

Publication trends in an open access journal: A case study of International Journal of Digital Library Services (IJODLS)

Dr. Sapna Sharma

Librarian
IPS Academy campus 2
Sanwer, Indore (M.P.)
sapnasharma@ipsacademy.org

Abstract: The paper first provides open access movement in the world the paper analyses 145 articles published from the years 2011-2014 and calculates the relative growth rate and doubling time paper finds out the authorship pattern and calculates the collaboration coefficient and collaboration index. The paper also finds out the inter and intra-institutional and gender collaboration of the authors. Suggest for cautious selection of articles.

Keywords: Open access, bibliometric, C.C.& C.I.

1. Introduction: The origin of open-access publishing was at its infancy stage by the year 1990. In the year 1992, only 5 e- journals were engaged in open-access publishing which has grown considerably over the period. By the end of 2023 according to a report, there were 9 million fully open-access scholarly journals in the world and were published. The OA journals are published throughout the world. Some of the open-access repositories are:

- DOAJ
- DOAB (Directory of Open Access Books):
- Open DOAR (Directory of Open Access Repositories)
- BASE (Bielefeld Academic Search Engine)
- arXiv
- PubMed Central
- RePEc
- The Social Sciences Research Networks
- The Internet Archive

1.1 About the journal: International Journal of Digital Library Services (IJODLS) ISSN 2349-302X (Print) ISSN:2250-1142 (Online) is an Open Access International peer-reviewed Refereed journal in the field of Library and Information Science. It is an academic journal, publishes original research papers, survey reports and reviews and opinions pertaining to the subject. IJODLS is available online for all readers to freely read, download, copy, distribute, print or link to the full texts of its articles to use them for any other lawful purpose. The review process is an important aspect of the publication process of an article. It helps an editor in making decision on an article and also enables the author to improve the

manuscript. All the papers submitted to IJODLS for editorial consideration will be scrutinised through double blind peer review so as to ensure standard, quality and originality.

2. Objectives: The study has been completed mainly to find out collaboration patterns; In addition, the paper has a few more objectives

- 2 To study the year-wise distribution of papers and their growth rate and doubling time,
- 3 To find out the authorship pattern of the papers,
- 4 To examine the collaboration pattern of authors,
- 5 To study inter-institution collaboration distribution of the papers,

3. Literature review: -There are few studies mainly on open-access journals. Thanuskodi (2010) [2] made a bibliometric analysis of The Journal Library Philosophy and Practice from 2005-2009. Tsay (2011) [3] made analyses in the Journal of Information Science. Roy and Basak (2013) [4] studied the Journal of Documentation 2005-2010. Kumar and Moorthy (2011) [5] analyses the DESIDOC Journal of Library and Information Technology during 2001-2010. Bansal (2013) [6] also studied this journal from 2001-2012. Jena and others (2012) [7] worked on Annals of Library and Information Studies 2002 -2010. Pandita (2013) [8] also studied it from 2002-2012. Pandit (2014) [9] has studied the journal Trends of Information Management for the 8 volumes for 2005-2012 and found that it has published approximately 6.33 articles per year in two issues a year. Also analyses that 65 % of the articles are from India and the rest are for authors from Nigeria, Saudi Arabia, the U.K., France, Canada, South Africa, etc. 35 % articles of Indian authors are from Jammu and Kashmir and others are from U.P, Maharashtra, Punjab Delhi, etc. The paper also analysed authorship patterns major contributors; references used etc.

4. Methodology: The data has been collected for the study for the years 2011 -2014. A total of 145 issues of 4 volumes have been studied. It publishes 4 issues per year the data has been loaded on an MS Excel worksheet for further analysis by actually opening each article on the net.

5. Formula used: The following bibliometric formulae have been used in this study.

(a) Degree of collaboration (DC) or collaboration Coefficient (C.C.): - (Subramanyam, 1983)

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

Where, Ns = Single authored publications
Nm = Multiple authored publications

(b) Collaboration Index: - Lawaani

$$C.I. = \frac{\text{No. of authors of total joint publications}}{\text{Total joint publications}}$$

(c) Relative Growth Rate and Doubling Time:

$$(i) RGR1 - 2^R = \frac{\log_e 2w - \log_e 1w}{2^T - 1^T}$$

Where,

1-2^R = Mean relative growth rate over the specific period of interval

$\log_e 1w = \log$ of initial number of articles.

