

Knowledge management positioning in the information science era: Bibliometric analysis for the time frame from 2000-2023

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Abstract

INTRODUCTION: To navigate the field of knowledge management (KM) for effective performance in data science, business intelligence, and database systems, all stakeholders, including academicians and professionals, must be informed of the recent state of practice and theory in KM. A detailed bibliometric study of publications can help with this problem by giving a comprehensive picture of the publications' trends and progression. From 2000 to 2023

OBJECTIVES: To examine the pattern of publication in the area of knowledge management.

METHODS: Two methodologies are employed to examine and interpret the bibliometric data acquired from the Scopus database. Citation and publication building evaluations were performed to gauge the emergence of the field of knowledge management, and secondly, VOS viewer software was used to simulate the projection of knowledge management grounded on bibliographic coupling (BC), co-citation, and co-occurrence (CC).

RESULTS: The citation and publication structures indicate a steady improvement in the findings.

Keywords: Knowledge Management, Knowledge sharing, bibliometric analysis, information management

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1. Introduction

Rather than being a passing fad in management, knowledge management (KM) has demonstrated its importance in achieving organizational performance. KM is credited with maintaining organizational memory and, as a result, ensuring the profitability of an entity [7]. KM is multidimensional by definition. Its theoretical underpinnings are drawn from a variety of fields, covering library science, data science, data

warehousing, software engineering, organizational science, communication, and applied mathematics [14] and [17]. Seeing the prevalence of big data and business intelligence, the advancing role of knowledge management is noticeable. Technologies such as the semantic web are associating with KM for better creation of the kind of "intelligent" texts that were once only a decade away [15] and [5]. Traditionally, metadata has been used to maintain knowledge about documents. Researchers and journals have witnessed the increasing demand and scope of work in KM. The "Business Change and Re-engineering Journal" was renamed

"Knowledge and Process Management" in 1998, and the "Journal of Knowledge Management" was founded in 1997. These modifications have resulted in new academic publications, such as the "Journal of Information and Knowledge Management (JIKM)", which was established in 2002 and quickly became an information source for academic citation frequency and author outlet impact factor, with authorship trends having no significant effect. A bibliometric study in the field of knowledge management (KM) has been the use of a specific key term, "knowledge management," to repossess papers from the WoS database, which narrow the sample size and the researchers' ability to locate more specific KM studies. With the rise of knowledge management as an academic field, the number of studies using a systematic and empirical method to chart research patterns and provide an overview of the field has increased. In the present study, the researcher utilized bibliometric mapping to provide an overview of knowledge management publications. The researcher's main objective is to recognize exploration patterns in the knowledge management field that could be worthwhile for academics, professionals, and stakeholders who want to analyze and evaluate the discipline's past and strategically prepare and assess priority areas based on its scholars' productivity.

2. Background

The research methodologies used in studies on the appearance of knowledge management as a discipline include literature reviews, meta-analyses, content analysis, and bibliometric mapping [6]. Annual growth monitoring in knowledge management publications, preferred publications for knowledge management papers, most prolific authors, and prevalent research methods are among the topics covered in these studies. Furthermore, research has attempted to determine the taxonomy of KM's subjects in order to demonstrate its evolution as a distinct discipline [4].

Bibliometric analyses of the knowledge management literature have focused on source countries, educational institutions, and researcher productivity. Researchers, academics, and prospective students can develop the skills they need to succeed in career planning by knowing which countries to develop or use knowledge management competencies [3]. It can also help foreign granting agencies and private sector companies make better decisions by recognizing countries with information-based economic activities as a measure of scholarly productivity [13] and [2]. According to [13], the two main themes of KM citation classic papers are information as a method and handling competitive advantage. Much less frequent were workplace culture, information technology, and professional communities of practice. According to new research, no particular theme has dominated since 2005. The diversity of topics discussed in the earliest knowledge management

researchers in the KM field. Since its inception, the knowledge management field has steadily matured. A comprehensive bibliometric analysis of 1,407 global information management (KM) journals published between 1975 and 2004 was conducted [11]. The findings highlighted the correlation between document

conducted to examine several research aspects such as topic categories, frequency of keywords, and collaborative partnerships [2]. However, the primary restraint of the study documents is indicative of the discipline's maturation. Later studies attempted to comprehend the nature of knowledge management through existing literature and empirical evidence on the influence of knowledge management deployments on climate, education, and organizational effectiveness, whereas earlier articles laid the groundwork for a wider perspective on how to use KM or for a prescriptive view of how it should be viewed.

