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# DEVELOPMENT TOWARDS OPEN ACCESS PUBLISHING: A COMPARATIVE STUDY BETWEEN INDIA AND PAKISTAN

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**Abstract:** Open access to scholarly information has been a hot topic for debate among scholarly community i.e. librarians, scholars, and publishers over the last few years. The movement of open access can be seen openly in the present day to day environment. Work published in Open Access mode might be seen, read & used by everyone who is interested, thus allowing academic research to have a greater impact on the world. Open Access journals are relatively new actors in the publishing market, and gaining reputation and visibility day by day in a very complex manner. Open access Journals exist at a promising platform all across the globe.

The study will be helpful for the researchers in exploring the amount open access titles in different subject field. 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. As the present study measured the current position and development of Open Access Journals published from different developing and developed countries. Further a comparative study between India and Pakistan, the two developing nations had been carried out.

Open access journals show a promising growth across nations and in different fields. Developing nations are at very initial stage of publishing scholarly journals through open access. India is in a prominent situation with other developing nations in the publishing open access scholarly works.

**Keywords:** Open Access Publishing; Open Access Journals; Open Access-Developing Nations; Open Access-India; Open Access-Pakistan; Open Access-Scopus; Scopus-India; Scopus-Pakistan

## 1.0 Introduction

This study was conducted in the middle of the year 2016 leading into the last weeks of 2016, was the first single research conducted among these two countries. I explored the quantitative output of globe in Open Access publishing indexed in Scopus database and their level of involvement with it. Why did I carry out this survey? My enthusiasm was a sincere interest about the contribution of these counties towards Open Access, with a view to know the status of these countries in comparison to other countries of world. The Open Access atmosphere has been emerging at an unexpected rate, throughout the globe and I wanted to confirm, we had an up-to-date understanding of views and needs of our country in response to these changes, in order to know how much these two nations needs 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. Open Access refers to "Free availability on the public internet, permitting any users 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"(BOAI, 2002). The Bethesda Statement (2003) defines open access as, "Where he 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". Open access (OA) is free, immediate, permanent, full text, online access for any user to digital, scientific and scholarly material. Open access contents are not restricted only to peer-reviewed research articles; they can be in any formats from texts and data to software, audio, video, and multi-media. 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 (Suber, 2010). The Budapest Open Access Initiative (BOAI) took place in 2001, where the term "open access" was coined and the two strategies of Green OA (self-archiving) and Gold OA (open access publishing) were devised (Poynder, 2010). Open access to scholarly information is a burning issue in web based education and research todays. Open access has become an increasingly important and potentially divisive issue in recent years as journal inflation rates have increased. For

many librarians and scholars, journal price inflation is itself the central problem and open access is the solution (Hirwade & Rajyalakshmi, 2006). OA is a paradigm shift from the traditional model of scholarly communication to open access. It has a great impact on academic libraries. Due to a strong connection between open access and the mission of libraries, it is not surprising that libraries are involved in a wide range of Open Access-related activities (Swan & Chan, 2009).

## 2.0 Scope of the Study

This study is providing measurement of the quantitative output of OA publications by developed and developing nations of the globe. It is because of both financial and time constraints the study was conducted and restricted to the open access journals indexed by Scopus upto October 2016. Further the scope of this study encompasses a comparative study between India and Pakistan in publishing open access scholarly journals.

## 3.0 Objectives

The main objectives of the study were to:

- Discover the total available open access resources in Scopus.
- Find out the country wise contribution of open access journals.
- Ascertain the country wise contribution of open access journals among India and Pakistan nation.
- Compare the quantitative output of open access journals between India and Pakistan.
- Compare through different parameters like subject, status, language, rank, source type, coverage of open access journals published by India and Pakistan.

