

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

2021

## A Bibliometric Study on World Digital Libraries – An International Journal (2008-2020)

INDRAKSHI DAS

*Don Bosco College Golaghat*, indrakshidas18@gmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

---

DAS, INDRAKSHI, "A Bibliometric Study on World Digital Libraries – An International Journal (2008-2020)" (2021). *Library Philosophy and Practice (e-journal)*. 6118.

<https://digitalcommons.unl.edu/libphilprac/6118>

# A BIBLIOMETRIC STUDY ON WORLD DIGITAL LIBRARIES – AN INTERNATIONAL JOURNAL (2008-2020)

Indrakshi Das  
Assistant Librarian  
Don Bosco College Golaghat  
Email- indrakshidas18@gmail.com

## **Abstract:**

*Currently bibliometric study is an ongoing modern trending topic in the field of library and information science. The professionals are also doing bibliometric study in various fields and developing the status of collection development. This paper examines the bibliometric analysis of World Digital Libraries – An International Journal. This analysis has been conducted with 149 contributions published in the journal selected twelve years for a period between 2008-2020. Collected data was analyzed on various parameters such as authorship pattern, degree of collaboration, distribution of articles (issue wise), year-wise authorship patterns, length of the article, ranking of contributors, year wise contribution of articles, country wise contributions, institution wise distributions, top authors, mostly used keywords etc.*

**Keywords:** Bibliometrics, World Digital Libraries – An International Journal, Authorship pattern, Degree of Collaboration, Bibliometric Analysis, Research publication.

## **1. INTRODUCTION**

Globally the term “Bibliometrics” has become a standard measure for analysis and evaluation process. Bibliometrics has the potentiality to centralize different branches of knowledge. The word “Bibliometrics” was introduced by Alan Pritchard (1969) which substituted the earlier term “Statistical Bibliography” and defined it as “the application of mathematical and statistical methods to books and other media.”Bibliometrics is a quantitative method employ to measure and analyze various aspects of written documents. It is characterized by the research patterns, progress, research specialization on different areas, scholarly publishing priorities and other bibliographic variables such as authorship patterns, the associated keywords, trends of research collaboration and citations. Bibliometrical study is a statistical tool for measuring scientific productivity also a dimension to evaluate the growth of a publication within a particular subject area, quality and excellences in research. This study is to intend the development of national and international research and sophisticated the citation

statistics extended to all interdisciplinary fields as a means to measure by bibliographical statistics also to identifying the emerging trends in the field.

This present study presents the bibliometric analysis of the World Digital Libraries – An International Journal and essence of growth dedicated to the advancement of research, theory and practice in the field of library science.

## **2. WORLD DIGITAL LIBRARIES – AN INTERNATIONAL JOURNAL**

World Digital Libraries – An International Journal is an international peer reviewed biannual journal published by The Energy and Resources Institute (TERI). This journal is available in both print and electronic format and publish every year in two times in the month of June and December. This journal started publishing its first issue in 2008. This international journal publishes high quality research papers that present original theoretical approaches. The main aims & scope of this journal is on the topic of recent development of digitization, digital library, their electronic resources, digital management, digital preservation, security aspects has been considered. This journal publishes theoretical approaches as well as experimental case studies related to digital library. Also this journal covers the major areas of library and information science such as case studies related to digital development, maintenance, multiple access, multilinguality, copyright issues, dialogues between the scientific community and society at large and keep abreast with containing article, reviews, current developments and case studies for the integration of knowledge at the interface of resources and development in the concerned field.

## **3. LITERATURE REVIEW**

By considering and exploring the relevant information on a particular topic or area of the study it has been very much crucial to contribute further understanding and future study. In the past few years various authors have progressed bibliometric study in various discipline. Trivedi & Manavadriya (2021) examined “Indian Journal of Finance” for the period between 2015 to 2019. The analysis covers various aspects such as year-wise distribution of articles, authorship patterns, degree of collaboration, distribution of articles (issue wise), year-wise authorship patterns, length of the article, ranking of contributors, etc. He found 141 articles from 11 volumes of this journal and revealed that 234 contributors from 134 institutions and average number of citations per article is 31.68 %. Pattar (2021) have done *bibliometric analysis of journal titled Communications in Information Literacy (CIL) for the period from 2007-2018*. The analysis shows that the number of papers published as *its growth as a core* substantially and papers from single authors formed the major chunk of total papers published. In all 223 papers were scanned from 12 volumes of the journal (Vol. no 1-12). It has also showed that the single author contribution is 55.61 % (124), which is highest when compared to contribution of two author papers. Pathak et al., (2020) conducted a bibliometric study about faculty members of Guwahati University during 1989-2018, 30 years of study. In

