J Data Sci. Info. Citation Studies., 2023; 2(3):148-158.
https://www.jcitation.org

Research Article

Bibliometrics of Scholarly Communications Published in the Journal of Information Science Theory and Practice from 2013 to 2022

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ABSTRACT

The study aims to present a bibliometric analysis of the scholarly communications published in the journal from 2013 to 2022. The study makes a quantitative and qualitative analysis of papers published in the journal using the publication and the citation data for these papers. Publication data for the study was downloaded from the Website of the journal and the citation data was obtained from Google Scholar. The different bibliometric indicators used in the study for analysis are Citation Per Paper (CPP), i-10 index and Papers not Cited (PnC). The analysis considers different entities like publishing countries, institutions and authors for examining the publication output and their citation impact. Based on the analysis, it is observed that the journal followed a consistent trend of publishing papers during the period of study from 2013 to 2021, with an exception in the number of publications in the year 2022. Among the countries, Korea topped the list and among the institutions KISTI and its different affiliates ranked first, though Korea as well as KISTI had a low citation influence. CPP is highest for Heinrich Heine University (Germany). Eighteen different countries published 66 papers in domestic collaboration and among these Korea topped the list with 20 papers. Korea also topped the list of countries for papers published in international collaboration. The study may be useful for obtaining a quick snapshot of countries, institutions, and authors that are publishing papers in the journal besides reflecting the citation impact of the papers for these entities.

Keywords: Bibliometrics, Scientometrics, Journal of Information Science Theory and Practice, JISTaP, KISTI.

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Received: 04-09-2023;
Revised: 02-10-2023;
Accepted: 21-11-2023.

INTRODUCTION

Communication is the essence of science and primary journals play an important role in disseminating the original research and current developments in a specific discipline or a sub-discipline. These are the most preferred and valuable source of primary communication for researchers, scientists and academicians. Primary periodical literature of any discipline reflects the issues of importance to a field of study and profession. Analysis of scholarly publications using bibliometric analysis helps in interpretation of the structures and trends in a discipline. Bibliometrics is an important tool used for the evaluation of scholarly communication published in a journal. Bibliometrics has the ability to establish a complete profile of a specific field or a journal (Borner, Chen and Boyack, 2003). Bibliometric analyses basically involve the performance and science mapping analysis. Performance analysis aims to evaluate different groups of scientific actors, such as countries, institutions and authors, by measuring their productivity and impact of their productivity using different bibliometric indicators described in the succeeding section of the paper. The science mapping analysis focuses on showing the structural and dynamic patterns of scientific research (Merigo *et al.*, 2018). The basic aim of the present study is to undertake a bibliometric study of scholarly communications published in 41 issues (40 regular and one special issue published in 2022) on completion of ten years of publication of the Journal of Information Science Theory and Practice (JISTaP). Detailed objectives of the study have been described under objectives (sub-head 4).

About The Journal JISTaP

JISTaP is a 10 years old library and information science journal which replaced the existing domestic Korean journal, *Journal of Information Management* after over 50 years of its publication (Choi, 2013). JISTaP was launched in the year 2013 with print ISSN 2287-9099; and electronic ISSN 2287-4577. The journal is indexed by Scopus and Directory of Open Access Journals

DOI: 10.5530/jcitation.2.3.23

Publishing Partner : EManuscript Tech. [www.emanuscript.in]

(DOAJ). It is published quarterly on 30th of March, June, September, and December by the Korean Institute of Science and Technology Information (KISTI), a government-funded research institute providing Science and Technology Information (STI) services to support high-tech R&D for researchers in Korea for over 60 years. To foster scholarly communication among researchers and practitioners of library and information science around the globe, JISTaP offers a no-fee open access publishing venue. The key objective of the journal is to foster research that can contribute to advancements and innovations in the theory and practice of library and information science. The journal especially welcomes and encourage authors from the Asia-Pacific region to submit original manuscripts to this peer-reviewed, internationally recognized publication. Of the 258 journals in SCImago Journal Ranking (SJR), the journal ranked at 160 with Q3 value of 0.19 and the h-index value of 8. For the topics covered and other details of the journal, reader can refer to the Website of the journal given below.

https://www.jistap.org/journal/journalintro.do?journalSeq=J000043&introMenuId=0101.

