

University of Nebraska - Lincoln  
**DigitalCommons@University of Nebraska - Lincoln**

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

Fall 6-26-2017

# INDIAN CONTRIBUTION TO OPEN ACCESS SCHOLARLY PUBLISHING IN DOAJ

Jyotshna Sahoo

*Lecturer, Dept. of Library & Information Science, Sambalpur University, Sambalpur*

Basudev Mohanty

*Indian Institute of Technology, Bhubaneswar*

Lilima Priyadarshini SAHOO Ms

*Sambalpur University, sahoollilima1991@gmail.com*

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



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

---

Sahoo, Jyotshna; Mohanty, Basudev; and SAHOO, Lilima Priyadarshini Ms, "INDIAN CONTRIBUTION TO OPEN ACCESS SCHOLARLY PUBLISHING IN DOAJ" (2017). *Library Philosophy and Practice (e-journal)*. 1567.

<http://digitalcommons.unl.edu/libphilprac/1567>

# INDIAN CONTRIBUTION TO OPEN ACCESS SCHOLARLY PUBLISHING IN DOAJ

**Dr. Jyotshna Sahoo<sup>1</sup>**

<sup>1</sup> Assistant Professor, Department of Library and Information Science, Sambalpur University, Jyotivihar, Odisha, India, e-mail: jyotshna\_sahoo@rediffmail.com

**Dr. Basudev Mohanty<sup>2</sup>**

<sup>2</sup> Librarian (Scientific Officer), Institute of Physics, Bhubaneswar, India, basudev@iopb.res.in

**Lilima Priyadarshini Sahoo<sup>3</sup>**

<sup>3</sup> M.Phil Scholar, Department of Library and Information Science, Sambalpur University, Odisha, India, e-mail: sahooolilima1991@gmail.com

## **Abstract:**

The basic purpose of this study is to provide a comprehensive view of Indian contribution towards open access journal movement, particularly the journals indexed in the Directory of Open Access Journals (DOAJ) - a service from Lund University. It seeks to explore the relative position of India among other countries and provides an analysis of the indexed journals from several parameters. A list of 318 Indian OA journals indexed in DOAJ has been served as the data source. The relevant metadata for each indexed journal such as title of the journal, journal URL, ISSN, country of publication, language, year since added in DOAJ, LCC subject category, APC charges of journals, publisher and publishers' keywords and Journal license and other licensing attributes were analyzed to get the outcome. The study suggests India's standing in the domain of open access scholarly publishing and establishes that India is one among the most productive countries those support universal access to knowledge. This study acts as a reference tool for the scholarly community in the disciplines of Medical Sciences, Basic Sciences, Technology, Social Sciences to have access to the published research works crossing the geographical barrier.

**Keywords:** Open Access journals, DOAJ, Indian Contribution, Journal license.

## **Introduction:**

Open access (OA) is an innovative way of providing access to the scholarly journal literature through the Internet which has gained momentum in the recent years. In the context of scholarly

publishing, Open Access is a term that refers to unrestricted online access to articles published in scholarly journals. Generally, Open Access (OA) journals are freely available online. Open access (OA) has widened the possibilities both for disseminating one's own research and at the same time accessing the research work of others. The Budapest Open Access Initiative (2002) defines that "By "open access" to this literature, we mean its' free availability on the public Internet, permitting any user to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited. Peter Suber (2004), one of the philosophers of open access opined that "open access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions." To achieve open access to scholarly journal literature BOAI recommended two complementary strategies that are Gold OA and Green OA. Bjork et al. (2010) opined that, Gold Open Access is a form of OA where the articles are made available by the publisher to whom the document has been submitted whereas Green Open Access refers to self-archiving of the author's work, be it a manuscript, a pre-print version of a manuscript accepted to be published in a scientific journal, or the actual published paper itself. Both options increase the potential readership of any article with Internet access and triggers up the spread of new research ideas. Following the scholarly lead, openness has now gained acceptance in wider society so that many governments, businesses and nonprofit organisations are also striving to be open. Supporting the philosophy of open access of scholarly peer reviewed journal, the Directory of Open Access Journals (DOAJ) was developed.

