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Open Access Repositories in the World: An Overview

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ABSTRACT

This paper discusses the availability of the open access repositories available in the World and Asian Countries which are registered in OpenDOAR. And it further deals about the repositories by country wise, organisation by country, type, content and languages and various software. The relevant data were collected from DOAR and totally 5268 repositories are available in World. It found that the among the 5268 repositories, 898 from United States of America and it is first position and Japan occupies the second position with 546. It reveals from the table, India is the sixteenth position among the countries with 92 repositories.

Keywords: Repositories; Languages; Software; Content; Growth; Asian Countries; India

1. INTRODUCTION

Institutional Repositories are main digital collections for higher educational institutions and research organizations. These repositories are assembled in a directory called The Directory of Open Access Repositories – OpenDOAR. These repositories are open access resources and voluntarily participate in the directory. The contents of the directory are the collections of theses and dissertations and institute publications like journals and magazines and other publications reports, etc. These types of contents are very helpful to the researchers, aspirant researchers and scholars.

An institutional repository is an online locus for collecting, preserving, and disseminating - in digital form - the intellectual output of an institution, particularly a research institution. Institutional repositories are contents which are created by the institutions. It is otherwise called institutions knowledge, power and information. Some of the reports of the institutions, developments of various sections, laboratories, new inventions, patents, publications of institute members, etc.

2. INSTITUTIONAL REPOSITORY

According to Clifford Lynch (2005), “a university-based institutional repository is a set of services that a University offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution.” Many institutional repositories initially focused on research outputs and some still limit their collections to this type of content. Others have started to widen the original remit to include learning and teaching materials. The mission of an IR is to be “institutionally

defined, scholarly, cumulative and perpetual, open and interoperable” ‘A digital repository is one where digital content, assets, are stored and can be searched and retrieved for later use’. ‘An institutional repository is the collective intellectual output of an institution recorded in a form that can be preserved and exploited. The use of repositories for research materials is now quite common ‘as much of the Institutional Repository work to date has concentrated on research outputs’.

3. REVIEW OF LITERATURE

Dhanavandan (2014) found the recent trends and growth of Institutional Repository (IR) in south Asian countries. It found that the South Asian countries like India, Pakistan, Nepal, Bangladesh and Sri Lanka have institutional repositories in their respective libraries but Bhutan and Maldives are not having any repositories. Nirmal Singh (2014) studied the role of Brazil, Russian Federation, India, China, and South Africa (BRICS) in open access movement with respect to DOAJ and OpenDOAR. Brazil and India are the leading Nations in BRICS in the open access movement in DOAJ. Similarly, these two countries are ahead of the rest with respect to the contribution of open access repositories to OpenDOAR. Dhanavandan (2014) analysed the repositories for library and information science in the world. In this study the United States has repositories for LIS, followed by the United Kingdom and Germany India is in the fifth position with repositories on Library and Information Science subject.

4. OBJECTIVES OF THE STUDY

The following objectives are framed

1. To find out repositories in the world
2. To identify country wise repositories in the World and Asian countries
3. To identify the various languages using in repositories
4. To identify software were used in repositories.
5. To measure the growth of repositories in the in the World and Asia

5. METHODOLOGY AND LIMITATION OF THE STUDY

This study is to find out the Institutional repositories available in the World. And also it made detailed analysis of Asian Countries. The relevant data were collected form DOAR. Totally 5268 repositories in the World. Among the 5268, 1212 repositories are available in Asia which is registered in the OpenDOAR. But this study confined the only the repositories available in the Asian Countries and special reference to India. For this the required data has been collected from the open access directory from <http://www.opendoar.org/> on 12th December, 2019. It was analyzed by using diagrammatical and tabular presentation.