this study, data collected from Web of Science analyzed the data by the year-wise distribution of publications output, growth rate, compound annual growth rate, relative growth rate, and doubling time. Used Ms excel for data analysis, and for measuring different parameter, they used different formulas. The study disclosed the maximum numbers of (9.56%) articles were published in 2016 and the lowest number of (0.38%) articles published in 1992. Verma & Shukla (2018) analyzed the mapping of research and trends of publication in the Journal of Advances in Library and Information Science for the period of five years (2012-2016). In this study, researchers focused on different types of Bibliometrics parameters like authorship pattern of articles, references and geographical distribution etc. They examined that 251 articles published in this period. In the year 2015, the highest 62 number of papers published in the journal. The study also reported that the maximum numbers of documents come from collaborative research. Sujatha and Padmini (2015) conducted the study on journal of IEEE Transactions on Antennas and Propagation from 2010-2014. Study found that 3442 papers are published and the degree of collaboration ranges between 0.92 to 0.96. The majority of the contribution is from USA and India stands in the 21st position with 52 articles. Garg & Bebi conducted a study of a number of articles published in Annals of Library and Information Studies (ALIS) and DESIDOC Journal of Journal of Library and Information Technology (DJLIT) from the period 2010-2013 and found that the average number of articles published in DJLIT are more than the articles published in ALIS during the period of study, for this reason DJLIT is published six times in a year, while ALIS is published four times in a year. It was also observed that DJLIT 10 received more citations and published more papers than ALIS, citations per paper for both the journals are almost equal, DJLIT has a better immediacy index than ALIS and the impact factor of both the journals was less than one in 2012, but it increased in 2013 and was more than one. In another study Naidu (2012) analyzed Information Research: an International Electronic Journal (IRIEJ) and included the study of form of documents, authorship pattern, ranking of authors, year wise distribution of references and articles, ranking of cited journals, cited publishers and research contributors of IRIEJ. Also it has been explicable that the maximum numbers of articles have published in volume number 12 of IRIEJ during 2007. Mr. D. Wilson has contributed highest number of articles to IRIEJ who is also editor-in-chief of IRIEJ. Thanuskodi (2011) provide and represent an analysed data about the journal named Library Herald. The result has showed increased substantially on library automation. The highest contributors are from India with 89.85 % and the highest numbers are from the universities with 27.54%. Also indicated that out of 138 articles single author contributed 72 (52.17%) articles whereas the other 66 (47.83%) articles were contributed by multiple authors.

#### **4. OBJECTIVES OF THE STUDY**

- To make an analysis of articles published in World Digital Libraries – An International Journal from 2008 to 2020.
- To study the country wise distributions of contributions of the said article.

- To examine year wise contributions of articles.
- To inspect the authorship pattern of articles for a period of study.
- Determine issue wise authorship pattern.
- To analyze the most used keywords.
- To scrutinize the single and joint authored papers of the study.
- To find out the degree of collaboration.
- To identify institution wise contribution.
- To identify the length of articles.

## 5. METHODOLOGY

The present study covers total 13 volumes of 26 issues published in World Digital Libraries – An International Journal during the year 2008 to 2020. The data have been downloaded from the journal website. As per the objectives to be fulfilled, the resulted data were extracted and analyzed. A total of 149 articles were retrieved. Information about the author, author’s affiliation, country wise distributions, mostly used keywords, institution wise contributions length of articles, etc., were scanned, checked, and studied thoroughly and these data were organized, calculated, tabulated, analyzed and presented using simple arithmetic and statistical methods for its results.

## 6. DATA ANALYSIS AND INTERPRETATION

### 6.1. Top ten country wise distribution of published literature

SL No	Country Name	No of Contributors	Percentage	Rank
1	India	120	68.57	1
2	Nigeria	13	7.42	2
3	Germany	12	6.85	3
4	Bangladesh	07	4.00	4
5	Australia	05	2.85	5
6	USA	05	2.85	6
7	Portugal	04	2.28	7
8	Brazil	03	1.71	8
9	Malaysia	03	1.71	9
10	Denmark	03	1.71	10
<b>Total</b>		<b>175</b>	<b>100</b>	

*Table No.6.1*

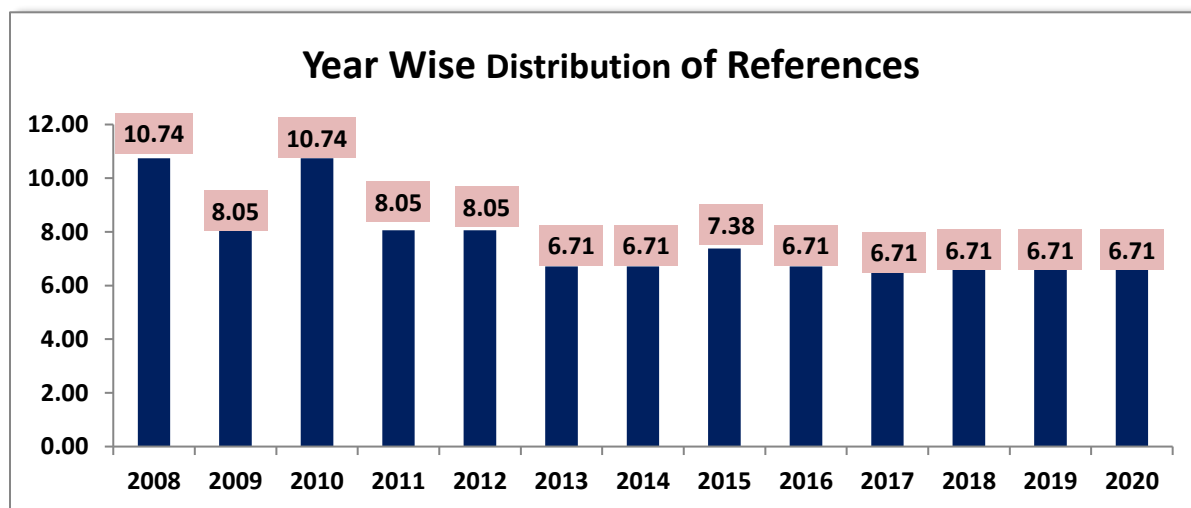
Table no 6.1 represents the information about the geographical distribution of the published papers during 2008 to 2020. Based on the complete count of papers it is observed and considered only top 10 countries which has contributed by different countries. Out of total

175 papers, India has positioned in a highest rank i.e. (120) 68.57%. Of these Nigeria contributed 13 (7.42%) papers followed by Germany (12), Bangladesh (7), Australia & USA (5), Portugal (4). Brazil, Malaysia & Denmark (3).

