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Publication patterns and trends of two premier Indian LIS journals: An analysis of Scopus indexed international papers

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ABSTRACT

This study explores the publication pattern, and trends of international papers published in Annals of Library and Information Studies (ALIS), and DESIDOC Journal of Library and Information Technology (DJLIT) from 2012 to 2020. It has covered to 160 international papers which are contributed to above two journals and indexed in Scopus database from 2012 to 2020. The retrieved data were analyzed using various bibliometric parameters like yearly growth of publication, authorship pattern, degree of collaboration, scientific productivity of authors, and most productive authors to know the publication pattern and extent of collaboration among authors in such papers. Lotka's inverse square law has also been applied to test the author productivity pattern of international papers published in ALIS and DJLIT. Findings of the study show that 346 authors from 40 countries have contributed to 160 papers with 2.21 mean authorship. The degree of collaboration was found at 0.86 mean. Nigeria has been identified as the most contributed foreign country with 36(22.50%) papers followed by Iran, and Sri Lanka with 13(8.13%) papers each. The trend of contribution of research to ALIS and DJLIT from 40 foreign countries proved that selected journals are enjoying a fair amount of reputation across the globe.

Keywords: Collaborative Index, Degree of Collaboration, Collaborative Coefficient, Lotka's inverse square law, K-S Goodness of Fit test, ALIS, DJLIT

1. INTRODUCTION

Journals are the most preferred source of communication channel for research and academic publications. These are treated as a relevant platform to disseminate research results. These are gaining popularity among the research community because of its peer review process, editing, formatting, indexing and marketing, etc. The research of a country is evaluated by the research published in primary journals of that country. So, every government organizations, publishing houses are taking initiatives for publishing more number of quality journals in different subject area. In the context of the subject of Library and Information Science in India, two premier government research organizations such as; National Institute of Science Communication And Information Resources (NISCAIR), and Defence Scientific Information & Documentation Centre (DESIDOC) a part of Defence Research and Development Organization (DRDO) are

publishing two reputed journals i.e. Annals of Library and Information Studies (ALIS), and DESIDOC Journal of Library and Information Technology (DJLIT) respectively. Both the journals have a long span of more than four decades of publications history and both are referred, peer reviewed and reputed LIS journals being indexed in Scopus, and Emerging Source Citation Index of Web of Science.

These two journals are bringing new and innovative LIS researches in information systems, Knowledge management, librarianship & library management, library and information technology, etc. The present study is an attempt to assess the publication pattern and trends in the international papers published in these two Indian journals from 2012 to 2020 to trace out its visibility and internationality.

2. REVIEW OF LITERATURE
Based on the objectives of the present study, the literature review was conducted in the area of publication pattern, and collaboration of international papers in LIS journals as well as other journals. The summary of the literature review is as follows.

He and Spink[1] studied the foreign authorship sharing of the "Journal of American Society for Information Science & Technology", and "Journal of Documentation" and found that the United States and Canada are the two prominent countries that contributed the highest number of papers in selected two journals. Jesus and Maria[2] studied the patterns of the foreign contributions in some domestic vs international journals in Earth Sciences and revealed that the USA, France, and the UK are important partners of Canada in both international co-authorships and citations. Uzun[3] examined the foreign authorship patterns of five popular journals in the field of scientometrics and information science and revealed that collaborative papers are dominant in such journals. Belgium, Netherlands, Canada, England, China, and Spain are the largest contributors to these journals. Similarly, Sin[4] examined the level of internationality in publications of 20 LIS journals and revealed that the geographic distribution of authors in the selected intentional journals is still highly uneven. The trend towards internationalization is quite slow. In another study, BuelaCasal[5], et al. examined the internationality of 710 articles published in four selected journals of medical science area from 2001-2003 and found only 18.18% of papers are contributed by foreign authors to these journals. Kao[6] examined 32 technical journals on Industrial Engineering (IE) and found that the USA is the largest contributor to 23 journals with the largest number of articles 9,909 and the second-largest contributing nation is the UK with 2,235 articles. Verma[7], et al. studied a total of 131 papers retrieved from Annals of Library and Information Studies (ALIS) during the period 1999 to 2005 and noted that Nigeria and Nepal are the two prominent foreign countries having the highest contributions to the source journal. Patil[8] examined 249 articles published in the Herald of Library Science from 1995 to 2005 and

found that 17 foreign countries have published a total of 48 articles and among the foreign countries Nigeria ranked the top position.