## 4.0 Literature Review

Open access publishing is a different method of publishing that has been employed to varying degrees in the academic community since 1998 (Still, 2010). Though the program is quite 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 U.S., 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 (Schmidt, 2010). Internet based published research offers the ability to include media, graphics, audio, and other visual enhancements (i.e., sound clips, colored charts, interview recordings, etc.) within articles to support research that couldn't otherwise be placed or distributed via hard copy (Bailey, 2005). Printed research was bound to the limitations of the paper, which could cost about $1.53 per page for the publisher, and this cost was passed on to the author as a fee to pay for publishing within the journal. Using the author-pay model of publishing, even the least expensive journals in the hard science disciplines still had an average minimum cost per article of over a thousand dollars, which was the author's responsibility to pay (Odlyzko, 1998). Bot, Burgemeester, & Roes (1998) 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. 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 (Schmidt, 2010). As open access publishing is the inverse of traditional publishing, which is sometimes called toll access (TA) publishing. Open access has changed the publishing method and ways in which people now have access to research without any costs associated with it (Kirk, 2010). According to Odlyzko, (2003) open access has the potential to release considerable economic benefits for the research and academic sector. Kim, (2011). suggests that the benefits of open access can be categorized as extrinsic and intrinsic, extrinsic benefits being accessibility, increased publicity for the research, trustworthiness of documents, recognition for the individual and the institution, and academic reward, all of which may motivate researchers to deposit. Intrinsic benefits, by contrast, relate more to the altruistic intention of the depositor to make their findings available to colleagues and stakeholders, as well as the value of a knowledge management system for the management of research outputs. By and large, however, the benefits appear to have been more readily recognized by institutional managers, librarians, and to be at the institutional level. Protagonists' debate that creating research accessible freely will rise the amount of readers. For a distinct researcher this could mean greater citations for an open access article, which increases the impact of their work (Stanton & Liew, 2011). One of the main motives authors make their articles freely accessible is to gain higher research impact. An open access citation impact benefit, and an increasing number of researches have established, with changing degrees of methodological accuracy that an open access article is more likely to be used and cited than one behind payment blockades (Lawrence, 2001).

Progresses and modernizations in scientific journal access and retrieval in the last decade have revolutionized the scientific communication process. The speedy uptake of Open access publishing was strengthened by a

literature which emphasized the benefits to institutions and individual researchers, concentrating primarily on revelation, and stewardship. Despite a significant growth in the number of research papers available through open access, principally through authors self-archiving in institutional archives, it is estimated that only 20 per cent of the papers published annually are open access (Furlough, 2010). Field differences and disciplinary cultures have also played an important role in the OA movement since the mid-1990s. 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 per cent in economics, 25-30 per cent in political science, psychology and sociology, and less than 20 per cent in anthropology and geography). Only 5 per cent of social scientists self-archive their papers (Harter & Kim, 1996).

Open access publishing has presented concerns about opinions of publishing reputation, importance and advancement necessities. Open access publishing has offered competition to customary print journals and offered a purpose to evaluate costs, information accessibility, and the mechanism that journal publishers do or do not hold as related to publishing In light of these issues, open access publishing remains to gain followers and support throughout the entire globe (Hitchcock, 2004).

## 5.0 Methodology

The study was based on data collected from an online survey of open access journals indexed by Scopus. Where the list of Scopus indexing open access journals were collected and then analyzed through different parameters by using MS Excel spread sheet software.

## 6.0 Data Analysis and Interpretation

**Table I,** shows the total no of open access journals indexed by Scopus submitted throughout the world, in which 66% of journals are active in use and updating in regular intervals of time. Whereas about 34% of open access journals either changed their title of journals or ceased to publish.

**Table 1: Open Access Journals of Scopus**

| Total no of Journals = 35864 | |
|---|---|
| Active = 23670 | In-active = 12194 |

*Source- Scopus

**Table 2: Top 10 Countries Publishing through Scopus**

| S. No. | Name of Country | No. of Journals |
|---|---|---|
| 1 | United States of America | 9567 |
| 2 | United Kingdom | 6552 |
| 3 | Germany | 2479 |
| 4 | France | 1005 |
| 5 | China | 830 |
| 6 | Italy | 819 |
| 7 | Japan | 765 |
| 8 | Switzerland | 739 |

**In Table 2,** top 10 countries which are publishing their research output in open access mode and are indexed by Scopus is represented. USA is leading at the top, followed by UK and no country of SAARC nations other than India is categorized under top 10 country list, in fact India is still at the last number. While on the other extreme 15 countries publish two journals each while 20 countries including Israel publish single journal each.

**Table 3: Top level Journals in Subjects**

| Subject | No. of Journals |
|---|---|
| Health Sciences | 12994 |
| Physical Sciences | 10844 |
| Social Sciences | 9518 |
| Life Sciences | 6172 |

**Table 3,** reveals the top level journals in subjects according to the ranking style adopted by the Scopus, where Health Science is at the top followed by Physical Science with a little gap then by social Science then by Life Science.

