12-20-2021

A bibliometric analysis of Serials Review from 1991 to 2020

Azeem Akbar
Institute of Information Management, University of the Punjab, Lahore, Pakistan Librarian, Govt. Raza Farooq Memorial Library PirMahal, Toba Tek Singh, Pakistan, azeemakbar54@gmail.com

Akira Jbeen
Deanship of Library Affairs, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, ajbeen@iau.edu.sa

Ayesha Gulzar
University of Sargodha, ayeshagulzar3890@gmail.com

Abid Iqbal
Prince Sultan University, Riyadh, KSA, iabid@psu.edu.sa

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Azeem Akbar

PhD Scholar

Institute of Information Management, University of the Punjab, Lahore, Pakistan

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azeemakbar54@gmail.com

Akira Jbeen

Deanship of Library Affairs, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia

ajbeen@iau.edu.sa

Ayesha Gulzar

M. Phil Scholar

University of Sargodha

ayeshagulzar3890@gmail.com

Abid Iqbal

Librarian

Prince Sultan University, Riyadh, KSA

iabid@psu.edu.sa

Abstract

The study's objectives were to identify the document type, publishing trends, authorship patterns of research, most prolific authors, countries and keywords, top citied articles, and country collaboration of published articles in Serials Review (SR) through bibliometric measures from 1991-2020. The data was retrieved from the Scopus database and analyzed through VOSviewer, Microsoft excel, and Biblioshiny. The result found that most of the studies were published in the form of empirical (1785) with total citation (4998) during 1991-2020. Publications were increased from 2002 to 2004, but after 2014 the publications ratio decreased. A single authorship pattern was shown by most of the publications. Blythe, K published 70 publications from 1991-2020, while Collins had 194 citations against only 30 publications. The article titled “The access/impact problem and the green and gold roads to open access” having 223 citations. The countries’ collaboration was shown that the USA and Canada were having 20 research collaborations during 1991-20. Academic libraries, open access, and electronic resources were the most used keywords by the authors. It can be beneficial for readers to understand highly cited journals, the most prolific authors and the bibliographic coupling of institutions. It is also helpful for and editorial team of SR for further developments.

Keywords – Scientometrics, Bibliometric review, Serials Review, Scopus

Introduction

Bibliometric review on specific journal is becoming the more interesting area of library and information science research. Serials Review (SR) is a peer-reviewed journal for the serials community. This journal publishes articles, book reviews, conference papers, columns, interviews and so on. In this changing nature of serials, this journal offers various types of ideas to librarians, publishers, researchers, and vendors. It emphasizes different aspects of serials management, along with it also covers collaborative efforts, bibliographic studies, reference and access issues, cataloging, and acquisitions. This journal is indexed in Clarivate Analytics; EBSCOhost; Academic Search Complete; H.W. Wilson; Master FILE Complete; MLA International Bibliography; TOC Premier Elsevier BV and Scopus. According to Journal Citation Report (2019), the impact factor of this journal is 0.425 and falls in Quartile 4 rank (Q4). According to the (JCR) list of information science & library science journals, this journal is on 76th number out of 87. Bibliometric is a quantitative analysis of scholarly publications, intended to indicate their impact on public and academic discourse. This method describes the statistics of publications and citations trends within a given field and body of literature. Researchers used this method to examine the work of a single author or to describe the relationship between different authors and their works (University of York, 2021). Before the term of bibliometrics, the word 'statistical bibliography' was used instead of this. In 1922, E. Wyndham Hulme used the term statistical bibliography, and this term was used before the bibliometrics term was used.

After 35 years, Pritchard (1969) used the term "bibliometrics" which was published in the Journal of Documentation (JDoC) in December 1969. Pritchard used the heading of the first paragraph of his paper, "empirical hyperbolic distributions (Bradford-Zipf-Mandelbrot) for bibliometric description and prediction." Before Prichard, this field was used as statistical

bibliography, and he observed that this term is not acceptable in this science and technology era. He also concluded that there is a misunderstanding between statistical bibliography and statistical-related bibliography. But the term “bibliometrics” is clear and not overlapped with other terms like biometrics, scientometrics, and infometrics and so on. After a year, “Bibliometrics” became the subject heading in the Library and Information Science Abstract (LISA). So Pritchard and JDoC played a vital role in the history of Bibliometrics.