## 6.2. Year Wise distribution of Articles

SL NO	Year	Volume	No. of issue	No of Contributions	Percentage (%)
1	2008	Vol. 1	2	16	10.73
2	2009	Vol. 2	2	12	8.05
3	2010	Vol. 3	2	16	10.73
4	2011	Vol. 4	2	12	8.05
5	2012	Vol. 5	2	12	8.05
6	2013	Vol. 6	2	10	6.71
7	2014	Vol. 7	2	10	6.71
8	2015	Vol. 8	2	11	7.38
9	2016	Vol. 9	2	10	6.71
10	2017	Vol. 10	2	10	6.71
11	2018	Vol. 11	2	10	6.71
12	2019	Vol. 12	2	10	6.71
13	2020	Vol. 13	2	10	6.71
<b>Total</b>			<b>26</b>	<b>149</b>	<b>100</b>

*Table No.6.2*



*Figure No.6.2*

Table & Figure No (6.2) indicates the Year wise distribution of articles in the journal. World Digital Libraries – An International Journal published 149 research articles during the period of study from 2008 to 2020 (as per database). The above table -1 showed that the maximum

numbers of articles were published in the year in both 2008 & 2010 (16). The Journal, on an average has published 11 research papers per year.

### 6.3. Distribution of Article (issue wise)

Distribution of articles (Issue Wise)				
SL No	Volume	Issue 1	Issue 2	Total Publications
1	Vol. 1	9	7	16
2	Vol. 2	6	6	12
3	Vol. 3	8	8	16
4	Vol. 4	7	5	12
5	Vol. 5	6	6	12
6	Vol. 6	5	5	10
7	Vol. 7	5	5	10
8	Vol. 8	5	6	11
9	Vol. 9	5	5	10
10	Vol. 10	5	5	10
11	Vol. 11	5	5	10
12	Vol. 12	5	5	10
13	Vol. 13	5	5	10
<b>Total</b>		<b>76</b>	<b>73</b>	<b>149</b>

Table No.6.3

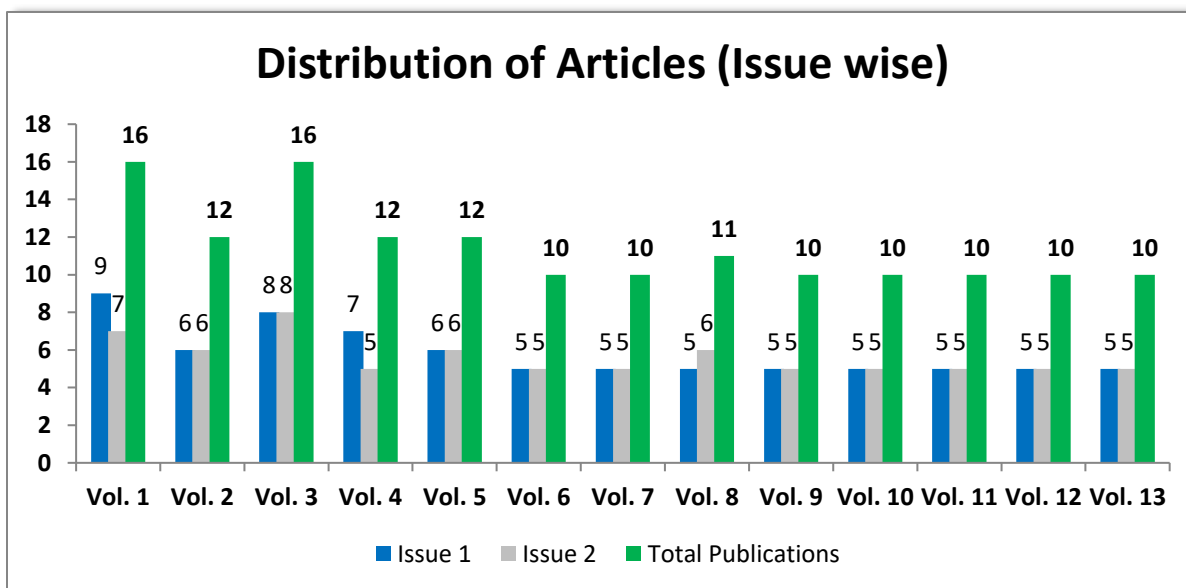


Figure No.6.3

Table & Figure No (6.3) represents data about distribution of articles (Issue-wise). Volume No. 1 volume No. 3 shows the highest number of total articles (16) followed by Volume. 2, 4 and 5 with 12 articles. It is followed by volume. 8 with 11 articles. The lowest number of total articles 10 is in volume No. 6, 7, 9, 10, 11, 12, and 13.