The Directory of Open Access Journals (DOAJ) is a service that indexes high quality, peer reviewed open access research journals and their articles' metadata. The aim of the directory is to increase the visibility and ease of use of open access journals and thereby promoting their increased usage and impact. The initiative to start the project Directory of Open Access Journals (DOAJ) was taken in 2002 at the first Nordic Conference on Scholarly Communication (NCSC). The idea was to develop a one stop shop service which made it easier for libraries and aggregators to integrate OA-journals data in their services, for OA-publishers to get their journals visible and for readers to find OA-material. As a result, DOAJ was launched in 2003 at

Lund University, Sweden with 300 open access journals and today it contains more than 9000 open access journals and covers various subjects like Science, Technology, Medicine, Social Sciences and Humanities. It is a nonprofit making organization presently managed by Infrastructure Services for Open Access C.I.C (community Interest Company) based in the United Kingdom. DOAJ defines open access journals as “journals that use a funding model that does not charge readers or their institutions for access and secures the rights of users to read, download, copy, distribute, print, search, or link to the full texts of these articles or use them for any other lawful purpose” (www.doaj.org). The present study seeks to discover the coverage of Indian journals in DOAJ from various parameters.

### **Objectives of the Study:**

- To ascertain the most productive countries in DOAJ and the relative position of India;
- To find out the number of Indian journals indexed in DOAJ;
- To find out the year wise contribution of Indian journal in DOAJ;
- To assess the subject category of Indian journal in DOAJ;
- To find out the language coverage of Indian journals and publication of journals in more than one language;
- To trace the distribution of Journals as per Keywords given by Publishers;
- To assess the distribution of Journals as per APC Charges;
- To assess the distribution of Journals as per Licensing in DOAJ
- To assess the top publishers of open access journals.

### **Methodology:**

For the present study, a well devised methodology has been followed. Directory of Open Access Journals (DOAJ) available at [www.doaj.org](http://www.doaj.org) (as on 20<sup>th</sup> August 2016) has been served as the data source. The DOAJ search screen is highly functional, well organized and it provides the search results by sorting and filtering through various search options. A search through the advanced search options by country of publisher i.e. “India” generated a list of 318 OA journals indexed in DOAJ as on the mentioned date. For all 318 Indian journals the relevant metadata such as title of the journal, journal URL, ISSN, country of publication, language, year added in DOAJ, LCC subject category, APC charges of journals, publisher and publishers’ keywords, Journal license

and license attributes were incorporated in Ms Excel spreadsheet and analysed to achieve the objectives of the study.

### **Related Works:**

Since the development of DOAJ in 2003 to the present date, this database and OA model of publishing has been the subject matter of research of the scholarly community and quite a good number of articles have been published from different perspectives. While some studies simply denote a critical review on the content of DOAJ others highlight the searching features, pricing policy, quality control aspects of DOAJ indexed journals. Some other studies have been published where a systematic evaluation of the contribution of specific countries as well as the global coverage on specific disciplines are reported. In this line, Loan, Rather and Shah (2008) did a study on Indian contribution to open access literature based on DOAJ and open DOAR; Loan (2008) reported that the position of India in terms of number of journals in the Directory of Open Access Journals (DOAJ) is 7<sup>th</sup> in the world which is well ahead of countries such as China, Australia, and Japan. Nashipudi and Ravi (2015) pointed out that by 2013, India has produced open access journals in almost all the disciplines of the universe of knowledge. Tamizhchelvan and Dhanavandan (2014) in their paper mentioned that there are more than 124 countries registered in DOAJ. Out of the South-Asian countries three fourth of journals are from India compared with other South Asian Countries. Coming over to subject specific studies it is noticed that Aswathy and Gopikuttan(2013) Goyal, Gupta and Kumar (2014) have dealt with productivity in the field of Physics from the points of country-wise, institution wise, language wise distribution and contribution from India in physics. While Mondal (2014) pointed out that there are 60 online journals are freely accessible in the field of Computer Science in DOAJ, Kuri (2014), Pujar (2014), Dhanavandan and Tamizhchelvan (2014) assessed the current status open access journals in LIS in DOAJ based on various parameters. Gunasekaran and Arunachalam (2011) found from their study that, Indian researchers have published more than 43,400 papers in over 4,600 journals in 2009 as seen from Science Citation Index (SCI) – Expanded. Of these, over 6,900 (or one in six) papers were published in 445 open access (OA) journals. The proportion of papers published by Indian researchers in OA journals is considerably higher than the world average, which is estimated to be 8.5–10.0%. Another study made by Gunasekaran and Arunachalam (2014) revealed that, many journals from developing countries, especially Latin