Bibliometrics has a long history as many studies have been conducted related to this field. This field is proliferating, and publications are also increasing day by day, according to Scopus Database. In 2019, almost 1,061 documents were published in this field (Scopus, 2020). Due to the enhancement of this trend in the field of scientific research, Mokhnacheva and Tsvetkova (2020) concluded that from 2001- 2019 the publications were distributed over all subjects like science, computer science and technology, however before this period, they found a wide range of documents were published in the field of Library and Information Science related to bibliometrics.

Citation Analysis is also a process of evaluating different citations cited in different articles, journals, and books. In this ever-changing era, citation analysis is used for examining the reputation of author, journal and institutions (Parthasarathy and Tomar, 2015). In the past, for bibliometric review of the single journal, some important data were gathered, i.e. frequencies of publications, received citations, prolific authors, institutions, and countries were studied. Now in this digital era, researchers use many bibliometric software packages to map and visualize different aspects.

Moral-Munoz et al. (2020) did a comparative analysis of different soft wares of bibliometric. They concluded that bibliometric has a more extensive set of techniques and it’s

suitable for practitioners. Biblioshiny, and VOSviewer have attractive options for visualization and these are compatible with different sources. SciMAT also has exporting capability and strong pre-processing.

Singh and Chander (2014) conducted a bibliometric analysis to examine the various publication trends of Library Management from 2006-2012. They found that 336 articles were published in this journal from 2006-2012, but 52 articles were published in volume 27 during 2006. Single author distribution was on top (56.55 percent), and the USA leads the highest contribution. Most of the papers were research papers and universities' publications were higher than others institutions like colleges and government departments.

Haq, et al., (2020) inspected that 1,196 documents were published in the Journal of the Association for Information Science and Technology (JASISIT) from 2014-2019. Most of the documents were original research articles and were published in 2017. Thelwall from the University of Wolverhampton, UK, was found the prolific author, and he also contributed to top ten most cited papers. 53% literature was published from the USA and England, and minimum productions were from France and India. The researchers used VOSviewer to analyze all these patterns.

Swain et al., (2013) encapsulated 275 documents that were published in Library Review (LR) during 2007-2011. Out of 275, there were 116 research papers, and most documents were published in 2007, along with average lengths of articles were 12 to 16 pages. The majority of authors cited journals 3,117 citations; (50.11 percent), followed by books (1,287 citations; 20.69 percent) and e-citations (1,060 citations; 17.04 percent) at the time of write-up. Almost 38% of production was from the UK, and the most productive author was also from the UK. Tsay and Shu (2011) enclosed that most journal articles were cited and library science, science, and social

were on top-cited classes of the cited journals in the Journal of Documentation (JOD). Searching was the most cited subject from JOD documents and information storage, and retrieval remained on high related to books subjects.

Satpathy et al., (2014) configured out a study on the top ten open source journals of library and information science from the year 2011, where they found that most contribution was by single authors as well as collaborative work was also reassuring. The percentage of citation was 21.48%, and the contribution metrics related to developed countries were very high like the USA.

Ahmad et al., (2018) evaluated 4,206 documents from 2002-2016 on the digital library, 2015-2016 was the most productive year. The Electronic Library was the source title, and research articles were the most cited despite other documents like reviews, editorial board, and book reviews. The University of Illinois remained on 1st as well as Fourie I from South Africa found as a prolific author.

Mokhtari et al., (2020) evaluated 2,056 documents published in Journal of documentation (JDoC) from 1945 to2018. Articles production increased during 1997-2018, a large number of citations were received (1,773) in 1972. Reference service, information retrieval indicated highly cited subjects in addition to Lecture Notes in Computer Science (749 citations), remained on 2nd after JASISIT (1,374 citations). For mapping and clustering, VOSviewer was used. Lijina (2018) did a bibliometric review on 161 articles of the International Journal of Library and Information Science (IJLIS) from 2012-2017, collaborative publications were on a high (47.83%), and an average length of articles was ten pages. India was on top related to the production of articles.

