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Mix Methods of Citation Mapping From 2012 To 2022 Using Data Visualization Techniques: Keyword Of 'Koha' and 'Library Management Software'

[1]Mr. Bidhan Dolai, [2]Dr. Sanjay J. Shenmare

[1]Assistant Librarian, [2]Librarian
[1]MAEER MIT PUNE's Maharashtra Institute of Medical Education & Research Medical College, Pune.
[2]Bhausaheb Bhore Shivshakti Mahavidyalaya Babhulgaon, Dist. Yavatmal – 445101 (Maharashtra)

Abstract

A significant quantity of research is conducted yearly in the area of koha as library management software. Google Scholar is the one that is most frequently used indexing database. It contains extensively utilised index databases. By searching for the term 'koha and 'Library Management Software', the current study seeks to give a citation analysis of research publications that are indexed in Google Scholar. The Google Scholar databases were used to compile the top 20 papers that dealt withkoha as library management software. The Publish to perish literature review tool's data extraction technologies have been applied. Although a sizable number of papers were extracted by this software, only a limited subset (n = 20) were used in this study.

This article uses the VOS viewer to introduce author link construction. This modification will take annual publishing growth into account. The period covered by the current study is 2012 to 2022. The major objective of this is to review and assess the research trend of koha as library management software from 2012 to 2022.

Keyword: Citation Mapping, data visualization

Introduction:

In this era of technological advancement, which is currently evolving so quickly, analysis of bibliometric data that is visually displayed through mapping tools is quite important. Alan Pritchard coined the word "bibliometric" for the first time in 1969 to describe a brand-new field in which quantitative techniques were applied to assess the effectiveness of written materials in scientific communication. A growing focus of research from various fields of human knowledge is bibliometric. Over the past few decades, bibliometric has evolved into a common tool for science policy and research management. Publication and citation statistics as well as other, more advanced bibliometric methodologies are heavily incorporated into all key compilations of science indicators. In particular within the scientific and applied disciplines, bibliometric approaches or "analysis" are now firmly established as scientific specialisations and are a crucial component of research evaluation methodology. The techniques are being employed more frequently when researching different scientific topics and in the rankings of colleges and universities around the world. With enough investigations conducted and the resulting literature, it is now viable to analyse the bibliometric method using the methodology that it was designed for. To obtain the outcomes of the description and varied data on the advancement of science and the effectiveness of research that has been conducted, mapping tools are utilised. VOSViewer is an example of a mapping tool that may be used to undertake bibliometric data analysis mapping.

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Objectives:

1. Mapping literature related to koha library management software.
2. Find out top 20 cited literature related to koha library management software.

Methodology:

The Publish or Perish programme was used to collect data. Microsoft Excel and VOS Viewer were used to produce each and every table in this study. Articles are reviewed and cited using Mendeley. This article's presentation, analysis, and working approach are all influenced by bibliometric analysis.

Result and Discussion

Top 20 Google scholar indexed publications from the years 2012 to 2022 were acquired with the aid of Publish or Perish. These articles had a total of 522 citations, with themean of 26.1.

Figure 1:

Figure 1 shows data retrieving techniques using POP (Publish or Perish software).