#### 6.4. Authorship Pattern

Authors \ Years	Single	Two	Three	Four & more	Total
2008	9	2	4	1	16
2009	7	2	2	1	12
2010	6	7	3	0	16
2011	6	3	2	1	12
2012	8	1	3	0	12
2013	5	4	1	0	10
2014	3	5	2	0	10
2015	6	3	1	1	11
2016	4	2	3	1	10
2017	5	2	3	0	10
2018	2	6	0	2	10
2019	1	6	2	1	10
2020	2	7	1	0	10
<b>Total</b>	<b>64</b>	<b>50</b>	<b>27</b>	<b>8</b>	<b>149</b>

Table No.6.4

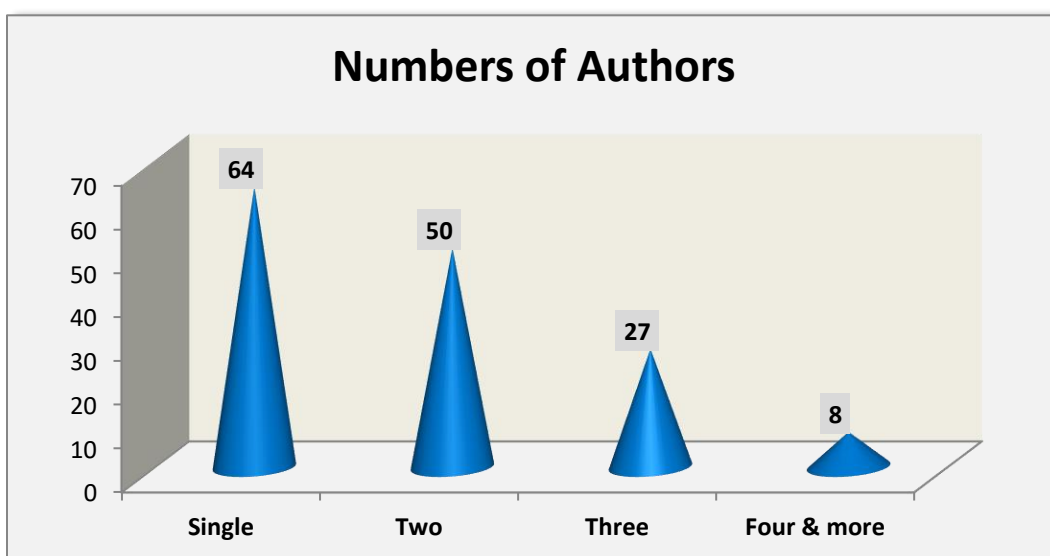


Figure No.6.4



The above data (table no. 6.4) represent the authorship pattern of the articles published during the period of study. Maximum numbers of articles were contributed by single author which is 64 articles (42.95%). This is followed by two authors with 50 (33.55%) articles, three authors with 27 (18.12%) and four authors and more with 8 (5.36%) of the total articles. (Figure no. 6.4) presents the graphical representation of data.

### 6.5. Year wise Authorship Pattern

Years \ Authorship	Years													Total	%
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Single	9	7	6	6	8	5	3	6	4	5	2	1	2	64	42.95
Joint	7	5	10	6	4	5	7	5	6	5	8	9	8	85	57.04
Total	16	12	16	12	12	10	10	11	10	10	10	10	10	149	100

Table No.6.5

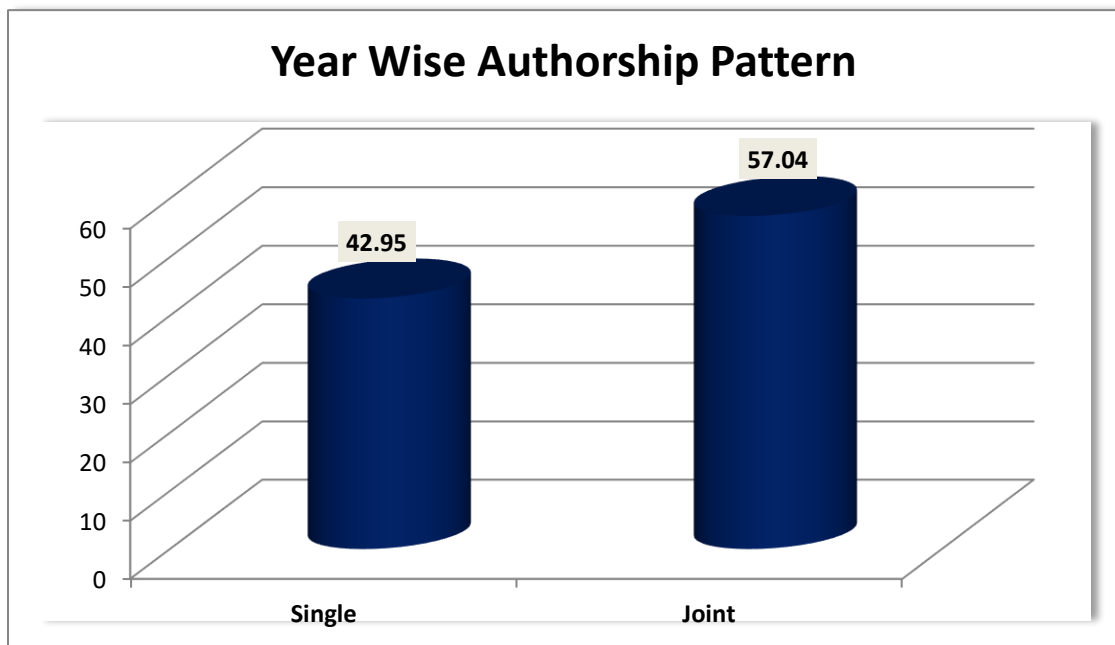


Figure No.6.5

The above table-6.5 showed that out of 149 articles joint authors contributed 85 (57.04%) articles while the rest 64 (42.95%) articles were contributed by single author. (Figure no. 6.5) presents the graphical representation of data.

