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ABSTRACT

This research is a systematic mapping in the topic of Knowledge Management study based on bibliometric analysis. This study aims to determine how the development of citations, publication trends, author collaboration, trend terms titles, trend terms author keywords, and trend terms abstracts in Knowledge Management articles in 2015-2021. Data collection using Publish or Perish (PoP) software in bibliographic search as the initial database in Scopus. The results showed that the highest number of citations (citations) occurred in 2017, as many as 4044 citations. In the publication trend, the most publications occurred in 2019 with 271 articles. Fifteen writers collaborate with other co-authors, namely Hussain, Saddam. kinto, aino. nawaz, faisal. shujahat, muhammad. The most used term in the title is 'Knowledge Management' with 285 occurrences. The most used keyword term is 'Knowledge Management' with 31 entries. The most widely used term in the abstract is 'Management Practice' with 77 occurrences. Furthermore, five groups of journals publish Knowledge Management articles from 2015-2021; most journal publishers publish Knowledge Management articles originating from the United Kingdom with 115 titles, the United States with 20 titles, and Switzerland with 14 titles.

Keywords: Knowledge Management, Bibliometric, Scopus, Trend Terms, Publish or Perish (PoP), Vos-Viewer.

INTRODUCTION

One part of the methodology that evaluates research from various types of scientific literature developed over time is generally referred to as scientometrics or bibliometric methods (bibliometrics) (Ellegaard & Wallin, 2015). Using a statistical approach to include the application of quantitative analysis from literature sources, the measurement can be known through the bibliometric method (Reuters, 2008). Research that is not cited after several years using bibliometric methods can reveal that citations reflect the impact of the research done, so the results show that these journals have worked well. Therefore, researchers are expected to consider this characteristic (López-Robles, Guallar, Otegi-Olaso, & Gamboa-Rosales, 2019; Rodríguez, 2004). The research analyzes parts or topics of

bibliography (metadata) with bibliometric methods, including citation analysis (IF), publication trends, author collaboration, agency collaboration, trend terms title, trend terms abstract, trend terms author keywords, country statistics, field trends studies, journals and the public (Liu, 2013; Pandu Ristiyono, 2012).

Despite the abundance of literature on knowledge management issues that can be accessed through various research methods, there has not been a comprehensive study of bibliometrics published in Scopus indexed journals. No bibliometric studies are showing that improving publication-quality improves the quality of articles published in the field. It is a good and essential bibliometric analysis to do (Ramos, Gutiérrez, Masía, & Martín-Hidalgo, 2004). Bibliometric analysis can map the number of publications and citations from various literature (Efron, Brennan, & Nichols, 2012). Topics are carried out and described qualitatively and quantitatively in bibliometric analysis (Velasco, Eiros Bouza, Pinilla, & San Román, 2012).

Over the past five years, much literature has been accessed on Knowledge Management with various research methods, but no comprehensive bibliometric studies reported in Scopus indexed journal publications have been reported. There are no bibliometric studies in the articles cited in the field that show a gradual improvement in publication quality. This bibliometric analysis is excellent and important to do (Ramos et al., 2004). Bibliometric analysis can be used to see the distribution of publications and citations from various literature (Efron et al., 2012; Liu, 2013). Topics in the bibliometric analysis are carried out and explained qualitatively and quantitatively (Velasco et al., 2012).

Research on knowledge management issues with bibliometric methods is still rare, so it is difficult to find examples of problem-posing analysis on bibliometric topics. So, the novelty of the research compiled is through the method used in the form of bibliometric analysis, so if you want to know most and far of the development of articles on knowledge management internationally from 2015 to 2021. regarding the research in question are as follows.

1) What are the citations to knowledge management articles in 2015-2021?
2) What is the trend of publication of knowledge management articles in 2015-2021?
3) How is the author's collaboration on knowledge management articles in 2015-2021?
4) What is the trend of title terms in knowledge management articles in 2015-2021?
5) What is the trend in terms of author keywords in knowledge management in 2015-2021?
6) What is the trend of abstract terms in knowledge management articles in 2015-2021?
7) What are the publishers on knowledge management articles in 2015-2021?