Mohadab et al., (2020) examined that production of scientific research about Covid-19, China and the USA are leading countries, while Saudi Arabia and Egypt from Arab regions are

also putting their efforts into this pandemic. Most articles were published in the medicine field and this data was drawn from PubMed, Scopus, and Web of Science. Warraich & Ahmad (2011) highlighted Some Bibliometric Parameter on Pakistan Journal of Library and Information Science, where they concluded that single authorship pattern remained on top, the productivity of documents was from Pakistan, and University of the Punjab was on high rank. The average length of these papers was 8.84 as well as 51 papers had 1-20 citations, and most papers were in the English language.

Tiew et al., (2001) identified that a large number of production of articles were in 1997 volume (02), out of 76 articles, 39 % citations were self-citation by authors while (21%) were from Journal self-citation. Mostly article were production Library schools (Institutions) of Malaysia and subject coverage were on Scientific & Professional Publishing. This analysis was conducted on the Malaysian Journal of Library and Information Science (MJLIS) 1996-2000. Moreover, Bakri and Willett (2008) also conducted a bibliometric review on (MJLIS) from the period 2001-2006; in this study, researchers found that Zainab A. N. was the prolific author and contribution of Malaysia was on top. Simisaye & Osinaike (2010) conducted a citation analysis on Journal of Library and Information Science from 2004-2009. , A total of 72 articles were published in this period and most of the articles were cited by journals articles. African Journal of Library, Archives and Information Science led top-ten highly cited journal of library science and mostly material were cited by the single author. At the same time 8.8% citations were from internet or web-based.

Shukla & Moyon (2017) elucidated 218 research articles published in International Research: Journals of Library and Information Science (IRJLIS) from 2011-2015. A major contribution was from volum3, 4, and 5, but the December issue showed high production of

articles. From 1991-2015, almost 91.14% of literature was cited in the publications of (IRJLIS). India ranked high related to productivity and contribution of state of Tamil Nadu, India was also on the top in the list.

Research Objectives

- What are the most frequently used document types in SR during 1991-2020?
- What are the publishing trends on SR during 1991-2020?
- What are the authorship patterns of research in SR during 1991-2020?
- What are the most productive authors, countries, and keywords in SR from 1991 to 2021?
- What are the most frequently used keywords in SR from 1991 to2020?
- What are the country collaboration patterns of research in SR from 1991 to 2020?

The study aims to evaluate the bibliometric framework of SR from 1991-2020. A bibliometric review of this scholarly journal will contribute to the literature. The purpose of this study is to identify the research output of SR from1991-2020.

Methodology

The data of Serials Review Journal were collected from the Scopus database from 1991 to 2020 in May 2021. During 1991-2020 more than 29 years span period, a total number of 1965 publications were retrieved by using below mentioned search query entered in Scopus database: SRCTITLE (serials

AND review) AND (EXCLUDE (PUBYEAR , 2021) OR EXCLUDE (PUBYEAR , 1990) OR EXCLUDE (PUBYEAR , 1989) OR EXCLUDE (PUBYEAR , 1988) OR EXCLU DE (PUBYEAR , 1987) OR EXCLUDE (PUBYEAR , 1986) OR EXCLUDE (PUBYEA R , 1985) OR EXCLUDE (PUBYEAR , 1984) OR EXCLUDE (PUBYEAR , 1983) OR

EXCLUDE (PUBYEAR , 1982) OR EXCLUDE (PUBYEAR , 1981) OR EXCLUDE (P UBYEAR , 1980) OR EXCLUDE (PUBYEAR , 1979) OR EXCLUDE (PUBYEAR , 197 8) OR EXCLUDE (PUBYEAR , 1977) OR EXCLUDE (PUBYEAR , 1976) OR EXCL UDE (PUBYEAR , 1975) OR EXCLUDE (PUBYEAR , 1973)) AND (EXCLUDE (DO CTYPE , "ed") OR EXCLUDE (DOCTYPE , "no") OR EXCLUDE (DOCTYPE , "er") OR EXCLUDE (DOCTYPE , "le") OR EXCLUDE (DOCTYPE , "sh"))

The published material was English language only. All the bibliographic information was recorded in the form of an excel sheet. The data was retrieved according to the objective of the studies i.e. type of documents, year-wise production, authorship pattern, most prolific authors, top-cited papers, top country collaboration, top keywords, authorship, country, and keywords relations. Data was analyzed through VOSviewer, biblioshiny, and Microsoft excel.

