus database, covering the period from 2013 to October 2023.

This article provides a summary of the trends in knowledge sharing publications over the period 2013 to 2023, revealing a consistent growth in the number of publications, with the exception of a decline in 2021, primarily attributed to the impact of the COVID-19 pandemic. This indicates a growing appreciation for knowledge sharing within academic circles, thereby driving an upsurge in research activity in this field.

Among the top ten countries with the highest number of articles, six are classified as developed nations, while the remaining four fall under the category of developing countries. Notably, the United States and China hold the top two positions, significantly surpassing all other countries with an impressive number of articles, 873 and 812, respectively. Furthermore, the United Kingdom and Australia, both developed countries, also boast more than 400 articles each, underscoring the substantial lead developed nations have over developing ones in research within this particular field.

When it comes to knowledge sharing journals, the Journal of Knowledge Management holds an undisputed position as the foremost authority in the field. It significantly outpaces the second-ranked Journal of Business Research in terms of both the number of articles published and the total citations garnered. However, in terms of the average number of citations per article, the International Journal of Information Management and Information and Management take the lead, each boasting an impressive average of 59 citations per article.

An analysis of the top ten institutions based on citations reveals the following insights: Firstly, it's notable that the top three institutions all hail from developed countries, and their articles receive a substantial number of citations, exceeding 600. This stands in stark contrast to the fourth-ranked Tongji University, which garners 494 citations. These findings underscore the continued dominance of research in developed countries compared to their developing counterparts. Secondly, it's worth mentioning that four out of the top ten institutions are located in China. This observation highlights China's remarkable progress in the field of knowledge sharing, despite its status as a developing country.

Among the 15 most cited authors, they represent a diverse range of 7 countries. Notably, 6 of these authors hail from China, underlining the noteworthy contributions made by Chinese scholars in this field. However, it's worth mentioning that the first and second ranked authors originate from the United States and Canada, respectively. This signifies that, in terms of academic influence, these countries still maintain a leading position in the global landscape.

Our study has also shed light on crucial themes within the domain of knowledge management and has pinpointed several emerging avenues for research. These include, but are not limited to, the domains of knowledge creation, organizational performance, and innovation performance.

Conclusions, Limitations, and Future Research
By examining the literature pertaining to knowledge sharing in the Scopus database over the past decade, it becomes evident that knowledge sharing has increasingly captured the interest of scholars in recent years. This is apparent from the substantial upswing in the number of publications during this time frame. Furthermore, an analysis of the issuing countries, institutions, and authors reveals that developed nations continue to maintain a dominant presence. However, it is worth highlighting the noteworthy progress made by China, a developing country that has achieved significant strides in this research field. Nonetheless, there still exists a discernible gap between China and the developed nations in this regard.

The authors additionally utilized VOS viewer software to create a keyword mapping, which clearly indicates that knowledge management, innovation, trust, social media, knowledge transfer, social capital, information sharing, sharing economy, collaboration, and absorptive capacity have garnered the most research attention. Nevertheless, certain emerging topics, including knowledge creation, organizational performance, and innovation performance, merit further in-depth investigation.

However, it is essential to acknowledge the limitations of this study. Firstly, it concentrated solely on articles available in the Scopus database. Secondly, there remains the challenge of disambiguating researchers who share the same name. Lastly, this research exclusively encompasses articles published from 2013 to October 2023, potentially excluding relevant earlier or more recent work.

In future research endeavors, scholars are encouraged to consider conducting a bibliometric analysis using databases such as Google Scholar and Pubmed, as these sources can provide more comprehensive insights into this field. Additionally, forthcoming researchers could delve deeper into the literature to explore the intricate relationships between knowledge sharing and its associated key variables.

Declaration of Conflicting Interests
The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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