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Bibliometric Analysis of the Journal of Librarianship and Information Science during 2012-2021

Tathagata Dhar*

Abstract

The present study tries to represent the bibliometric analysis of the Journal of Librarianship and Information Science for the period 2012-2021. A total number of 407 articles were contributed by 991 authors during the study period. The findings of the study reveal that the maximum number of publications published and maximum number of citations were received in 2019. The maximum number of publications was published by female authors (518). A total of 991 authors contributed. Among these, two-authored papers were the highest (1,506); highest AAPP (2.55) was recorded in 2018; and the highest production per author (0.49) was recorded in 2012. Patrick Lo contributed the most number of articles (13, 1.31%). Loughborough University is the institution that contributed the most in the given time period. The USA contributed the highest number of articles (172, 42.26%).

Keywords: Bibliometrics, Journal of Librarianship and Information Science, Gender-Wise Distribution, AAPP

Introduction

Bibliometrics is a field of study that uses statistical and mathematical techniques to analyse books and other types of media. In 1969, American bibliographers made the first bibliometrics proposal (Smith, 2008). A qualitative and quantitative analysis of literature research trends can also be done using bibliometrics, depending on the characteristics of the literature database and bibliometrics. Bibliometrics can not only assist researchers in quickly grasping the research hotspots and development trends of a particular research field, but can also assess the distribution of authors, journals, and countries/regions within the field, laying the groundwork for future direction and growth of that research (Ma et al., 2021).

Alan Pritchard defines bibliometrics as the statistical investigation to provide insight on the variables affecting them and the interconnections among the history, literature, and sociology of sciences (Pritchard, 1988). It is often used to analyse publication trends, and encompasses a variety of rules and procedures (McBurney & Novak, 2002). In the words of Hew and Lee, by evaluating the number of publications and citations received, respectively, one can bibliometrically assess both the quantity and quality of a research discipline. Compared to the conventional literature review method, this particular sort of analytic method is effective at handling a huge number of articles in a thorough and objective manner (Lee & Hew, 2017).

The Journal of Librarianship and Information Science (JOLIS) is a peer-reviewed quarterly journal for library and information scientists' sage journal and those who are interested in keeping up-to-date with the most current issues and developments in the field. It publishes original papers, review articles, viewpoints, and book reviews. It started in January 1969; currently, there are 54 volumes available at https://journals.sagepub.com/description/lis.

Objectives

- To find the year-wise publications and citation patterns of the Journal of Librarianship and Information Science.
- To find the gender-wise distribution of articles in the journal.
- To find the geographical distribution of articles.

* Librarian, Naba Barrackpur Prafulla Chandra Mahavidyalaya, West Bengal, India. Email: tdtathagata@gmail.com

- To measure the authorship pattern of the journal.

Methodology

The articles published in the Journal of Librarianship and Information Science during the period 2012-2021 have been considered in the study. The data pertaining to the Journal of Librarianship and Information Science regarding 407 articles contributed by 991 authors are retrieved from the journal archives Journal of Librarianship and Information Science - All Issues (sagepub.com). Apart from Microsoft Excel, open refine has been used for data cleaning and data wrangling. After the preparation of the data set, the whole data set has been fed to open refine for further analysis.

Conference proceedings and reviews are ignored as they do not have scientific value.