Results

Table 1 presents the document types, and the result found that the total number of research articles published was 1785 with 4,998 citations during 1991-2020 with having 208 citation impacts. Conference papers were published 146, with 42 total citations with citation impact of 0.28, while review-based articles were published only 34, with 65 total citations with 1.91citation impact.

Table 1

Document types published during 1991-2020

Document Type	TP	TC	CI
Article	1785	4998	2.8
Conference paper	146	42	0.28
Review	34	65	1.91
Total	1965	5105	

TP=Total Publication, TC=Total Citation, CI=Citation Impact

Table 2 describes the year-wise production during 1991-2020. The result showed that the highest publication (258) in the year of 2011 with having total citation was 258 and 2.36 citation impacts followed by 2003 (TP=107, TC=128, CI=1.19) and in 2002 (TP=103, TC=233, CI=2.26). The result also revealed that in 2004 only 102 publications and highest citation 530 from 1991-2020 and having 5.19 citation impacts. Table 2 showed the interesting result that after 2004 the publications were decreased gradually except in 2011, where publications were higher i.e. TP=109.

Table 2

Year wise publication, citation and impact

PY	TP	TC	CI	PY	TP	TC	CI
1991	53	123	2.32	2006	78	198	2.53
1992	48	240	5	2007	75	315	4.2
1993	37	63	1.70	2008	63	412	6.53
1994	33	115	3.48	2009	90	198	2.2
1995	54	148	2.74	2010	90	255	2.83
1996	80	128	1.6	2011	109	258	2.36
1997	50	91	1.82	2012	92	161	1.75
1998	49	126	2.57	2013	97	264	2.72
1999	57	190	3.33	2014	27	85	3.14
2000	62	237	3.82	2015	42	90	2.14
2001	71	116	1.63	2016	38	85	2.23
2002	103	233	2.26	2017	40	66	1.65
2003	107	128	1.19	2018	48	34	0.70
2004	102	530	5.19	2019	42	18	0.42
2005	88	188	2.13	2020	40	10	0.25

PY=Publication Year, TP=Total Publication, TC=Total Citation, CI=Citation Impact

Table 3 reveals the top authorship pattern. The result shows that most of the publications were single-author i.e. TP= 1215, TC= 2515, and IF=2.06, while two-author publications were TP=365, TC=1355, IF=3.71. Three-author pattern having TP=177, TC=499, and IF=2.81. Six documents has ten authors work with collaboration and having TC=8, CI=1.33.

Table 3

Top Authorship Patterns

Authorship	TP	TC	IF
1	1215	2515	2.06
2	365	1355	3.71
3	177	499	2.81
4	82	151	1.84
5	38	86	2.26
6	36	114	3.16
7	14	15	1.07
8	9	6	0.66
9	13	346	26.61
10	6	8	1.33

TP=Total Publication, TC=Total Citation, IF=Impact Factor

Table 4 indicates the top prolific authors who produced maximum document publication during 1991-2020. The result shows that Blythe produced TP=70, having only TC= 3, while on the other hand Collins produced only TP= 30, but having highest citation TC=194. Results also revealed that the second most publication by Davis have the second most publication (TP=46) and having (TC=17). Brown and Chen having TP=13 respectively and having TC=0 and 85.

Table 4

Most prolific authors

Authors	TP	TC	Authors	TP	TC
Blythe, K.	70	3	Ginanni, K.	22	1
Davis, S.	46	17	Hepfer, C.	20	52
Hawkins, L.	39	32	Parang, E.	19	0
Malinowski, T.	36	2	Johnson, K.G.	16	12
Needleman, M.	31	85	Persing, B.	16	6
Collins, M.	30	194	Ryan, C.E.	15	6
Rathemacher, A.J.	30	9	Lavin, M.R.	14	48
Scherlen, A.	23	41	Silton, K.	14	9
Duranceau, E.F.	22	172	Brown, M.	13	0
Needleman, M.H.	22	33	Chen, X.	13	85

TP=Total Publication, TC=Total Citation

Table 5 describes the most citation paper during 1991-2020. The result found that Harnad et al. paper entitled “The access/impact problem and the green and gold roads to open access” published in 2004 having 223 citations. The second in the list of top citation papers Harnad et al. entitled “The access/impact problem and the green and gold roads to open access: An update” was published in 2008 with having 117 citations. Galligan and Dyas’s paper entitled “Altmetrics: Rethinking the way we measure” having 97 citations published in 2008.