## 6.6. Degree of Collaboration

The ratio of the number of collaborative research papers to the total number of research papers in the discipline during a certain period of time is called degree of collaboration. To improve the productivity of research papers and sense of audience that reflects both the mean number of authors per paper as well as the proportion of multi-authored papers. In 1983 Subramanyam introduced a mathematical formula to calculate the degree of collaboration in quantitative terms. The study follows the same formula which is mathematically put as:

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

Where, C = Degree of Collaboration

Nm = Number of Multi authored papers

Ns = Number of single authored papers

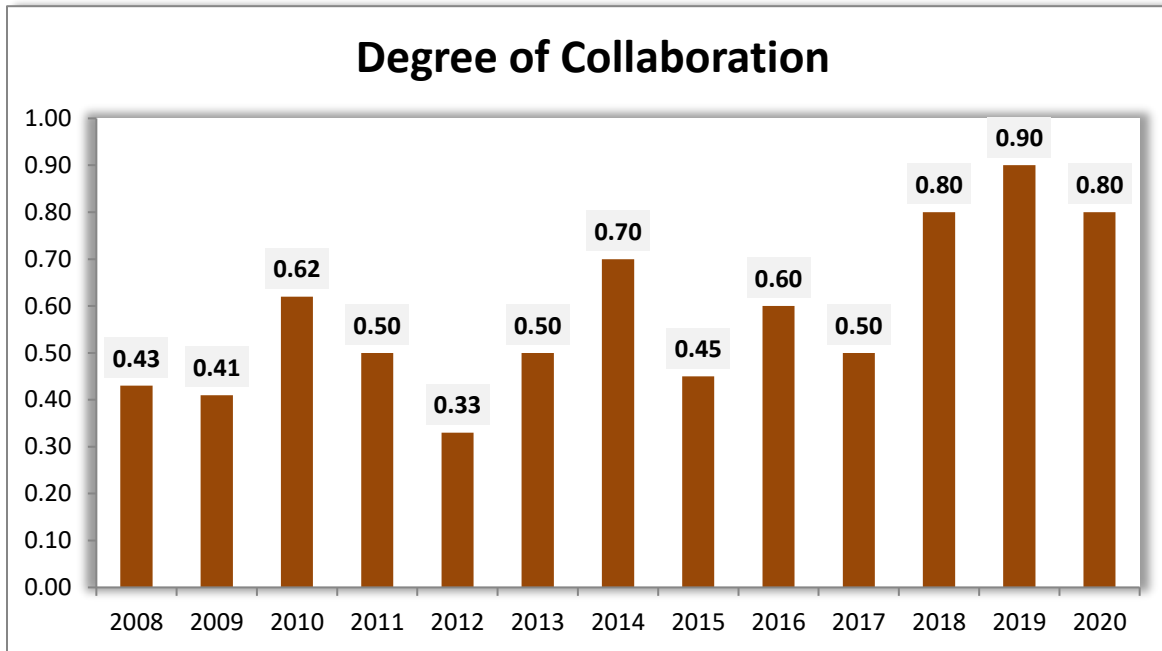
Nm = 85, Ns = 64

C = 85 / 85 + 64 = 0.57

Year	Volume	No. of Authors			Degree of Collaboration
		Single	Multiple	Total	
2008	Vol. 1	9	7	16	0.43
2009	Vol. 2	7	5	12	0.41
2010	Vol. 3	6	10	16	0.62
2011	Vol. 4	6	6	12	0.50
2012	Vol. 5	8	4	12	0.33
2013	Vol. 6	5	5	10	0.50
2014	Vol. 7	3	7	10	0.70
2015	Vol. 8	6	5	11	0.45
2016	Vol. 9	4	6	10	0.60
2017	Vol. 10	5	5	10	0.50
2018	Vol. 11	2	8	10	0.80
2019	Vol. 12	1	9	10	0.90
2020	Vol. 13	2	8	10	0.80
Total		64	85	149	0.57
Percentage		42.95	57.04	100.00	

Table No.6.6

Table no. 6.6 depicts that out of 149 papers, 42.95 % (64) papers contributed by single author whereas; multi author papers contributed 57.04 % (85). The degree of collaboration ranges from 0.33 to 0.90. The overall degree of collaboration in the journal World Digital Libraries – An International Journal is 0.57. During the period of study, analysis also unveils that the value of DC was maximum in the year 2019 (vol.12) with 0.90 and minimum in the year 2012 (vol.5) with 0.33. However, the calculated value for the degree of collaboration in this study indicates that this journal has published more number of multi authored contributions than single ones. (Figure no. 6.6) presents the graphical representation of data.