In another study, Jena[9], et al. assessed the research output pattern of Annals of Library and Information Studies (ALIS) from 2002 to 2010 and stated that among the 11 foreign countries contributing to ALIS, Nigeria is in top followed by the Netherlands and the USA. Bansal[10] measured the publication pattern and growth of research articles in DESIDOC Journal of Library & Information Technology from 2001 to 2012 and found that foreign contribution is evident from 21 countries with 40 articles. Among the top countries the USA, UK and Singapore published eight articles each. In a similar type of study, Pandita[12] examined the articles published in DESIDOC Journal of Library & Information Technology from 2003 to 2012 and noted 22 foreign countries contributing to source journal with Singapore, UK, and the USA in top rank having 8 articles each. Mamdapur[11], et al. examined the articles in SRELS Journal of Information Management from 2004 to 2013 and revealed that about 16 foreign countries have published papers in source journal during the study period. Kenya and the USA identified as leading foreign countries. Erfanmanesh and Abrizah[13] studied 38 Iranian journals selected from the JCR report in the year 2013 to find out the internationalization of Iranian journals. The study found that selected Iranian journals received about 34.8% of publications and 30.6% of citations from foreign authors. Mondal & Jana[14] examined the collaboration trend of three leading Indian LIS journals during 2012-2017 and revealed that 115 articles have been published by foreign authors and collaborated with Indian authors in 11 articles. Mondal and Raychoudhury[15] evaluated the foreign contribution to 12 Indian LIS journals during 2004-2015 and noted that about 57 foreign countries are contributing to selected 12 journals. The COLLNET Journal of Scientometrics and Information Management (CJSIM) has published the highest numbers of foreign authored articles and Nigeria and Iran ranked the top two positions respectively. In a similar type of study, Mondal and Maity[16] assessed the foreign authorship pattern in three leading Indian LIS journals from 2008 to 2017 and found that a total of 186 foreign authored articles have been published in selected three journals having a total of 1267 citations. The two-authored papers are dominant in the journals. Parabhoi and Ghosh[17] examined 106 International papers in two Indian LIS journals during the period from 2011 to 2018 and found that Nigeria was the top contributing country with the highest number of 35 articles.

The literature review shows that the extent of foreign contributions to LIS journals has varied from time to time and from one journal to another journal. In previous studies, it is found that the researchers have gone through a light study on the country-wise distribution of papers, ranking of foreign countries in terms of contributions, and citations. But some major aspects like authorship pattern, degree of collaboration, scientific productivity of international papers are still unrevealed. Hence, the present study attempts to do an in-depth study of publication patterns and collaboration trends in international papers of selected two front-ranking Indian LIS journals ALIS and DJLIT during the period 2012 to 2020.

3. OBJECTIVES OF THE STUDY

The main objectives of the present study are to;

- Assess the yearly research performance of international papers published in selected two Indian LIS journals ALIS and DJLIT;
- Analyze the authorship pattern and degree of collaboration among authors;
- Look at the applicability of Lotka's inverse square law of author's productivity in international papers of selected two journals and to validate the statistics employing K-S Goodness of fit test;
- Identify the most prolific authors, and ranking of foreign countries; and
- Appraise the major area of research and types of documents of international papers published in selected two front-ranking Indian LIS journals.

