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Journal of the Association for Information Science and Technology (JASIST): Bibliometric Analysis from 2014-2019

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Journal of the Association for Information Science and Technology (JASIST): Bibliometric Analysis from 2014-2019

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ABSTRACT:

The parent study was conducted with an aim to determine the various bibliometric characteristics of the documents published in Journal of the Association for Information Science and Technology (JASIST) for 2014 to 2019. A retrospective study method was used and the data of JASIST were retrieved from Web of Science – Clarivate Analytics database. A total of 1,196 documents were found, contributed by the authors of 62 countries with average of 199 documents per annum. These documents received 11,941 citations with an average of 9.98 citations per documents. More than half of research were contributed by two countries, and amongst the top-10 most contributing organizations, six belonged to one country. The share of Asian countries has been recorded very low. JASIST has been providing excellent platform for dissemination of innovative ideas in the field of library and information Science since 1950.

Keywords; Bibliometrics, Library and Information Sciences; Journal of Association for Information Science Technology

INTRODUCTION

The career of Information Management, traditionally known, librarianship is a service-oriented profession, the scope and style of services have been changing and expanding rapidly (Shafiq, 2007). The library, better known as Information Resource Center, has been expanded beyond the cemented walls due to progress in information communication technologies and the role of librarian become a dynamic information professional (Qutab, Bhatti, & Ullah, 2014). The prime task of the information professional is to perform his responsibilities to achieve the goals of his parent organization and further assist his clientele in the provision of the required information. Now, the medium of information is evolved to change so quickly that the responsibilities and importance of information manager have also been increasing as well as more demanding. The traditional users' education on the circulation desk of the library is turned into a distinct subject of information literacy (Ameen, & Ullah, 2016). The Covid-19 pandemic enhanced the latitude of information literacy session from classroom to the webinar (Tanveer, et al. 2020). The subjects of research methodology and information literacy are the part of library and information science curriculum (Anwar & Naveed, 2019). The practicing information professionals play their active role in research productivity by providing valuable support to the researchers. Information literacy sessions consisted on the practical orientation and usage of digital resources available inside and

outside the campus, to demonstrate the smart searching techniques, and help to differentiate between the genuine and predatory source of publications, etc. (AlBukhari, et al. 2014; Naveed & Sharif, 2015; Shafique & Bhatti, 2017). Information professionals are also conducting remarkable research to improve the resources and services of libraries, to solve everyday problems and to share their professional knowledge with global community (Haq & Al Fouzan, 2019). There are 298 journals indexed in the Scopus database in the subject category of Library and Information Science, 223 in the Web of Science and 129 are indexed in the Directory of Open Access Journal (DOAJ). The Google Scholar metric also provide the list of top 20 journals in the category of

The *Journal of the Association for Information Science and Technology* (JASIST) is the peer-reviewed journal of the Association for Information Science and Technology. JASIST has been providing a podium to the researchers to share their original research on the various topics of library and information sciences, started its publication in 1950 from United States and the part of John Wiley & Sons publication group with ISSN 2330:1635 and e-ISSN, 2330:1643. The frequency of publication is monthly and presently, Mr. Javed Mostafa of the University of North Caroline is the editor of the journal. According to the Journal Citation Report of 2019, the impact factor of the journal is 2.41, falls in Quartile-2rank and stands on the 30th number out of 87 journals in the category of Information Science & Library Science. This journal is standing on the topmost position according to the metric of Google Scholar published during July 2020, in the Category of Library and Information Science. A total of 58 articles have been awarded h-5 index scale and 98 articles h-5 median scale. The h-5 index is the quality indicator based on citation counts, 58 articles of the JASIST are cited at least 58 or more times each during the period of five years from 2015-2019.

The bibliometric studies are very common amongst the information professionals. Dr. Eugene Garfield introduced the science of citation counting to assess the worth of publications and Alan Prichard presented the term bibliometrics to evaluate the different characteristics of publications (Haq & Al Fouzan, 2019a). Bibliometric studies cover the global, regional, national, institutional, and individual research productivity of any area of knowledge, further the single journal, group of journals, as well as the comparison of databases are also merged in bibliometric landscape (Shehatta & Mahmood, 2016). The results of the bibliometrics assessments are very convenient for the managerial group to formulate and revisit the research policy and also provide a solid standing for the revision of funding criteria (Haq, Alfouzan, 2017). The study aims to present the bibliometric parameters of JASIST from 2015 to 2019.