The early phase of interest in knowledge management may account for the inclination of individuals to embrace qualitative techniques, as a result of little empirical research. Also, reviews of literature and structure are common in the early stages of a discipline's growth because they start introducing novel notions and lay the groundwork for future studies. Even so, a longitudinal study found that the ratio of citation throwback articles pushing for new KM models is decreasing. This finding provides more evidence of the growing maturity of the topic of knowledge management, which has established itself as a distinct area of study within the realm of management studies [13]. Numerous bibliometric studies have been carried out by researchers all over the world to examine a journal's publication distribution pattern. The majority of these studies concentrate on internationally renowned journals in a particular discipline [1] and [10]. Between 2009 and 2013, to identify research procedures and methods, [9] performed a content analysis of JKM articles. To investigate current knowledge management research trends, a scientometric analysis of all published literature in "Knowledge Management Research and Practice (KM RP)" between 2003 and 2015 [12] were conducted. The findings of these studies contributed to a better understanding of knowledge management as a field of study by projecting on the ongoing research of knowledge management scholars. Research questions are formulated for the study:

What was the rate of growth of the knowledge management literature?

In terms of knowledge management articles, which countries are the most prolific?

Are there any citation patterns in the KM literature?

Which articles in the field studied have received the most citations?

Table 1: Publication Trend of KM from 2000-2023

S.no	Years	Documents
1	2023	10
2	2022	4
3	2021	39
4	2020	99
5	2019	109
6	2018	82
7	2017	71
8	2016	67
9	2015	74
10	2014	73
11	2013	80
12	2012	72
13	2011	74
14	2010	66
15	2009	63
16	2008	55
17	2007	52
18	2006	31
19	2005	30
20	2004	15
21	2003	10
22	2002	5
23	2001	10
24	2000	5

3. Research Methods and Data

The researcher performs a preliminary exploration of the Web of Sciences (WoS) and Scopus to perform bibliometric analysis. We used the keywords "knowledge management," "knowledge sharing," "readiness assessment," "trust," "knowledge self-efficacy," "collegiality," "openness to change," and "reciprocity" in the "source title" options in both databases, respectively, to validate that the process of search considered each and every publication associated with knowledge management available in the databases from 2000 to 2023. The WOS results revealed a whole of 920 publications, while the Scopus results revealed 1,188 documents. Scopus had a higher number of documents than Web of Science, and Scopus is considered a larger database than Web of Science; as a result, we determined to conduct research using the Scopus database. The present endeavor employs the VOS viewer software to visually depict the bibliographic content in a graphical manner. [16]. The bibliographic data are input into the VOS viewer, which converts them into graphs. The bibliographic coupling, co-citation, and co-occurrence of the author's keywords are

among the bibliometric techniques utilized in this investigation.

4. Results

4.1 The Publication trends of KM

It's worth noting that this study included documents retrieved from the Scopus database, and the data collected demonstrated that 1196 documents are available from 2000-2023 as indicated in Table 1.

4.2. The most cited KM articles

The counts of citations in a journal are indicative of important research [16]. Table 2 and Figure 1 depict the results of the most mentioned KM articles receiving more than 200 citations. Among the 1188 documents, only 36 meet the thresholds. According to the findings, the utmost cited research articles in the field were published by topmost researchers in their fields. "Chen C.-J. and Hung S.-W.'s" article from 2010 is an example: "Is it better to give or to receive? Members' knowledge sharing and community promotion in professional virtual communities" are influenced by a variety of factors, according to the second-most-cited KM publication.