America and India, have improved their visibility and impact by adopting OA in every field. With this background on open access publishing, the present Study provides a comprehensive approach on Indian contribution to open access journals.

### Results and Discussion:

Table - 1 provides the country wise contribution of journals to open access database DOAJ since 2003 to 2016. It is found that, all together there are 9368 journals are indexed in DOAJ from 129 countries across the globe. Brazil is the most productive country with 9.62% (901) journals of the total open access journal contribution. United Kingdom (UK) occupies the 2<sup>nd</sup> rank that publishes (783, 8.36%) OA journals while United States occupies the 3<sup>rd</sup> rank that publishes (681, 7.27%) journals. Egypt occupies the 4<sup>th</sup> position with (591, 6.31%) journal publications followed by Spain (506, 5.40%), Indonesia (453, 4.84%), Poland (401, 4.28%), Germany (346, 3.69%) where as India occupies the 9<sup>th</sup> rank having 318 (3.39%) journals. Apart from these top 10 countries, there are contributions from other 119 countries that share 43.62% (4086) submissions.

**Table - 1: Top 10 Countries in DOAJ**

Rank	Name of the Countries	No. of Journals published	Percentage
1	Brazil	901	9.62
2	United Kingdom	783	8.36
3	United States	681	7.27
4	Egypt	591	6.31
5	Spain	506	5.40
6	Indonesia	453	4.84
7	Poland	401	4.28
8	Germany	346	3.69
<b>9</b>	<b>India</b>	<b>318</b>	<b>3.39</b>
10	Iran	302	3.22
11	From rest of the 119 countries	4086	43.62
<b>Grand Total</b>		<b>9368</b>	100.00

Thus, it can be concluded that open access initiatives yet to take momentum across the world as only 8% of the productive countries contribute a major share of 66% to DOAJ. As India falls among these productive countries, it is interpreted that, India has a significant contribution towards open access scholarly journal publishing.

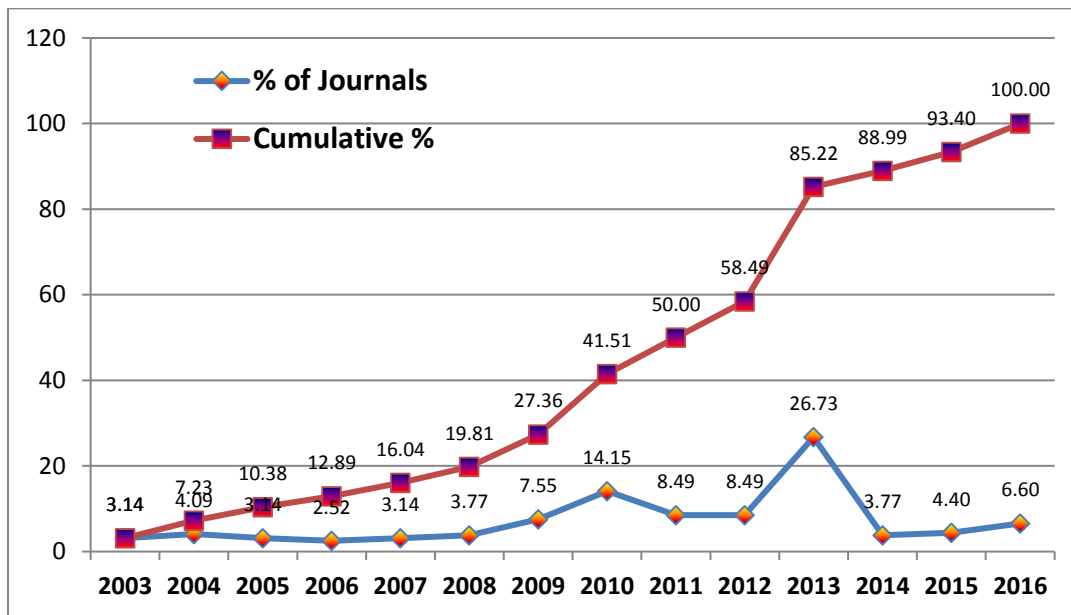
**Table - 2: Year-wise Distribution of Indian Journals in DOAJ**

