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Spring 8-11-2022

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Negi, Dheeraj Singh, "Trends and Developments of Institutional Open Access Repository Movement in BRICS countries: A comparative Study" (2022). *Library Philosophy and Practice (e-journal)*. 7387. <https://digitalcommons.unl.edu/libphilprac/7387>

Trends and Developments of Institutional Open Access Repository Movement in BRICS countries: A comparative Study

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Abstract:- “This article main purpose the examine the growth and development of Institutional Repositories available in BRICS countries , The relevant Data was collected from the Directory of OPENDOAR. Based on the data in OPEN DOAR, We found that 418 total repositories are available from BRICS countries, and analyzed that BRICS countries among the Brazil with 154(37%) number of repositories in OPEN DOAR. Russia with 50 (12%) in Number of contribution repositories in BRICS countries. foreword to India with 102 (24%) Number of repositories, China 64 (15%) , South Africa 48 (12%). Brazil year 2020 (40) highest repositories contribution and year 2007, year 2018 found is lowest contribution in OPEN DOAR Types of repositories are found the Institutional 129 in Brazil , Russia with 42, India 88,China 52 and South Africa 44. Subject Content Social science is found Brazil 126,Rusia 40, India 84, China 33, South Africa 45.”

Keyword :- Open access repositories, Open access, Digital library, Library online service, BRICS

1. Introduction:-

Open access repositories are electronic services designed to preserve and provide open access to journal article reprints or preprints, audio, video and other media, and/or digital data. Unlike electronic journal or book publishers, they do not generally themselves provide editing or peer review services, though they may provide access to edited, peer-reviewed documents. Repositories may be maintained by an institution for the benefit of its own authors and researchers, or be open to deposits from any researcher in a given subject area. Some funding agencies require that articles and/or data from the research that they fund be deposited in an open access repository.

BRICS is explore the five major emerging economics in the world : Brazil, Russia, India, China and South Africa. The BRICS members are known for their significant influence on regional

affairs. Since 2009 the governments of the BRICS states have met annually at formal summits. India hosted the most recent 13th BRICS summit on 9 September 2021 virtually.

Development Bank (NDB) formally referred to as the BRICS development bank is a Multilateral development bank operated by the Five BRICS states.

Open DOAR is the quality-assured, global Directory of Open Access Repositories. We host repositories that provide free, open access to academic outputs and resources. Each repository record within Open DOAR has been carefully reviewed and processed by a member of our editorial team which enables us to offer a trusted service for the community.

The service launched in 2005 as the product of a collaborative project between the University of Nottingham and Lund University, funded by OSI, Jisc, SPARC Europe and CURL.

2. Literature Review

Parabho, Lambodara and Dey, Swarnika (2019) Open Access Repositories: A Global Perspective with a Special Emphasis on India and China. It describe the number of open access repositories, Language ,Year etc.

Roy, Biswas, and Mukhopadhyay (2016) studied the current status of open access repositories (OARs) movement in Agricultural field of Asian countries. It describes their characteristics in terms of types, contents, disciplines, languages covered, technical and operational issues, and policy matters. They compared and evaluated repositories against selected parameters and made some recommendations for the growth of agricultural repositories world wide. It also highlighted a unified interface that can harvest metadata from different OAI-PMH compliant the agricultural repositories in the world.

Dhanavandan and Tamizhchelvan, (2015) stated that an institutional repository is a digital repository where digital asserts like, conference proceedings, course notes, administrative documents and learning objects, are found.

Roy, Biswas, and Mukhopadhyay (2015) this study on institutional repository (IR) initiatives taken in a European foreign countries along with key declarations, statements, and projects for its development only foreign country like a Europe. The aim of the research was to understand the current status of deployment of IRs in several European countries and to explore how national policies and strategies are shaping this deployment.

Abrizah, Noorhidawati and Kiran (2010) was highlighted the current status of Open Access Repositories (OAR) in the Asian Universities. They analysis the characteristics in terms of discipline, content, types, languages, technical and operational issues and policies. The authors have also tried to identify the web performance of Asian institutional repositories which is reflected through global visibility of the repositories in Open Directory of Open Access Repository (Open DOAR). They analysis the top ranked Asian Universities to identify the performance in archiving and sharing of their research output through their institutional repositories in Asian Universities

Wani, Gul, and Rah (2009). This study explore the growth and development of open repositories registered with Open DOAR database.

The study provides a detailed description of repositories in terms of continent, country and subject wise distribution. Also, the study further delves deep into the Asian contributions and brings a detailed profile of the Asia

3. Purpose of the study

This paper main aims to analyze the current status of the BRICS countries in world Brazil, Russia, India, China, and South Africa, which are registered in the Open Directory of Open Access Repository (Open DOAR).