4. DATA SOURCE, LIMITATIONS, AND METHODOLOGY

The current study examines the scientometric dimension of international papers published in two Scopus indexed LIS journals of India such as ALIS and DJLIT from 2012 to 2020. Scopus has been considered as a source database to retrieve the related data. The data were retrieved using the search query (SOURCE-Title) and advanced search. The retrieved results were limited to foreign contributions only excluding domestic (INDIA) contributions which retrieved 67 and 78 documents for ALIS and DJLIT respectively as of 4th June 2021. Further, it was noticed that due to exclusion of domestic contributions some international publications were missing which were collaborated with India. Therefore again it exported the total documents published by both journals during the study period and found more 2 and 13 foreign contributions in ALIS and DJLIT respectively which were collaborated with India. Finally, both the data were merged and found a total of 160 documents (ALIS=69; DJLIT=91). The merged data were analyzed using the application software "Microsoft Excel" and ScientoPy. The limitations of the present study are that the study covers only two LIS journals of India indexed in Scopus such as ALIS and DJLIT and not to other LIS journals. The study period is restricted from 2012 to 2020, and exclusively international papers were considered and domestic papers were deliberately ignored.

5. DATA ANALYSIS

5.1 Distribution and Growth of International papers

Table 1 shows the yearly research performance of foreign authors in ALIS and DJLIT from the period 2012 to 2020. The table indicates that highest 24(15.00%) papers were contributed in the year 2019 followed by 22(13.75%) papers in the year 2020, and 20(12.50%) papers in 2014. The lowest number of international papers came in 2013, and 2016 with 13(8.13%) papers each. The yearly cumulative growth mean value during this period is 32.06.

Table 1. Distribution and growth of International papers

Year	ALIS	DJLIT	Total No. of Papers	%	Cumulative Papers	Yearly Cumulative Growth
2012	10	9	19	11.88	19	
2013	4	9	13	8.13	32	29.77
2014	9	11	20	12.50	52	39.87
2015	11	5	16	10.00	68	37.54
2016	8	5	13	8.13	81	33.64
2017	7	11	18	11.25	99	31.66
2018	4	11	15	9.38	114	29.17
2019	5	19	24	15.00	138	28.12
2020	11	11	22	13.75	160	26.71
Total	69	91	160	100.00		Mean (32.06)

5.2 Authorship pattern

Table 2 reflects the authorship pattern of international papers published in selected two LIS journals. Out of 160 international papers contributed to both the journals, 49 documents belong to single author contributions whereas the remaining 111 documents are collaborative papers. Among these 111 co-authored papers 65 papers were Two-authored, 25 papers were three-authored, 11 papers were four-authored, 9 papers were five-authored and only 1 paper contributed by six-authors. Most importantly it is noticed that Two- authored papers (65) have dominated the authorship pattern. The study found that selected 160 international papers of ALIS and DJLIT are published by 346 foreign authors in collaboration with the mean value of authorship 2.21.

Table 2. Authorship pattern

Year	Authorship pattern						Total Papers	Total Authorship	Mean of Authorship	% of Authorship
	One	Two	Three	Four	Five	Six				
2012	8	7	3	0	1	0	19	36	1.89	10.40
2013	4	3	2	2	1	1	13	35	2.69	10.12
2014	6	11	3	0	0	0	20	37	1.85	10.69
2015	4	6	4	1	1	0	16	37	2.31	10.69
2016	2	5	2	2	2	0	13	36	2.77	10.40
2017	5	11	2	0	0	0	18	33	1.83	9.54
2018	4	5	3	2	1	0	15	33	2.20	9.54
2019	7	8	6	2	1	0	24	54	2.25	15.61
2020	9	9	0	2	2	0	22	45	2.05	13.01
Total	49	65	25	11	9	1	160	346	mean (2.21)	100.00

5.3 Collaborative Index, Degree of Collaboration and Collaboration Coefficient

For measuring the intensity and level of collaboration in international papers published in selected two Indian LIS journals the study has used three bibliometric methods i.e. Collaborative Index (CI) devised by Lawani[18], Degree of Collaboration (DC) devised by Subramanyam[19], and Collaboration Coefficient (CC) devised by Ajiferuke[20], et al. The collaborative index measures the mean number of authors per publication, whereas the degree of collaboration measures the

ratio of the number of collaborative publications to the total number of publications, and the collaborative coefficient measures the proportion of multi-authored papers. Lawani's formula[18] for collaborative index says that:

$$CI = \frac{\sum_{j=1}^{k} jf_j}{N}$$

Where, f_j = the number of j-authored research papers; N = the total number of research papers; j = the number of authors in a paper; and k = the greatest number of authors per paper. The main characteristic of CI value is it ranges between 0 and 1.