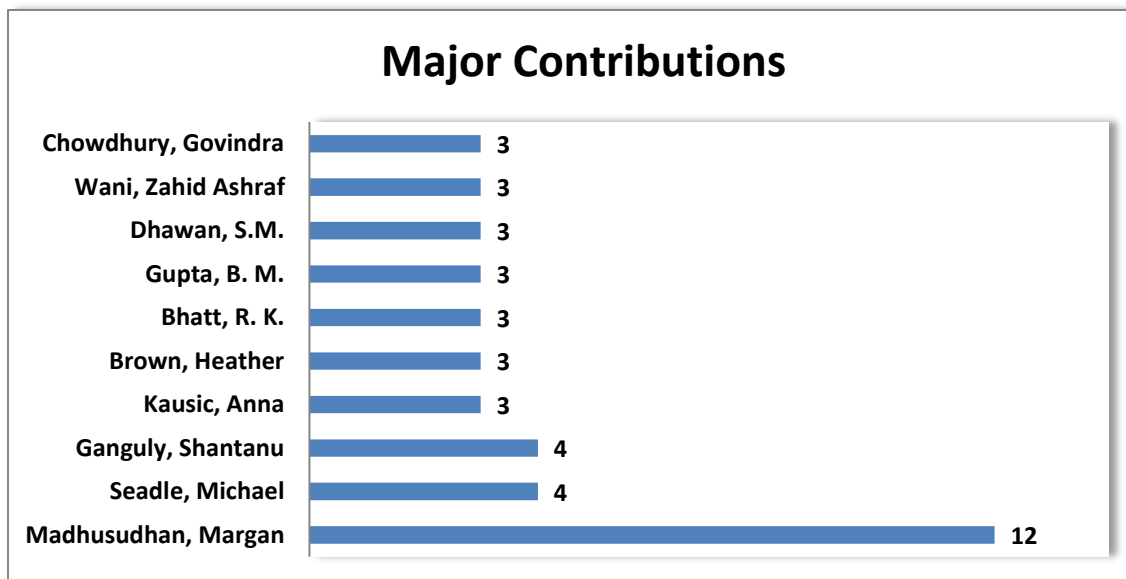


*Figure No.6.6*

### 6.7. Highly Prolific Contributor

SL NO	Author Name	Publication
1	Madhusudhan, Margan	12
2	Seadle, Michael	4
3	Ganguly, Shantanu	4
4	Kausic, Anna	3
5	Brown, Heather	3
6	Bhatt, R. K.	3
7	Gupta, B. M.	3
8	Dhawan, S.M.	3
9	Wani, Zahid Ashraf	3
10	Chowdhury, Govindra	3

*Table No.6.7*



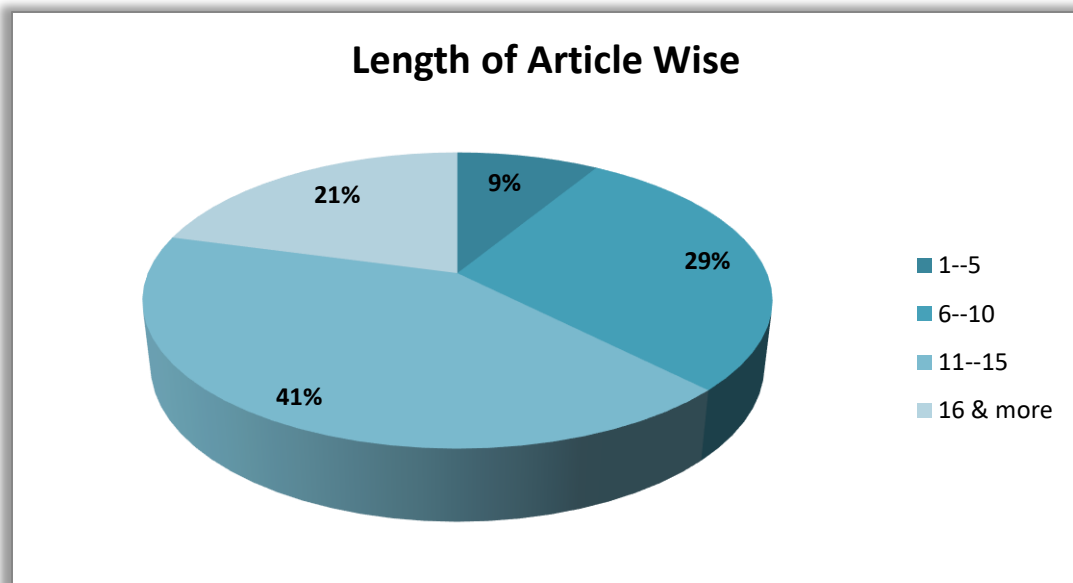
*Figure No.6.7*

Table No. 6.7 show the highly productive authors in *WORLD DIGITAL LIBRARIES – AN INTERNATIONAL JOURNAL*. The maximum numbers of contributions were from Madhusudhan, Margan., second highest publications from Seadle, Michael., Ganguly, Shantanu., with four publications each. Third highest publications from Kausic, Anna., Brown, Heather., Bhatt, R. K., Gupta, B. M., Dhawan, S.M., Wani, Zahid Ashraf., Chowdhury, Govindra., with 3 publications each. Figure No.6.7 represents graphical representation of data.