Table 5

Top Cited Articles

Title	Authors	TC	PY
The access/impact problem and the green and gold roads to open access	Harnad, S.; Brody, T.; Vallires, F.; Carr, L.; Hitchcock, S.; Gingras, Y.; Oppenheim, C.; Stamerjohanns, H.; Hilf E.R.	223	2004
The access/impact problem and the green and gold roads to open access: An update	Harnad, S.; Brody, T.; Vallires, F.; Carr, L.; Hitchcock, S.; Gingras, Y.; Oppenheim, C.; Hajjem, C.; Hilf E.R.	117	2008
Altmetrics: Rethinking the way we measure	Galligan, F.; Dyas-Correia, S.	97	2013
Open data in science	Murray-Rust P	80	2008
The impact of web-scale discovery on the use of a library	Way D	79	2010

collection			
Scholarly communication 2.0: exploring researchers' opinions on web 2.0 for scientific knowledge creation, evaluation and dissemination	Ponte, D.; Simon, J.	72	2011
The "green" and "gold" roads to open access: The case for mixing and matching	Gudon, J. C.	69	2004
Citation analysis as a collection development tool: A bibliometric study of polymer science theses and dissertations?	Edwards, S.	68	1999
Web 2.0, library 2.0, and the hyperlinked library	Stephens, M.; Collins, M.	56	2007
Staffing for electronic resource management: The results of a survey	Duranceau, E.F.; Hepfer, C.	51	2002

TC=Total Citation, PY=Publication Year

Table 6 shows the collaboration of the countries on Serials Review during 1991-2020**. The** USA is the top collaborator country with Canada (20 publications) and England (09). Canada is the

third most collaborators with England (08) publications. The result shows that the lowest collaboration was Australia with Singapore, Belgium with Israel, Canada with New Zealand, China with Pakistan, and Malaysia with Iran having only one publication.

Table 6

Top Country Collaboration

From	To	Frequency	From	To	Frequency
USA	Canada	20	China	Hong Kong	2
USA	UK	9	France	Italy	2
Canada	UK	8	England	Switzerland	2
Canada	Germany	4	USA	France	2
Canada	Netherlands	4	USA	Sweden	2
England	Germany	4	Australia	Singapore	1
USA	Germany	3	Belgium	Israel	1
USA	Netherlands	3	Canada	New Zealand	1
USA	South Africa	3	China	Pakistan	1
Canada	Switzerland	2	Malaysia	Iran	1

Figure 1 presents the published literature on Serials Review by focusing on the relationship among top authors (left), Country (middle), and keywords (right). The figure shows that the top author Blythe, K, published his literature in the USA using academic libraries, and open access. Davis and Hawkins also published their literature in the USA by using electronic resources and collaborations.

Figure 1

Three field plot Authors(left),Countries (center) and keywords(right) by biblioshiny