$\log_e 2w = \log$ of final number of articles after a specific period of interval

$2^T - 1^T =$ the unit difference between the initial time and the final time

$$(ii) DT = \frac{0.693}{R}$$

6. Data analysis: The data has been collected from IJODLS for the years 2005 to 14.

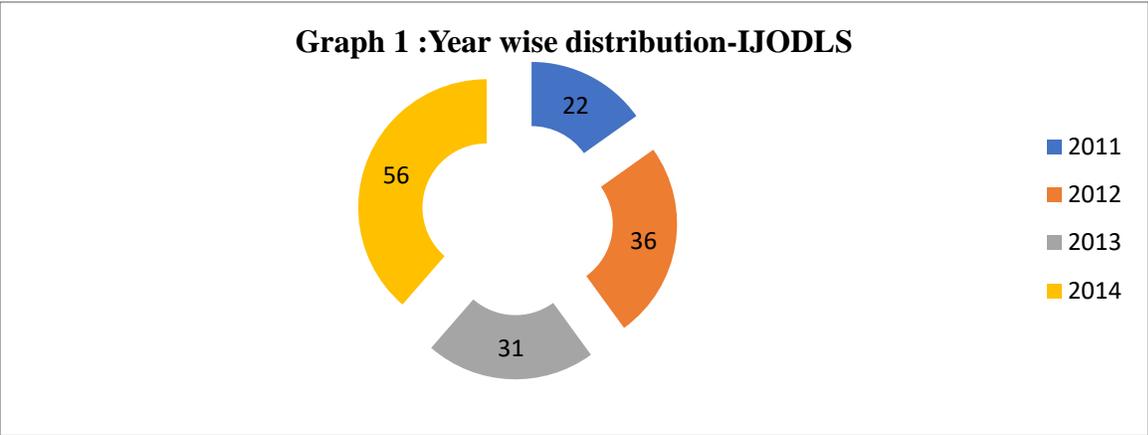
6.1. Year-wise distribution:

Table .1 calculates year-wise distribution. It analyses 4 volumes comprising two/three parts. It published 145 articles in those 4 years. The number of publications per volume highly varies between 22-56 during this period. Every part has 4 issues but there is no fixed policy on several articles per issue often it is nil also. This has been shown in graph 514.1.

Table 1: year wise distribution of articles -IJODLS

S.N.	Year	Part	Vol. No.	Issue number				Total	Total of vol.	%
				1	2	3	4			
1	2011	1	1	4	7	0	0	11	22	15.17%
2		2		4	7	0	0	11		
3	2012	1	2	4	4	4	3	15	36	24.83%
4		2		4	3	4	4	15		
5		3		6	0	0	0	6		
6	2013	1	3	4	4	3	4	15	31	21.38%
7		2		5	4	3	4	16		
8	2014	1	4	0	7	12	7	26	56	38.62%
9		2		0	10	12	8	30		
	Total			23	46	38	30	145	145	100.00%
	%			15.86	31.72	26.21	20.69	100		

Total	Mean	Mode	Median	S.D.
145	36.25	Not Found	33.5	14.38

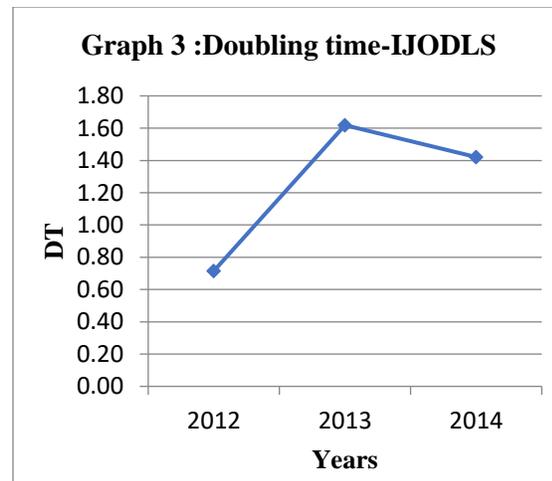
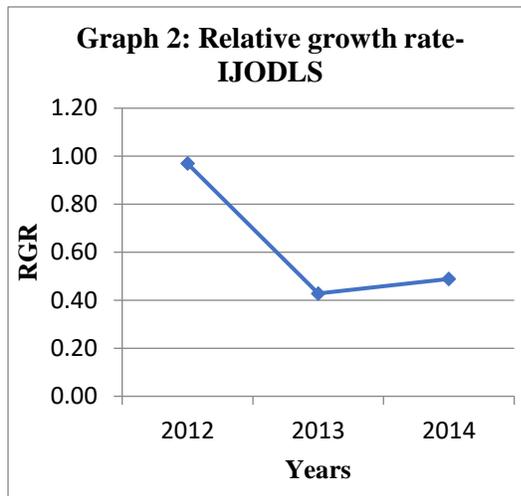