LITERATURE REVIEW
According to (Sensky, 2002), knowledge management focuses on organizational development to invest and exploit knowledge. A company's strategies, products and services, alliances, and acquisitions or divestments must consider the knowledge related to its business interests. For the first time, Michael Polanyi distinguished the concept of knowledge according to its type and ease of expression. (Garrick & Chan, 2017) divides knowledge into two kinds, namely explicit knowledge and tacit knowledge. Explicit knowledge is written, recorded, organized, objective, rational, and technical knowledge. Tacit knowledge is personal know-how which is the knowledge that is in the subjective, cognitive, experiential, feeling, and challenging to express domains. Several quite sophisticated

Knowledge Management measurement techniques are available today. In addition, some tools can help assess how well a company is progressing. These tools include Benchmarking, the Balanced Scorecard Method, the Quality House Method, and the Result-based Management and Accountability Framework (RMAF).

The ability of an institution or institution for science and technology in the current era of globalization is one of the most important competitiveness factors. When an institution or institution wants to improve its quality, it requires a comprehensive level of knowledge to compete and show its existence. Conditions of increasingly fierce competition today require a paradigm shift from resource-based competitiveness to relying on knowledge-based competitiveness. These two concepts are very contradictory, where the first concept rests on natural resources, location, and geographical conditions. At the same time, the second concept is based on science and technology and human resource development (HRD). To facilitate the result of an institution's human resources, it is necessary to have the ability to manage and develop the knowledge possessed. Knowledge management can ultimately be a reliable support for an institution to improve its competitiveness. Companies need to work on their knowledge to achieve their vision and mission to compete with other companies. The application of knowledge management is one way for companies to face increasingly high competition and demands to improve management performance in managing the company.

RESEARCH METHODS
Research Design
Bibliometrics applies mathematical and statistical analysis to patterns in the publication and use of documents in textbooks, journal articles, student dissertations, or other sources (Rohanda & Winoto, 2019). Bibliometric mapping will benefit both the scientific community and the general public, as it can help convert publication metadata into a map or visualization that is easy to manage and process to gain valuable insights. map authors of the journal to identify the geographic scope of the author or journal and map institutional and international collaboration as part of a framework for identifying emerging technologies. (Russell & Rousseau, 2002; Taqi & Rusydiana, 2021).

Research Procedure
Bibliometric analysis has four stages in the process; namely, the search stage filtering, attribute bibliometric examination and bibliometric analysis. (Julia et al., 2020).

Stage of Examination Procedure
Publish or Perish is a software or search engine tool that can find bibliographies as a starting point for data collection. Scopus is the primary data source used for searches in Publish or Perish (PoP). Scopus is one of the largest and premier databases providing peer-reviewed literature and publications, as a result. The bibliography of this research is limited in various aspects. The type of bibliography used consists of journal articles, series books, books, and conference papers. The second is "Knowledge Management", which is the title used. "Knowledge" is the keyword for the keywords used. This research year search is limited from 2015-2021.

Bibliography Selection Stage

This selection is made to sort or select the journals to be analyzed. The data downloaded and used are the types of journal articles indexed by Scopus 2015 - 2021. Initial search results through the PoP application yielded 1373 bibliographies. And 643 article already for analysis. And there are have 730 articles that are not selected because they meet not set the criteria.

Table 1. Bibliographic Selection Results.

Publication Year	Choosen	Not Choosen	Total
2015	199	123	76
2016	172	97	75
2017	240	137	103
2018	128	62	66
2019	271	154	117
2020	111	59	52
2021	252	98	154
Total	**1373**	**730**	**643**

Bibliographic Attributes Stage

The Mendeley application is used as a source for storing files from library reference sources which will then be analyzed. The bibliographic metadata is checked and complete for bibliographic analysis. The sections that will be checked as filters are Author name, article title, author keywords, abstract, year, volume, issue number, page, country, number of citations, article links, and publisher. Once the metadata is complete, the bibliometric analysis begins.

Bibliometric Analysis Stage Bibliometric

The analysis is carried out based on one criterion, namely the formulation of the problem that has been determined. With the help of VOS-viewer, it is possible to perform a bibliometric analysis and visualize the analysis results. VOS-viewer is used because it is safe and efficient with large information databases and can provide a variety of visuals for presentations, investigations, and other purposes.