Subramanyam's[19] formula for degree of collaboration says that;

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

Where C= Degree of Collaboration; Nm= Number of Multi Authored Publications; and Ns= Number of Single Authored Publications. The characteristic of DC is it always lies between 0 and 1 and does not differentiate the levels of multiple authorships.

Ajiferuke[20], et al. formula for collaborative coefficient says that:

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

Where, f_j = the number of j-authored papers; N = the total number of papers; j = the number of authors in a paper; and k = the greatest number of authors per paper in a discipline. From the table 3, it is evident that the CI is highest in the year 2016 with a value of 2.77 and lowest in the year 2017 with a value of 1.83. The DC is found to be highest in the year 2016 with a value of 0.94 and lowest in the year 2012 with a value of 0.78. The CC is found to be highest in the year 2020 with a value of 0.76 and lowest in the year 2016 with a value of 0.32. From the above data, it is assumed that there is no clear relationship among the three parameters CI, DC, and CC.

Table 3. Collaborative Index, Degree of Collaboration and Collaboration Coefficient

Year	One Author	Multi Authors	Total Papers	Total Authorship	CI	DC	CC
2012	8	11	19	36	1.89	0.78	0.67
2013	4	9	13	35	2.69	0.89	0.37
2014	6	14	20	37	1.85	0.84	0.66
2015	4	12	16	37	2.31	0.89	0.46
2016	2	11	13	36	2.77	0.94	0.32
2017	5	13	18	33	1.83	0.85	0.59
2018	4	11	15	33	2.20	0.88	0.43
2019	7	17	24	54	2.25	0.87	0.72
2020	9	13	22	45	2.05	0.80	0.76
Total	49	111	160	346	mean (2.21)	mean (0.86)	mean (0.55)

5.4 Author productivity pattern

The present study has used Lotks's inverse square law to know the author productivity pattern of international papers in ALIS and DJLIT. This law estimates the author productivity using Lotka's derivation of n= (**Log C − Log Y**) **Log X**, where, X= Number of publications (1, 2, 3 ……, n); Y= Relative frequency of authors with X publications; C= Constant which is equal to the number of authors with minimal productivity, and n= Parameter "n" can be calculated by the least square method in the simple regression model. According to Lotka[22], "the number of authors making 'n' contributions is about $1/n^2$ of those making one; and the proportion of all the authors that make a single contribution is of about 60%. It means that in a subject or discipline, 60% of the authors produce one publication, 15% produce two publications; 7% produce three publications, and so on" (Barik and Jena)[21].

The study finds that 49 authors produced only one article each and its extent is 30.63% which gives the estimation of Constant (C) that is equal to the number of authors with minimal productivity. Deriving the value of parameter "n" = 0.751, the observed frequencies of authors are determined and presented in the table 4. The two sets of author productivity data (observed and expected) were again validated in table 5 using Kolmogorov- Smirnov (K-S) Goodness of Fit to know whether the author productivity data of International papers covered in the study fits to Lotka's inverse square law.