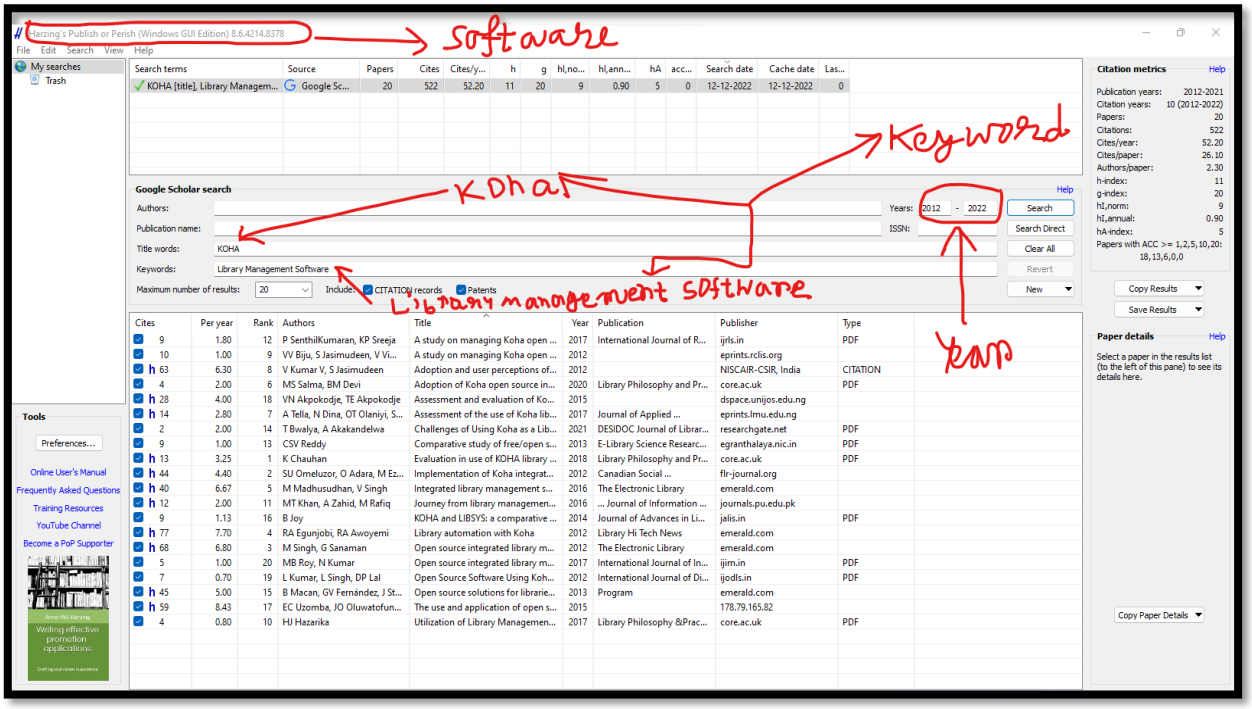


Table 1: Total Citation

Total 20 literatures introduced in this article with total citation of 552.

Query	Source	Papers	Citations
koha [title], library management software from 2012 to 2022	Google Scholar	20	522

Table 2: Index metrics

H-index of those papers is 11 whereas g_ index is 20.

Query	Source	Papers	h_index	g_index
koha [title], library management software from 2012 to 2022	Google Scholar	20	11	20

Table 3:

Table 3 shows paper with citation count and citation year

SR No.	Cites	Authors	Title	Year
1	9	P SenthilKumaran, KP Sreeja	A study on managing Koha open source library management system in the University Library, Central University of Kerala	2017
2	10	VV Biju, S Jasimudeen, V Vimal Kumar	A study on managing Koha open source library management system using live CD	2012
3	63	V Kumar V, S Jasimudeen	Adoption and user perceptions of Koha library management system in India	2012
4	4	MS Salma, BM Devi	Adoption of Koha open source integrated library management system: a review of literature	2020
5	28	VN Akpokodje, TE Akpokodje	Assessment and evaluation of Koha ILS for online library registration at University of Jos, Nigeria	2015
6	14	A Tella, N Dina, OT Olaniyi, SA Memudu…	Assessment of the use of Koha library software in four selected university libraries in Nigeria	2017
7	2	T Bwalya, A Akakandelwa	Challenges of Using Koha as a Library Management System among Libraries in Higher Education Institutions in Zambia.	2021
8	9	CSV Reddy	Comparative study of free/open source integrated library management systems (fosilms) with reference to koha, newgenlib and E-granthalaya	2013
9	13	K Chauhan	Evaluation in use of KOHA library management software in OPJGU, sonipat	2018
10	44	SU Omeluzor, O Adara, M Ezinwayi…	Implementation of Koha integrated library management software (ILMS): the Babcock University experience	2012
11	40	M Madhusudhan, V Singh	Integrated library management systems: Comparative analysis of Koha, Libsys, NewGenLib, and Virtua	2016
12	12	MT Khan, A Zahid, M Rafiq	Journey from library management system (LMS) to KOHA by Government College University Libraries, Lahore	2016
13	9	B Joy	KOHA and LIBSYS: a comparative study	2014
14	77	RA Egunjobi, RA Awoyemi	Library automation with Koha	2012
15	68	M Singh, G Sanaman	Open source integrated library management systems: Comparative analysis of Koha and NewGenLib	2012
16	5	MB Roy, N Kumar	Open source integrated library management systems: comparative analysis of koha and NewGenLib	2017