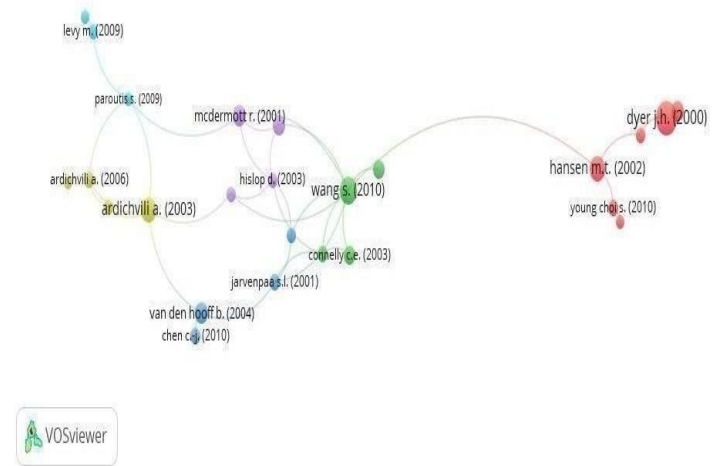


Figure 1: The most cited papers

Table 2: The most Cited Papers

Rank	Authors with Year	Title	Citations
1	"Chen C.-J., Hung S.-W.,2010"	"To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities"	1242
2	"Yahya S., Goh W.-K.,2002"	"Managing human resources toward achieving knowledge management"	968
3	"Mcdermott R., O'Dell C.,2001"	"Overcoming cultural barriers to sharing knowledge"	940
4	"Walsham G.,2001"	"Knowledge Management : the Benefits and Limitations of Computer Systems"	641
5	"Huysman M.,Wulf V.,2006"	"IT to support knowledge sharing in communities, towards a social capital analysis"	575
6	"Ardichvili A.,Maurer M., Li W., Wentling T., Stuedemann R.,2006"	"Cultural influences on knowledge sharing through online communities of practice"	560
7	"Majchrzak A., Malhotra A., John R.,2005"	"Perceived individual collaboration know-how development through information technology- enabled contextualization: Evidence from distributed teams"	553
8	"Young Choi S., Lee H., Yoo Y.,2010"	"The impact of information technology and transactive memory systems on knowledge sharing, application, and team performance: A field study"	524
9	"Dyer J .H., Hatch W.,2006"	"Relation-specific capabilities and barriers to knowledge transfers: Creating advantage through network relationships"	449
10	"Wang J.-F.,2010"	"E-commerce communities as knowledge bases for firms"	336
11	"Paroutis S. Saleh A.,2009"	"Determinants of knowledge sharing using Web 2.0 technologies"	320
12	"Chai S.,Das S.,Rao H.,2011"	"Factors affecting bloggers' knowledge sharing: An investigation across gender"	310
13	"Ritala P., Hurmelinna-Laukkanen P.,2013"	"Incremental and radical innovation in the coopetition- the role of absorptive capacity and appropriability"	308
14	"Dyer J.H.,Nobeoka K.,2000"	"Creating and managing a high-performance knowledge- sharing network: The Toyota case"	299
15	"Ardichvili A.,2008"	"Learning and Knowledge Sharing in Virtual Communities of practice: Motivators, Barriers, and Enablers"	291
16	"Pan S.L., Leidner D.E.,2003"	"Bridging communities of practice with information technology in pursuit of global knowledge sharing"	283
17	"Kulkarni U.R., Ravindran S., Freeze R.,2006"	"A knowledge management success model: Theoretical development and empirical validation"	273
18	"Hansen M.T.,2002"	"Knowledge networks: Explaining effective knowledge sharing in multi-unit companies"	273
19	"Saraf N., Langdon C.S., Gosain S.,2007"	"IS application capabilities and relational value in inter firm partnerships"	262
20	"He W., Qiao Q., Wei K.-K.,2009"	"Social relationship and its role in knowledge management systems usage"	260

4.3. The Productive Authors

Figure 2 illustrates the record of contributors who have underwritten more than five documents to KM. These records encompass the number of articles, the total documentation in KM, the number of citations for these documents, and the

articles cited above.

Kianto A., with the highest number of KM publications, ranked seven articles with 457 quotations, followed by Javernick-Will A., with six publications and 107 citations. If there is a tie, the authors with the largest quotes are considered for classification.