- To find out the number of institutional repositories developed in the countries of BRICS
- To measure the type of repository software used to create institutional repositories in the organizations.
- To identify the types of content included in the institutional repositories of the organization of BRICS countries
- To find out the Year wise contribution in BRICS countries
- To find out ranking among the BRICS countries in OPEN DOAR.

4. Scope and Limitations of study

The study is only limited to open access institutional repositories which are registered in the available on Open DOAR. It is only considered in BRICS countries (Brazil, Russia, India, China, and South Africa).

5. Methodology:-

This study Data has been taken from Open DOAR database website . Open Doar Database to identify and analyze the current status of IRs in BRICS countries. Open DOAR provides accurate information about global open access repositories. Open DOAR is maintained by SHERPA (Securing a Hybrid Environment for Research Preservation and Access) services, based at the Centre for Research Communication at the University of Nottingham. The data was collected on 26.01.2022, and there were 154 Brazil ,institutional repositories in 50 Russia, 102 institutional repositories in India, China 64 and 48 Institutional repositories in South Africa . We are analyzed the distribution of Repositories by Country-Asia and have also attempted to identify the services, features, software, languages, types of contents and subjects used by the various registered repositories in of Open DOAR in Brazil, Russia, India, China, and South Africa.

6. Data Analysis

Table :-1 Distribution of Institutional Repositories in BRICS countries (Brazil, Russia, India, China, and South Africa).

Country	Number of Repositories	Percentage
Brazil	154	37 %
Russia	50	12 %
India	102	24 %
China	64	15 %
<u>.South Africa</u>	48	<u>12 %</u>
	418	<u>100</u>

Table 1 has been show that Number of repositories in BRICS countries we are found that Brazil with 154(37%) number of repositories in OPEN DOAR. Russia with 50 (12%) in Number of contribution repositories in BRICS countries . foreword to India with 102 (24%) Number of

repositories, China 64 (15%) , South Africa 48 (12%). The above data has been collected on 26/01/2022. 418 Total number of repositories Contribution in OPEN DOAR of BRICS countries.

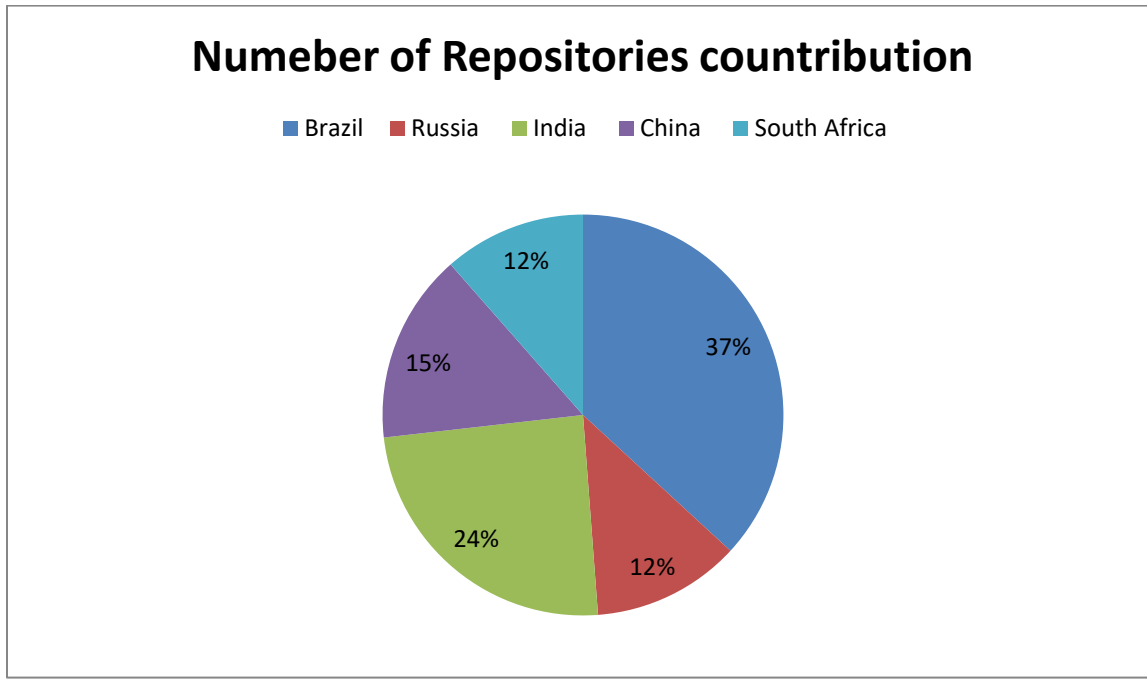


TABLE:- 2 Year wise contribution in BRICS countries (Brazil, Russia, India, China, and South Africa).