REVIEW OF LITERATURE

During the past two decades, several authors have conducted bibliometric analysis of several individual journals in different disciplines including library and information science. For instance, (Dutt, Garg and Bali, 2003) analysed 1,317 papers published in the first fifty volumes of the international journal *Scientometrics* published from 1978 to 2001. "The study found that during the study period, the share of output for the US decreased, while the share of the Netherlands, India, France and Japan increased. The area of scientometric assessment of nations and institutions received the maximum attention". (Mukherjee, 2009) made a bibliometric analysis of 975 articles published in the *Journal of the American Society for Information Science and Technology* (JASIST) from 2000 to 2007. The study found that "authors' from 47 countries contributed articles to the journal. The dominant contributions were by the authors from the USA followed by the UK". (Garg, Lamba and Singh, 2020) analysed 1,698 papers (based on complete count of papers) published from 1992 to 2019 in *DESIDOC Journal of Library and Information Technology* (DJLIT). "The study found that 39 countries contributed 1,698 articles, of which Indian authors published more than three-fourth (86.1%) articles. However, the papers published by the USA made the highest impact in terms of Citation per Paper (CPP) and Relative Citation Impact (RCI) values". (Garg, Kumar and Geeta, 2019) made a bibliometric analysis of 241 articles published in the *Malaysian Journal of Library and Information Science* (MJLIS) from 2007 to 2018. The study found that "among all the countries, Malaysia (the publishing country of the journal) produced the highest number of publications contributing about one-third of the total output. However, the value of CPP was highest for the UK. Among the Institutions, University of Malaya had published highest number of papers, but the value of CPP was highest for University of Ibadan (Nigeria). Also, most of the prolific authors as well as highly cited authors were from University of Malaya, which also had the highest number of papers in domestic as well as in international collaboration". MJLIS had also been the subject of study by (Bakri and Willett, 2008), (Velmurugan and Radhakrishnan, 2016) and (Brahma and Verma, 2018). However, the period of study for these studies was much shorter than the study of (Garg, Kumar and Geeta, 2020). (Garg and Bebi, 2021) examined 619 research articles published in *COLLNET Journal of Scientometrics and Information Management* (CJSIM) since its publication in 2007 to 2019 and the citations obtained by these articles. The findings of the study indicate that "though, the coverage of the journal is international in nature, but the papers published in the journal have been mainly contributed by Indian authors. Among the institutions, Dalian University of Technology ranked first followed by CSIR-National Institute of Science, Technology and Development Studies (CSIR-NISTADS). Of the total 619 papers 232 (37.4%) remained uncited. Most of these uncited papers were contributed by scholars from Saudi Arabia (85.7%), France (72.7%), Indonesia (50%), Iran (45.9%) and China (40.5%) respectively, resulting in low value of CPP for these countries. Among the countries, China had the highest number of papers in international collaboration and among the institutions CSIR-NISTADS, New Delhi had highest domestic collaborative papers". (Garg and Singh, 2021) made a bibliometric analysis of papers published in *Library and Information Science Research* from 1994 to 2020. "The study indicates a highly skewed distribution of research output for countries, institutions and authors. USA was found to be most productive country; however, the value of citation impact in terms of Citation Per Paper (CPP) for the USA was considerably lower than that of Norway and Finland. The value of CPP was highest for University of Illinois at Urbana-Champaign, USA. Wuhan University (China) had the lowest value of CPP. Citation analysis of papers indicates that only a minuscule number 41(3%) of papers remained uncited. USA published highest number of papers in domestic as well as in international collaboration". (Gaviria-Marin, Merigo, and Popa, 2018) made a bibliometric analysis of papers published from 1997 to 2016 in the *Journal of Knowledge Management*. Findings of the study indicate "a positive evolution of publications with the USA and the UK topping the list of countries with a decreased output in recent years, and an increase in publications from France, Italy, Malaysia or China. At the continental level, Europe was found to be the widely dominant, with 50 per cent of the most productive and influential universities and authors. Among the universities, Cranfield University was the most productive institution. During the past 10 years and according to the number of citations and the h-index, Griffith University was found to be an influential institution". (Abdi *et al.*, 2018) made a bibliometric analysis of papers published in *Information Processing and Management*. The

analysis showed that 2,913 papers were published in the journal from 1980 to 2015. Researchers from USA topped the list of contributions (50.88%). The author of the present paper has cited studies related to journals of Library and Information Science (LIS) only because the journal under study is related to LIS. For studies related to other disciplines readers can refer to (Garg and Tripathi, 2018) who did a bibliometric study of the papers authored by Indian scholars on scientometrics and bibliometrics published from 1995-2014 (20 years). The review of literature indicates that no study has been reported in literature that dealt with the *Journal of Information Science Theory and Practice (JISTaP)*. Hence the author took the present study on completion of 10 years of JISTaP.

