

## Status of Open Access: Across Borders

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### **Abstract**

*This paper throws light on the growth and development of open access journals published from India and Pakistan, two border sharing and developing countries. The study measures the current scenario of open access journals in India and Pakistan by exploring various facets of open journals and tries to present a lucid picture of their overall development. The study provides a detailed description of open access journals in terms of country, subject, language, content, and rank wise distribution. The current study shows that India is in a projecting situation with respect to Pakistan and even other developing nations in publishing open access journals. India has made important contributions towards the growth of open access publishing and is leading on the top with about 593 journals. Despite of the fact that India is leading in publishing open access journals, it is worth to note that Pakistan is leaving India behind in the field of medicine by publishing large no. of journals than India. This study will be helpful for the researchers in exploring the amount open access titles in different subject fields published from both the two countries. Furthermore, it can act as an eye opener to the scholarly world to know about the real status of open access in India and Pakistan.*

**Keywords:** *Open access journals, open access-developing nations, open access-India, open access-Pakistan, open access-Scopus*

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### **INTRODUCTION**

Internet is continuously making changes in every aspect of our society; it reshapes scholarly communication in many ways. One of the recent growing movements in scholarly communication is the Open Access (OA) initiative, a revolutionary movement that promotes free access to all scholarly publications over the Internet. Open access atmosphere has been emerging at an unexpected rate, throughout the globe and we wanted to confirm that we had an up-to-date understanding in response to these changes, in order to know how much India and Pakistan, two border sharing and developing nations need to build pace accordingly.

Paying for access to content makes sense in the world of print publishing, where providing content to each new reader requires the production of an additional copy, but online it makes much less sense to charge for content when it is possible to provide access to all readers anywhere in the world [1]. Bethesda Statement defines open access, where "The author(s) and copyright holder(s) grant(s) to

all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship as well as the right to make small numbers of printed copies for their personal use" [2]. Open access contents are not restricted only to peer-reviewed research articles; they can be in any format, from texts and data to software, audio, video, and multimedia. Although the OA movement focuses on peer-reviewed research articles and their preprints, OA can also apply to non-scholarly content, like music, movies, and novels, even if these are not the focus of most OA activists [3].

Open access to scholarly information has been a hot topic for debate among scholarly community over the last few years. Work published in open access mode might be seen, read and used by everyone who is interested, thus allowing academic research to have a greater impact on the world [4]. Open access is transforming the processes and institutions of

research, knowledge creation and dissemination globally, enabling new forms of collaboration, allowing researchers to be seen and heard in new ways and reshaping relationships between stakeholders across the global academic publishing system. Open access journals exist at a promising platform all across the globe [5].

Open access as an alternative, publishing online is at least a 70% cost reduction method. Authors have more freedom now that they can choose from more than one medium in which to publish [6]. Open access is considered a “strong vehicle for academic freedom”, especially when journals use free publishing software created by Public Knowledge Project, specifically for this publishing method [7].

Thus this swift expansion of OA not only has transformed the model of traditional scholarly communication and fetched a free communication atmosphere of scholarly information, but also endures to influence on all aspects of academic libraries, including their services, collections technology and role. Several open access promoters consider that national support will play a very important role in reacting to open access commands from funders.

## LITERATURE REVIEW

Open access publishing is a different method of publishing that has been employed to varying degrees in the academic community since 1998 [8]. Though the program is to some extent new, the literature is quite significant. Open access journals and publishing emerged with advances in technology, particularly the Internet. As the Internet has become abundant within the US, it has been used by many as a platform to communicate and transfer information economically, rapidly, and precisely, thus making publishing online smooth. This smoothness is especially seen through the concept of accessibility [7].

Harter and Kim, in their study wrote that field differences and disciplinary cultures have also played an important role in the OA movement since the mid-1990s [9]. Similar concerns made some researchers shy away from self-archiving their contributions through their

personal websites or institutional archives. While almost all articles in sciences (e.g. physics and mathematics) have currently been made open access, the percentages are much lower in social sciences and arts and humanities (e.g. 60% in economics, 25–30% in political science, psychology and sociology, and less than 20% in anthropology and geography). Only 5% of social scientists self-archive their papers.

Nashipudi and Ravi conducted a study on, ‘status of India in publishing Open Access content’ [10]. A survey of the open access journals indexed in the Directory of Open access Journals (DOAJ) and the repositories indexed in the Open DOAR were followed for the study. They concluded their study as there is an essential need for a proper mechanism in order to promote and coordinate open-access publishing systems and to improve awareness for open access in India. Study also shows a growth of 15 fold of the open access journal output within a year by India.

Sengupta in her study gives an overview of the growth and development of institutional repositories in Asia in the field of library and information science with the data from the OpenDOAR database [11]. Researcher found that the growth and diversity of open access repositories in Asia in the field of library and information science show that throughout the world, people are trying to disseminate their research work or institutional holdings with the help of Internet to a large group of people. Still, the number is very few.