Related Works

Sahu and Parabhoi (2020) depicted a picture of Indian research trends in library and information science journal articles during 2014-2018. All the data of the study were collected from Scopus. Study findings revealed that the DESIDOC Journal of Library and Information Technology was the major source of publications; a majority of the publications 342 (25.2%) were published in 2018. For the past five years, the degree of collaboration has been 0.79. Saberi, Barkhan and Hamzehei (2019) did a bibliometric study and visualisation of library philosophy and practice during 1998-2018. The study indicated that the process of publications (0.69) and citations received by papers (0.85) was ascending. Bhatti, R. was the most productive author. The study also revealed that Nigeria (549 papers) and the University of Ibadan (78 papers) were the most productive country and university in library philosophy and practice, respectively. Nath and Jana (2020) conducted a bibliometric analysis of Annals of Library and Information Studies (ALIS) during 2008 to 2018 and examined a total of 377 articles contributed by 723 authors. The study found that on average 34.27 articles published every year and a majority of the references were in the form of journals (63.43%). The study also revealed that the most number of articles were published by India, and the most productive author and institution was B. K. Sen and CSIR-NISTADS, respectively. Abdi et al. (2018) analysed 2,913 publications of Information Processing & Management (IP & M) during 1980 to 2015. The study found that a majority of the publications were research articles and Spink A., University of California, and the USA were the most productive author, institution, and country, respectively. Vijayakumar, Sivasubramaniyan and Rao (2019) conducted a bibliometric analysis of the Indian Journal of Nuclear Medicine during 2014 to 2018. The study reported that the most productive year was 2017 with 117 (22.22%) publications, and the highest citations (36.25%) were received in 2014. The study revealed that a majority of the publications were in the form of articles (77.97%) and the All India Institute of Medical Science was identified as the most productive institution. Kumar (2021) analysed 148 articles published in the Journal of Indian Library Association (JILA) during 2015-2020. Findings revealed that most of the contributors were from India and the maximum number of authors were from the state of Karnataka. Moreover, users' study was the most preferred subject identified in this study. Verma and Brahma (2018) compared the articles published in the two leading journals, i.e., SRELS Journal of Information Management and DESIDOC Journal of Library and Information Technology (DJLIT). The study revealed that the SRELS journal published more publications than DJLIT, and B. M. Gupta contributed the highest number of articles in both the journals. The study also disclosed the fact that the maximum number of joint authors published in SRELS than in DJLIT. Moreover, more references were cited in SRELS compared to DJLIT. Dhiman and Singh (2021) bibliometrically analysed 140 papers published in the five volumes of the Granthalaya Vigyan during the period 2016 to 2020. The study discusses the year- and volume-wise number of articles, authorship patterns, most productive authors of the journal, state-wise contribution of the articles, average length of the articles, types of sources used, and the number of references per article. Panda (2021) bibliometrically studied 101 published articles of IP Indian Journal of Library Science and Information Technology (IJLSIT) in its five volumes and ten issues between 2016 and 2020. Among the several bibliometric parameters, the study mainly utilised the number of articles per volume or year, authorship patterns, collaborative patterns, top-most authors, state-, designation- and affiliation-wise contributions, reference per article count, cited resources type, research trends, and research interests. The findings of the study suggested that in IJLSIT, the maximum number of articles were published in 2019

(25.74%); 53.47% (54) articles were contributed by a single author; and the overall collaboration rate is 0.47. The scientometric study of Pachauri (2020) deals with 70 published articles of the Indian Journal of Plant Sciences during a period of two years. It mainly examined the average number of citations, average length of the articles, authorship patterns, core journals of the field, and forms of documents cited by research scholars and scientists. The most productive journals and their citation counts are also analysed to improve the study pattern in the field of plant and agricultural sciences. The study revealed that the pattern of multiple authorship is a trend in the field of plant sciences, and journals are the most cited documents by research scholars and scientists. Ghar (2017) purposed to describe the bibliometric analysis of cited references of published articles in the Journal of Biosciences during the period 2011 to 2015. The references provided by the authors at the end of their articles are the basis for citation analysis. During this period, the Journal of Biosciences published 12,901 citations, and journal literature was the highest 11,476 (88.95%) among all. Study also shows the head-wise distribution of articles. Scientometric analysis of 315 research articles published in Interlending & Document Supply (2005-2014, 10 volumes, 40 issues) had been carried out by Kanekar and Khaparde (2016). The mean doubling time for the first five years (i.e. 2005 to 2009) is only 0.71, which increased to 0.12 during the last five years (2010 to 2014). The study revealed that most of the papers (184, 58.4%) were contributed by single authors. The UK is the top producing country, with 104 (33.0%) publications of the total output; the highest being articles in the range of 11-20, 188 (59.6%).

Data Analysis

Year-Wise Distribution

Table 1 shows the year-wise distribution of articles and citations in the Journal of Librarianship and Information Science during 2012-2021. It clearly stated that a total of 407 articles were published among ten issues and 44-53 volumes. The highest (83, 20.39%) and lowest (23, 5.65%) number of articles were published in 2019, 2020, and 2012, 2013, respectively. Apart from this, a total number of 6,800 citations were received by the authors during the study period. It is noticeable that the citations in 2021 were considerably low because the researcher collected the data in the February-March 2022. However, the highest CPP (31.17) was recorded in 2012.