RESULTS AND DISCUSSION
Citation Analysis

The quality of publishing scientific works is seen in academic life that is scientific, one of which is counting the number of times other researchers cite the work, and only then can work be said to be useful (Erwina & Sodikin, 2018; Excellence, 2006; Reuters, 2008). Most of the works cited or quoted sometimes show the work as a subject of discussion or discussion among researchers (Efron et al., 2012; Liu, 2013). In this study, the citation analysis results show that the number of citations per year from 2015-2021 is 17,577 citations. Quote patterns offer different patterns. When viewed over the year, the most citations occurred in 2015 with 3.923 citations, 2017 with 4.044 citations, 2016 with 2.522 citations, 2019 with 2.393 citations, 2018 with 2.361 citations, 2020 with 910 citations and the least occurred in 2021 with 322 citations. Some of the most cited articles are written by M. Donate with 271 citations, G. Santoro with 186 citations, A.F.G.S.L, Dezi with 185 citations, A, Kianto with 161 citations and M, Del Giudice with citations 140.

Table 2. Top 5 highly cited authors

No	Author	Citation	Per Year	Rank
1.	Donate, M.J., Sánchez de Pablo, J.D. Dezi	271	45.17	580
2.	Santoro, G., Vrontis, D., Thrassou, A., Dezi, L.	186	62.00	375
3.	Dezi, A.F.G.S.L.	185	46.25	415
4.	Kianto, A., Sáenz, J., Aramburu, N.	161	40.25	443
5.	Del Giudice, M., Della Peruta, M.R	140	28.00	513

Trend of publication of knowledge management

Measuring the productivity of authors is carried out to know the amount of research produced by researchers and productive writers in scientific journals and a certain period in scientific journals and periods (Rahayu & Saleh, 2017). The publication of articles on problem posing during the last five years has generally decreased and increased.
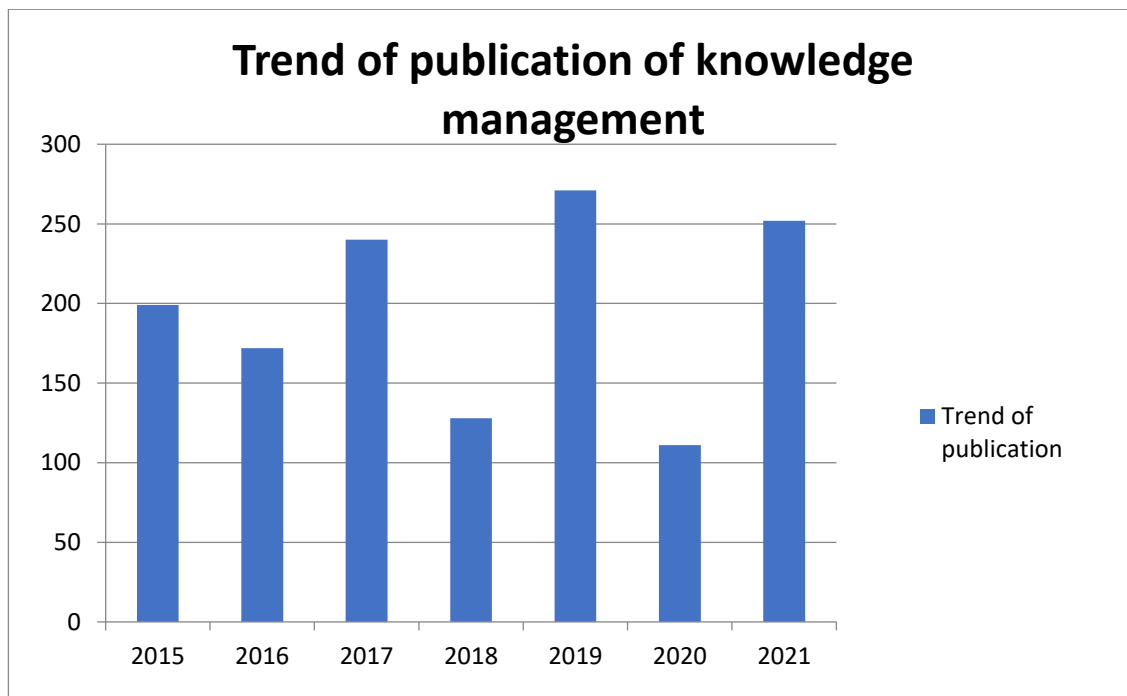
Figure 1. Publication of Knowledge Management Articles From 2015-2021.