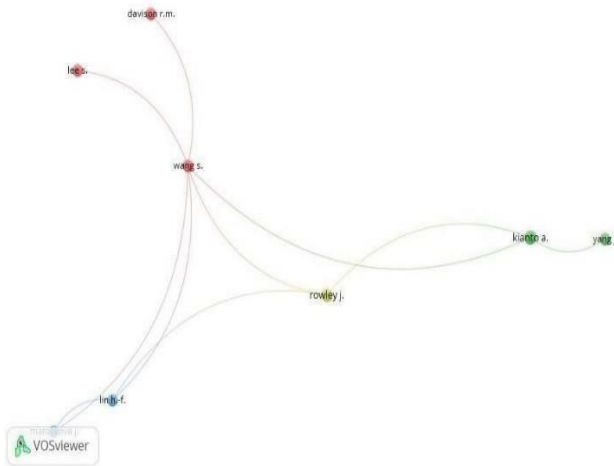


Figure 2: The productive Authors

Table 3. The Most Productive Institutions

Rank	University	Document	Citation
1	National Taiwan University of Science and Technology	6	550
2	Lappeenranta university of technology	5	258
3	Abu dhabi University	5	35

Table 4 The Most Productive Countries with Citation

Rank	Country	Documents	Citation
1.	United States	267	18423
2.	United Kingdom	143	4475
3.	China	106	2536
4.	Australia	75	1468
5.	Taiwan	73	3379
6.	India	59	812
7.	Malaysia	49	1187
8.	Canada	43	2808
9.	Hong Kong	42	1861
10.	Italy	40	786
11.	Finland	37	1636
12.	Iran	35	317
13.	Netherlands	33	2528
14.	Spain	32	1725
15.	France	31	606
16.	South Korea	29	1386
17.	Germany	27	1013
18.	Pakistan	26	207
19.	Brazil	25	203
20.	Singapore	25	1082

4.4. The Most Productive Institutions and countries

Tables 3 and 4 show the total number of publications for each institution and country, as well as the number of citations to these publications. "The National Taiwan University of Science and Technology" came in first with six publications and 550 citations, followed by the Lappeenranta University of Technology, which had five publications and 258 citations.

4.5 Journals

Table 5 and Figure 3 show the journals that cite KM publications the most frequently. The results show that journal of knowledge management has 10,816 citations. Similarly, the Strategic Management Journal has 3066 documents. These figures show the impact of knowledge management on various research journals.

Table 5: The most cited journals

Rank	Journal Name	Citation
1	Journal of Knowledge Management	10816
2	Strategic Management Journal	3066
3	Information and Management	2505
4	Decision Support Systems	1130
5	knowledge management research and practice	925
6	Information Systems Research	895
7	International Journal of ProjectManagement	594
8	International Journal of Knowledge Management	587
9	Industrial Management and Datasystems	527
10	Learning Organization	513
11	Technological Forecasting and Social Change	343
12	Vine Journal of Information and Knowledge Management Systems	332
13	(IJKM) "International Journal of KnowledgeManagement"	188
14	Production Planning and Control	146
15	Knowledge Management and E-Learning	95

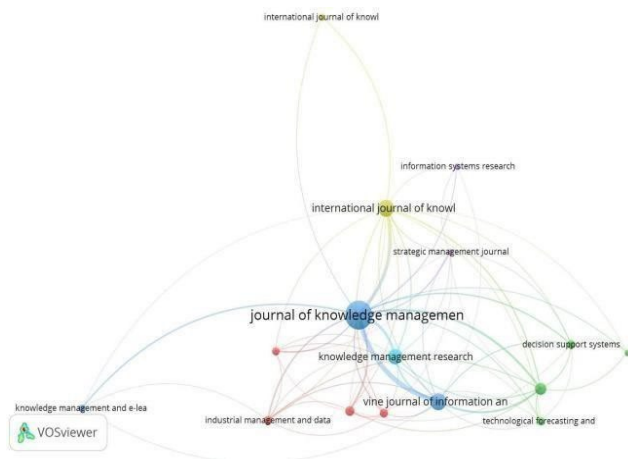


Figure 3. The Most Cited Journal

4.6 Graphic Presentation of KM Publication in VOS-viewer

This section provided a detailed and comprehensive view of VOS viewer results graphically, including bibliographic coupling, co-citation, and author's keyword co-occurrence. This tool generates clusters centered on citation links, which are visible in different colors.

4.7 Co-Citations of Journal in KM field

The co-citation relationship was first proposed by Small in 1973 as a supplement to the bibliographic coupling. It is a method for analyzing the structure of literature through the lens of cited sources. Co-citation occurs when two documents appear in the same reference list of a third publication. Figure 4 and Table 6 depict the co-citation relationship between

publications in the KM field. Another interesting aspect to investigate is the bibliographic coupling of countries publishing in the field of knowledge management. Remember that bibliometric coupling happens when multiple documents cite the very same third document [8].