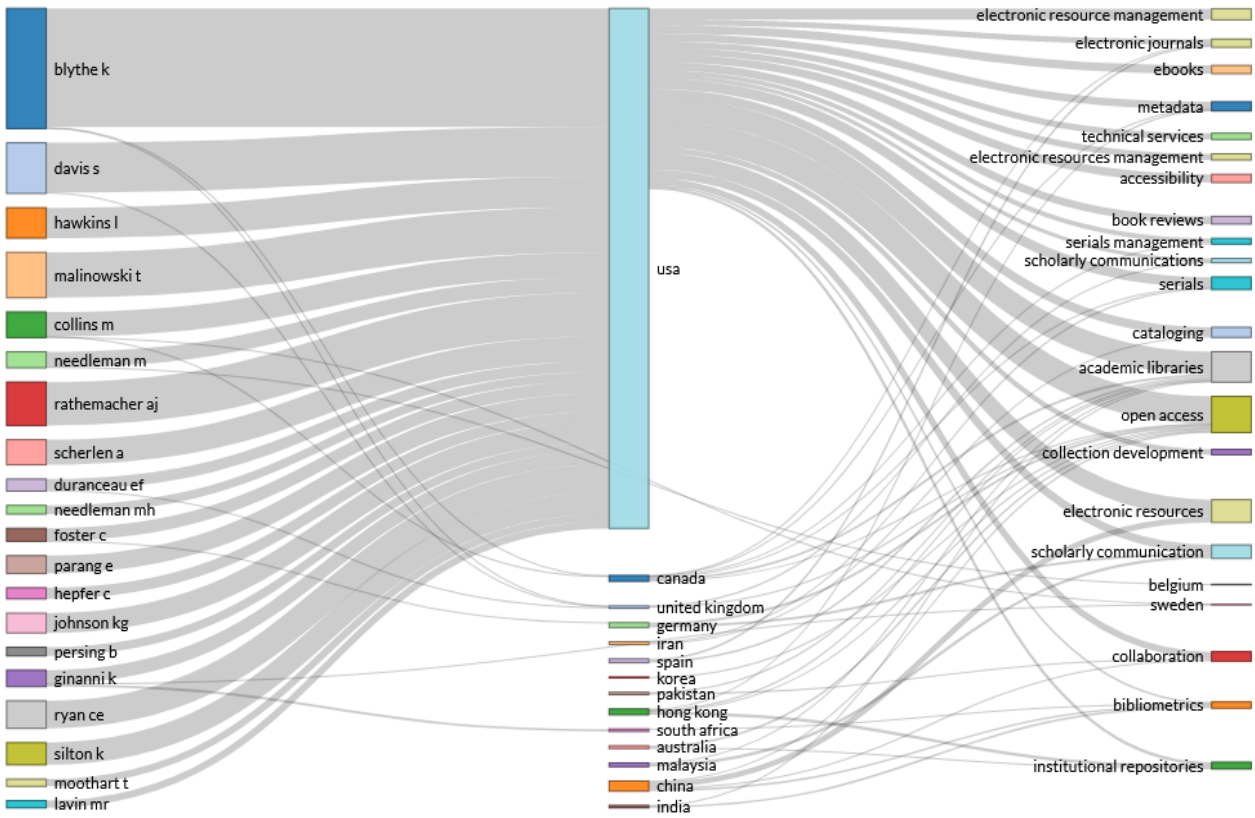
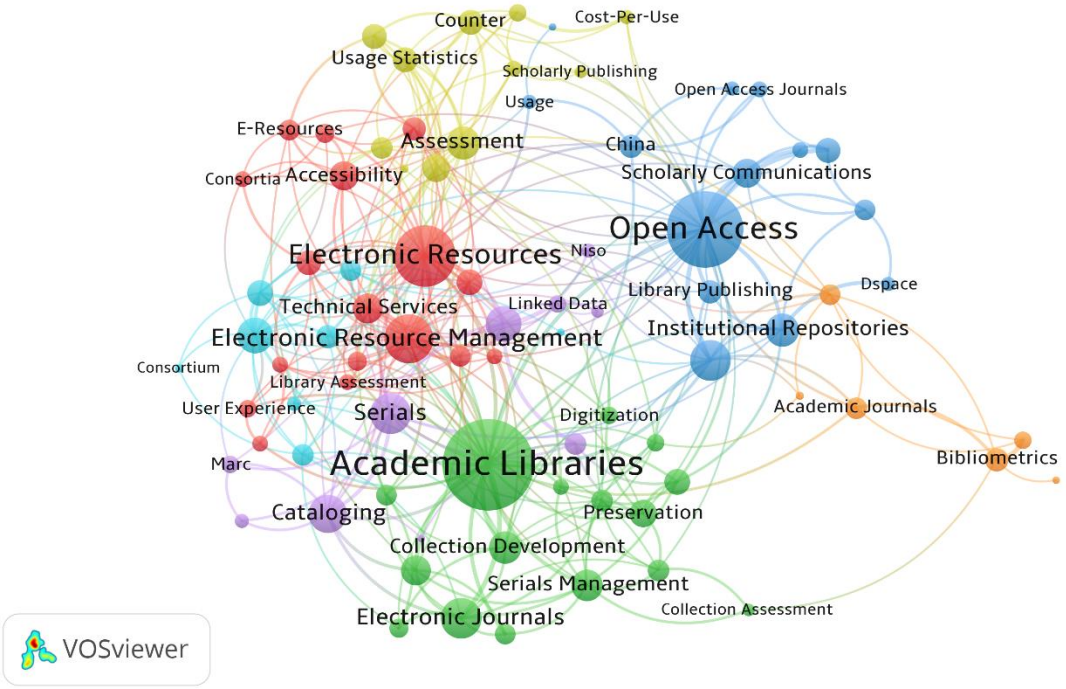