Based on Figure 1, it can be said that the trend pattern shows that article writers in various countries have a higher and growing interest in the study of Knowledge Management.

Author Collaboration Analysis

Writing collaboration is carried out in research, considering that analysis is not always done individually (Rohanda & Winoto, 2019). Therefore, there is an opportunity to share knowledge, expertise, and specific techniques in required science and collaboration between researchers and agencies in terms of ideas, resources, and facilities (Widuri & Prasetyadi, 2018). In this study, out of 1776 authors, 15 authors had a strong association. Each author in each of the different linkage groups. Here are the authors with the most links hussain, saddam. kianto, aino. nawaz, faisal. shujahat, muhammad.
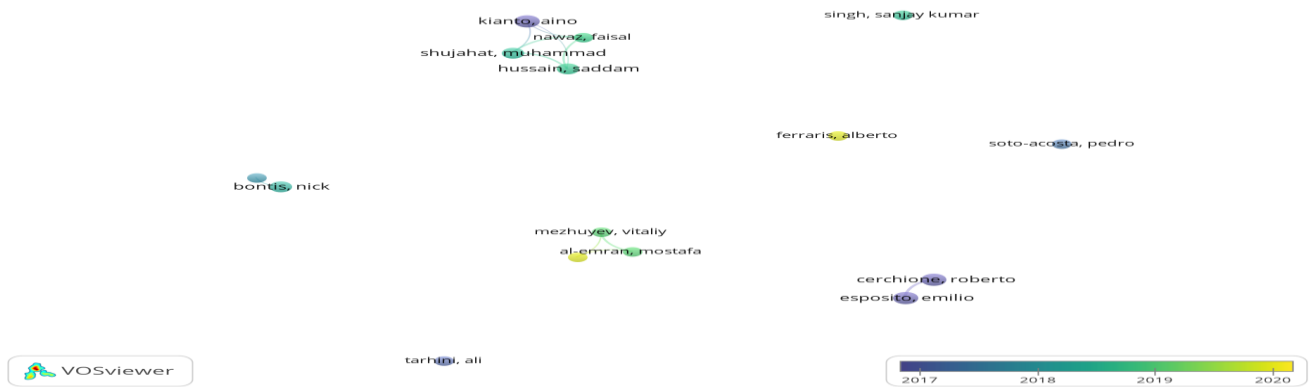
Figure 1. Visualisasi Kolaborasi Penulis.

Trend Analysis of Title Trems

This analysis aims to analyze the content, patterns, and trends of a collection of documents by measuring the strength of terms and counting the number of keywords from a research document that appear simultaneously (Chaomei, 2014; Russell & Rousseau, 2002). Of the 1520 conditions, using the minimum number of occurrences of 10 situation, the results were 17 relevant. The term in the title most used in Knowledge Management articles is "Knowledge Management", with 285 occurrences.
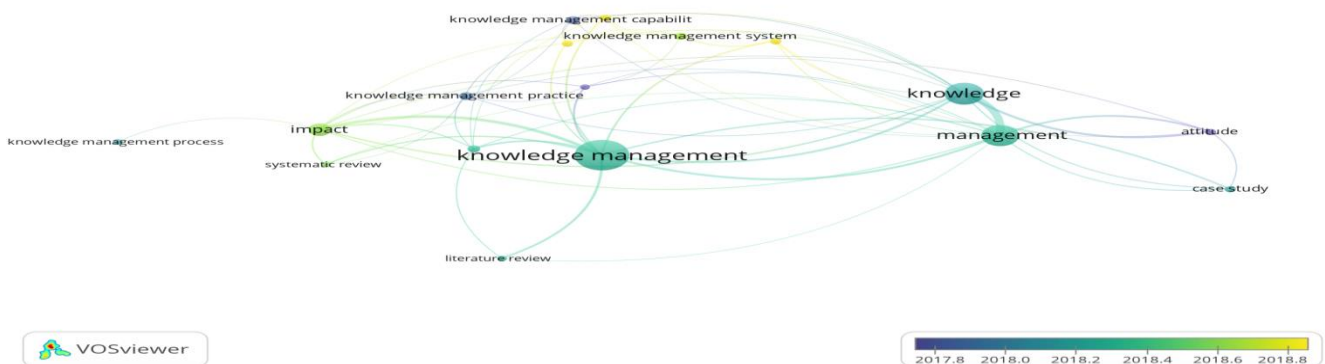
Figure 2. Visualization of Terms in Knowledge Management Article Title.