Year	Brazil	Russia	India	China	South Africa
2005	-		2	2	2
2006	9		10	0	2
2007	1	2	1	1	4
2008	3	0	7	2	2
2009	3	2	7	1	1
2010	4	3	7	2	7
2011	37	3	11	2	0
2012	4	3	2	3	1
2013	4	3	4	0	1
2014	15	4	11	6	3
2015	6	1	0	3	5
2016	2	2	4	0	2
2017	6	3	4	0	1
2018	1	1	0	1	0
2019	10	1	5	1	3
2020	40	12	7	4	3
2021	5		5	12	0
2022	4	3	6	5	5
Total	154	50	102	64	48

Above data available on 29/01/2022

The above table has been indicate that The indicates the year wise distribution of institutional repositories found in BRICS countries. It found that Brazil with 154, Russia with 50, India 102, China 64, South Africa 48, the Year wise contribution found that Brazil , year 2020 (40) highest repositories contribution in the OPEN DOAR and 2007,2018 found is lowest contribution in OPEN DOAR. Russia year 2020(12) year is Maximum contribution , year 2020 no contribution by Russia. India year 2011,2014 with 11 is most year contribution by the India, year 2018,2015 no contribution by India, China year 2021 is highest contribution in OPEN DOAR IR and lowest year 2016,2017,2011 no contribution by China. South Africa year 2010 (7) is highest Distribution , year 2011,2018,2021 no contribution by South Africa county in OPEN DOAR

Table:- 3 Types of Repositories

Types of Repositories	Brazil	Russia	India	China	South Africa
Institutional	129	42	88	52	44
Disciplinary	11	1	8	2	
Aggregating	4	2	5		1
Governmental	10		1	1	
Other		5		9	3
Total	154	50	102		48

Above table found that Types of repositories Institutional 129 in Brazil , Russia 42, India 88,China 52 and South Africa 44. Disciplinary found as Brazil has 11,Russia 1, India 8, China 2 and South Africa 0. Aggregating found 4 Brazil, Russia 2,India 5 , China 0 and South Africa 1. Governmental type we are found that Brazil 10, Russia 0, India 1, China 1 and South Africa 1. Other type repositories Brazil 0, Russia 5, India 0, China 9 and South Africa 3.

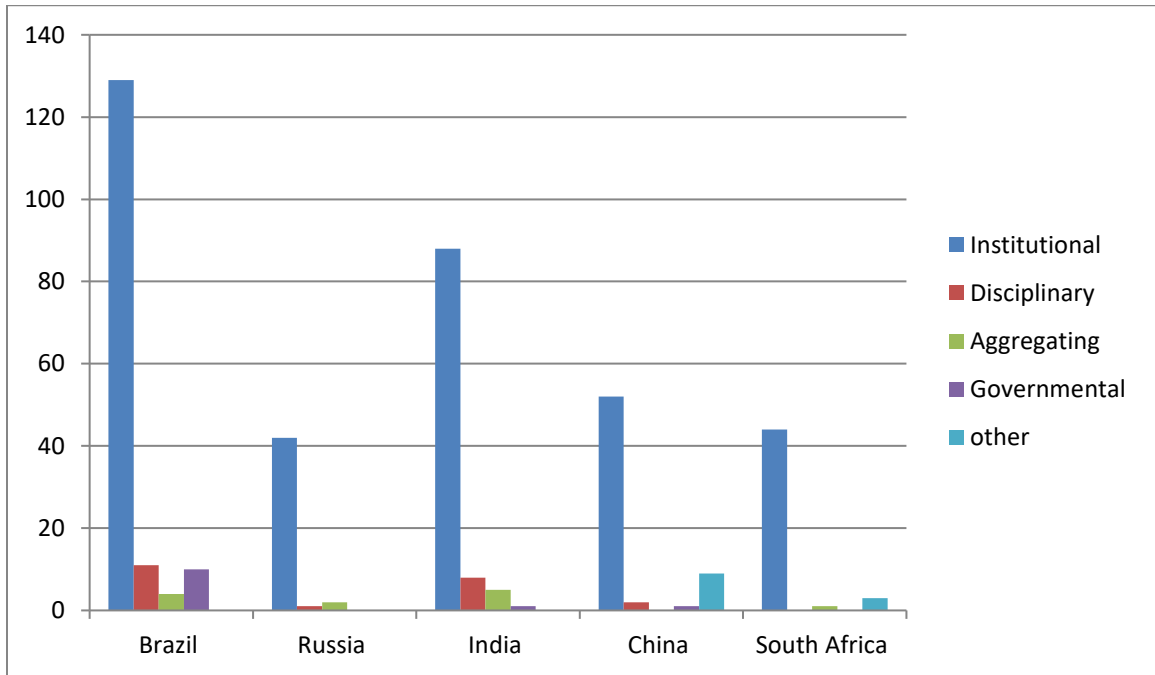


TABLE 4:- Subjects Coverage of Institutional Repositories in BRICS

The table 4 indicates number and percentage of top subjects of open access IRs found in BRICS countries.