OBJECTIVES

Following are the objectives of the study:

To assess the chronological distribution of contributions from 2013 to 2022;

To examine the geographical distribution of scholarly communications and their citation impact in terms of Citation Per Paper (CPP), i-10 index, and Papers not Cited (PnC);

Identification of most prolific institutions and authors who contributed to the journal and their citation impact;

To examine the pattern of citation and identification of highly cited papers;

To examine the pattern of domestic and international collaboration of published papers;

DATA AND METHODOLOGY

Publication Data

The publication and citation data are central to all bibliometric studies. The publication data used in the present study was downloaded from the Website of the journal available at https://accesson.kr/jistap/ for a period of 10 years from volume 1 (2013) to volume 10 (2022). MS Excel software was used for downloading and analysis of data. Downloaded data included the name of all the authors with their affiliation(s), year of publication of the paper. Publication data was used to examine chronological distribution of output and the pattern of domestic and international collaboration.

Citation Data

Google Scholar was used for obtaining the citation data of each record. Title of the paper was used for examining the citations received by each paper in the month of May 2023. The downloaded publication data was enriched with citation data as obtained from Google Scholar.

Method of Counting

There are three different methods used in counting of records. The first is the normal count where only the first author gets the credit. In fractional count each author gets fraction of credit as the number of authors. In complete count, all authors get a unit credit resulting in inflation of publication and citation data. Author of the present study have used the method of complete count resulting in inflation of publication data from 230 papers to 544 papers.

Data Analysis

The publication and citation data was analysed to identify most prolific countries, institutions and authors and the impact of their output using citation per paper, i-10 index and papers not cited. Author also analyzed the citation pattern of output and identified highly cited papers. Besides, author also examined the pattern of domestic and international collaboration of countries and institutions.

BIBLIOMETRIC INDICATORS USED

Five different bibliometric indicators have been used to analyze the publication and citation data. These are TNP: total number of publications published from 2013 to 2022, TNC: total number of citations received by these papers from 2013 to 2023 (May 31, 2023), CPP: citation per paper, i-10 index and PnC: papers not cited. The values of TNP were obtained from the downloaded data, while TNC were obtained from Google Scholar. "CPP is a relative indicator computed as the average number of citations per paper, i.e. (Total citations/total papers). Google scholar developed i-10 index and it was obtained by analyzing the citation data. It indicates the number of publications that received 10 or more citations. For example, suppose a country received 1000 citations for 100 papers published by it and of these say 50 papers received 10 or more citations. Hence i-10 index for the country under study will be 50. In the present study, authors used these indicators to compare the performance of most prolific countries, institutions, and authors.

RESULTS AND ANALYSIS

In the following paragraphs author of the study presents the significant results of the study:

Chronological Distribution of Output

During the ten years period from 2013 to 2022, the journal published 230 records. Of these 228 records were research articles, one each was a review papers and an editorial. The review paper was published in volume 1 issue 1 of the journal on the completion of 50 years of the *Journal of Information Management* and the launch of JISTaP. The editorial was published at the completion of 10 years of JISTaP. The chronological distribution of output indicates that the journal followed a consistent policy

of publishing usually 20 articles each year. The journal published 20 articles each year from 2014 to 2019. However, in the first year (2013), the journal published 22 articles and 24 articles were published in 2020 and 2021. In the 10th year of the publication in the year 2022, it published a special issue, which resulted in the publication of 40 articles resulting in the highest number of published articles.

Distribution of output and impact of prolific countries

Forty-one countries from the different parts of the globe communicated their research articles to JISTaP from 2013 to 2022. Data on the distribution of the output and its impact in terms of citations per paper (CPP), i-10 index and the papers not cited (PnC) by 15 prolific countries producing five or more papers is depicted in Table 1.

Publication Output

Fifteen prolific countries depicted in Table 1 contributed more than three-fourth (89.5%) papers and the remaining 26 countries contributed only about 10.5% of the total output. Among the prolific countries listed in Table 1, Korea, the publishing country of the journal produced the maximum number of publications contributing about one-third (32.9%) of the total output. This was followed by the output from India, and Germany. The contribution by these two countries was very low as compared to Korea. These three countries together produced more than half (53.8%) of the total output. The remaining 12 countries listed in Table 1 contributed 35.7% papers ranging from 5 to 34 papers. Among these 12 countries, China had the lowest output.

Impact of output

The publication output of the 15 countries listed in Table 1 was subjected to an impact analysis using CPP, i-10 index and PnC.

Citation per Paper

The value of CPP for the global output is 7.0. Of the 15 countries listed in Table 1, CPP is higher for seven countries. Countries having an equal or higher value of CPP than the global value are India, Germany, USA, Nigeria, Bangladesh, Singapore and Botswana. Among these countries, highest value of CPP is for Germany (31.7) followed by Nigeria (14.3) and Singapore (12.1). It indicates that the papers published by these countries were cited more than the world average. CPP is lower than the global value of for eight countries. These eight countries are Korea, Malaysia, Thailand, Iran, Portugal, Indonesia, Russia, and China. Among these eight countries, Indonesia had the lowest value of

Table 1: Prolific countries and the impact of their output.