Table 1: Year-Wise Distribution of Articles of JOLIS

Year	*Volume*	*Issue*	*Mar.*	*June*	*September*	*December*	*Total*	*%*	*Citations*	*CPP**
2012	44	4	6	6	5	6	23	5.65	717	31.17
2013	45	4	5	6	6	6	23	5.65	927	40.30
2014	46	4	6	6	6	6	24	5.89	1013	42.20
2015	47	4	6	6	8	8	28	6.87	491	17.53
2016	48	4	7	7	7	7	28	6.87	543	19.39
2017	49	4	8	8	9	9	34	8.35	536	15.76
2018	50	4	6	9	10	9	34	8.35	624	18.35
2019	51	4	22	18	20	23	83	20.39	1228	14.79
2020	52	4	19	21	22	21	83	20.39	575	6.92
2021	53	4	11	11	13	12	47	11.54	146	3.10
Total							407		6800	

*CPP – Citations per paper.

Year-Wise Citation Trends

Fig. 1 shows the year-wise break-up of citations; the highest and lowest number of citations were received in 2019 and 2021, respectively.

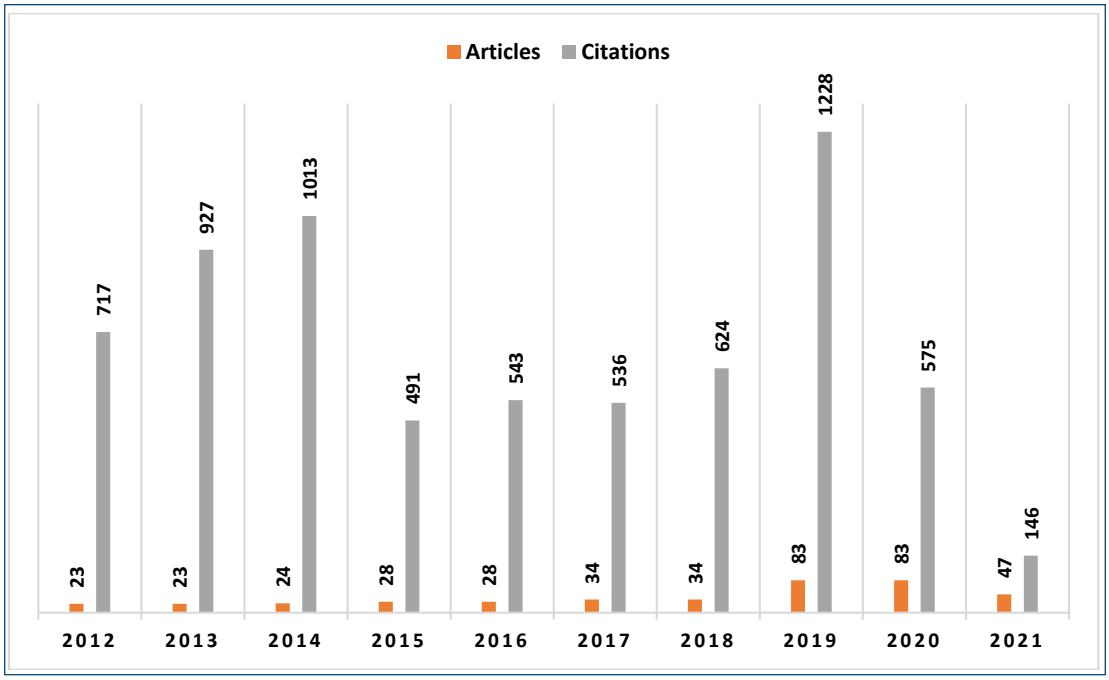

Fig. 1: Year-Wise Citations in Articles of JOILS

Gender-Wise Distributions

Table 2: Gender-Wise Distribution of Articles of JOLIS

Year	*Male*	*%*	*Female*	*%*	*Unknown*	*%*	*Total*
2012	18	37.5	27	56.25	3	6.25	48
2013	24	48	26	52	0	0.00	50
2014	22	41.5	31	58.49	0	0.00	53
2015	20	30.76	44	67.69	1	1.53	65
2016	28	44.44	33	52.38	2	3.17	63
2017	40	46.51	46	53.48	0	0.00	86
2018	36	41.37	44	50.57	7	8.04	87
2019	93	45.58	109	53.43	2	0.98	204
2020	104	49.28	105	49.76	2	0.94	211
2021	70	56.45	53	42.74	1	0.80	124
Total	455	45.91	518	52.27	18	1.81	991