Analisis Trend Terms Author Keywords

The search results identified 1564 author keywords used in the selected articles, and by using at 5 occurrence, 53 author keywords had a strong connection. The term 'Knowledge Management is the most frequently used by the author as many as 249 channels, followed by 'Knowledge Management (km)' with 31 channels.
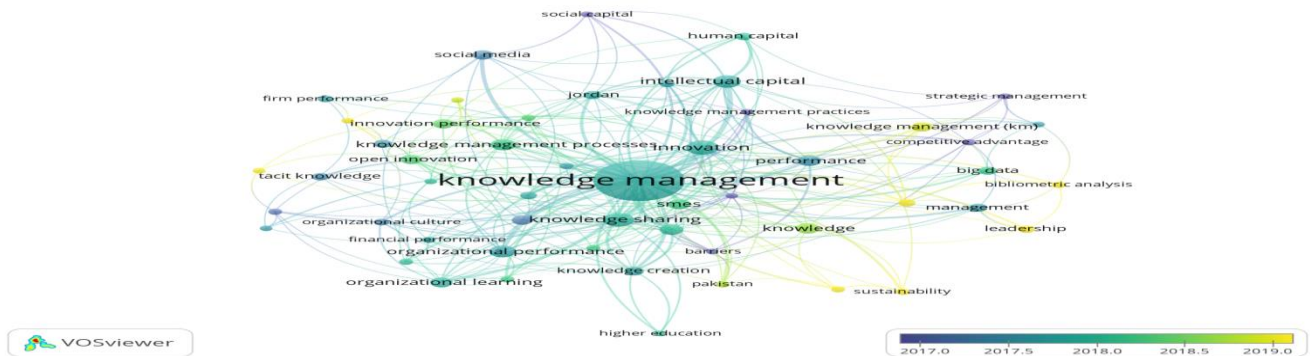

Figure 3. Visualization of Keyword Network Author Knowledge Management Articles.

Abstract Trams Trend Analysis

Based on the analysis of terms often used in the abstract of Knowledge Management articles, 438 terms have a strong link, with the analysis using a minimum number of occurrences of 10 term. The most widely used terms in the abstract that have relevance between abstracts are 'Management Practice' with 77 events.
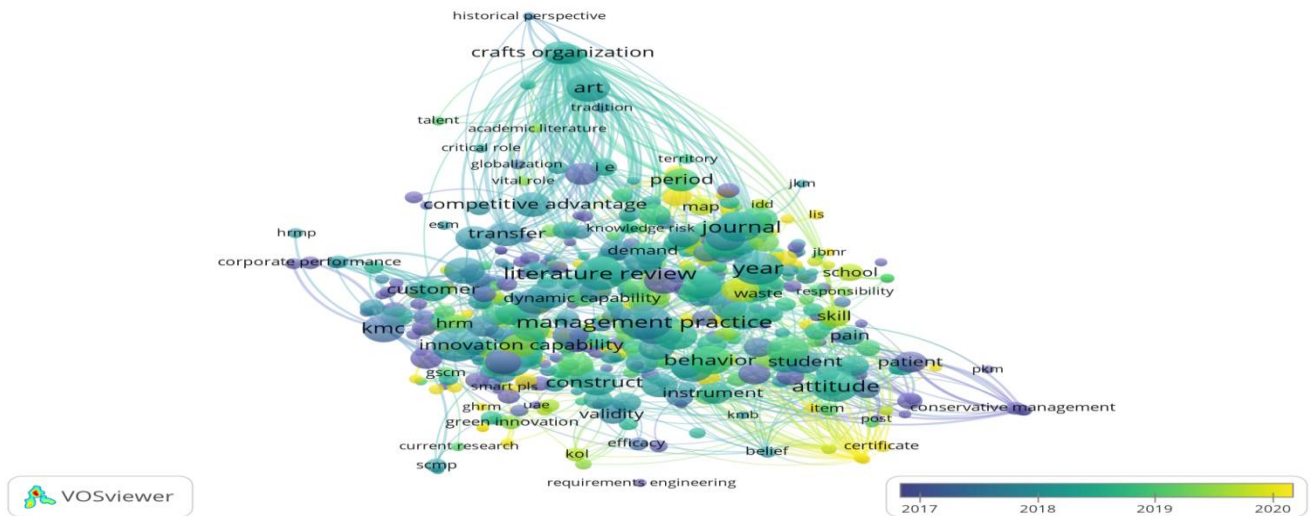