**Fig. 1.1: Country wise percentage of contribution of journals into Scopus**

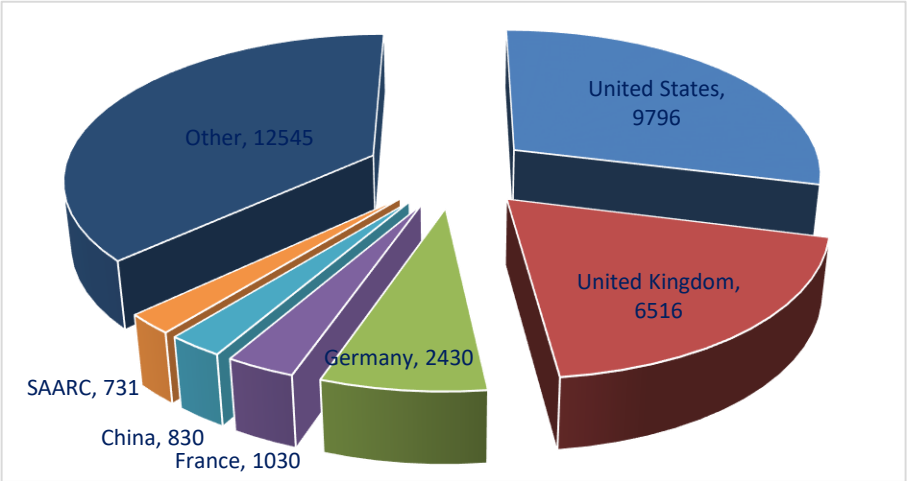


**Fig. 1.1** drafts the comparison between SAARC and other countries of world with reference to the percentage of contribution of open access journals into Scopus to the total no of open access journals available in Scopus. Hence it shows that about 48% of Journals are submitted by US & UK and about 13% of journals are from Germany, China, France and only 02% of journals are form SAARC Nations rest 37% are from other countries of the world

**Table 4: SAARC Nations to Open Access through Scopus**

| S. No. | Name of Country | No. of Journals |
|---|---|---|
| 1 | India | 587 |
| 2 | Pakistan | 104 |
| 3 | Bangladesh | 26 |
| 4 | Sri lanka | 08 |
| 5 | Nepal | 06 |
| 6 | Afghanistan | Nil |
| 7 | Bhutan | Nil |
| 8 | Maldives | Nil |
| **Total no. of journals** | | **731** |

**In Table 4,** country wise total number of open access journals published by SAARC nations is reflected. India is leading at the top by 587 journals which is about 80% of SAARC Journals followed by Pakistan by 104 journals i.e. about 14.6%, then by Bangladesh by 26 (3.6%) and only 06 (1.8%) of journals are published by Srilanka while as three countries of SAARC including Nepal. Afghanistan, Bhutan and Maldives had contributed nothing towards it.