Sl. No.	Year	No. of Journals	% of Journals	Cumulative Total	Cumulative %
1	2003	10	3.14	10	3.14
2	2004	13	4.09	23	7.23
3	2005	10	3.14	33	10.38
4	2006	8	2.52	41	12.89
5	2007	10	3.14	51	16.04
6	2008	12	3.77	63	19.81
7	2009	24	7.55	87	27.36
8	2010	45	14.15	132	41.51
9	2011	27	8.49	159	50.00
10	2012	27	8.49	186	58.49
11	<b>2013</b>	<b>85</b>	<b>26.73</b>	271	85.22
12	2014	12	3.77	283	88.99
13	2015	14	4.40	297	93.40
14	2016	21	6.60	318	100.00
	Total	318	100		

Table - 2 represents the data regarding the year wise addition of Indian journals in DOAJ. DOAJ started functioning in 2003 when there were only 10 journals were included from India and then there has been a steady rise in the inclusion of journals in open access domain and the number reached to 318 in 2016 which is 31 times more than the year of inception. The year 2013 can be marked as the most significant year as highest numbers of journals (85) from India have been added in DOAJ, next to it (46) journals were added in 2014 followed by 27 journals in 2011 and 2012 respectively, 24 journals in 2009, and 21 journals in 2016. 2006 is the least productive year as only 8 journals were added in DOAJ. Though the inclusion of number of Indian journals

varies from year to year but the steady rise in the total number of journals in DOAJ reflects the access, usage and popularity of Indian journals in open access domain.

This figure -1 gives information about chronological distribution of percentage of Indian journals along with their cumulative percentage. Both the trend lines show the steady growth of inclusion of Indian journals during the period from 2003 to 2016 which was highest in 2013 and lowest in 2006.



**Figure - 1: Chronological inclusion of Indian Journals in DOAJ**

**Table -3: Subject-wise Distribution of Journals in DOAJ**

Sl. No.	Subject	No. of Journals	Percentage (%)
1	Medical Sciences	171	53.77
2	Basic Sciences	75	23.58
3	Technology	25	7.86
4	General Works	20	6.29
5	Social Sciences	18	5.66
6	Language and Literature	5	1.57
7	Agriculture Sciences	4	1.26
Grand Total		318	100.00



All journals in DOAJ are classified according to the Library of Congress Classification (LCC) system. The classification is made by the editorial team as a journal is accepted for indexing in the database. If a publisher chooses to upload article metadata to DOAJ, a journal's articles inherit the same classification system as has been adopted by DOAJ. Once a journal has been accepted, the classification system appears in the 'Subject' facet of search. As regards to the LCC subject category of Indian journals, it is observed that all the 318 journals are categorized under 7 unique subject areas. From the Table - 3 it is observed that, among these subjects, "Medical Science" is having maximum number of journals from India that is (171,53.77 %)of the total Indian journals. The second position occupied by Basic Sciences journals (75, 23.58%) followed by Technology (25, 7.86%), General Works (20, 6.29%), and Social Sciences (18, 5.66%) of total journals. Language and Literature is having only 5 (1.57%) journals while Agriculture Sciences is having 4 (1.26%) journals out of 318 journals.