Table 4. Author productivity pattern in international papers of ALIS, and DJLIT

No. of contributions "X"	Log X	No. of authors observed "Y"	Log Y	n= (Log C- LogY)/ LogX	No. of expected authors (Power of n=0.751)
1	0.000	49(30.63%)	3.891	0.000	49(34.03%)
2	0.693	65(40.63%)	4.174	-0.408	29(20.14%)
3	1.098	25(15.63%)	3.218	0.613	21(14.58%)
4	1.386	11(6.88%)	2.397	1.078	17(11.81%)
5	1.609	9(5.63%)	2.197	1.053	15(10.42%)
6	1.791	1(0.63%)	0.000	2.173	13(9.03%)
Total		160(100.00%)		mean 0.751	144(100.00%)
C= No. of authors with minimal productivity i.e. 49 & **Log C=3.891**					

5.5 Kolmogorov- Smirnov (K-S) Goodness of Fit to test author's productivity

K-S Goodness of Fit statistics has been applied to test if the observed author's productivity is at par with the expected author's productivity data. The statistic asserts that at a 0.01 level of significance, the distributional form is rejected if the test statistic '*D'* is greater than the critical value $1.63/\sqrt{n}$. From the table 5, the '*D'* value of the K-S statistics is 0.034 which is much lesser than the limit value of 0.0128. Hence it can be inferred that Lotka's generalized formula fits the author's productivity pattern in international papers published by ALIS and DJLIT.

Table 5. K-S Goodness of Fit to test author's productivity pattern

No. of contributions	Observed authors			Expected authors			Deviation	Dmax
	No.	Cumulative Frequency	Relative Frequency {Sn(x)}	No.	Cumulative Frequency	Relative Frequency {Fo(x)}	D=Fo(x)-Sn(x)	
1	49	49	0.306	49	49	0.340	0.034	
2	65	114	0.713	29	78	0.542	-0.171	
3	25	139	0.869	21	99	0.688	-0.181	0.034
4	11	150	0.938	17	116	0.806	-0.132	
5	9	159	0.994	15	131	0.910	-0.084	
6	1	160	1.000	13	144	1.000	0.000	
Total	160			144				
K-S statistics = $1.63\sqrt{(n=160)}$ = 0.128								0.128

5.6 Most Productive Authors

Table 6 shows the most productive authors contributed to International papers published in selected two Indian LIS journals from 2012 to 2020. Wijetunge, P. affiliated to the University of Colombo, Sri Lanka topped the list with highest 5(3.13%) papers followed by 7 authors Naqvi, T.H.; Sohail, M.; Abdelrahman, O.H.; Iroaganachi, M.A; Omeluzor, S.U.; Islam, M.M. and Patra, S.K. with 3 (1.88%) papers each. Moreover, 20 authors have a contribution of 2 (1.25%) papers each and 280 authors with only 1 paper each.

Table 6. Most productive authors

Author Name	Affiliation	Country	Total Papers (N=160)	%	Rank
Wijetunge, P.	University of Colombo	Sri Lanka	5	3.13	1
Naqvi, T.H.	Fiji National University	Fiji	3	1.88	2
Sohail, M.	Fiji National University	Fiji	3	1.88	2
Abdelrahman, O.H.	Khartoum University	Sudan	3	1.88	2
Iroaganachi, M.A.	Covenant University	Nigeria	3	1.88	2
Omeluzor, S.U.	Federal University of Petroleum Resources	Nigeria	3	1.88	2
Islam, M.M.	University of Dhaka	Bangladesh	3	1.88	2
Patra, S.K.	Tshwane University of Technology	South Africa	3	1.88	2
Ahmad, S.	Imam Abdulrahman Bin Faisal university	Saudi Arabia	2	1.25	3
Gandhi, A.	Universitas Indonesia	Indonesia	2	1.25	3
Hussain, A.	King Saud University	Saudi Arabia	2	1.25	3
Idiegbeyan-Ose, J.	Landmark University	Nigeria	2	1.25	3
Ifijeh, G.	Covenant University	Nigeria	2	1.25	3
Sucahyo, Y.G.	Universitas Indonesia	Indonesia	2	1.25	3
Abdekhoda, M.	Tabriz University of Medical Sciences	Iran	2	1.25	3
Adebayo, O.	Covenant University	Nigeria	2	1.25	3
Fagbohun, M.	Covenant University	Nigeria	2	1.25	3
Onuoha, U.D.	Adeleke University	Nigeria	2	1.25	3
Ukachi, N.B.	University of Lagos	Nigeria	2	1.25	3
Alahakoon, C.N.K.	University of Peradeniya	Sri Lanka	2	1.25	3
Emasealu, H.U.	University of Port Harcourt	Nigeria	2	1.25	3
Hossain, M.J.	University of Dhaka	Bangladesh	2	1.25	3
Nahotko, M.	Uniwersytet Jagiellonski w Krakowie	Poland	2	1.25	3
Sun, J.	Huazhong Agricultural University	China	2	1.25	3
Tajafari, M.	Ferdowsi University of Mashhad	Iran	2	1.25	3
Umeozor, S.N.	University of Port Harcourt	Nigeria	2	1.25	3
Yuan, B.Z.	Huazhong Agricultural University	China	2	1.25	3
B.K. Sen	University of Malaya	Malaysia	2	1.25	3
280 authors with 1 paper each			-	280	