REVIEW OF LITERATURE

Nicolaisen and Frandsen (2015) investigated that JASIST has become a specialized journal over the year, as most of the papers published from 1990 to 2012 were related to bibliometrics. The study used the technique known as strength of bibliographic coupling with the *Scientometrics*. Study compared the re-citations patterns of *Scientometrics* to other core journals of LIS and JASIST showed the strongest relationship of bibliographic coupling from 0.13 to 0.28 as compared to other LIS journals.

Haq and Alfouzan (2019) conducted the 10-year bibliometric assessment on 369 papers published in *Pakistan Library and Information Science Journal* from 2008 to 2017. These papers used 5,090 references with an average of 13.79 references per paper. Two-third of the total papers were written in the English language while one-third were composed in the Urdu language. A total of 202 authors contributed and most of the papers (60%) were written by the solo author while 40% were the result

of collaborative research. Dr. Rubina Bhatti was found a productive author with 31 publications and the editorial team of the journal produced 82 papers.

Verma and Shukla (2018) evaluated that a total of 222 articles were published in the *Library Herald* period of ten years from 2008-2017. These articles were written by 377 authors with an average of 1.69 authors per article and the single-author pattern (n=97; 44%) was dominated. Dr. K. P. Singh found a fruitful author with 11 articles. Twenty percent of the articles were contributed by international authors of four countries. The number of references and the pattern of authorship in references has also been calculated.

Hussain, Fatima and Kumar (2011) examined the 578 documents published in the *Electronic Library Journal* from 2000 to 2010 and revealed that 41% of the documents consisted of research papers followed by case study (23%). Almost one quarter (24.39%) of the documents dealt with the subject category of Library and Internet, then digital libraries (15.40%). The majority of the documents (n=269; 47%) were produced by single author pattern. More than one-third (72%) of the authors belonged to universities set-up and college librarians' produced only 4% of the total documents.

Bakri and Willett (2008) analyzed the 85 papers published in the *Malaysian Journal of Library & Information Science* from 2001 to 2006. The bulk of the papers (40%) followed the range of references between 10-20 and Zainab, A. N. found the most prolific author with 14 publications. Almost half of the papers (47%) were contributed by international authors and Indian authors were on the top with 27 papers. The authors associated with library schools produced 92% of the papers.

Anwar (2019) inspected the 160 papers published in the *Journal of Information Technology Education* from 2002 to 2007. The collaborative research of the two-author pattern was dominated (n=64; 40%) followed by a solo-author. Most of the papers contributed by the authors belonged to United States, followed by Australia, England and Finland. Australian author, Anne Venables found a productive researcher with four articles.

Tanveer et al. (2020) elucidated the bibliometric study on 7,700 documents published in the *Saudi Medical Journal* from 1979 to 2019. Although there has been a remarkable growth from 20 publications in 1979 to 205 in the year 2019, there was a fluctuation in the number of publications. Nearly, 80% of the papers published as research articles and King Saud University found the most productive University with 1,006 (13%) publications. Turkey, Jordan and Iran were the most contributing countries after Saudi Arabia.

Jalali (2020) evaluated the 6265 articles of the *Journal of Computer in Human Behavior* published during 1985 to 2019. The highest number of articles (n=872) was published in the year 2016, whereas the journal had a humble start with 29 articles in 1985. The United States found the most productive country with 40% of the articles followed by England and Taiwan. The analysis of articles by the organization found that Michigan State University produced the maximum (n=97) articles. The VOSviewer software has been used for the graphical presentation of the co-occurrence of keywords and citations.

METHODOLOGY

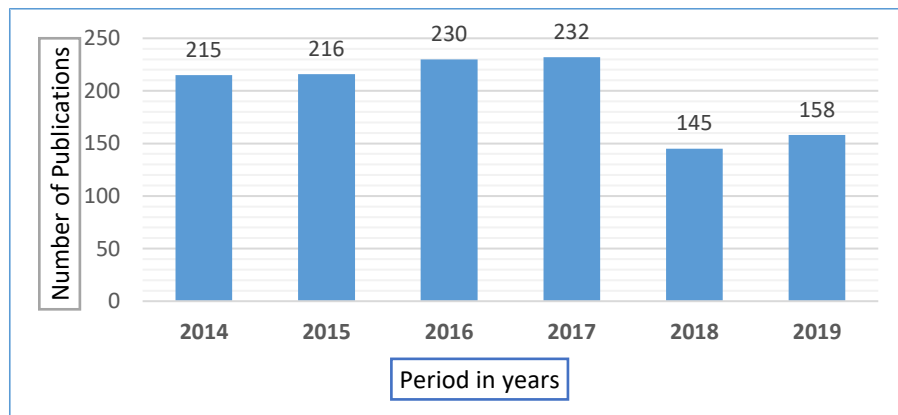
This retrospective study was conducted on all types of documents published for the period of six years from 2014 to 2019 in *JASIST* and indexed in the Web of Science database. The year 2020 was excluded as the year is not yet over. The dataset was downloaded on the 23rd of July 2020. The