5. Research limitations

This study in the present paper provided a concise summary of the leading tendencies in the arena of KM. Despite its uniqueness, this study has some limitations. The results reflect the current situation through March 2023; however, these bibliometric results are subject to change based on the keywords. This limitation can be circumvented by contemplating trends from a broad perspective in which deviations are not expressed. Bibliometrics is a method for

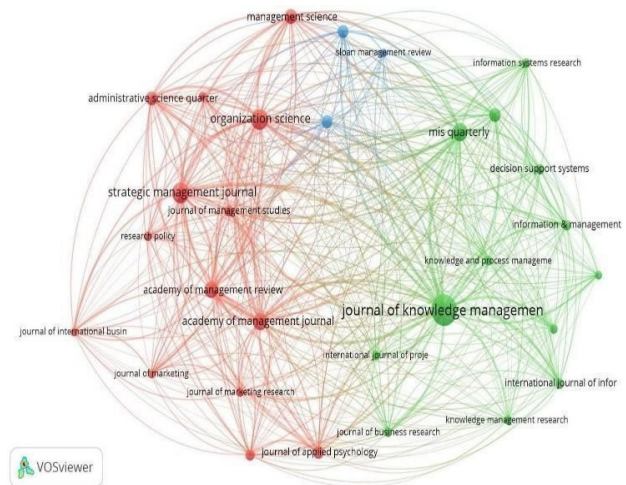


Figure 4. The Results of Co-Citation Source: Author's Compilation

identifying prominent trends in a field, but it has limitations due to the unique characteristics of academic research, which can overestimate one subfield and/or underestimate another. In spite of these limitations, it is evident that the information provided in this article will be of great use to any journal reader interested in gaining a concise overview of the leading trends in knowledge management.

6. Future Research Direction

KM improved academically. Technology, people, and processes support knowledge management. This paper compiles, elaborates, and synthesizes KM and its subfield literature. Inductive and descriptive literature reviews revealed KM's emerging trends and future research. New research directions include the inclusion of AI, social media, or big data analytics. For mental computation and human-machine interfaces, scientists are mapping the brain using KM approaches. Data science and analytics, business intelligence, and KM research are growing. Technology integration and multinational enterprise best practices offer KM scholars and practitioners hope. We'll evaluate the literature soon. The analysis performed in this study, like any other study, has flaws. The fact that it covers the years 2000–2023 further restricts the scope of our study. The findings are subject to change in the future, as we anticipate that new themes, principles, and methodologies will significantly alter the results presented above. The study may also be subject to the limitations of the Scopus database. As a result, data from a variety of sources should be included in future analyses.

Table 6 Journal's Co-citations

Rank	Source	CT	TLS
1	Journal of Knowledge Management	3278	57668
2	Organization Science	1468	38153
3	Strategic Management Journal	1428	37953
4	Mis Quarterly	1142	28096
5	Academy of Management Journal	996	27422
6	Academy of Management Review	899	24666
7	Management Science	710	20163
8	Administrative Science Quarterly	631	17699
9	Journal of Management Information Systems	627	16432
10	Journal of Applied Psychology	579	14289
11	California Management Review	570	14003
12	Harvard Business Review	560	12714
13	Journal of Management Studies	456	12078
14	Journal of Management	433	11885
15	International Journal of Information Management	391	10805
16	Information & Management	372	9133
17	Decision Support Systems	363	8089
18	Journal of Business Research	351	8917
19	Expert Systems with Applications	350	7076
20	Information Systems Research	347	9479
Note: CT- Citations; TLS- Total link strength			

7. Conclusion

A useful tool for gaining a comprehensive picture of a field or journal is bibliometric analysis. For stakeholders interested in a specific zone of research or journal, these analyses may be useful in identifying trends and relevant issues. Academics who have published or plan to publish in the near future are the primary target audience for this study. This study led a retrospective evaluation of the journal to commemorate this remarkable journey, primarily using the Scopus database and bibliometric factors to provide additional insights. A comprehensive analysis was conducted utilizing the metrics of citations and publications to ascertain the productivity of authors, universities, and countries, while also identifying the most influential pieces and significant trends. Furthermore, the research employed VOS viewer software to generate a visual depiction of the bibliometric data.

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