Subject Content	Brazil	Russia	India	China	South Africa
Social Science	126	40	84	33	45
Science	125	39	70	51	39
Health and Medicine	111	38	63	23	39
Technology	111	35	63	39	38
Humanities	107	35	61	29	41
Engineering	105	34	55	26	36
arts	101	34	55	24	40
Mathematics	1	1	55	23	35

Subject Content Social science is found Brazil 126, Russia 40, India 84, China 33, South Africa 45. Science subject content is found Brazil 125, Russia 39, India 70, China 51, South Africa 39. Brazil is a top subject contribution in this table, India is a second highest subject contribution in this Table. The social science is top subject in this table. For contribution BRICS countries, Science is a second highest subject contribution of BRICS Countries. We are found above table that mathematics is a Lowest subject contribution of BRICS countries on OPEN DOAR.

TABLE 5:- Distribution of Institutional Repositories by Software's

Below table show that the types of software used for creating institutional repositories. Among the repositories, 287 majority of repositories are using D Space software which includes 127 repositories in Brazil, Russia 33, India 58, China 37, and 32 in South Africa. E Prints software is found repositories in Russia with 3, India 33 repositories and South Africa 1. other software's like Cspace, Nitya, CALIBRE Greenstone and other software are also used for creating institutional repositories.

<u>Software</u>	Brazil	Russia	India	China	South Africa	Total
DSpace	127	33	58	37	32	287
EPrints		3	33		1	37
Greenstone	1		01			2

Drupal	3	-	-	-	-	3
Omeka	1					1
Sucile	4					4
Vital					2	2
Other	10	7	6	18	9	50