Sl.No	Country	TNP	TNC	CPP	i-10 index	PnC
1	Korea	179	352	2.0	7	78
2	India	73	501	6.9	21	10
3	Germany	41	1298	31.7	21	14
4	USA	34	270	7.9	10	6
5	Malaysia	27	92	3.4	0	3
6	Nigeria	23	330	14.3	10	0
7	Bangladesh	21	204	9.7	8	3
8	Thailand	18	30	1.7	0	7
9	Singapore	14	170	12.1	4	0
10	Iran	13	29	2.2	0	1
11	Portugal	13	74	5.7	0	0
12	Indonesia	11	6	0.5	0	5
13	Russia	8	47	5.9	3	2
14	Botswana	7	83	11.9	4	0
15	China	5	12	2.4	0	3
	Sub-total	487	3498	7.2	88	
	Percent	(89.5%)	(91.6%)	7.2	88	132
	Other 26 countries	57	322	5.6	8	21
	Total	544	3820	7.0	96	153

Other 26 countries: Australia, Denmark, Spain, Switzerland and Vietnam each 4, Botswana, Brazil, Greece, Japan, Jordon, Pakistan and Canada each 3, Iraq and Kazakhstan each 2 and Austria, Belgium, Finland, Ghana, New Zealand, Oman, Palestine, Philippines, Saudi Arabia, Sweden, Taiwan and UK each 1.

CPP followed by Thailand. This indicates that papers published by these countries were cited less than the world average.

Papers cited 10 or more times (i-10 index)

Based on the value of i-10 index, it is observed that of the 544 papers only 96 (17.6%) were cited 10 or more times and remaining (82.4%) papers were cited less than 10 times. Among the countries listed in Table 1, Germany and India had the highest number of papers cited more than 10 times in absolute terms, but proportion of papers cited 10 or more times, Germany had the highest number of papers cited 10 or more times. The share of papers cited 10 or more times for Germany was about 51% of their output, while for India it was only about 29%. Six countries namely Malaysia, Thailand, Iran, Portugal, Indonesia and China did not have a paper which was cited 10 or more times, resulting in low value of CPP for these countries.

Papers not cited (PnC)

Of the total 544 papers, 153 (28.1%) papers did not receive any citation. Highest number of uncited papers were published by scholars from Korea, followed by Germany and India. Korea had a low value of CPP, because it had a very high number (78) uncited paper. Nigeria, Singapore, Portugal and Africa did not have any uncited paper. All papers published by these countries were cited one or more times.

Citation pattern of papers for non-prolific countries

Among the 26 non prolific countries, Finland followed by Australia, Greece and Pakistan had a higher value of CPP than the global value of CPP. It was highest (17) for Finland. For remaining 22 countries, the value of CPP was less than the global value of CPP.

Distribution of output and the impact of prolific institutions

An analysis of data for the institutional productivity found that 370 institutions from different parts of the globe contributed 544 papers to JISTaP from 2013 to 2022. Average number of institutions per paper is thus, 1.5. Table 2 lists 16 prolific institutions contributing five or more papers. The output of these 16 institutions is slightly less than half (46.7%) of the total papers published in the journal during the 10 years period of 2013 to 2022. The proportion of citations received by these institutions is about 57% of all the citations. Remaining 354 institutions produced 53.3% of the total papers and received about 43% of all citations. Of the 16 institutions listed in Table 2, three institutions were from Korea, two each from Bangladesh and India and one each from Germany, Singapore, Malaysia, Thailand, Nigeria, Portugal, Botswana, USA, and Indonesia. Among the 16 institutions, Korea Institute of Science Technology Information (KISTI) topped the list with 17.8% papers followed by Heinrich Heine University (Germany) with 6.4% share of papers. For the 16 prolific institutions depicted in Table 2, the CPP is 8.6, which is higher than 7, the global value of CPP. Among these 16 institutions, the value of CPP is highest (33.7) for Heinrich Heine University (Germany) followed by University of Ibadan (Nigeria) and Jahangirnagar University (Bangladesh). The value of CPP for these two institutions was 18.4 and 17.5 respectively. The value of CPP was less than the average value of CPP for 10 institutions. Among these 10 institutions, Padjadjaran University (Indonesia) and Jeonbuk National University (Korea) had the lowest value of CPP.