5.7 Foreign country and their ranking by publication count and citation count

Table 7 shows the ranking of foreign countries by direct publication count and citation count. It is seen that 40 foreign countries have chosen these two front-ranking Indian LIS journals as their research publication channel. Nigeria has been identified as top productive country with highest 36(22.50%) papers followed by Iran, and Sri Lanka with 13(8.13%) papers each. Whereas in terms of the number of citations received by individual country, Nigeria received the highest 90(23.20%) citations followed by Iran and Bangladesh with 38(9.79%) and 36(9.28%) citations respectively. It is worth noting that both Nigeria and Iran are in 1st and 2nd position respectively in terms of the number of documents contributed as well as the number of citations received by individual countries.

Table 7. Foreign country and their ranking by publication count and citation count

Name of Country	No. of Paper (N=160)	%	Rank	Name of Country	No. of Citations (N=388)	%	Rank
Nigeria	36	22.50	1	Nigeria	90	23.20	1
Iran	13	8.13	2	Iran	38	9.79	2
Sri Lanka	13	8.13	2	Bangladesh	36	9.28	3
United States	12	7.50	3	Sri Lanka	28	7.22	4
South Africa	9	5.63	4	Fiji	24	6.19	5
Bangladesh	8	5.00	5	Saudi Arabia	18	4.64	6
Indonesia	8	5.00	5	Uganda	16	4.12	7
Fiji	7	4.38	6	Greece	12	3.09	8
Saudi Arabia	5	3.13	7	Portugal	12	3.09	8
Malaysia	4	2.50	8	Sudan	11	2.84	9
Spain	4	2.50	8	United States	9	2.32	9
Brazil	3	1.88	9	China	8	2.06	10
Sudan	3	1.88	9	United Arab Emirates	6	1.55	11
United Arab Emirates	3	1.88	9	Malaysia	6	1.55	11
Argentina	2	1.25	10	Canada	5	1.29	12
Canada	2	1.25	10	Kazakhstan	5	1.29	12
China	2	1.25	10	Azerbaijan	5	1.29	12
Germany	2	1.25	10	Tanzania	5	1.29	12
Greece	2	1.25	10	Germany	5	1.29	12
Japan	2	1.25	10	Indonesia	5	1.29	12
Poland	2	1.25	10	Jordan	5	1.29	12
Portugal	2	1.25	10	Oman	5	1.29	12
Singapore	2	1.25	10	South Africa	4	1.03	13
Tanzania	2	1.25	10	Brazil	4	1.03	13
Azerbaijan	1	0.63	11	Spain	4	1.03	13
Botswana	1	0.63	11	Swaziland	4	1.03	13
Ghana	1	0.63	11	Japan	3	0.77	14
Iraq	1	0.63	11	Romania	3	0.77	14
Italy	1	0.63	11	Botswana	2	0.52	15
Jordan	1	0.63	11	Iraq	2	0.52	15
Kazakhstan	1	0.63	11	Singapore	2	0.52	15
Oman	1	0.63	11	South Africa	2	0.52	15
Romania	1	0.63	11	Canada	1	0.26	16
Russian Federation	1	0.63	11	Ghana	1	0.26	16
Slovenia	1	0.63	11	Italy	1	0.26	16
Thailand	1	0.63	11	Slovenia	1	0.26	16
Turkey	1	0.63	11				
Uganda	1	0.63	11				
United Kingdom	1	0.63	11				
Swaziland	1	0.63	11				