bibliometric indicators of the data were analyzed on the distribution of publications by year, types of documents, examine the productive authors, organizations and countries, and ten most-cited papers. The data has been shown in the table and graphic pattern. The VOSviewers software has been used to present the occurrence of co-authors clusters. The study has some limitations, first, the publications record indexed in Web of Science has been retrieved, might be some record of the publications have been missed and secondly, the citations have also been taken from the same database, the citations count of Google Scholar has been higher as compared to Web of Science.

RESULTS

A total of 1,196 documents have been indexed in the Web of Science database, published in *JASIST* from 2014 to 2019 with an average of 199.33 documents per year. The highest number of documents was published during the year 2017 while the minimum number of the documents were published in the year 2014. The uprising tends of publications was found from 2014 to 2017 but a noticeable decrease has been observed in the number of documents during 2018 and 2019.

Figure-1; Distribution of articles by years (n=1,196)



All the documents published in *JASIST* during the targeted period, have been classified into seven types as shown in Table-1. The majority of documents were consisted in the type of original research articles (n=1021; 85.36%) followed by book reviews (n=87; 7.27%), review articles (n=33) and letter to editors (n=30).

Table-1; Distribution of documents by types (n=1,196)

S.No.	Type of documents	Quantity
1	Original Research Articles	1,021
2	Book Review	87
3	Review Articles	33
4	Letter to Editor	30
5	Editorial Material	15
6	Correction	6
7	Biographical Item	4

Table-2 presents the list of ten-most productive authors in *JASIST* during the target period. Thelwall, M. of the University of Wolverhampton, UK found to be the most productive author with 36

publications with an average of six publications per year or having one publication in every alternative issue. Bornmann, L. of Max Planck Society, Germany has been standing on 2nd rank with 34 publications followed by Leydesdorff, L. of University of Amsterdam, Netherlands and Ding, Y. of Indiana University, USA are standing on 3rd and 4th position respectively. Amongst the top ten authors, two belong to UK and one author, Song, M. of Yonsei University, Seoul, Korea with 9 publications belongs to the Asian region on a stand on 10th number. Only seven authors produced more than seven publications each during the study period. The cluster of the collaborative patterns of authors has been shown in Figure-2.

Table-2; Ten most productive authors in JASIST during 2014-2019

S. No.	Author's Name	Affiliated Organization and Country	Quantity
1.	Thelwall M	University of Wolverhampton, UK	36
2.	Bornmann L	Max Planck Society, Germany	34
3.	Leydesdorff L	University of Amsterdam, Netherlands	26
4.	Ding Y	Indiana University, USA	17
5.	Kousha K	University of Wolverhampton, UK	15
6.	Lariviere V	Université de Montréal, Canada	13
7.	Rousseau R	University of Antwerp, Belgium	12
8.	Goncalves MA	Federal University of Minas Gerais, Brazil	9
9.	Lee JH	University of Illinois at Urbana-Champaign, USA	9
10.	Song M	Yonsei University, Seoul, Korea	9