17	7	L Kumar, L Singh, DP Lal	Open Source Software Using Koha: A Case Study of LR Institute Of Engineering &Technology	2012
18	45	B Macan, GV Fernández, J Stojanovski	Open source solutions for libraries: ABCD vs Koha	2013
19	59	EC Uzomba, JO Oluwatofunmi, CA Izuchukwu	The use and application of open source integrated library system in academic libraries in Nigeria: Koha example	2015
20	4	HJ Hazarika	Utilization of Library Management Software College Library in Assam: A Reference with Koha and SOUL.	2017

Table 4:

Table 4: shows an analysis with citation mean 26.1; highest citation of title 'Library automation with Koha by R.A. Egunjobiand R.A. Awoyemi, in last ten year of publication.

Range 75 of total citation count define that top citation is near to the range and lower is 2; far away from the range, identifies high volatility of research trend. Also > 6 standard error shows the instability of year wise citations.

Year :2012 - 2022	
Mean	**26.1**
Standard Error	**5.545458075**
Range	**75**
Minimum	**2**
Maximum	**77**
Sum	**522**
Count	**20**

Table 5:

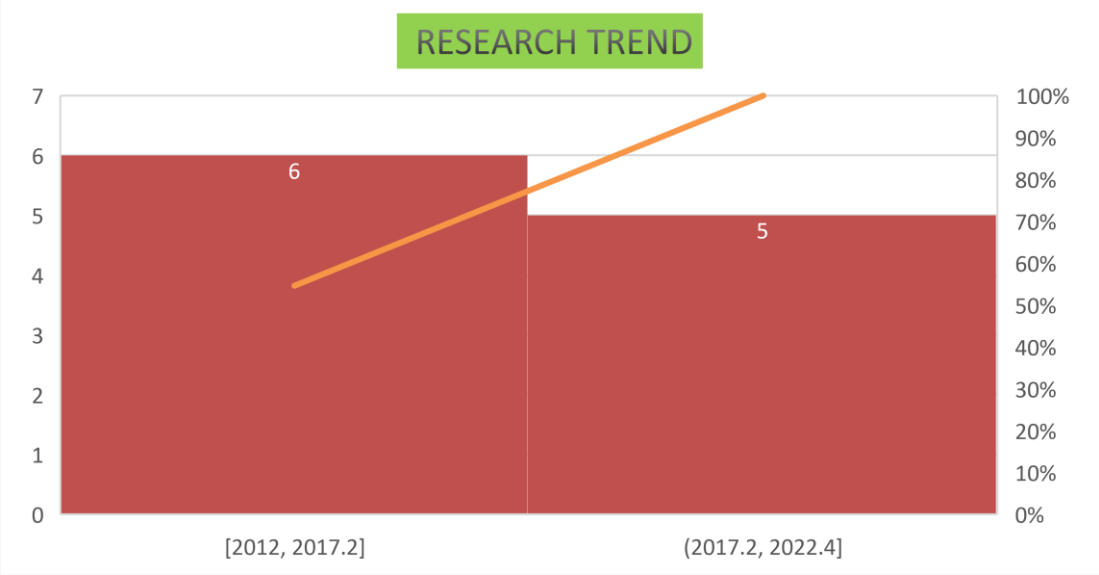
Below table 5 shows the year wise published literature and indexed in google scholar.

Year	Published
2012	6
2013	2
2014	1
2015	2
2016	2
2017	4
2018	1
2019	0
2020	1
2021	1
2022	0
Correlation	**-0.66111**

Year wise publication is negatively related as corelation is **-.66**

Figure 2:

Figure 2 shows down trend of research related to koha as library management software or may be less indexed in google scholar.



4 of 43 authors, the total strength of the co-authorship links with other authors.

Table 6:

With the help of Vos Viewer tried to identify link of author that cited each other publication and they are in the year of 2012.