5.8 Major research area by occurrence of keywords

The study has used ScientoPy, the scientometric analysis tool to visualize the keywords used by the authors in international papers published during the period 2012-2020 in selected two front-ranking Indian LIS journals. Keywords are very important in an article as they reflect the trend of ongoing research. To know the preferred area of research in the present study we kept a threshold of 5 as the minimum number of times the keyword must occur. Out of the 596

keywords, 13 met the threshold. It is assumed from the results depicted in figure 1 that the research trends of International papers are focused on the area of academic libraries, information literacy, e-resource, social media, university libraries, Electronic resources, Library services, Scientometrics, and virtual exhibitions.
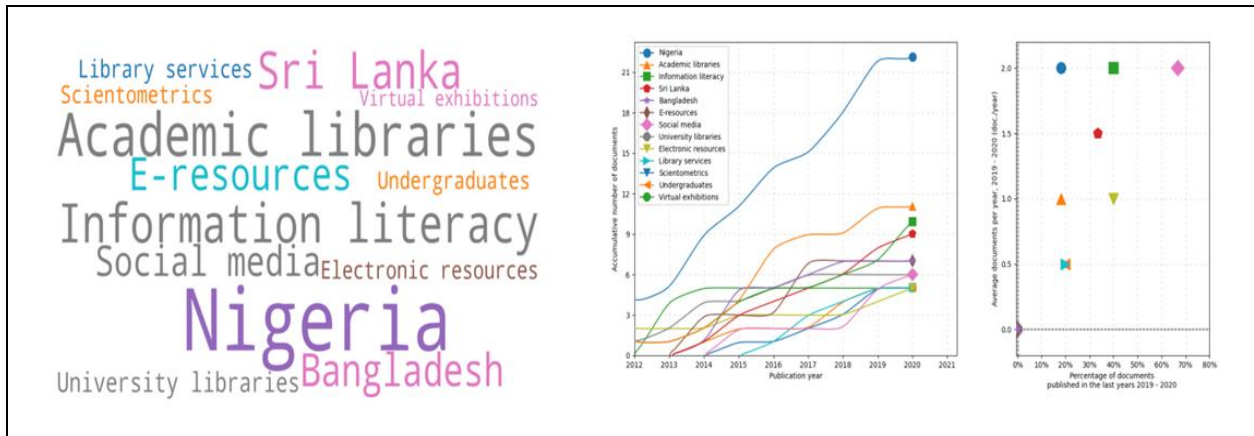