Brown and Abbas in their study said that the institutions across the United States are actively creating institutional repositories (IRs) and an array of field-specific online collections, especially in the biological sciences [12]. The 20 earth and biological scientists interviewed for this article embrace online resources for use in their research, teaching, and creative activities and, although previously unaware of the functions of an IR, unanimously support the development of one at the University of Oklahoma. The ability to share scholarly information across campus and to securely archive data, are seen as valuable attributes of an IR.

Bhat conducted a study on community engagement in Indian open access repositories: a deposit activity profile, on the bases of the data retrieved from ROAR (Registry of Open Access Repository) which provides automatic deposit activity of the repositories by taking data from Celestial, an OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting) compliant harvesting proxy [13]. The results suggest that only a few repositories are active and the rest being mostly static including the largest repository of IISc (Indian Institute of Science).

Wani *et al.* threw light on the growth and development of open access repositories throughout the world [14]. The study further emphasizes deeply into the Asian contributions and brings to light detailed profiles of Asia. They concluded their study as OA movement is going to set new standards for information sharing and management. The trend to set up OA repositories worldwide is inevitable and needs to be encouraged as well, particularly in the emerging world like Asia, which has every reason to excel, given the strong ICT background and mushrooming of quality academic and research institutions with high research output.

Wang and Su state that although open access started with developed countries, it is appealing to developing countries and is spreading throughout the world quickly [15]. Based on a comprehensive literature review, his study outlines the concept of OA, various OA operational models, and key stakeholders, major OA projects in the developing countries with focused discussions on major issues in OA development in China. In addition, this paper evaluates the similarities and differences of OA development by using the developed countries as best practice benchmark. This paper concludes that OA was initiated in the developed countries, and now it has become an international movement.

Rajashekhar discussed two components of open access publishing in Indian context [16]. At first instance, his study focuses on the relevance of open access publishing in developing countries, the potential for open access publishing in India and few current

open access initiatives in India. Then second component of his study proposes a possible technical model to organize open access publishing in India.

### Objectives

The main objectives of the study were:

1. Discovery the country wise contribution of open access journals.
2. Compare the quantitative output of open access journals among India and Pakistan nations.
3. Determine the subject wise contribution of open access journals by India and Pakistan.
4. Ascertain through different parameters like, status, language, rank, source type, coverage of open access journals published by India and Pakistan.

### METHODOLOGY AND SCOPE OF STUDY

This study provides measurement of the quantitative output of open access journals publishing from India and Pakistan. It is because of both financial and time constraints the study was conducted and restricted to the open access journals indexed by Scopus up to Oct 2017. The study is based on data collected from an online survey of open access journals indexed by Scopus. A list of Scopus indexing open access journals was collected and then analyzed through different parameters by using MS Excel spread sheet software.

While collecting data, it was found that there are 35864 journals indexed in Scopus in which only 23670 journals are active and 12194 are inactive.

### DATA ANALYSIS, INTERPRETATION AND RESULTS

#### Country-wise Distribution of Open Access Journals

Both countries are publishing open access journals, but major share of journals are from India, which contributes 593 Journals in which only 218 (37%) journals are currently active in use and updating in regular intervals of time and other 375 (63%) are in-active because of either change in title of journals or ceased to publish. While as on the other hand no. of journals published by Pakistan is 107 in which

66 (62%) journals are active and 41 (38%) journals are in-active (Table 1). This result reveals that large amount of journals from India are not active while as Pakistan is having higher no. of journals in active side.

### Subject-wise Contribution of Journals

While assessing the subject-wise contribution of journals from India and Pakistan, we found that Scopus categorized subjects into two main groups i.e. Top level (main subjects) and 2nd level (sub-subject); in top level group, they have kept four (04) main subjects like Health Science, Life Science, Physical Science, Social Science. On the other hand in 2nd level subject group, they have kept 27 sub-subjects like General, Arts and Humanities, Medical Science, Engineering, Bio-chemistry, Agriculture etc.

As shown in previous table that India is leading Pakistan in publishing open access journals, then it is obvious that India may also lead in subject-wise contribution also. Table 2 reveals the top level subject-wise contribution of journals from both the two countries. Result make us known that there is a large gap of about 5 fold between India and Pakistan in publishing open access journals in subject-wise contribution in all the four top level subjects.

Figure 1 drafts the comparison between India and Pakistan with reference to 2nd level subject-wise quantitative output of open access journals. It is shown in the Figure 1 that in Arts and Humanities, both the countries had contributed a little as India is publishing 13 journals, Pakistan is publishing only one. Same is the case in Engineering and Biochemistry as India is publishing 60 and 58 journals respectively and Pakistan is publishing only 07 and 09 journals respectively. On the other side, Pakistan is leaving India behind in the field of Medicine; no. of open access journals publishing from Pakistan in the field of Medicine is greater than that of India.

### Year-wise Coverage of Journals

From the year 1946 to 1970, India has contributed 24 open access journals, while as Pakistan has no contribution during this time period. During 1971–1990, India has

contributed 58 journals and only 4 journals were published from Pakistan. For the period of 1991–2017, India has published 511 journals and 103 are from Pakistan (Table 3).