6.2. Relative growth rate (RGR) and doubling time (DT):

Table 2 calculates the relative growth rate and doubling time. The analysis shows that RGR decreased from 0.97 to 0.49. Consequently, DT increased from 0.71 to 1.42. This has been shown in graphs 2 and 3. The graphs show a decreasing trend of RGR and an increasing DT trend.

Table 2: Relative growth rate and doubling time – IJODLS

S.N.	Year	Total	C. Total	w ²	w ¹	RGR	DT
1	2011	22	22	3.0910			
2	2012	36	58	4.0604	3.091042	0.97	0.71
3	2013	31	89	4.4886	4.060443	0.43	1.62
4	2014	56	145	4.9767	4.488636	0.49	1.42
	Total	145					

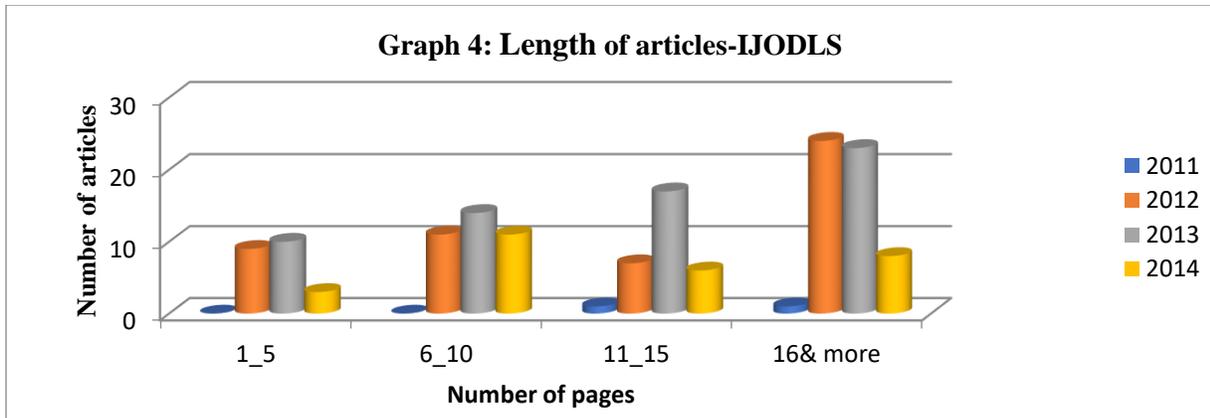


6.3. Length of articles:

Table 3 shows the length of the articles. It finds almost 60 % articles are of 11 pages or more while 24.83% articles are of 6-10 pages. The analysis also shows that in 21.38 % of articles, only 15.17 % of articles range between 1-5 pages. The result shows a higher number of lengthy papers. This is shown in the graph.

Table 3: Length of articles-IJODLS

S.N.	Year	1-5	6-10	11-15	16 and more	Total	%
1	2011	0	0	1	1	2	1.38%
2	2012	9	11	7	24	51	35.17%
3	2013	10	14	17	23	64	44.14%
4	2014	3	11	6	8	28	19.31%
	Total	22	36	31	56	145	100.00%
	%	15.17%	24.83%	21.38%	38.62%	100.00%	



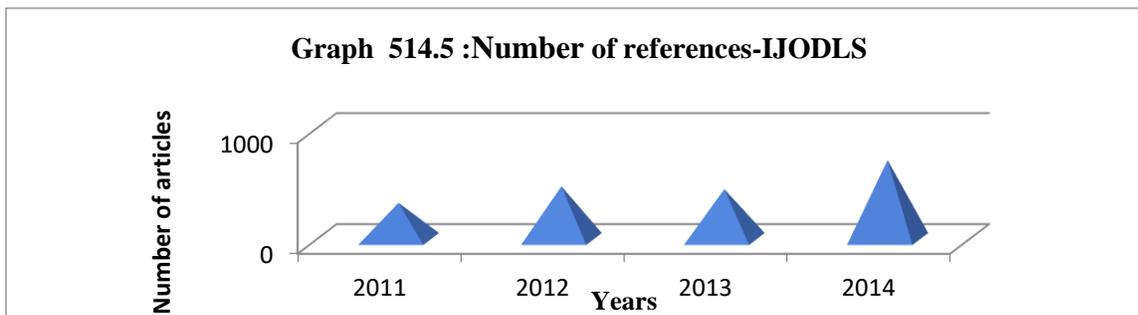
6.4. Number of references:

In table 4 references available in 145 articles have been counted. In total they have 1961 references with an average of 13 references per article. This has been shown in graph.