Most productive authors and impact of their output

Four hundred sixty-three authors scattered in different parts of the globe contributed the total output of 544 papers. Thus, the average number of authors per paper is 1.2. Table 3 lists 14 prolific authors contributing three or more papers during the study period from 2013 to 2022. Of these, 14 prolific authors, four were from Korea followed by Germany with three authors and two authors from India and one author each from Japan, Malaysia, Singapore, Thailand and USA found place in the list of prolific authors. Highest number of the prolific authors were from Heinrich Heine University (Germany). These 14 prolific authors contributed 57 (10.5%) papers. The remaining 89.5% papers were contributed by 449 authors indicating a highly skewed output among the authors. Of these, 449 authors, 411 (88.6%) authors produced one paper only and 38 authors produced two papers each. Among all the authors Stock, Wolfgang G of Heinrich Heine University (Germany) published eight papers followed by Pandita Ramesh of Baba Ghulam Shah Badshah University (India) with six papers. Other authors contributed three to five papers each.

A glance at Table 3 indicates that the value of CPP for prolific authors was 18.9 and for non-prolific authors it was 5.6. This indicates that the papers published by non-prolific authors were cited less number of times as compared to prolific authors. Among the prolific authors CPP was highest for Scheibe, Katrin followed by Fietkiewicz, Kaja J., and Stock, Wolfgang G. All the first three ranked cited authors were from Heinrich Heine University (Germany). Lowest CPP was for Lee, Seung-Min from Sookmyung Women's University (Korea). An exploration of citation data found that a paper was written in collaboration by Scheibe Katrin, Fietkiewicz, Kaja J and Stock, Wolfgang G and this paper was cited 208 times resulting in high value of CPP for all the three authors.

Pattern of citations and highly cited papers

Citation counts are used to measures the influence of different articles published in the journal by counting the number of times these are cited by other articles. Citation counts attempt to evaluate an article's impact by determining how many times that article is cited by other researchers. High number of citations to a publication is considered as signs of influence, visibility and impact. An author's visibility can be measured by determining

how often his/her publications have been cited in publications by other authors. Table 4 shows the citations received by papers published in JISTaP from 2013 to 2023 (May 2023). During this period, 230 papers received 1748 citations. Of the 230 papers included in the analysis 51 (22.2%) papers remained uncited and the remaining papers was cited one or more times. Of the total cited papers, 44.8% were cited between 1-5 times. The remaining 27% papers were cited six or more times. Of the 27% papers, six (2.6%) papers were cited more than 40 times. Table 5 list papers that were cited 30 or more times.

Highly cited papers

Table 5 lists 12 highly cited papers which were cited more than 30 times. These 12 papers attracted 726 of all citations. These 12 papers were contributed by authors located in different countries. Highest number of highly cited papers (4) were contributed by authors from Germany followed by authors from Nigeria, Singapore and USA two each and one each from Denmark and India respectively. The top three highly cited papers were contributed by authors from Heinrich Heine University, Germany. Since, the number of citations received varies according to the citation window, i.e., the time period for which citations were calculated. Hence, it is necessary to normalize this variation in citations. For normalization of citation data, authors have calculated Citation per Year (CPY) earlier used by (Garg and Tripathi, 2018). Analysis of data based on CPY indicates that the rank of authors arranged by total citations undergo changes if arranged by CPY. For instance, the author ranked at 2 will change to rank 3 if arranged by CPY. Similarly, the paper ranked at 9 to 12 will change to rank 6. Like this paper ranked at 6 and 7 will change to rank 4. However, the paper ranked 1 will remain unchanged.

Distribution of domestic and international collaborative papers

Author have divided the collaboration section into three parts. These are (a) the pattern of output of collaborative papers from 2013 to 2022, (b) pattern of domestic collaboration and (c) pattern of international collaboration.

Pattern of output of collaborative papers

To examine the pattern of collaboration, the period of study has been divided into two blocks each of five years. The first five-year block is from 2013 to 2017 and the second five-year block is from 2018 to 2022. Data presented in Table 6 indicates that there is marginal variation in the number of papers published in domestic as well as in international collaboration in two blocks.

Pattern of papers published in domestic collaboration

An analysis of data indicates that among 41 countries which published papers in the journal from 2013 to 2022 only 18 different countries published 66 papers in domestic collaboration (Table 7) constituting about 28.7% of total papers published

Table 2: Most prolific institutions and impact of their output.