Table 2 shows the gender-wise distribution of articles in the study period. It reflects that a total of 991 authors contributed 407 articles during 2012-2021. Out of this, 455 (45.91%) were male and 518 (52.27%) were female authors; for the rest of the authors the gender was unknown (18, 1.81%).

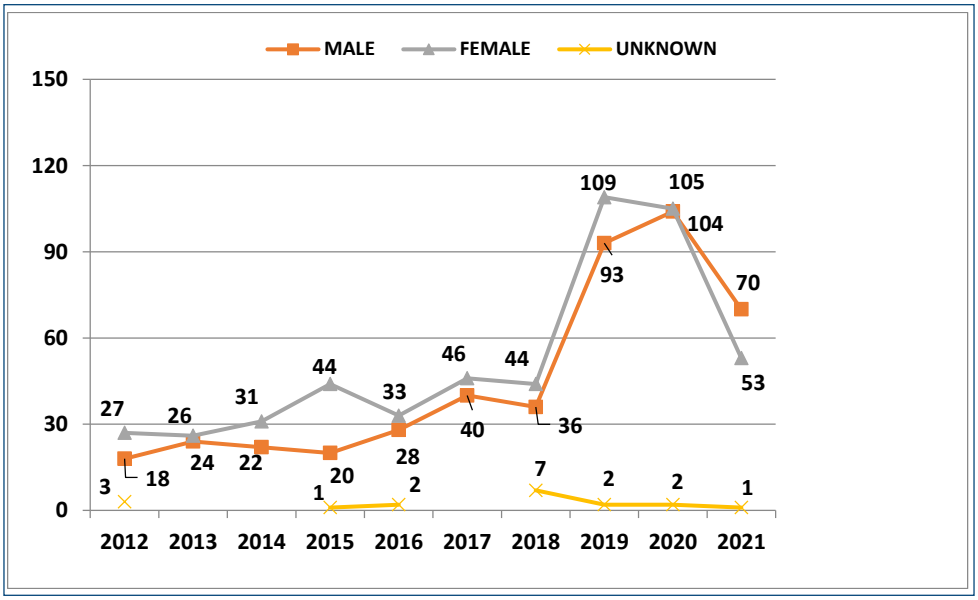

Fig. 2: Year-Wise Gender Distribution of Authors

Fig. 2 shows an increasing trend of female authors (except in 2021) in the journal during the study period.

Authorship Pattern

Table 3 demonstrates that a total number of 991 authors contributed 407 articles. Out of this, single-authored papers were 103 (10.39%), two-authored papers were 156 (15.74%), three-authored papers were 76 (7.66%), four-authored papers were 39 (3.93%), and five- or more than five-authored papers were 33 (3.32%). Fig. 3 displays the single- and shared-authored papers. Among the shared-authored papers, two-authored papers were the highest. The highest AAPP (2.55) was recorded in 2018. The highest production per author (0.47) was recorded in 2012.

Table 3: Authorship Pattern of the Articles of JOLIS

Year	*Single-Authored Papers*	*Two-Authored Papers*	*Three-Authored Papers*	*Four-Authored Papers*	*Five- or More than Five-authored papers*	*Total*	*AAPP**	*Productivity Per Author*
2012	6	11	4	2	0	23	2.08	0.47
2013	5	11	6	0	1	23	2.17	0.46
2014	6	12	4	1	1	24	2.20	0.45
2015	8	11	4	4	1	28	2.32	0.43
2016	7	13	5	1	2	28	2.25	0.44
2017	7	11	9	4	3	34	2.52	0.39
2018	8	12	6	6	2	34	2.55	0.39
2019	25	30	12	7	9	83	2.46	0.40
2020	18	30	17	10	8	83	2.48	0.40
2021	13	15	9	4	6	47	2.46	0.40
Total	103	156	76	39	33			

*AAPP – Average authors per paper.