Author	Cluster	weight (Links)	weight (Documents)	score (Avg. pub. Year)
biju, vv	2	2	1	2012
jasimudeen, s	1	3	2	2012
kumar, v vimal	2	2	1	2012
v, v kumar	1	1	1	2012

Figure 3: Map of linked by authors

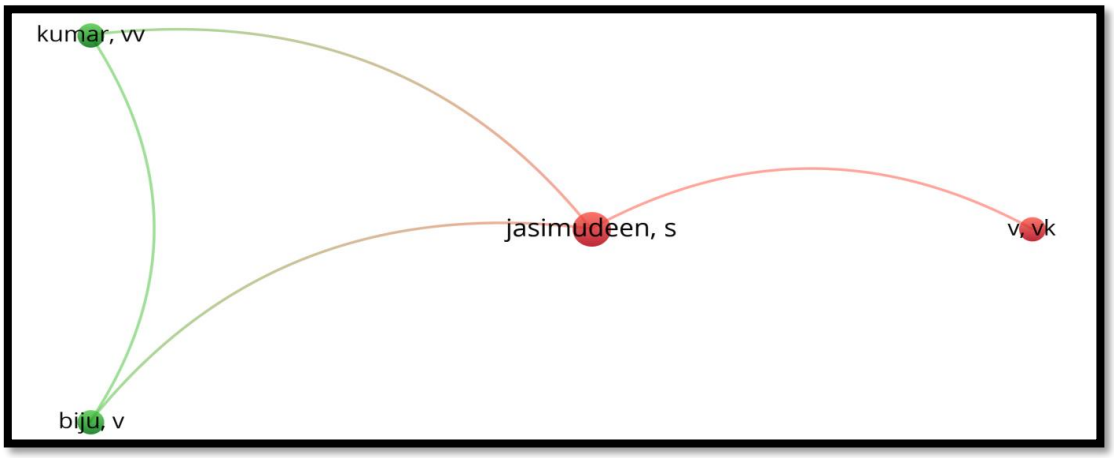


Table 7: Keyword Mapping

Here used all keyword analysis for the co-event analysis, preserving the required minimum of 5 occurrences for each term. 137 objects are mapped. Visualization augmentation Figure 4 and table 7 depicts a keyword co-occurrence analysis.

Sr No.	Term	Occurrences	Relevance score
1	koha	13	1.4499
2	library	13	1.2837
3	library management system	13	1.2165
4	study	8	0.2541
5	use	5	0.7957