Sl.No	Name of the institution	TNP	TNC	CPP	i-10 index
1	KISTI (Korea)	97	126	1.3	3
2	Heinrich Heine University (Germany)	35	1179	33.7	19
3	Nanyang Technological University (Singapore)	20	172	8.6	3
4	Universiti Kebangsaan Malaysia (Malaysia)	14	45	3.2	0
5	Kyungpook National University (Korea)	13	62	4.8	0
6	Jahangirnagar University (Bangladesh)	8	140	17.5	6
7	Khon Kaen University (Thailand)	8	22	2.7	0
8	Tumkur University (India)	8	24	3.0	0
9	University of Dhaka (Bangladesh)	8	42	5.3	2
10	University of Ibadan (Nigeria)	8	147	18.4	6
11	University of Minho (Portugal)	8	55	6.9	0
12	University of Botswana (Botswana)	7	85	12.1	4
13	Baba Ghulam Shah Badshah University (India)	5	57	11.4	3
14	Jeonbuk National University (Korea)	5	4	0.8	0
15	University of North Texas (USA)	5	17	3.4	0
16	Padjadjaran Universitas (Indonesia)	5	4	0.8	0
	Sub-total	254	2181	8.6	46
	Other 354 institutions	290	1639	5.6	50
	Total	544	3820	7.0	96

in the journal. Among these 18 countries, Korea published 20 papers in domestic collaboration closely followed by India with 19 papers. Thus, these two countries published 39 (59%) of total papers published in domestic collaboration. Remaining 16 countries published 27 papers in domestic collaboration. Among these, Nigeria and Portugal contributed five and three

Table 3: Most prolific authors and impact of their output.

Sl. No.	Author name with affiliation	Total Papers	Total citations	CPP
1	Stock, Wolfgang G, Heinrich Heine University Dusseldorf (Germany).	8	330	41.3
2	Pandita, Ramesh, Baba Ghulam Shah Badshah University (India).	6	60	10.0
3	Lee, Seung-Min, Sookmyung Women's University (Korea)	5	3	0.6
4	Na, Jin-Cheon, Nanyang Technological University (Singapore).	5	48	9.6
5	Yang, Kiduk, Kyungpook National University (Korea).	5	31	6.2
6	Mohd, Masnizah, Japan Advanced Institute of Science and Technology (Japan).	4	15	3.8
7	Bae, Seoung Hun, Korea Institute of Science Technology Information (Korea).	3	10	3.4
8	Fietkiewicz, Kaja J., Heinrich Heine University (Germany).	3	232	77.3
9	Lee, Hye-Young, Korea Advanced Institute of Science and Technology (Korea).	3	10	3.4
10	Lee, Jongwook, Florida State University (USA).	3	21	7.0
11	Noah, Shahrul Azman Mohd, Universiti Kebangsaan (Malaysia).	3	10	3.4
12	Ramesh Babu, B., University of Madras (Chennai).	3	16	5.4
13	Scheibe, Katrin, Heinrich Heine University Dusseldorf (Germany).	3	284	94.7
14	Tuamsuk, Kulthida, Khon Kaen University (Thailand).	3	11	3.7
	Sub total	57 (10.5%)	1081 (28.3%)	18.9
Other authors producing 1 or 2 papers		487 (89.5%)	2739 (71.7%)	5.6
	Total	544 (100%)	3820 (100%)	7.0

Table 4: Distribution of citations.

Number of citations	TNP (%)	Total citations
0 (Uncited)	51 (22.2)	0
1	34 (14.8)	34
2	27 (11.7)	54
3	14 (6.1)	42
4	17 (7.4)	68
5	11 (4.8)	55
6-10	32 (13.9)	240
11-20	25 (10.8)	352
21-40	13 (5.7)	383
> 40	6 (2.6)	520
Total	230 (100)	1748

Table 5: Highly cited papers.