Figure 1. Major research area by occurrence of keywords

5.9 Types of Documents

The whole 160 International papers covered in the study were scattered across four types of documents i.e. "article", "review", "editorial" and "note", among which the "article" was the most frequent type of published document with 152(95%) papers. The other three types of the documents were ("review", "editorial" and "note") with a negligible 5% papers. It is evident from the figure 2 that "article" is dominant over the other three types of document.
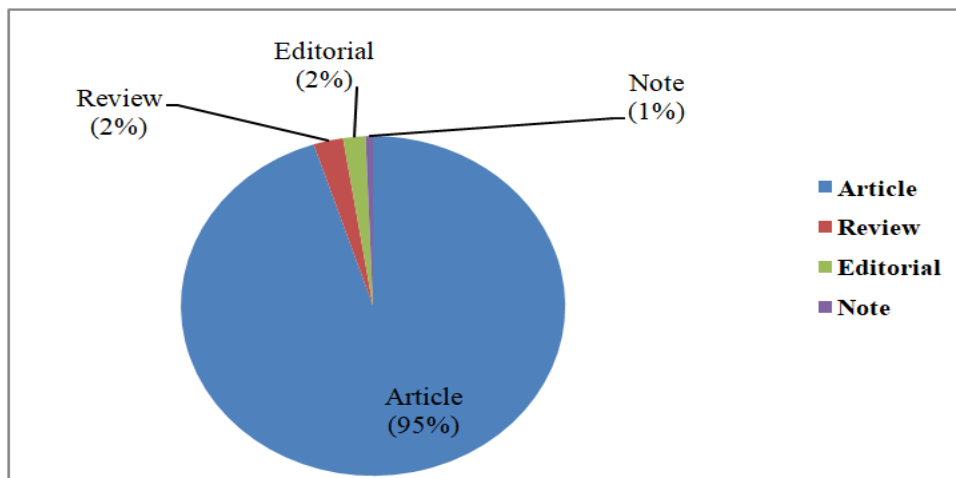

Figure 2. Types of Documents

6. FINDINGS AND CONCLUSION

The major findings of the study are depicted below;

- The yearly publication growth of International papers seen in ALIS and DJLIT from 2012-2020 is inconstant while the mean value of yearly cumulative growth during the period is 32.06.
- A total of 346 authors have contributed to international papers published during 2012-2020. Two authored papers (65) are dominant in the authorship pattern followed by single author (49) papers and three authored (25) papers. While the mean value of the authorship pattern is 2.21. Further, it reveals that there is no clear relationship in Collaboration Index, Degree of Collaboration, and Collaboration Coefficient found during this period. It is noted that the year 2016 had the highest values of CI and DC while 2020 had the highest CC.
- Lotka's inverse square law has been applied to identify the author's productivity pattern of International papers and further K-S Goodness of fit statistics has been applied to validate the applicability of Lotka's inverse square law with author's productivity in this study. The results of the study inferred that Lotka's generalized formula fits the author's productivity pattern in international papers published by ALIS and DJLIT from 2012 to 2020.
- Most productive authors are identified in term of their numbers of contribution to the source journals. Wijetunge, P. affiliated with the University of Colombo, Sri Lanka found in the top position of the list with highest 5 papers (3.13%).
- About 40 foreign countries have published their research papers in ALIS and DJLIT during 2012-2020. Among the most contributed foreign countries, Nigeria topped the rank list with 36 (22.50%) documents. While in terms of the highest number of citations received by individual foreign countries again Nigeria topped the list. Interestingly it is found that "Nigeria" is the top-ranked foreign country in both the categories i.e. most numbers of documents contributed and the highest number of citations received in these two Indian LIS Journals.
- The study has identified 596 author supplied keywords. It is found that academic libraries, information literacy, e-resources, social media, university libraries, electronic resources, library services, scientometrics, and virtual exhibitions are the most frequently used keywords in ALIS and DJLIT Journals.
- Article has been identified as highest published document type with 152 (95%) papers.

This study helps to understand the current status of International contributions to the selected two Indian LIS Journals in terms of yearly growth of papers, authorship pattern, collaboration trend, prolific authors and top countries. Both ALIS and DJLIT journals have been internationalized among 40 countries. The contribution of international papers to ALIS and DJLIT across the 40 foreign countries proved that selected journals are enjoying a fair amount of reputation across the globe. The publication pattern of foreign countries to these journals may encourage the other foreign countries to contribute to these Indian LIS journals in coming days and it may spread

beyond these 40 foreign countries. The trend of foreign publications will be helpful to the LIS researchers to open a window into the geographical distribution of LIS research. Besides these, the results of the study are expected to have a positive impact on these two journals on foreign authors as well as domestic authors to attract and contribute more articles to it. Finally, it is noted that this study provides just an overview, and a more complete picture may come out if one considers a larger set of data over longer periods. In addition to that, it would be interesting to see foreign publications trends as well as the globalization of other LIS journals.

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