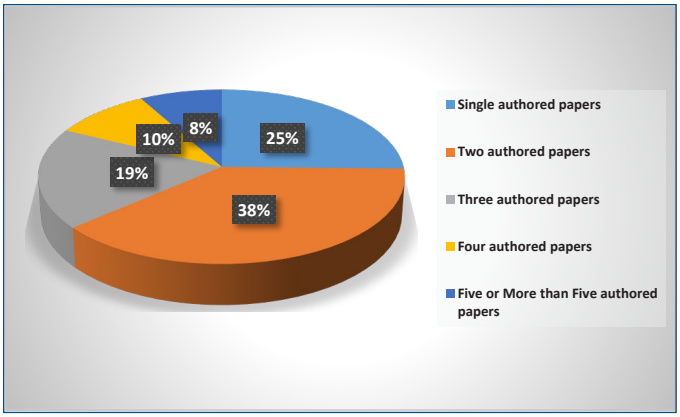

Fig. 3: Authorship Patterns

Measures of Authorship

Degree of Collaboration

To determine the degree of collaboration, the following formula was devised by Subramanyam in 1983.

$$DC = \frac{Nm}{Nm + Ns}$$

(N_m = total number of multi-authored papers published in a year, N_s = total number of single-authored papers published in a year)

Table 4 reflects that the value of DC varies from 0.73 (2012) to 0.79 (2017), respectively.

Collaborative Coefficient

The following collaborative coefficient formula has been suggested by Ajiferuke (1988).

$$CC = 1 - \frac{\sum_{j}^{k=1}\left(\frac{1}{j}\right)f_j}{N}$$

(k = the highest number of authors per publication, N = total number of articles, f_j = total number of j-authored research articles)

Collaborative Index

To calculate collaborative index (CI) in quantitative research, Lawani (1981) has given the formula as follows:

(A = total authors in this journal, N = total papers, and f_j = total papers with j number of authors in this journal)

$$CI = \frac{\sum_{j}^{A=1} j f_j}{N}$$

Table 4: Measures of Authorship

Year	*Degree of Collaboration*	*CC*	*CI*
2012	0.73	0.57	2.08
2013	0.78	0.45	2.17
2014	0.75	0.43	2.12
2015	0.71	0.43	2.25
2016	0.75	0.44	2.21
2017	0.79	0.50	2.55
2018	0.76	0.48	2.47
2019	0.69	0.43	2.33
2020	0.78	0.49	2.51
2021	0.72	0.46	2.46

Most Cited Articles

Table 5: Most Cited Articles of JOLIS

Sr. No.	*Article Names*	*Citations*
1	Social networking tools for academic libraries	310
2	Research data management and libraries: Current activities and future priorities	271
3	Talk to me: Exploring user interactions with the Amazon Alexa	162
4	Library and information science research areas: A content analysis of articles from the top 10 journals 2007-8	120
5	Modelling digital library success using the DeLone and McLean information system success model	97
6	How implementation of bibliometric practice affects the role of academic libraries	96
7	Exploring undergraduate students' usage pattern of mobile apps for education	88

Sr. No.	***Article Names***	*Citations*
8	Information overload: The differences that age makes	86
9	Overcoming time and ethical constraints in the qualitative data collection process: A case of information literacy research	85
10	Trust and the role of the public library in the integration of refugees: The case of a Northern Norwegian city	79

Table 5 shows that the most cited article was 'Social networking tools for academic libraries', with 300 citations, followed by 'Research data management and libraries: Current activities and future priorities', with 271 citations, 'Talk to me: Exploring user interactions with the Amazon Alexa' (162 citations), and 'Library and information science research areas: A content analysis of articles from the top 10 journals 2007-8' (120 citations), respectively.