Figure 2 presents the author's keywords. The minimum number of author keywords selected was four. There were 82 sources that met the thresholds selected from total author keywords. The total strength of the co-occurrence links with other keywords was calculated for each of the 82 sources. The keywords of the authors with the greatest total link strength were selected. The total number was 82, cluster seven, links 339, and the total link strength was 534. Cluster one is red color contains seventeen keywords. The second cluster is green contains

sixteen keywords. Third cluster is blue contain fourteen keywords. Cluster four is yellow, which contains eleven keywords. Cluster five is purple which contains ten keywords. Cluster six is a sky-blue color that contains eight keywords. Cluster seven is orange, which contains six keywords.

Figure 2

Top Authors Keywords



Discussion

Single journal studies have highlighted the bibliometric measures, cover different characteristics, and provide a portrait related to different aspects like literature, contribution and communication. Contextually, the present study draws a portrait of Serials Review, using some key measures of bibliometric. The paper highlighted some critical facets of the publishing trends

of this journal. From its inspection in 1999 until 2020 the publication numbers increased from 1994- 2013 and the lightly decreasing phase starts from 2014 to 2020.

In sum, 1,965 articles, conference papers, and reviews were published in SR in three decades from 1991-2020. Out of 1965 publications, most of the publications were research articles (1785). The publication trends increased gradually in 1994-2013, and citation impact was high in 2008. As Mokhtari, *et.al* (2020) evaluated 2,056 documents published in the Journal of Documentation from the period 1945-2018. Articles production increased during 1997-2018, a large number of citations were received (1,773) in 1972. Out of 1,965 articles, conference papers, and reviews, single authorship pattern was on top from 1991-2020 and just 6 studies were found with 10 authors. These results are similar to the studies of Satpathy et al. (2014); Singh and Chander (2014) where they found that mostly contribution was by single authors as well as collaborative work was also reassuring. Moreover, Lamina (2018) did a bibliometric review on 161 articles of the International Journal of Library and Information Science (IJLIS) from 2012-2017, where collaborative publications were high (47.83%).

Blythe, K was the most productive author with 70 publications but Collins, having 194 citations with 30 publications. Furthermore, the USA found a more productive country and the USA's collaboration with Canada was high than others like Pakistan with China, and New Zealand with Canada. Most keywords were used e.g. academic libraries, open access, electronic resources, and scholarly communication. Haq, Hussain, and Ahmed et.al. (2020) inspected that Thelwall, M. from the University of Wolverhampton, UK, was found the prolific author, and he also contributed to the top-ten most cited papers. 53% literature was published from the USA and England, and minimum production was from France and India. Tsay and Shu (2011) enclosed

that Searching was the most cited subject from JOD documents, and information storage and retrieval remained on high related to books subjects.

The findings of this study are helpful in gaining knowledge regarding trends of publication and citations, the collaboration of countries, and most useful keywords in SR. This study didn't evaluate the SR papers by subjects, research methods, or length of papers; another study can be structured to cover these facets.

Conclusion

The Serials Review journal is peer-review journal of the UK. The data was retrieved through Scopus from 1991-2020. This bibliometric study indicated that the publication trends of articles were more than conference papers and review-based papers. The growth of publication increased from 2002 to 2004, but after 2012, the graph of publication decreased gradually. Single-author publications were always preferred by the authors during 1991-2020. The data was analyzed through VOS viewer, Biblioshiny, and Microsoft Excel to describe the top-cited research publications, prolific authors, keywords, and country collaborations. This bibliometric-based study will also be useful for practitioners and researchers to find interesting topics in the LIS field.

Funding: This systematic literature review paper received no external & internal funding.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

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