Table 4: Number of References –IJODLS

S.N.	Year	Issue no				Total	%
		1	2	3	4		
1	2011	93	233	0	0	326	16.62%
2	2012	184	104	105	82	475	24.22%
3	2013	103	118	111	117	449	22.90%
4	2014	0	222	311	178	711	36.26%
	Total	380	677	527	377	1961*	100.00%
	%	19.38%	34.52%	26.87%	19.22%	100.00%	

* Total 145 articles

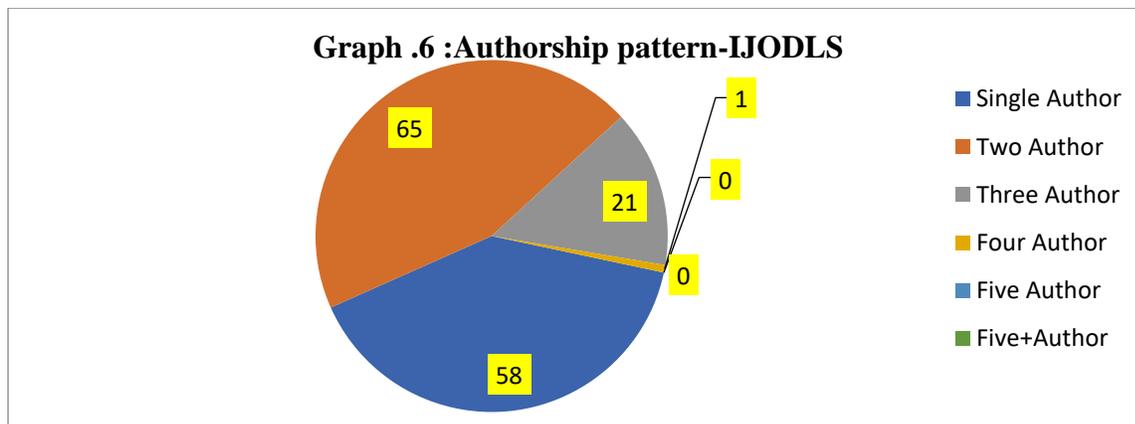


6.5. Authorship pattern:

Table 5 calculates the authorship pattern. The table shows that 40% of articles are of single authorship. The analysis also shows that 44.83 % are of 2 authors each. There are 15.17% articles by 3 or more authors. The result shows that though joint-author articles are high in number in this OA journal single-author articles are also high. There is almost a 40:60 ratio between single and joint authorship articles.

Table 5: Authorship pattern –IJODLS

S.N.	Year	Number of authors						Total	%	Total authors hip
		1	2	3	4	5	5+			
1	2011	10	9	3	0	0	0	22	15.17	37
2	2012	12	13	11	0	0	0	36	24.83	71
3	2013	12	16	3	0	0	0	31	21.38	53
4	2014	24	27	4	1	0	0	56	38.62	94
	Total	58	65	21	1	0	0	145	100.00	255
	%	40.00	44.83	14.48	0.69	0.00	0.00	100.00		