Sl.No	Bibliographic details of paper and author affiliation	TNC (CPY)*	Rank by CPY
1	Scheibe K. Fietkiewicz K.J., and Stock W.G. (2016). Information Behaviour on Social Live Streaming Services. JISTaP, 4(2), 6-20 (Heinrich Heine University, Germany).	208 (35)	1
2	Friedlander, M. B. (2017). Streamer Motives and User-Generated Content on Social Live-streaming Services. JISTaP, 5(1), 65-84 (Heinrich Heine University, Germany).	97 (19)	3
3	Zimmer, F. Scheibe, K., Stock, M., and Stock, W.G, (2019). Fake News in social media: Bad Algorithms or Biased Users? JISTaP, 7(2), 40-53 (Heinrich Heine University, Germany).	76 (25)	2
4	Uzuegbu, C.P. and Nnadozie, C.O. (2015). Henry Fayol's 14 Principles of Management: Implications for Libraries and Information Centres. JISTaP, 3(2), 58-72 (Michael Okpara University of Agriculture, Nigeria).	52 (7)	4
5	Borlund, P. (2013). Interactive Information Retrieval: An Introduction. JISTaP 1(3), 12-32 University of Copenhagen (Denmark).	44(5)	5
6	Igbinovia, M. O. and Popoola, S.O. (2016). Organizational Culture and Emotional Intelligence as Predictors of Job Performance among Library Personnel in Academic Libraries in Edo State, Nigeria. JISTaP 4(2). 34-52 (University of Ibadan, Nigeria).	43 (7)	4
7	Lewandowski, D. (2017). Users' Understanding of Search Engine Advertisements. JISTaP, 5(4), 6-25 (Hamburg University of Applied Sciences, Germany).	37 (7)	4
8	Burnett G. (2015). Information Worlds and Interpretive Practices: Toward an Integration of Domains. JISTaP, 3(3), 6-16 Florida State University (USA).	35 (5)	5
9	Rieh, S.Y. (2014). Credibility assessment of Online Information in Context. JISTaP, 2(3), 6-17 (University of Michigan, USA).	35 (4)	6
10	Majid, S. and Rahmat, N.A. (2013). Information Needs Seeking Behaviour during H1N1 Virus Outbreak. JISTaP, 1(1), 42-53 (Nanyang Technological University, Singapore).	34(4)	6
11	Dhanavandan, S. and Tamizhchelvan, M. (2013). A critical study on attitudes and awareness of institutional repositories and Open access publishing, JISTaP, 1 (4) 67-75. (Gandhigram Rural Institute-Deemed University, India).	34 (4)	6
12	*Na Jin-Cheon and **Kyaing W.Y.M. (2015) Sentiment Analysis of User-Generated Content on Drug Review Websites. JISTaP, 3(1), 6-23 (*Nanyang Technological University and **Crimson Logic Pte Ltd (Singapore).	31 (4)	6

*Rounded off to the nearest whole number.

Table 6: Pattern of collaboration from 2013-2022.

Period	Papers in collaboration		Total
	International	Domestic	
2013-2017	11	34	45
2018-2022	12	32	44
Total	23	66	89

papers each respectively. Contribution of other nine countries contributing one paper each can be seen in Table 7. Analysis of data for collaborative links indicates that domestic collaborative links were the highest for Portugal followed by Korea. Among the 66 papers written in domestic collaboration, only three papers published from Korea, Nigeria and Portugal had three collaborative links with different institutes. Besides this, seven papers had links with two institutes and the remaining 56 had only one collaborative link. Institute with three collaborative links were KISTI National Nanotechnology Policy Centre (Korea), Science University of Ilorin (Nigeria) and University of Minho (department of Geography) Portugal. The details of their links have been described below.

KISTI National Nanotechnology Policy Centre (Korea) had three collaborative links with different Korean institutes. These institutes were Yonsei University, Korea Local Information Research and Development Institute and Kwangwoon University. Like this, Science University of Ilorin (Nigeria) had collaborative links with Akanu Ibiam Federal Polytechnic, and Kwara State Polytechnic. University of Minho (department of Geography) Portugal had collaborative links with university of Minho lab 2 PT, School of Technology and Management, and Portucalense University.

Pattern of papers published in international collaboration

Of the 41 countries which contributed papers to the journal, only 13 countries published 25 papers in international collaboration (Table 8). Of these 13 countries, highest number of papers in international collaboration were published by Korea (5) followed by USA (4), India (3), and Iran (2). Remaining eight countries published only one paper each in international collaboration. Collaborative partners for each country can be seen in Table 8.

Table 7: Pattern of output in domestic collaboration.

Sl. No.	Country	Papers in domestic collaboration	Domestic collaborative links (Links/paper)
1	Korea	20	25 (1.3)
2	India	19	21 (1.1)
3	Nigeria	5	7 (1.4)
4	Portugal	3	6 (2.0)
5	Germany, Iran, USA, Thailand, and Indonesia each with 2 papers	10	11 (1.1)*
6	**Other 9 countries contributing one paper each.	9	9 (1.0)
	Total papers	66	79 (1.2)
	Total countries = 18		

*Indonesia with 3 links in 2 papers, **Other nine countries: Bangladesh, Brazil, China, Greece, Iraq, Malaysia, Pakistan, Russia, and Singapore.

Table 8: Pattern of output in international collaboration.

Sl. No.	Primary collaborator	Collaborator country	Papers in international collaboration	Number of collaborative links (Links/paper)
1	Korea	USA, Switzerland, South Africa, Philippines and China.	5	9 (1.5)
2	USA	Singapore, Korea and Australia.	4	5 (1)
3	India	USA, Saudi Arabia and Brazil.	3	3 (1)
4	Iran	Australia and Canada.	2	2 (1)
5	Sweden	Iran and Australia.	1	2 (2)
6	Jordon	Malaysia and Oman.	1	2 (2)
7	*Other countries		7	7 (1)
	Total papers		25	30
	Total countries	13		

*Malaysia with Jordon, Pakistan with Australia, Japan with Malaysia, Botswana with South Africa, Ghana with South Africa, South Africa with Denmark, and Thailand with Malaysia.