Figure 4: Visualization

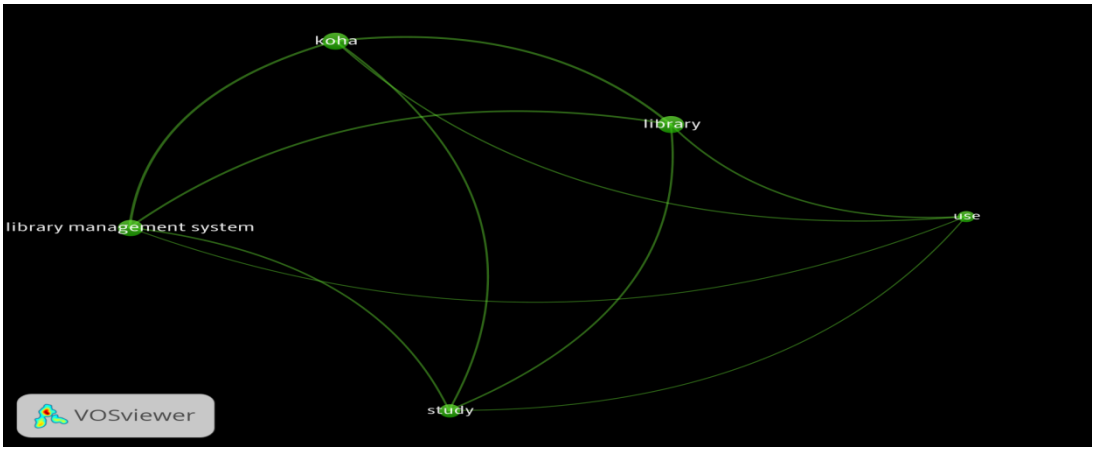
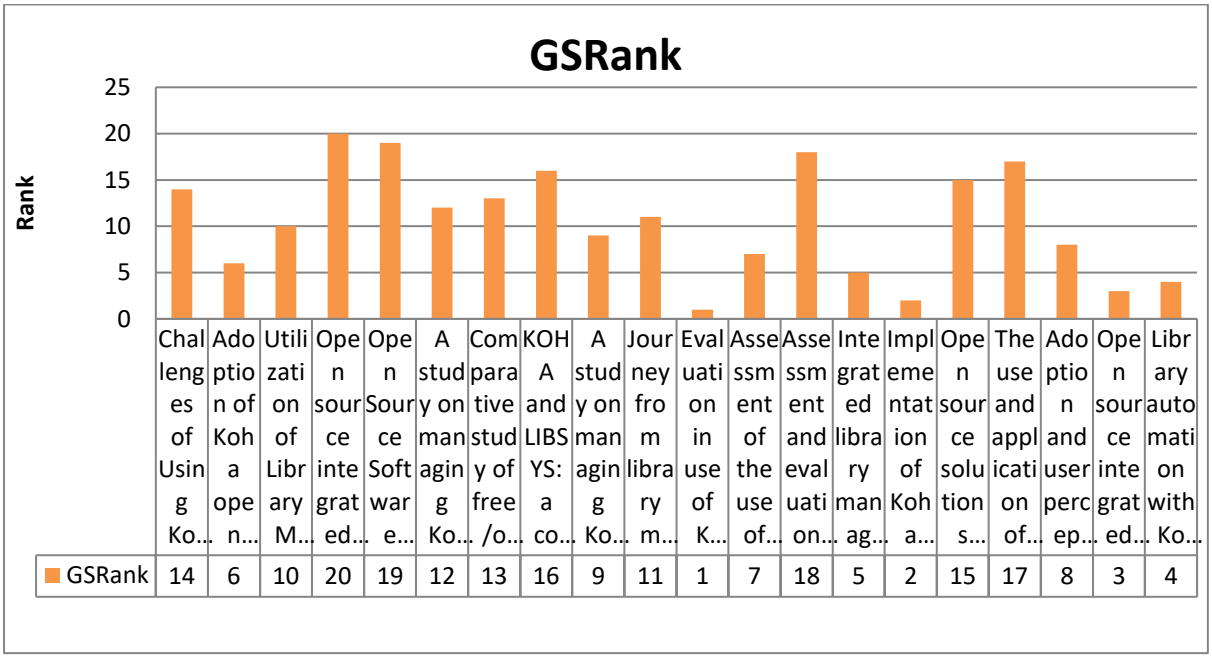


Figure 5: Google scholar rank



Among 20 literatures, title 'Evaluation in use of KOHA library management software in OPJGU' by K Chauhan, ranked as number one according to google scholar.

Conclusion

The publication features of the subject, particularly the importance of international publication, provide a first and reliable indicator of whether bibliometric analysis is suitable to a certain topic. Bibliometric analysis is typically appropriate if international journals are a key channel of communication in a discipline. Therefore, in order to determine whether bibliometric analysis can be used with reliability, it is crucial to investigate the publishing habits of a research group, department, or institute.

Science communication has transformed as a result of the Internet. The internet is used by researchers for both information-seeking and presentation purposes. There are numerous additional articles and data available via institutional and individual websites in addition to the non-WoS publications. As a result, webometrics, which makes use of data from the Internet, provides intriguing further potential to support citation-based bibliometric analysis in evaluation and mapping methodologies.

Negative effects, improper use, and abuse of bibliometric indicators can be observed on both an individual and social level. Researchers and journal editors aim to enhance or affect the outcomes of indicators designed to quantify their success, changing the behaviour of publication and citation, while universities and nations reward publishing in high-impact journals. The use of bibliometric indicators to evaluate research outputs and as a basis for funding and hiring decisions promotes more unethical behaviour. As the pressure increases, academics are more likely to be tempted to take short cuts to bolster their publishing and citation records.

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