Figure 4. Network Abstract The Most Widely Used Terms Knowledge Management Articles.

Publishers Analysis

The following explains the analysis of journals that have become references in the "knowledge management" theme during 2015-2021. Based on the results of mapping table 2, five groups of journals were found, which shows that the piece of "Knowledge Management" is still worthy of research until now. It can be seen that there are still many authors who discuss the theme of "Knowledge Management". in addition, the journal publishers who publish the article are, on average, Emerald Group Publishing Ltd and Elsevier Inc. As for the explanation, it can be seen from the first order, namely the journal of knowledge management with a magnitude of Quartile 1, published by Emerald Group Publishing Ltd with an average number of authors of 84. The second order is the journal of business research with a magnitude of Quartile 1, published by Elsevier Inc with 20 authors. The third place is the international journal of information management with Quartile 1, published by Elsevier Inc with 17 authors. The fourth is the VINE journal of information and knowledge management systems with Quartile 2, published by Emerald Group Publishing Ltd, with 15 authors. And the fifth place is Sustainability with Quartile 1, published by MDPI AG, with 14 authors. Based on this mapping, it can also be seen about the countries of the publishers; it can be identified that article with The theme of "Knowledge Management" is spread across various countries and continents. The countries that publish the most articles on Knowledge Management are the United Kingdom with 115 titles, the United States with 20 titles, and Switzerland with 14 titles.

Tabel 2. Distribution of Authors "Knowledge Management" by Publishers 2015-2021

No	Name of Journal	Author	Rank Scimago Jr	Country	Publisher
1	Journal of Knowledge Management	Ahmed2021, Annosi2021, Bamel2021, Duan2021, Gomes2021, Haider2021, Iqbal2021, Jarmooka2021, Lei2021, Melovic2021, Quan2021, Serenko2021, Serenko2021a, Swain2021, Agostini2020, Ciampi2020, Ferreira2020b, Paoloni2020, Papa2020, Pellegrini2020, Shahzad2020, Vendrell-Herrero2020, Zia2020,	Journal of Knowledge Management Q1 Management of Technology and Innovation best quartile SJR 2020 1.84 powered by scimagojr.com	United Kingdom	Emerald Group Publishing Ltd

		Ahbabi2019, Ahbabi2019, Cepeda-Carrion2019, Halberstadt2019 ,Iddy2019, Latilla2019, Liu2019b, Latilla2019, Marques2019, Moraes2019, Oliva2019, Pereira2019, Archer-Brown2018, Attia2018, Biscotti2018, Buenechea-Elberdin2018, Cabrilo2018, Castaneda2018, Centobelli2018a ,Gaviria-Marin2018, Gope2018, ManfrediLatilla2 018, Latilla2018, Soto-Acosta2018, Wu2018, Akbari2017, Dayan2017, Dezi2017, Garrick2017, Giampaoli2017, Granados2017, Inkinen2017, Intezari2017, Khan2017a, Liu2017a, Martinez-Conesa2017, McIver2017, OConnor2017, Serenko2017, Sumbal2017,			