**Fig. 2.1: Comparison between India & Pakistan as per the quantitative output of Journals**

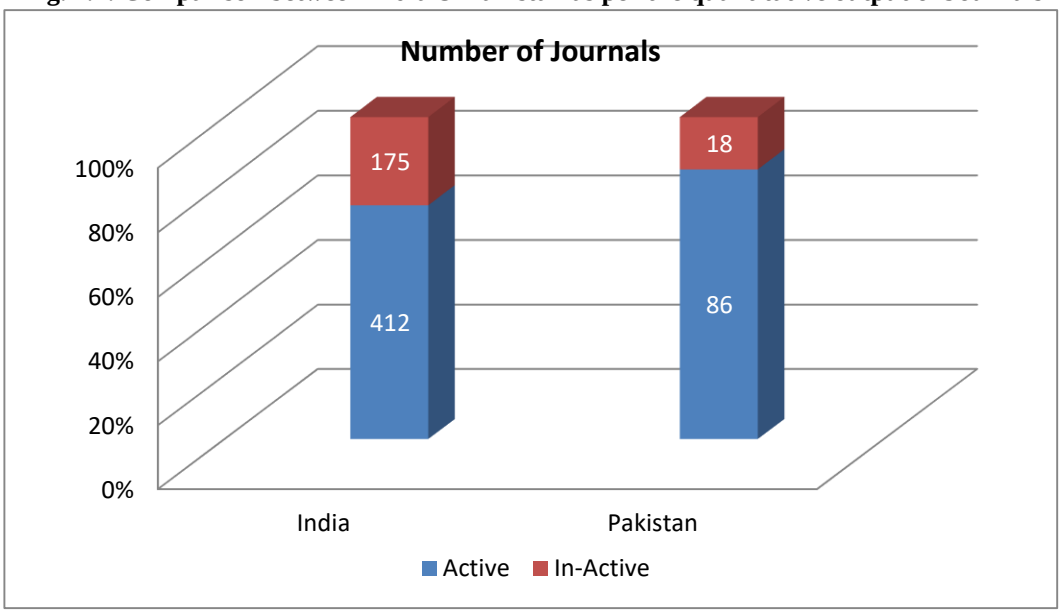


**Fig. 2.1** drafts the comparison between India and Pakistan with reference to the contribution of open access journals into Scopus. Hence it shows that about 587 Journals are published by India in which only 412 (70.18%) journals are currently active and other 175 (29.82%) are in-active. No. of Journals published by Pakistan is 104 in which 86 (83%) journals are active while as 18 (17%) journals are in-active.

**Table 5: Status of India to Open Access**

| **Total number of journals published by India = 587** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **27 Main & 335 Sub-Subjects** | | **Languages** | | **Coverage (1946 - 2016)** | | **Source Layout** | | **Journal Ranking** | |
| **Subject** | **No. of Journals** | **Language** | **No. of Journals** | **Year** | **No. of Journals** | **Source type** | **No. of Journals** | **Rank type** | **Rank Range** |
| Engineering | 58 | English | 587 | 1946-1970 | 24 | Journal | 572 | SNIP | 0.00-2.166 |
| Biochemistry, Genetics and M. Biology | 57 | | | 1971-1990 | 58 | T. Journal | 15 | IPP | 0.00-3.127 |
| Arts and Humanities | 12 | | | 1991-2016 | 505 | Book Series | nil | SJR | 0.100-1.639 |

**Table 5** shows some of the important features and coverage of open access journals which are published by India and indexed in Scopus and lists the top most three of all features like, Total no of journals published by India is 587. India publishing journals of about 27 main subjects which are leaded by engineering subject by 14% followed by Biochemistry and allied subjects by 13.8% then by Arts and Humanities by 2.8% of the total No. of Active Journals indexed through Scopus. All journals 587 (100%) are published in English language. Scopus indexes Indian journals published form the year 1946. Open access sources of information is presented in two main layouts, in which 572 (97.4%) is in the form of Journals and other 15 (2.6%) is in the form of Trade Journals. Three styles of journal ranking had been applied on Open access journals of Scopus database which ranges as for 'SNIP' (0.00-2.166), for 'IIP' (0.00-3.127) and for 'SJR' (0.100-1.639) for the year 2016.

**Table 6: Status of Pakistan to Open Access**

| Total number of journals published by Pakistan = 104 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **22 Main & 100 Sub-Subjects** | | **Languages** | | **Coverage (1972 - 2016)** | | **Source Layout** | | **Journal Ranking** | |
| **Subject** | **No. of Journals** | **Language** | **No. of Journals** | **Year** | **No. of Journals** | **Source type** | **No. of Journals** | **Rank type** | **Rank Range** |
| Agriculture and Biological Science | 30 | English | 104 | 1972-1990 | 04 | Journal | 103 | SNIP | 0.000-1.462 |
| Medicine | 29 | | | 1991-2005 | 08 | T. Journal | 01 | IPP | 0.000-1.119 |
| Biochemistry and allied subjects | 09 | | | 2006-2016 | 92 | Book Series | nil | SJR | 0.101-0.519 |

**Table 6,** shows important features of Open access journals published by Pakistan and are indexed in Scopus and lists the top most three of all features like, Total no of Open access journals published by Pakistan is 104 in about 27 main subjects which are leaded by 'Agriculture and Biological Science' by 28% followed by 'Medicines' 27.88% then by 'Biochemistry and allied subjects' by 8.65% of the total No. of Active Journals indexed through Scopus. All journals 104 (100%) are published in English language. Scopus indexes journals published by Pakistan form the year 1972. Open access sources of information is presented in two main layouts, in which 103 (99%) is in the form of Journals and other 01 (1%) is in the form of Trade Journals. Three styles of journal ranking had been applied on Open access journals of Scopus database which ranges as for 'SNIP' (0.00-1.462), for 'IIP' (0.00-1.119) and for 'SJR' (0.101-0.519) for the year 2016.