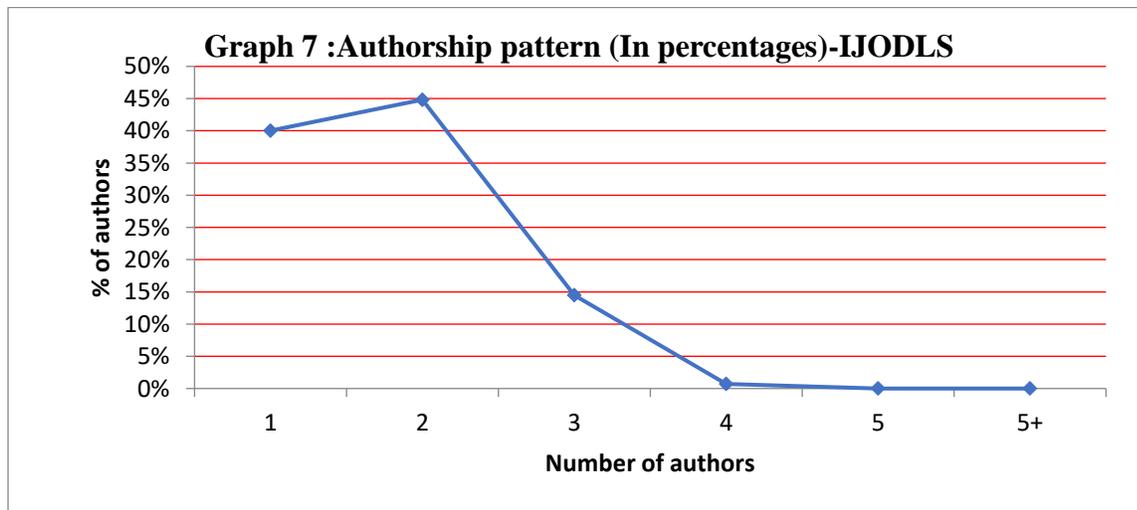


6.6. Authorship pattern (In percentages):

The percentages of the authorship pattern have been calculated in Table 6. Single authorship articles vary between 33 % to 45%. Double author's articles also vary between 36% to 51% with an average of 45%. There are a smaller number of three and above author articles each.

Table 6: Authorship pattern (In percentages) –IJODLS

S.N.	Year	Number of articles						Total
		1	2	3	4	5	5+	
1	2011	10	9	3	0	0	0	22
		45.45%	40.91%	13.64%	0.00%	0.00%	0.00%	100.00%
2	2012	12	13	11	0	0	0	36
		33.33%	36.11%	30.56%	0.00%	0.00%	0.00%	100.00%
3	2013	12	16	3	0	0	0	31
		38.71%	51.61%	9.68%	0.00%	0.00%	0.00%	100.00%
4	2014	24	27	4	1	0	0	56
		42.86%	48.21%	7.14%	1.79%	0.00%	0.00%	100.00%
	Total	58	65	21	1	0	0	145
	%	40.00	44.83	14.48	0.69	0.00	0.00	100.00

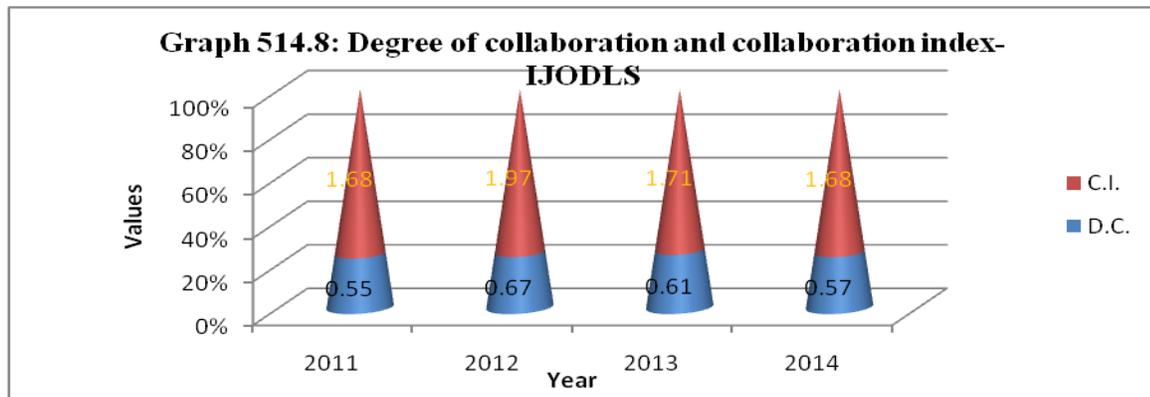


6.7. Degree of collaboration and collaboration index:

Table 7 shows D.C. and C.I. values. In the table, C.I. ranges between 1.68 to 1.97. On average D.C. is 0.60 and C.I. is 1.76. The values are shown in graph 514.7.