**Table - 4: Language Assessment of Indian Journals in DOAJ**

Sl. No.	Languages	Name of the Language	No. of Journals	Percentage
1	Single Language	English	313	98.43
2	Two Languages	English, Hindi	3	0.94
3	Three Languages	English, Hindi, Sanskrit, Marathi	1	0.31
4	Four Languages	Marathi, Hindi, English	1	0.31
Grand Total			318	100.00

Language is the vital mode of communication and any scholarly publication requires a language for the communication of creative works. Table - 4 reflects the language assessment of the open access journals from India indexed DOAJ. It is reflected that the Indian journals indexed in DOAJ are published in as many as 4 different languages out of which, English is the predominant language that covers the medium of publication of 98.43% journals (313) of the total journal contribution. Other than English, journals are being published in Hindi, Sanskrit and Marathi but the numbers of journals are very negligible.

Keywords are generally selected by the publishers at the time of applying for the journal to be in DOAJ or at the time of uploading articles' metadata. When a journal is added in the directory,

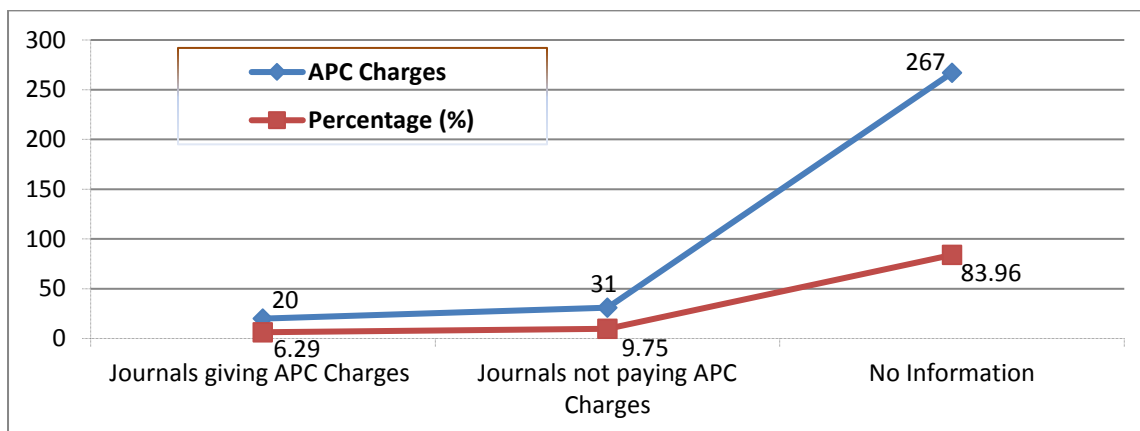
the journal's owner (publisher, provider) has to provide keywords to make the journal searchable on DOAJ's platform. Table-5 shows the distribution of journals as per the number of keywords assigned by the publishers. There are 2(0.63%) journals are having 9 keywords , 4 (1.25%) journals are having 8 keywords , 6 (1.88%) journals are having 7 keywords each , 23(7.21%) journals are having 6 keywords, 50 (15.67%) journals are having 5 keywords each , 72(22.57%) journals are having 4 keywords each, 58 (18.18%) journals are having 3 keywords each, 63(20.07%) journals are having 2 keywords each, 40(12.54%) journals are having only 1 keyword each. It is reflected that supplying 2 to 4 keywords appropriate to the content of the journal is more prevalent in case of Indian journals indexed DOAJ, as highest number of journals (135) are falling under this category of keywords.

**Table-5: Distribution of Journals as per Keywords given by Publishers**

<b>Keywords assigned by the Publishers</b>	<b>No. of Journals</b>	<b>Percentage</b>
1 Keyword	40	12.54
2 Keywords	63	20.07
3 Keywords	58	18.18
4 Keywords	72	22.57
5 Keywords	50	15.67
6 Keywords	23	7.21
7 Keywords	6	1.88
8 Keywords	4	1.25
9 Keywords	2	0.63
<b>Total</b>	<b>318</b>	<b>100</b>

Open access journals are freely available on the public domain for the users and usually these journals do not charge any amount either from the authors or from the users. But in case of few journals the publishers charge some amount from the authors known as 'Article Processing Charges' (APC) or handling charges. As regards to the APC charges of Indian journals indexed in DOAJ it is seen that, out of 318 journals 31 (9.78%) journals do not collect APC charges

where as only 20 journals (6.29%) accepts APC charges from the authors and there is no information available about APC of 267 (83.96%) journals.