**Fig. 3.1: Subject wise comparison between India & Pakistan.**

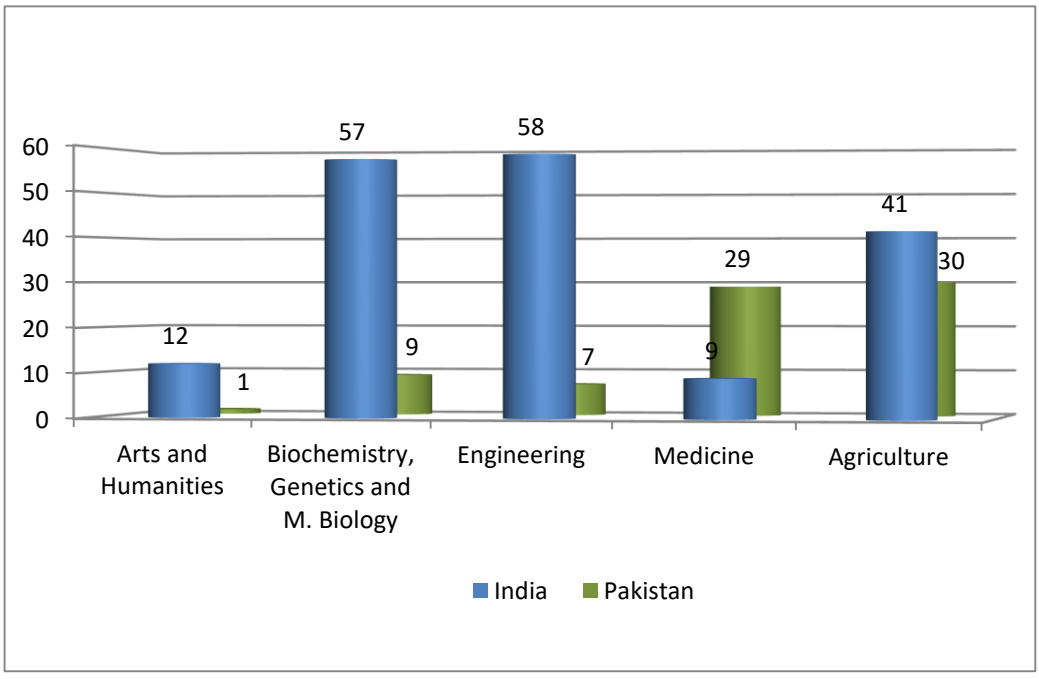

**Fig. 3.1** drafts the Subject wise comparison between India and Pakistan with reference to the quantitative output of open access journals into Scopus. Hence it shows that as India is leading Pakistan in publishing open access journals. It is obvious that the India may also lead in subject wise contribution. It is shown in the fig.3.1 that in Arts and Humanities both the countries had contributed a little as India is publishing 12 journals and Pakistan is publishing only one. Same is the case in Engineering and Biochemistry as India is publishing 58 and 57 journals respectively while as Pakistan is publishing only 07 and 09 journals respectively. On the other side Pakistan is leaving India behind in Medicines field as the research output in Medicines is greater than that of India.

## 7.0 Conclusion

Numerous librarians have been uttered and dynamic supporters of open access and consider that open access capacities to eradicate both the price barriers and the permission barriers. Several open access promoters consider that national support will play a very important role in reacting to open access commands from funders. OA is to become the future of academic library interactions all over the globe. More and more academic libraries have been dedicated to contributing in OA. The 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. There has been a steady recognition of the worth of open access among numerous institutions. Several open access initiatives have been commenced and are working. Many are in the progressive phase.

There are only limited number of open access Journals, published in SAARC and there is still a long way to consolidation. 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 realizes 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. With about 587 open access scholarly journals indexed by Scopus, India has made important contributions towards the growth of Open access publishing. India is in a projecting situation with respect to other developing and developed nations in the production of the scholarly literature which is open accessed.

As developing countries, India and Pakistan has 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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