Table 7: Degree of collaboration and collaboration index –IJODLS

S. N.	Year	Single author	Joint authors	Total authors	Total papers	%	D.C.	C.I.
1	2011	10	12	37	22	15.17%	0.55	1.68
2	2012	12	24	71	36	24.83%	0.67	1.97
3	2013	12	19	53	31	21.38%	0.61	1.71
4	2014	24	32	94	56	38.62%	0.57	1.68
	Total	58	87	255	145	100.00%	0.60	1.76



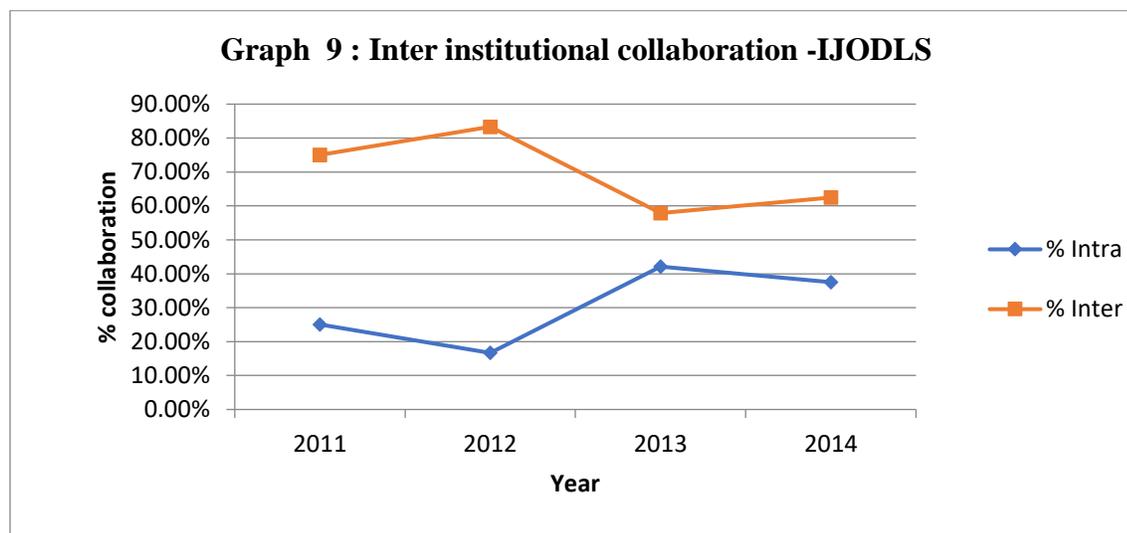
6.8. Inter-institutional collaboration pattern:

Table 514.8 calculates inter-institutional collaboration. For this affiliation of authors has been noted from original articles. The table shows a higher 69% inter-institutional collaboration within joint-authored articles. Intra-institutional collaboration is only in 31 % of articles. Higher inter-institutional collaboration is a good sign of a collaboration pattern. This is shown in Graph 514.9

Table 8: Inter-institutional collaboration pattern-IJODLS

S.N.	Year	Joint authors	% Intra institution	% Inter institution
1	2011	12	3(25%)	9(75%)
2	2012	24	4(16.67%)	20(83.33%)

3	2013	19	8(42.11%)	11(57.89%)
4	2014	32	12(37.5%)	20(62.5%)
	Total	87	27(31.03%)	60(68.97%)



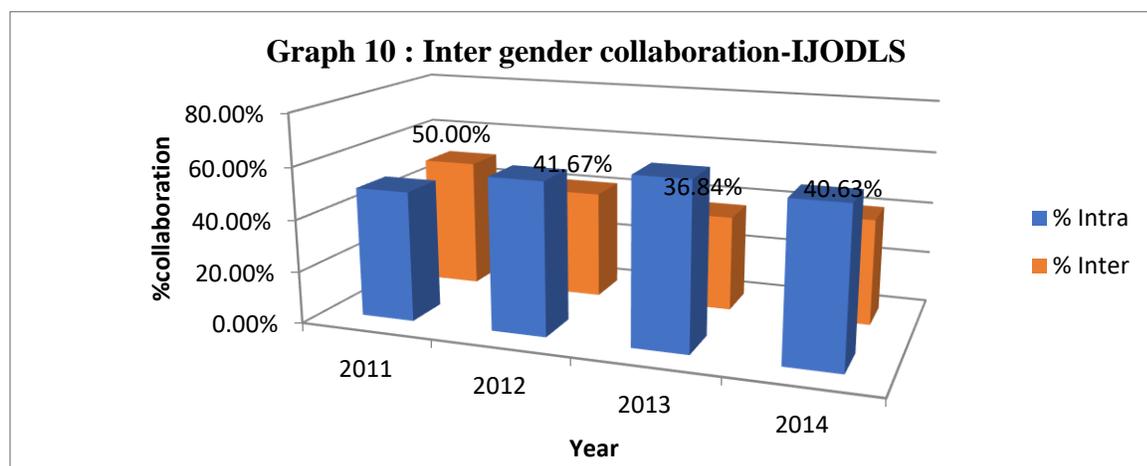
6.9. Inter gender collaboration pattern:

Table 9 gives inter-gender collaboration. This table shows that intra-gender collaboration is 58.62% while inter-gender collaboration is 41.38%. The table shows not much difference between the two. This is plotted on graph 10.