#### 6.8. Length Wise Article

Year No. of Pages	Year													Total	%
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
1-5	4	2	2	1	0	1	0	2	1	0	0	0	0	13	8.72
6-10	4	2	8	3	4	2	1	2	4	3	4	1	5	43	28.85
11-15	4	3	3	7	6	5	8	4	3	5	4	6	4	62	41.61
16 & more	4	5	3	1	2	2	1	3	2	2	2	3	1	31	20.80
<b>Total</b>	<b>16</b>	<b>12</b>	<b>16</b>	<b>12</b>	<b>12</b>	<b>10</b>	<b>10</b>	<b>11</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>149</b>	<b>100</b>

*Table No.6.8*



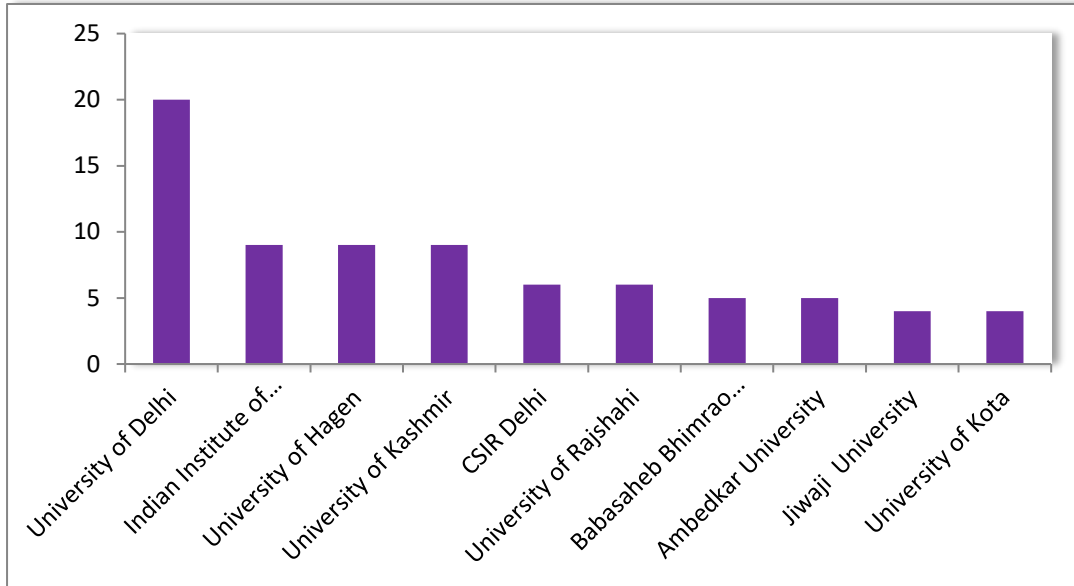
*Figure No.6.9*

Table No. 6.9 indicates details about the length of contributions. It has showed the majority of articles 62 (41.61%) have the length of 11-15 pages followed by 43 (28.85%) articles 6-10 pages, 31(20.80%) article with 16 & more pages and the remaining 13(8.72%) articles have the length of 1-5 pages which is minimum in length. Figure No.6.9 represents graphical representation of data.

### 6.9. Top Ten Productive Institution

SL No.	Institutions	Publicatons
1	University of Delhi	20
2	Indian Institute of Technology, Kharagpur	09
3	University of Hagen	09
4	University of Kashmir	09
5	CSIR Delhi	06
6	University of Rajshahi	06
7	Babasaheb Bhimrao Ambedkar University	05
8	Ambedkar University	05
9	Jiwaji University	04
10	University of Kota	04

*Table No.6.9*



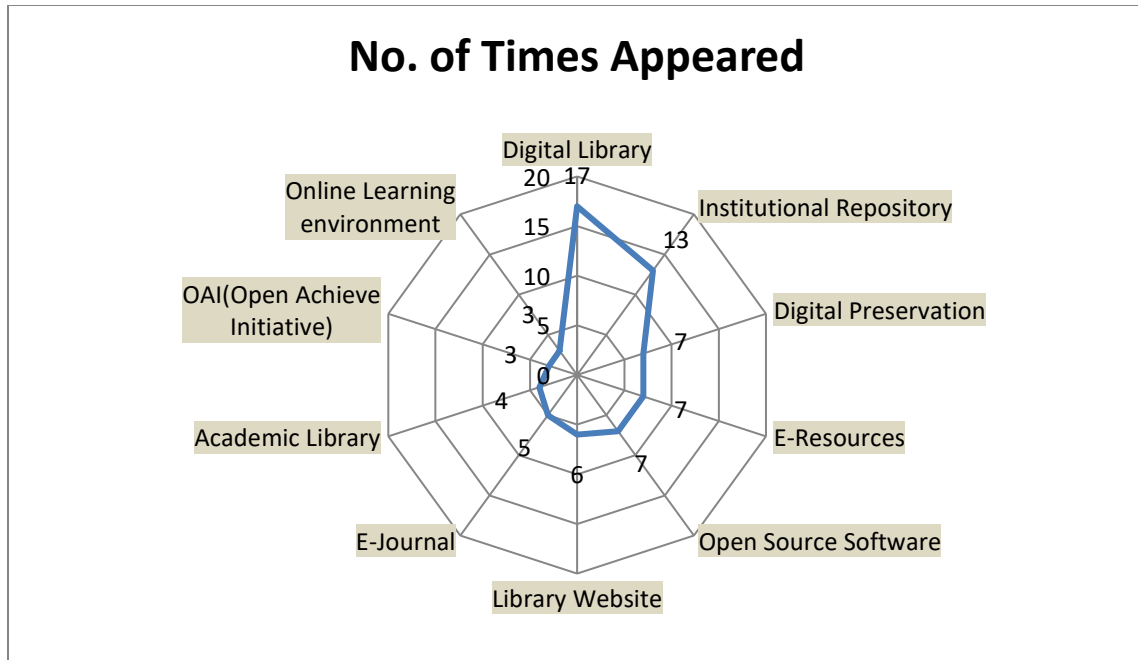
**Figure No.6.10**

Table No. 6.9 represents the list of institutes contributing the maximum articles. University of Delhi is placed at the top with 20 publications and followed by Indian Institute of Technology Kharagpur, University of Hagen, University of Kashmir with 7 publications each; CSIR Delhi, University of Rajshahi produced 6 publication each; Babasaheb Bhimrao Ambedkar University, Ambedkar University produced 5 publication each; Jiwaji University & University of Kota also having 4 publications each and other institutions contribute total 72 publication from the study period. Figure No.6.9 represents graphical representation of data.