**Figure - 2: Distribution of Journals as per (Article Processing Charges) APC**

**Table - 6: Distribution of Journals as per Licensing in DOAJ**

Sl. No.	Type of Licensing Attribution	No. of Journals	Percentage
1	CC BY-NC-SA	118	37.11
2	CC BY	56	17.61
3	CC BY-NC	21	6.60
4	CC BY-NC-ND	19	5.97
5	CC BY- SA	6	1.89
6	Publisher's own license	6	1.89
7	CC BY-ND	3	0.94
8	No Information	89	27.99
	Grand Total	318	100.00

DOAJ has a strong preference for the use of Creative Commons Licenses, especially the least restrictive one: the Creative Commons CC-BY License (Attribution). DOAJ allows publishers to supply license information at the journal level. Licensing a journal with a Creative Commons (CC) License is an optimum way of showing exactly the type of attribution of journal in Open Access. Such licensing is very beneficial for authors as it reflects clearly limitations exist in creating the derivative works. From the licensing attribution provided by the Indian journals it is seen that, there are seven types of creative commons attribution are given in table - 6. It is

reflected that, out of the seven types creative commons attribution, highest percentage of journals 118 (37.11%) use CC BY-NC-SA licensing followed by CC BY (17.61% ), CC BY-NC (6.60%), CC BY-NC-ND (5.97%), whereas (1.89%) numbers of journals provide publisher's own licensing information and only (0.94%) journals adopt CC BY- ND attribution. In case of 89(27.99%) journals there is no creative commons license that indicates, all the published materials of these journals support a greater global access to knowledge.

**Table-7: Top Open Access Publishers of India**

Rank.	Publisher	No. of Journals	% of Journals	Place of Publisher
1	Medknow Publications ( <i>presently known as Wolters Kluwer Medknow Publications</i> )	87	27.4	Mumbai
2	Academy & Industry Research Collaboration Center (AIRCC)	23	7.2	Chennai
3	Indian Academy of Sciences	8	2.5	Bengaluru
4	Engg Journals Publication (EJP)	4	1.3	Chennai
5	AkiNik Publications	3	0.9	New Delhi
5	ICT Academy of Tamil Nadu	3	0.9	Chennai
5	Indian Association of Preventive and Social Medicine	3	0.9	Uttar Pradesh
5	Medip Academy	3	0.9	Ahmedabad
5	JCDR Research and Publications Pvt. Ltd.	3	0.9	New Delhi
6	7 Publishers (each having 2 Journals)	14	5.7	...
7	167 Publishers (each having One Journal)	167	51.3	...
...	Total: [183 Publishers]	318	100	

Table - 7 depicts top publishers of journals supporting the model of open access publishing. It found that Medknow Publications, later renamed as Wolters Kluwer Medknow Publications is the most productive publisher contributing 87 (27.4%) journals to DOAJ. Academy and Industry Research Collaboration Center (AIRCC),Chennai occupies the second rank with 23 (7.2%) journals while Indian Academy of Sciences, Bangalore occupies the 3rd rank by contributing 8 (2.5%) journals. The other publishers those who contribute substantially are Engg Journals

Publication, AkiNik Publications, New Delhi and ICT Academy of Tamil Nadu, Medip Academy, JCDR Research and Publications Pvt. Ltd. and Indian Association of Preventive and Social Medicine. It is further observed that top ranked publishers contribute 137 journals while 174 publishers contribute the rest journals i.e.46.9% (181) in DOAJ. Thus, it can be concluded that open access initiatives not yet adopted by other publishers of India as only 5% of the publishers contribute as much as 43.1% of total submissions of India in DOAJ.