Among the countries listed in Table 8 only Sweden and Jordon had collaborative links with two countries and all other countries had collaborative links only with one country. Jordon had the highest links per paper followed by Korea. In case of Jordon, Irbid National University (Jordon) had collaborative links with Universiti Sains Islam Malaysia (Malaysia) and Gulf College (Oman). The links per paper for Korea are more than one because, Silla University (Korea) had collaborative links with three different Chinese institutions namely Yunnan Land and Resources Vocational College, Tsinghua University, University of Political Science and Law. Also, Kyungpook National University (Korea) had links with two different institutions namely Florida State University (USA) and Central Philippine University (Philippines).

DISCUSSION

The study makes a bibliometric analysis of papers published in *Journal of Information Science Theory and Practice* on the completion of ten years of the journal. The study examined the chronological distribution of papers from 2013 to 2022. It also identified prolific countries, institutions and authors and examined the citation impact of published papers using Citation Per Paper (CPP), i-10 index and papers not cited (PnC). The study also examined the pattern of citation and identified the highly cited papers, besides examining the pattern of domestic and international collaboration of papers published during the study period. The study found that the journal followed a consistent trend of publication from 2013 to 2021. However, in 2022, the journal brought out a special issue resulting in more number of paper in the year 2022. Data on the distribution of publication output indicates a highly skewed distribution of research output for countries, institutions and authors. For instance, of the 41 countries which contributed to the journal, 15 most prolific countries contributed about 89% articles and the share of remaining 26 countries was only 11%. The highest contributions were made by the authors from Korea, the publishing country of the journal. However, citation impact in terms of citation per paper (CPP) for Korea is low. These findings are similar to the findings for the DESIDOC Journal of Library and Information Technology by (Garg, Lamba and Singh, 2020) where the publishing country of the journal made highest contributions to the journal with low impact. Besides Korea some other prolific countries also had a low value of CPP. Several authors from developed countries like USA and Germany as well as Asian countries like Bangladesh and India also contributed to the journal making it an important source of scholarly communication. Author explored the reason for low citation impact of papers published by Korean authors. On examination of publication data, it was found that of 179 papers published by Korea 75 (41.9%) were published in the year 2022. Most of these papers published by Korea remained uncited due to a small citation window, resulting in low value of CPP and i-10 index and high value of PnC. Among all the countries, Indonesia had the lowest value of CPP followed by Thailand. Germany had the highest number of papers cited 10 or more times, resulting in high CPP for Germany. Six countries namely Malaysia, Thailand, Iran, Portugal, Indonesia and China did not have a paper which was cited 10 or more times, resulting in low value of CPP for these countries. Among the 16 prolific institutions, Korea Institute of Science Technology Information (KISTI) including its affiliates topped the list with 17.8% papers followed by Heinrich Heine University (Germany) with 6.4% share of papers. Among these prolific 16 institutions, the value of CPP is highest (33.7) for Heinrich Heine University (Germany) followed by University of Ibadan (Nigeria) and Jahangirnagar University (Bangladesh). These institutions had a high CPP because a significant number of papers published by these institutions were cited 10 or more times. Most of the prolific authors were also from Korea, but citation impact was highest for Fietkiewicz, Kaja J. of the Heinrich Heine University (Germany). Citation analysis of papers indicates that about 22% papers published during the study period remained uncited. Korea published highest number of papers in domestic as well as in international collaboration. Among all the countries Korea had the highest domestic as well as international collaborative links.

CONCLUSION

Based on the bibliometric analysis of papers published in the journal, it can be stated that the *Journal of Information Science Theory and Practice* is an important channel of communication for scholars working in the field of library and information science. It is an international journal covering the developed and developing countries of the world. However, in terms of publications, authors from Korea, the publishing country of the journal contributed about one-third of the articles. Most of the prolific institutions and authors are also from Korea with a low value of CPP and i-10 index but a high value of PnC. Most of the highly cited authors as well as papers were from Germany. Korea also produced the highest number of papers in domestic and international collaboration. It is expected that the present study might be useful to scholars working in the discipline of library and information science.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Cite this article: Garg KC. Bibliometrics of Scholarly Communications Published in the Journal of Information Science Theory and Practice from 2013 to 2022. Journal of Data Science, Informetrics, and Citation Studies. 2023;2(3):148-58.