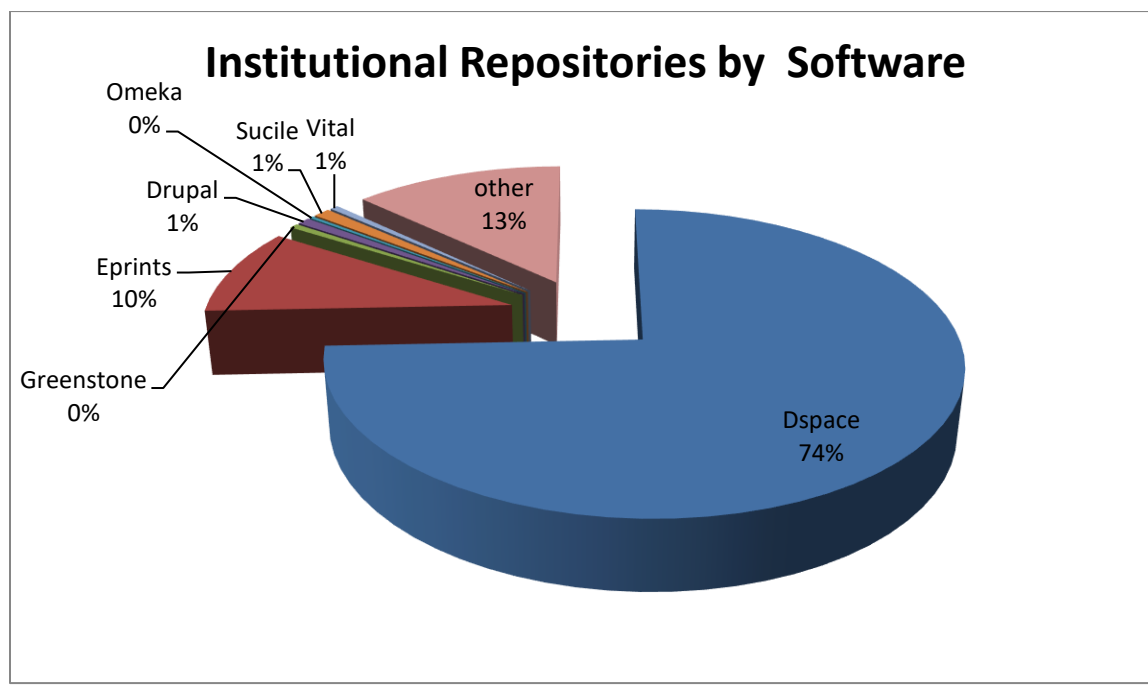
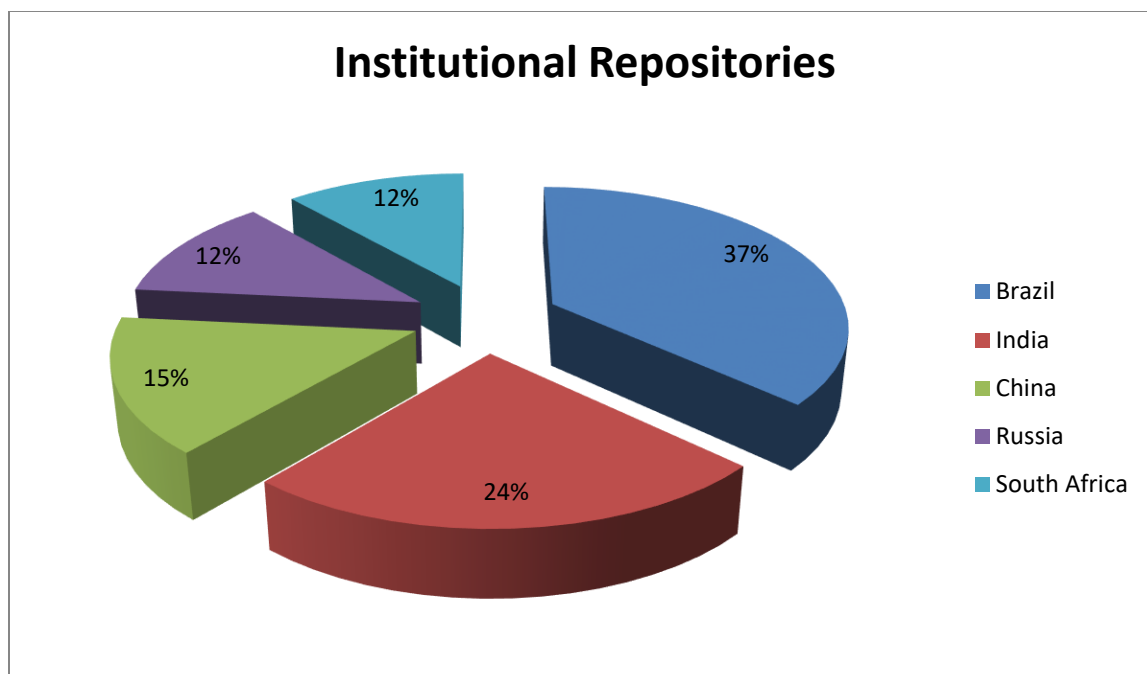


Table :-6 Ranking wise distribution in OPEN DOAR

<u>Countries</u>	<u>Institutional Repositories</u>	<u>Ranking</u>
Brazil	154	1th
India	102	2nd
China	64	3rd
Russia	50	4 th
South Africa	48	5 th

Above table has been show that Brazil with 154 is top countries in OPEN DOAR among the BRICS countries. India with 102 IR second rank among the BRICS countries, China with 64 on 3rd rank in the BRICS Institutional repositories in OPEN DOAR. 4th rank is a Russia with 50 IR in the BRICS and 5th last rank South Africa with 48 institutional repositories.



7. Conclusion

The present research has analyzed that the current status and features of open access institutional repositories of the BRICS countries Brazil, Russia, India, China, South Africa. Overall we found that open access institutional repositories in these BRICS countries 418 total repositories are available from BRICS countries, and analyzed that BRICS countries among the Brazil with 154(37%) number of repositories in OPEN DOAR. Russia with 50 (12%) in Number of contribution repositories in BRICS countries. followed by India with 102 (24%) Number of repositories, China 64 (15%), South Africa 48 (12%). We are found that Brazil year 2020 (40) highest repositories contribution and year 2007, year 2018 found is lowest contribution in OPEN DOAR Types of repositories are found the Institutional Repositories 129 in Brazil, Russia with 42, India 88, China 52 and South Africa is 44. Subject Content Social science is found Brazil 126, Russia 40, India 84, China 33, South Africa 45. Brazil with 154 is top countries in OPEN DOAR among the BRICS countries. India with 102 IR second rank among the BRICS countries, China with 64 on 3rd rank in the BRICS Institutional repositories in OPEN DOAR. 4th rank is a Russia with 50 IR in the BRICS and 5th last rank South Africa with 48 institutional repositories.

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