

A BIBLIOMETRIC ANALYSIS OF SECURITY FOR DATA ACCESS AND CONTROL IN CLOUD COMPUTING USING VOSVIEWER

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Abstract: Security is the measure challenge while access the data on cloud. Every day there is at least more than 27 cases in India reported on the data hacking while accessing on cloud. The Vosviewer software was used to extract search results. Later, the results of Bibliometric mapping were examined in greater detail. As per our research this is the first study conducted with the help of VosViewer to do the Bibliometric analysis of security of data access on cloud in India.

Keywords: Security, Data Access, Cloud Computing.

1. Introduction:

Cloud computing is a relatively recent distributed computing technology. L. Kleinrock stated in 1969 [1] that computer networks are still in their infancy. However, as they mature and become more sophisticated, we should expect to see the proliferation of 'computer utilities,' which, like current electric and telephone utilities, will serve individual homes and workplaces across the country." His concept accurately reflected today's utility-based computing paradigm. The beginnings of cloud computing may be traced back to grid computing technology. [4]

2. Materials and Methods :

The SCOPUS database was examined between 2012 and 2022, according to the findings (TITLE-ABS-KEY (security) AND TITLE-ABS-KEY (data AND access) AND TITLE-ABS-KEY (cloud AND computing)). A CSV file was created using the information extracted from the documents, which included the author, year of publication, language of publishing, journal, title, affiliation, keywords, and kind of document. Recovered data was made available to the public on March 30th, 2022. Study of bibliographic coupling, co-authorship, co-occurrence, citations and co citations was carried out with the aid of the software VosViewer. (1.6.18). [2]

3. Result and Discussion:

The publication year, author, language used, journal, title, affiliation, keywords, and kind of document, as well as an abstract and total citation count, were all obtained from the collected publications addressing the issue and exported to a CSV file. In March 2022, the data recovery was accomplished. VosViewer was used to investigate bibliographical coupling, co-authorship, co-occurrence, citations, and co-citations (1.6.18). "Links characteristics" and "Complete connection strength property" are two frequent weight properties that are linked. [7]

3.1. Bibliometric Investigation of the Keywords: The study report's authors provided keywords that appeared multiple times in the SCOPUS database. These keywords were utilized to undertake a thorough examination of the 869 keywords, 526 of which satisfied the criteria. The keywords "security" (whole link strength 332) and "data access" (total link strength 587) had the strongest links to "cloud computing" (whole link strength 1027).



Fig 3.1. The Bibliometric study of Cloud Computing Detection keywords in published works is summarized in the table below. All of the keywords appear in the same sentence. The recurrence of the occurrence is indicated by the node dimension. Co-occurrences within that publication are indicated by bending between nodes. The circle's various shapes represent the keyword's importance. The closer four nodes are, the more often four terms co-occur.

Selected	Source	Documents	Citations	Total link 🗸 strength
	ieee access	70	490	60
V	future generation computer systems	27	493	26
	ieee internet of things journal	46	368	23
V	information sciences	11	258	22
	computer communications	8	224	13
V	electronics (switzerland)	11	68	13
	ieee transactions on services comp	23	295	13
	ieee transactions on cloud comput	24	228	12
	journal of ambient intelligence an	17	110	12
V	ieee communications surveys and	5	402	11

Table 1- Describe the top 10 Journal in the field of working pregnant Cloud Computing.



Fig-3.2.-The top ten most active journals in the world

Table 2 –In the field of Cloud Computing, these ten countries have the best records for innovation.

Country	Documents	Citations	Total link v strength
china	575	4271	257
united states	201	2200	189
india	752	2291	152
saudi arabia	86	332	105
united kingdom	67	654	102
australia	68	1373	76
pakistan	56	174	73
canada	41	1138	55
germany	41	412	47
singapore	30	414	45

Table 2- Shows the list of top 10 Countries contributing in this domain related with Cloud computing



Figure – 3.3.2.(B)

Fig-3 Illustrates the bibliographic connection of – (A) contains country references. The different colours represent the different groups, while the diameter of the circles represents the frequency of referrals. (B) Citations of the sources The circle's diameter

denotes the frequency of references, while the various colours represent the various categories

3.2. Bibliometric Examination of the Co-Citation









As seen in Figure, the records and sources used to construct a bibliography are linked together.4 (A), nineteen groups were obtained. Figure 4(B) – shows the co-citation of authors Glover, v. has 57 citations with 5116 link strength.

Fig-5 The Bibliometric analysis of the co-citation and bibliographic coupling is shown.



Figure-3.5. Show Co- Occurrence of Indexed Keywords

4. Conclusion:

Between 2012 and 2022, a total of 2019 papers were selected from the SCOPUS database on the subject of security, of which 783 were included in the SCOPUS core database. The majority of subsequent keywords had a strong connection to the research study's keywords "data access" and "cloud computing." future generation computer system was the most cited journal, with three articles and 493 citations. China has published 557 publications that received 4271 citations, whereas Wang. H. published thirty four articles that received 185 citations [9]. The published material has mostly focused on three topics: security, data access and Cloud Computing. Security will accessing data in cloud impacts individuals' daily lives, which is why various researchers have focused their attention on this subject and released several high-quality study publications. It is critical to examine the quality of several high-quality research articles and to extract useful findings. We will provide a model to predict the how to enhance the security while accessing the data on cloud.

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