Figure-2, Collaborative pattern of authors

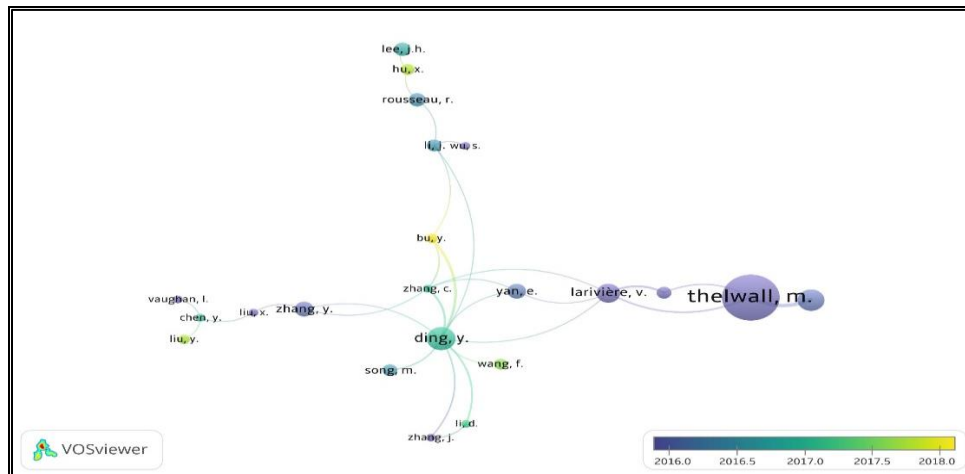
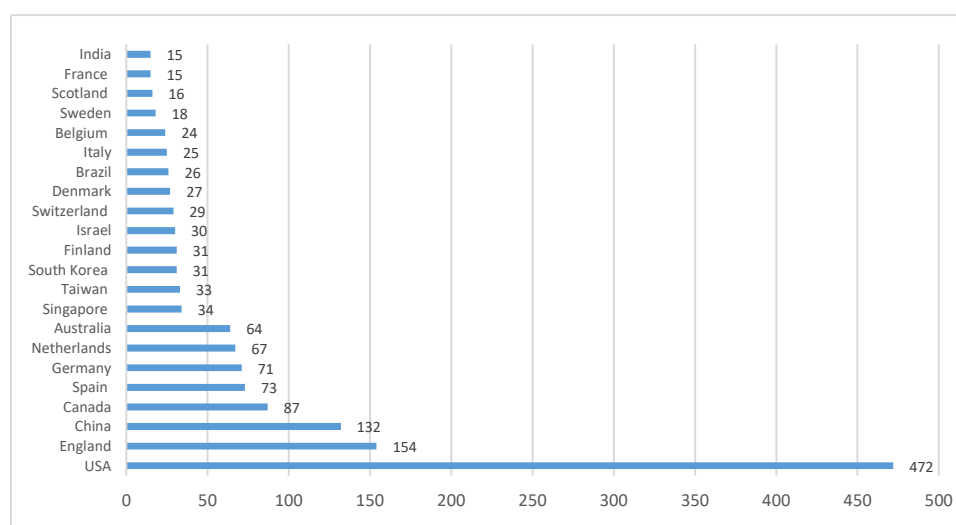


Table-3 presented the most productive organizations / universities based on the affiliated address of the contributors and the Indiana University System, USA found on the top with 44 publications followed by Indiana University Bloomington, USA with 39 publications, the third position was shared by Max Planck Society, Germany and the University of Wolverhampton, UK with 38 publications each. Amongst the top-10 most productive organizations, six belong to USA and one university, Nanyang Technological University National Institute of Education NIE Singapore belongs to the Asian Region.

Table-3; Ten most productive Organizations / Universities

S. No.	Organization / University	Quantity
1.	Indiana University System, USA	44
2.	Indiana University Bloomington, USA	39
3.	Max Planck Society, Germany	38
4.	University of Wolverhampton, UK	38
5.	University of Amsterdam, Netherland	33
6.	Drexel University, USA	27
7.	University of Texas System, USA	27
8.	Pennsylvania Commonwealth System of Higher Education PCSHE, USA	26
9.	Nanyang Technological University National Institute of Education NIE Singapore	25
10.	University of California System, USA	24

All the documents were contributed by authors affiliated with the 62 countries of the world. More than half (53%) of the literature was produced by the authors of two countries the United States and England. Almost forty percent (n=472; 39.46%) of the total documents have been produced by the authors affiliated with the different universities and organizations of United States, followed by England (n=154; 12.87%) and China (n=132; 11.03%). The top three countries crossed the limit of 100 documents each and the authors of five countries, Canada, Spain, Germany, Netherlands and Australia, produced documents ranges between 50-99. Detail of countries with the number of publications has been shown in table-6. Forty countries contributed less the ten documents each, including 14 countries have only one document each, and five countries with two documents each. Twenty-two countries contributed more than ten documents between the range of minimum 15 each by France and India to 472 by USA. (Figure-3)

Figure-3; List of most productive countries

The analysis of citation counts shows that all 1,196 documents have received 11,941 citations with an average of 9.98 citations per document with 45 publications with h-index till the date of data collection. There is 981 (82%) citable documents, and the top-ten most cited documents have received more than 100 citations per document. A total of 2,037 citations received these ten

documents with an average of 203.7 citations per documents. The most cited paper “The sharing economy: Why people participate in collaborative consumption” was published in 2016 received 669 with an average of 133.8 citations per year. This paper has been the collaborative research efforts of the authors belong to Finland and Denmark. Thelwall, M. of University of Wolverhampton, UK the most productive author contributed in five articles in the ten most-cited papers.