### Languages Used in Journals

All open access journals publishing from India 593 (100%) and Pakistan 107 (100%) are available in English language (Table 4).

**Table 1: Open Access Journals from India and Pakistan.**

Total No. of Journals 700			
Country	Active	In-Active	Total
India	218	375	593
Pakistan	66	41	107

\*Source: Scopus.

**Table 2: Top Level Subject-wise Contribution of Journals.**

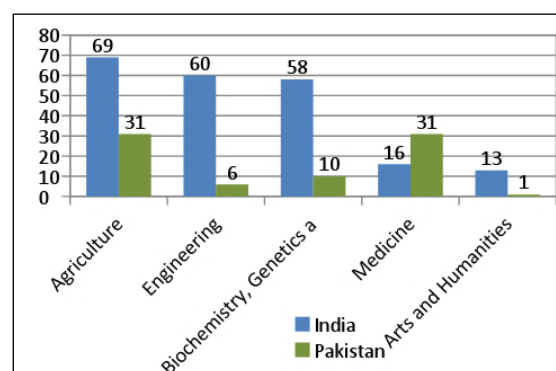
Subject	No. of Journals	
	India	Pakistan
Health Sciences	187	39
Life Sciences	184	30
Physical Sciences	136	25
Social Sciences	86	13
Total	593	107

**Table 3: Year-wise Contribution of Journals.**

Years	India	Pakistan
1946–1970	24	00
1971–1990	58	04
1991–2017	511	103

**Table 4: Language-wise Contribution.**

Language	Country	No. of Journals
English	India	593
	Pakistan	107



**Fig. 1: Top 5 of 2nd Level Subject Comparison between India and Pakistan.**

### Layout of Open Access Journals

While going through layout of open access sources it was found that Scopus has categorized open access sources of information into three types of layout i.e. Journals, Trade Journals and Book Series. Open access sources publishing from India are available in only two layouts in which 572 (97.4%) is in the form of Journals and other 15 (2.6%) is in the form of Trade Journals. On the other hand, Pakistan is publishing open access sources, 103 (99%) is in the form of Journals and other 01 (1%) is in the form of Trade Journals (Table 5).

### Journal Ranking

Three styles of journal ranking had been applied on open access journals of Scopus database these are Scimago Journal Ranking (SJR), Cite Score and Source Normalized Impact per Paper (SNIP).

Journals publishing from India are having high ranking status in the year 2016 than Pakistan in two of its ranking parameters these are in SNIP and SJR, Indian journals are ranked under range (0.00–2.146) and (0.100–1.434) respectively and journals publishing from Pakistan are ranked between range (0.00–1.642) and (0.100–0.473). On the other side of picture, Pakistan is at par with India in Cite Score Ranking System, which ranges as (0.00–3.53) for India and (0.00–3.53) for Pakistan in the year 2016 (Table 6).

### CONCLUSION

Open access is achieving reputation day by day. Like in the past revolution in the process of preservation and dissemination of information and knowledge was brought by the invention of paper and Gutenberg printing press, the open access movement, is going to set innovative principles for knowledge management and dissemination. In the implementation part of open access, library information science authorities must need to perform an active part in developing and managing open access journals and repositories in their respective institutions. Academia, of some of the developing countries is however, under the vigorous involvement of government authorities and publishers, has booked a leading step in this

direction. Researchers of these countries realize the significance of open access journals and archives, particularly in the increased visibility of information, the higher citation rate of articles, and the potential for knowledge to become usable more quickly.

There are only 731 journals, i.e. about 02% of total no. of open access journals indexed in Scopus. With a limited number of open access journals, SAARC nations are far behind in publishing the open access journals in comparison to other countries of the globe and there is still a long way to consolidation. But it is also obvious that no country of SAARC nations other than India is categorized under top 10 country list which are leading in the production of the scholarly literature which is open accessed.

As per the interpretation of the data on the contribution of India and Pakistan towards open access publishing, the study can easily conclude that, India is in a projecting situation with respect to other developing and developed nations.

Indian journals which had already been published from the year 1946 are available in open access while as Pakistan has contributed its journals in open access which were published from the year 1972. India has made important contributions towards the growth of open access publishing and is leading on the top. On the other hand, Pakistan is leaving India behind only in the field of Medicines i.e., the research output of Pakistan in the form of open access journals in the field of Medicine is greater than that of India.

**Table 5: Source Type of Open Access Resources.**

Source Type	India	Pakistan
Journals	580	106
Trade Journals	13	1
Book Series	00	00

**Table 6: Journal Raking Range till 2016.**

Raking Type	India	Pakistan
SNIP	0.000–2.146	0.000–1.642
Cite Score	0.00–3.53	0.00–3.53
SJR	0.100–1.434	0.100–0.473

As developing countries, India and Pakistan have an extensive way to go, but the foundation is encouraging and it is expected that the user standpoint may be a contributing factor to the establishment of open access initiatives in these nations in near future.

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### Cite this Article

Irfan-ul-Haq Akhoon, Shabir Ahmad Ganaie. Status of Open Access: Across Borders. *Journal of Advancements in Library Sciences*. 2018; 5(1): 41–46p.