### 6.10. Highly Used keywords

SL No.	Keywords	No. of Times Appeared
1	Digital Library	17
2	Institutional Repository	13
3	Digital Preservation	07
4	E-Resources	07
5	Open Source Software	07
6	Library Website	06
7	E-Journal	05
8	Academic Library	04
9	OAI(Open Achieve Initiative)	03
10	Online Learning environment	03

**Table No.6.10**



**Figure No.6.10**

Table No. 6.11 show that the maximum number of contributions used keywords like Digital library with 17 papers followed by Institutional Repository with 13 papers, Digital Preservation, E-Resources and Open Source Software with 7 papers each, Library Website has its total 6papers followed by E- Journal having 5 papers, Academic library produced 4 papers, OAI (Open Achieve Initiative), Online Learning environment with 3 publications each. Figure No.6.11 represents graphical representation of data.

## 7. FINDINGS OF THE STUDY

World Digital Libraries – An International Journal began as a half yearly publication from 2008 and its popularity has increased as witnessed by the number of papers published over the last 12 years. Analysis also indicates that there is study increase in contributor numbers over the period of time. The major findings of the present study are as follows:-

- The maximum numbers of articles were published in the year in both 2008 & 2010 (16) 10.73%.
- Volume 1& 3 shows the highest number of total articles (16) followed by Volume 2, 4 & 5 with 12 articles. It is followed by volume 8 with 11 articles.
- Among the contributors of papers, India has positioned in a highest number of contributions which is 68.57 % (120) of the papers published.

- Maximum numbers of articles were contributed by single author with 64 articles (42.95%). This is followed by two authors with 50 (33.55%) articles, three authors with 27 (18.12%) and four authors and more with 8 (5.36 %) of the total articles.
- Out of 149 articles joint authors contributed 85 (57.04%) articles while the rest 64 (42.95%) articles were contributed by single author.
- The degree of collaboration in the Journal of World Digital Libraries – An International Journal is 0.57.
- It is observed that, out of 150 institutions University of Delhi has contributed highest number of articles with 20 publications followed by Indian Institute of Technology Kharagpur with 9 publications.
- Mostly used keywords like Digital library which is used in maximum number of contributions with 17 papers followed by Institutional Repository with 13 papers.
- Study indicates that the maximum number of contributors has the length of 11-15 pages with (62) 41.67% which is considered to be an ideal length for research articles. It shows that this ideal length holds the reader's attention.

## 8. CONCLUSION

In the worldwide the acceptance of bibliometric analysis has increased their productivity in different disciplines as well as its subsequent areas. The way of analyzing this bibliometric technique, it is favorable to a number of purposes which includes selection of journals for the libraries, showing the benefits of a desired field, scientific output evaluation, determining scientific indicators. The study sought to indicate that the bibliometric analysis of “World Digital Libraries – An International Journal” for the period from 2008-2020 has been conducted. The journal has published 149 articles during the period of study. Due to reduced cost barrier the open access mode helps in accessing various scholarly articles by the global users.

## REFERENCES

Pattar, V., & Patel, V. (2021). Bibliometric Analysis Of Communications In Information Literacy (CIL) Journal During 2007 - 2018. *Library Philosophy and Practice (e-journal)* , 5662.

Trivedi, R., & Manavadriya, M. (2021). Indian Journal of Finance: A Bibliometric Analysis. *Library Philosophy and Practice (e-journal)* , 5717.

Pathak, T., Mishra, V. K., & Verma, M. K. (2020). Research Publication Analysis of Faculty Members of Gauhati University during 1989-2018: A Bibliometric Study. *International Journal of Library Information Network*, 5(1), 73–91.



Verma, M. K., Devi, K. K. & Brahma, K. (2017). Bibliometric study of DESIDOC journal of library and information technology (DJLIT) during 2005-2016. *International Journal of Information Dissemination and Technology*, 7(3), 162-169.

Sujatha, D. and Padmini, K. (2015). IEEE Transactions on Antennas and Propagation: A Bibliometric Study. *DESIDOC Journal of Library & Information Technology*, 35(6), 443-449.

Garg, K. & Bebi. (2014).A citation study of Annals of Library and Information Studies (ALIS) and DESIDOC Journal of Library and Information Technology (DJLIT). *Annals of Library and Information Studies*,61, 212-216.

Thanuskodi, S. (2011). Library Herald journal: a bibliometric study. *Journal of Arts Science & Commerce*, 2(4), 68-76.

Ratha, B., Naidu, G., & Gawde, M. (2012). Information Research: An International Electronic Journal: A Bibliometric Study. *International Journal of Digital Library Services* , II (1), 1-11.