Table-5; Ten Most-Cited Documents

S. No.	Detail of Document	Citations
1.	Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. 67(9), 2047-2059.	669
2.	Bornmann, L., & Mutz, R. (2015). Growth rates of modern science: A bibliometric analysis based on the number of publications and cited references. 66(11), 2215-2222.	264
3.	Costas, R., Zahedi, Z., & Wouters, P. (2015). Do “altmetrics” correlate with citations? Extensive comparison of altmetric indicators with citations from a multidisciplinary perspective. 66(10), 2003-2019.	242
4.	Haustein, S., Peters, I., Sugimoto, C. R., Thelwall, M., & Larivière, V. (2014). Tweeting biomedicine: An analysis of tweets and citations in the biomedical literature. 65(4), 656-669.	165
5.	Xia, J., Harmon, J. L., Connolly, K. G., Donnelly, R. M., Anderson, M. R., & Howard, H. A. (2015). Who publishes in “predatory” journals?. 66(7), 1406-1417.	125
6.	Mohammadi, E., & Thelwall, M. (2014). Mendeley readership altmetrics for the social sciences and humanities: Research evaluation and knowledge flows. 65(8), 1627-1638.	121
7.	Thelwall, M., & Kousha, K. (2015). Research Gate: Disseminating, communicating, and measuring Scholarship?. 66(5), 876-889.	118
8.	Sugimoto, C. R., Work, S., Larivière, V., & Haustein, S. (2017). Scholarly use of social media and altmetrics: A review of the literature. 68(9), 2037-2062.	116
9.	Shema, H., Bar-Ilan, J., & Thelwall, M. (2014). Do blog citations correlate with a higher number of future citations? Research blogs as a potential source for alternative metrics. 65(5), 1018-1027.	109
10.	Thelwall, M., & Kousha, K. (2014). Academia.edu: Social network or Academic Network?. 65(4), 721-731.	108

DISCUSSION

JASIST is the leading international journal, has been providing a strong platform for library and information science researchers to share their innovative and intellectual ideas to the rest of the world. The findings of this study provide different characteristics of *JASIST*. A total of 1,196 documents were published in *JASIST* in six years and the majority of documents (85%) contained original research articles. Significant fluctuation in the number of papers was observed but overall the growing tendency was found from 158 papers in 2019 to 215 papers in 2014. The top four authors belong to four different countries, England, Germany, Netherlands and United States, amongst the ten most contributing organizations, six belong to United States and Indiana University System has been on the top. The authors of 62 countries contributed their research during the targeted period but more than half of the research was shared by the authors of two countries United States and England. Thelwall M. was not only found most productive author but out of ten most-cited papers, he contributed in five papers. The study pointed out the most of the literature produced

by the authors of the developed countries. The analysis of organizations and countries witnessed an insignificant share of developing countries.

The literature produced by library and information professions over the years reflects the progress of the profession. So there is a need to assess the literature regularly to highlight the strong and weak areas of research. Once the weakness would be pointed out, the efforts to find the suitable solution would be started as Uzan (2002) assessed the research contribution by the authors of developing countries in 21 core journals of library and information science and found that the research output of India, Pakistan and Nigeria had been dropped. Siddique et al. (2020) asserted that Pakistani LIS authors produced 1,305 papers during the period of 62 years from 1957 to 2018. There were only 18 papers were published in the year 2001, but due to the multiple efforts by the Government, as the commencement of M. Phil and doctorate level program, the magnitude of research reached 90 papers in the year 2016. The University of the Punjab found productive institutions with 381 publications and 40% of the literature was published in *Pakistan Library and Information Science Journal*. Patra, & Chand, (2006) stated that Indian LIS authors created 3,396 papers during 1967 to 2004 and the highest number (n=208) was found during the year 1999. Most of the papers (n=354) were published in the *Herald of Library Science*.

JASIST is a leading journal and having a fairly decent history, but only one bibliometric study was found and it was related to bibliographic coupling with Scientometrics (Nicolaisen, & Frandsen, 2015). One of the possible reasons seems that the journal indexed in the Web of Science and Scopus very late. Usually, bibliometric studies have been using the data from these databases.

CONCLUSION

This study discussed the bibliometric attributes, one of the leading and mostly cited journal *JASIST*. The bibliographic and citation dataset have been obtained from Web of Science database to determine the bibliometric parameters of documents published during 2014 to 2019. The study presents the growth of publication over the years, types of documents, prolific authors, organizations and countries, further the VOSviewer software was applied to portray the collaborative pattern of authors. *JASIST* succeeded to influence the varied audience globally by addressing contemporary and trend setting topics.

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