### **Conclusion:**

DOAJ is an authoritative choice for the scholarly community in need of immediate access to peer-reviewed articles. The number of scholarly journals in DOAJ has been increasing over the years and taken momentum in countries like Brazil, UK, USA, Egypt, Spain, Indonesia, Poland, Germany, and India. The inclusion of 318 Indian journals in the database is an encouraging factor and it is positive sign for the open access movement in India. Open access initiatives not yet widely adopted by many publishers of India as only 95% of the publishers contribute only 46.9% of total submissions in DOAJ. In most of the developing countries especially like India where most of the research and academic institutions do not have adequate budget to subscribe to most of the journals in any field of knowledge, the visibility and accessibility of open access journals will certainly and potentially benefit the entire scholarly community.

### **References:**

1. Aswathy, S. & Gopikuttan, A. (2013). Open Access literature productivity of Physics: A DOAJ Perspective. *Library Philosophy and Practice* (e-journal).
2. Budapest Open Access Initiative (BOAI). Retrieved August 22, 2016 from [www.soros.org/openaccess/](http://www.soros.org/openaccess/)
3. Dhanavandan, S. & Tamizhchelvan, M. (2014). Library and Information Science Journals in DOAJ: An Empirical Study, *International Journal of Library Science*, 12(3).
4. Directory of Open Access Journals (DOAJ). Retrieved August 20, 2016 from [www.doaj.org](http://www.doaj.org).
5. Goyal, V., Gupta, G. K., & Kumar, A. (2014). An analysis of DOAJ: Contribution in the field of Physics. *International Journal of Information Dissemination and Technology*, 4(1), 92-94.

6. Kuri, R. (2014). Foot Marks of LIS Journals in DOAJ: an Analytical Study. *Asian Journal of Multidisciplinary Studies*, 2(5), 80-86.
7. Loan, F. A. (2008). Indian Contribution to Open Access Scholarly Publishing: A Case Study of DOAJ. In *National Seminar on Open Access Movement: Initiatives, Promotion and Impact* (pp. 1-7). Conference conducted at Department of Library and Information Science, University of Kashmir, Srinagar (J&K), India from 23rd to 25th October, 2008.
8. Loan, F. A., Rafiq R., & Shah, G. J. (2008). Indian contribution to open access literature: A case study of DOAJ & OpenDOAR. *Chinese Librarianship: an International Electronic Journal*, 1-10. Retrieved from URL: <http://www.iclc.us/cliej/cl26fayaz.pdf>
9. Maity, A. & Teli, S. (2015). A Bibliometric Analysis on the Directory of Open Access Journals (DOAJ) in the Subject Domain of LIS from the year 2004-2014. *International Journal of Innovative Research in Science, Engineering and Technology*, 4(4), 1955-62.
10. Mondal, D. (2014). India's contribution to DOAJ with special reference to Computer Science Discipline: A study. *International Journal of Information Dissemination and Technology*, 4(1), 1-7.
11. Nashipudi, M. & Ravi, B. (2015). Contribution of India to Universe of Knowledge in DOAJ: A Case Study. *International Journal of Information Dissemination and Technology*, 5(3), 171-175.
12. Pujar, S. M. (2014). Open Access Journals in Library and Information Science: A Study. *Annals of Library and Information studies*, 61, 199-202.
13. Subbiah, G. & Subbiah A. (2011). Use of open access journals by Indian Researchers. *Current Science*, 101(10). 1287-1295.
14. Subbiah, G. & Subbiah A. (2014). The impact factors of open access and subscription journals across fields. *Current Science*, 107(3), 380-388.
15. Suber, P. (2004). *Open access overview*. Retrieved August 9, 2016 from <http://bit.ly/oa-overview>.
16. Tamizhchelvan, M. & Dhanavandan, S. (2014). A Study on Open Access Journals from South Asian Countries registered in DOAJ. *International Research: Journal of Library & Information Science*, 4(3), 1-15.