		Tian2017, Uden2017, Ashok2016, Giudice2016, Heisig2016, Inkinen2016, Kianto2016, Mariano2016, Massaro2016, Soto-Acosta2016, Zieba2016, Saifi2015, Bharati2015, Chang2015, Iskoujina2015, Lee2015a, Lin2015, Mariano2015, Massaro2015, Saifi2015, Serenko2015a, Serenko2015, Tan2015.			
2	Journal of Business Research	Vaio2021, Ferraris2021, Hock-Doepgen2021, Singh2021, Vaio2021, Friedrich2020, Alberti-Alhtaybat2019, Jaziri2019, Loon2019, Mahdi2019a, Maravilhas2019, Nisar2019, Shujahat2019, Sousa2019, Alberti-Alhtaybat2019, Kianto2017, Nowacki2016, Torugsa2016, Donate2015, Fidel2015	Journal of Business Research — Q1 Marketing best quartile — SJR 2020 2.05 — powered by scimagojr.com	United States	Elsevier Inc.

3	International Journal of Information Management	Israilidis2021, Al-Emran2018b, Al-Emran2018, Colomo-Palacios2018, Hwang2018, Acar2017, Barao2017, Cerchione2017, Vasconcelos2017,Ferreira2017, Martinsons2017, M.2017,Vasconcelos2017,Venkitachalam2017, Costa2016, Mantymaki2016 ,Mao2016, Gagnon2015, Ogiela2015		United Kingdom	Elsevier Inc.
4	VINE Journal of Information and Knowledge Management Systems	Arongo2021, Cheak2021, Islam2021, Islam2021a, Sensuse2021, Acosta-Prado2020, Adeinat2019, Gou2019, Meher2019, Payal2019, Abualoush2018a , Abualoush2018a ,Turulja2018, Shujahat2017, Costa2016a		United Kingdom	Emerald Group Publishing Ltd
5	Sustainability (Switzerland)	Bratianu2021, Chang2021a, Frolova2021, Kavalic2021, Abbas2020a, Munoz-Pascual2020, Cuguero-Escofet2019, Hitka2019,		Switzerland	MDPI AG

		Pinto2019, Sanguankaew2019,Trogrlic2019, Zbuchea2019, Karamat2018, Cerchione2015			

CONCLUSION

The citation analysis on Knowledge Management articles during the 2015-2021 period shows an increase and a decrease. The highest number of citations occurred in 2015, while a drastic decrease in citations occurred in 2021. The trend of publishing articles on Knowledge Management over the last seven years has generally decreased and increased. The highest number occurred in 2019, and the decline in published articles occurred in 2020. The collaboration of the authors in Knowledge Management articles shows quite a collaboration. Ten writers are involved with one another, namely Ahmad, Sahil. Aktar, bacher. Early, Abdul. Farnaz, Nadia. Faruque, asg nderitu, christine. Rahman, Atiya. Rakshanda, shagoofa. Saidu, Samuel. Thapa, Basanta. The term in the title most used in Knowledge Management articles is 'Knowledge Management' with seventy-one occurrences. The most widely used keyword term in Knowledge Management articles is the term 'Knowledge Management' with fourteen entries. The term in the abstract that is most commonly used in Knowledge Management articles is Knowledge' with seventy-seven occurrences.

The development of Knowledge Management research is experiencing an increasing dynamic trend; although there has been a decline in the trend, in 2021, the Knowledge Management trend tends to increase. Information is obtained from the development of Knowledge Management research about the evolution of article development from the Scopus database from 2015 to 2021, ranking in the top 5 (author, journal name, and article citation). With VOSviewer, several bibliometric analyzes can be visualized, including co-authorship analysis and co-occurrence analysis. The bibliometric analysis provides an overview and knowledge of what will be done for further research. Furthermore, it is important to deepen further and enrich the literature review results using a more extensive (trusted) database and develop selected keywords (compared-analyzed-elaborated) using other similar tools/software that is better Citespace with better features. Features include visual exploration of a research field, Structural and temporal overview, Finding hot topics and emerging trends, Cascading citation expansion, Systematic visual analysis of scientific literature, Intellectual landscape of a knowledge domain, and always following scientific developments (updates) on topics that are used research.

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