Table 9: Inter-gender collaboration pattern –IJODLS

S.N.	Year	Joint authors	% Intra	% Inter
1	2011	12	6(50%)	6(50%)
2	2012	24	14(58.33%)	10(41.67%)
3	2013	19	12(63.16%)	7(36.84%)

4	2014	32	19(59.38%)	13(40.63%)
Total		87	51(58.62%)	36(41.38%)



6.10 Inferences:

1. Growth rate is decreasing from 0.97 to 0.49.
2. Doubling time is decreasing from 0.71 to 1.42.
3. 40 % are single-author articles.
4. D.C. is 0.60.
5. C.I. is 1.76.
6. 69 % of papers are of inter-institutional collaboration. 41.38 % of papers are of inter-gender collaboration.

6.11 Conclusion: The open access development is getting forced. It is expanding step by step and that's just the beginning and more diaries are being distributed in open access. Many writers are distributing more articles in open-access diaries. The time lay between accommodation of paper and distributing is almost no which urges writers to move to OAJ's. Just watchfulness for writers distributes is that the article determination ought to be extremely thorough and not all articles be incorporated in the issue so these diaries accomplish elevated requirements can contact an ever-increasing number of individuals.

References:

1. <https://sustainingknowledgecommons.org/2020/01/03/dramatic-growth-of-open-access-2019/#:~:text=The%20number%20of%20articles%20searchable,cause%20for%20concern%20is%20PubMedCentral.>

2. Thanuskodi, S. (2001). Bibliometric analysis of the Journal Library Philosophy and Practice from 2005-2009. *Library Philosophy and Practice*, 437. Retrieved from [http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1450 & context=libphilprac](http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1450&context=libphilprac). (Accessed on 30.8.2014)
3. Tsay, M. Y. (2011). A bibliometrics analysis on the Journal of Information Science. *Journal of Library and Information Science Research*, 5 (2), 1-28. Retrieved from <http://lac3.glis.ntnu.edu.tw/vj-attachment/2011/07/attach69.pdf>. (Accessed on 4.9.2014).
4. Roy, S. B. and Basak, M. (2013). Journal of documentation: a bibliometric study *library philosophy and practice*, 945. Retrieved from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2313&context=libphilprac>. (Accessed on 26.9.2014).
5. Kumar, M. and Moorthy, A.L (2011). Bibliometric analysis of DESIDOC Journal of Library and Information Technology during 2001-2010. *DESIDOC Journal of Library and Information Technology*, 31(3), 203-208. Retrieved from <http://file:///C:/Documents%20and%20Settings/Administrator/My%20Downloads/989-3870-1-PB.PDF>. (Accessed on 24.9.2014).
6. Bansal, A. (2013). DESIDOC Journal of Library and Information Technology a bibliometric analysis. *DESIDOC Journal of Library and Information Technology*, 33 (5), 412-417. Retrieved from <http://publication.drdo.gov.in/ojs/index.php/djlit/article/view/5108/2937.pdf>. (Accessed on 25.8.2014).
7. Jena, K. L. Swain, D. K. and Sahoo, K.C. (2012). Annals of Library and Information Studies 2002-2010: a bibliometric study. *Library Philosophy and Practice*, 716. Retrieved from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1790&context=libphilprac>. (Accessed on 13.9.2014).
8. Pandita, R. (2013). Annals of Library and Information Studies Journal: a bibliometric study 2002-2012. *International Journal of Information Dissemination and Technology*, 3 (3), 176-183. Retrieved from <http://file:///C:/Documents%20and%20Settings/Administrator/My%20Documents?downloads/5481-15036--PB.pdf>. (Accessed on 23.8.2014).
9. Pandita, R. (2014). Trends in Information Management (TRIM) Journal: A bibliometric analysis . *Trends in Information Management (TRIM)*, 9(2), 71-81.