Most Productive Authors

Table 6: Most Productive Authors of JOLIS

Sr. No.	*Authors*	*Articles*	*Percentage*
1	Patrick Lo	13	1.31
2	Dickson K.W. Chiu	8	0.80
3	Noa Aharony	7	0.70
4	Bradley Allard	6	0.60
5	Dora Sales	6	0.60
6	Essam Mansour	6	0.60
7	Maria Pinto	6	0.60
8	Younghee Noh	6	0.60
9	Annemaree Lloyd	5	0.50
10	Hazel Hall	5	0.50
11	Jennifer Rowley	5	0.50
12	Kevin K.W. Ho	5	0.50
13	Soohyung Joo	5	0.50
14	Adrienne Muir	4	0.40
15	Biddy Casselden	4	0.40
16	Claire Creaser	4	0.40
17	David McMenemy	4	0.40
18	Irene Lopatovska	4	0.40
19	Judit Bar-Ilan	4	0.40
20	Alireza Peyvand Robati	3	0.30

Table 6 represents the top 20 most productive authors in the study period. Patrick Lo contributed the highest (13) number of articles, with a percentage of 1.31, followed by Dickson K. W. Chiu (8, 0.80%), Noa Aharony (7, 0.70%), and Bradley Allard (6, 0.60%), respectively.

Top Productive Institutions

Table 7: Top Productive Institutions of JOLIS

Sr. No.	*Name of the Institution*	*Articles*	*%*
1	Loughborough University	26	6.10
2	University of Sheffield	21	4.92
3	University of South Africa	19	4.46
4	Manchester Metropolitan University	18	4.42
5	Pratt Institute	18	4.42
6	University of Tsuba	15	3.52
7	Bar-Ilan University	14	3.28
8	The University of Hong Kong	14	3.28
9	Northumbria University	13	3.05
10	University of Kentucky	12	2.81
11	University of Granada	10	2.34
12	Kent State University	9	2.11

Table 7 discusses that Loughborough University is the most productive institution (26, 6.10%) in the study period, followed by University of Sheffield (21, 4.92%), University of South Africa (19 4.46%), Manchester Metropolitan University (18, 4.42%), Pratt Institute (18, 4.42%), and so on.

Most Productive Countries

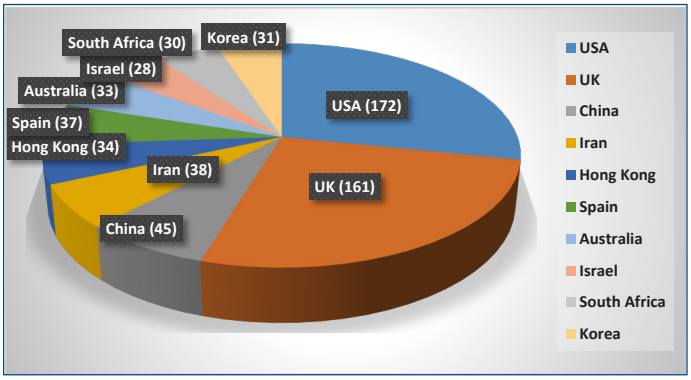

Fig. 4: Most Productive Countries

Fig. 4 illustrates that the USA contributed the highest number of articles (172), with 42.26%, followed by the UK (161, 39.55%), China (45, 11.05%), Iran (38, 9.33%), and Hong Kong (34, 8.35%), respectively.

Findings

- A total of 991 authors contributed 407 articles and received 6,800 citations in the study period. Out of this, 103 (10.39%) authors have single authorship and 304 (30.67%) have shared authorship. Consequently, it is noticeable that shared authorship is the current trend in authoring.
- Female authors contributed more (518, 52.27%) articles than male authors (455, 45.91%) during 2012-2021.
- Most of the contributions were from the USA (172, 42.26%), the UK (161, 39.55%), and China (45, 11.05%).
- The most cited article was 'Social networking tools for academic libraries', with 300 citations.
- Patrick Lo contributed the most (13, 1.31%) number of articles, followed by Dickson K. W. Chiu (8, 0.80%), during the study period.
- The institution that contributed the most was Loughborough University (26, 6.10%), followed by University of Sheffield (21, 4.92%), in the given time period.

Conclusions

The aim of the study is to find the year-wise publications, citation patterns gender-wise distribution, and geographical distribution of the Journal of Librarianship and Information Science during 2012-2021. The study examines a total of 407 articles contributed by 991 authors during the study period. The study reveals that in authorship patterns, shared authorship is the current trend. There were more articles written by female authors than by male authors during the study period. The USA (172) contributed the highest number of articles.The most productive author was Patrick Lo. Lastly, Loughborough University contributed the highest number of articles during 2012-2021.

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