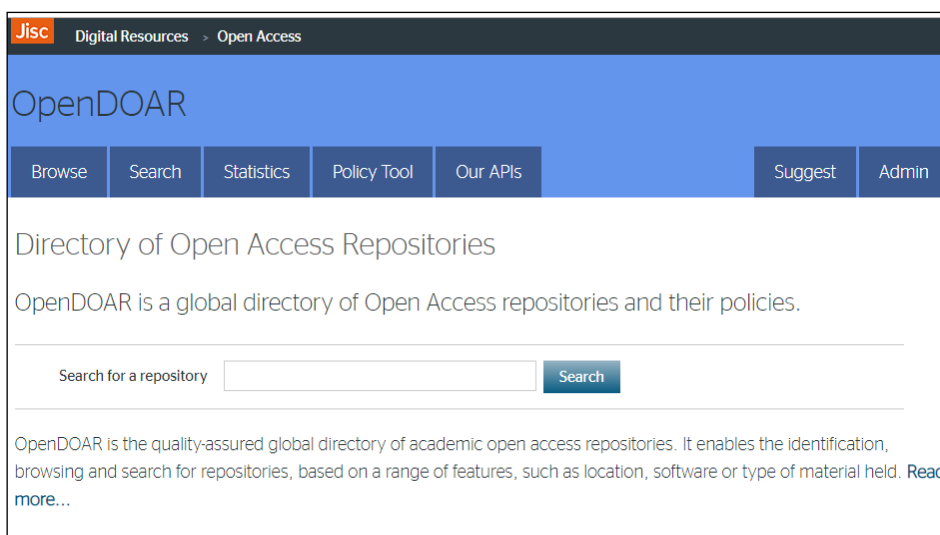


Fig. 1. Home of Directory of Open Access Repositories

6. ANALYSIS AND INTERPRETATION

This study is based on Repositories available in the World which are registered in the DOAR. The relevant sources are collected from OpenDOAR directory. The strength of the continent wise repositories were discussed in the table-1

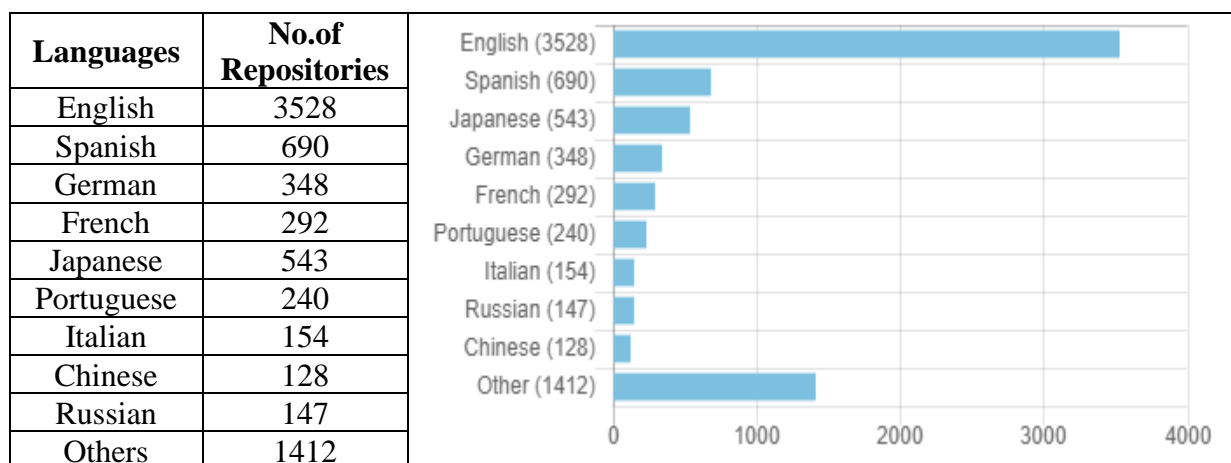
Table 1: Country Wise Open Access Repositories in the World

S.No.	Countries	No. of IRs
1.	United States of America	898
2.	Japan	546
3.	United Kingdom	312
4.	Germany	274
5.	Spain	168
6.	France	151
7.	Brazil	148
8.	Peru	148
9.	Italy	145
10.	Inonesia	136
11.	Turkey	122
12.	Croatia	119
13.	Poland	114
14.	Ukraine	103
15.	Canada	100
16.	India	92
17.	Astralia	90
18.	Colombia	77
19.	Netherlands	71
20.	Argentina	63
21.	Norway	60
22.	Portugal	60

23.	Taiwan	60
24.	Sweden	51
25.	China	47
26.	Mexico	47
27.	Russian Federation	46
28.	Hungary	43
29.	South Africa	43
30.	Others	949

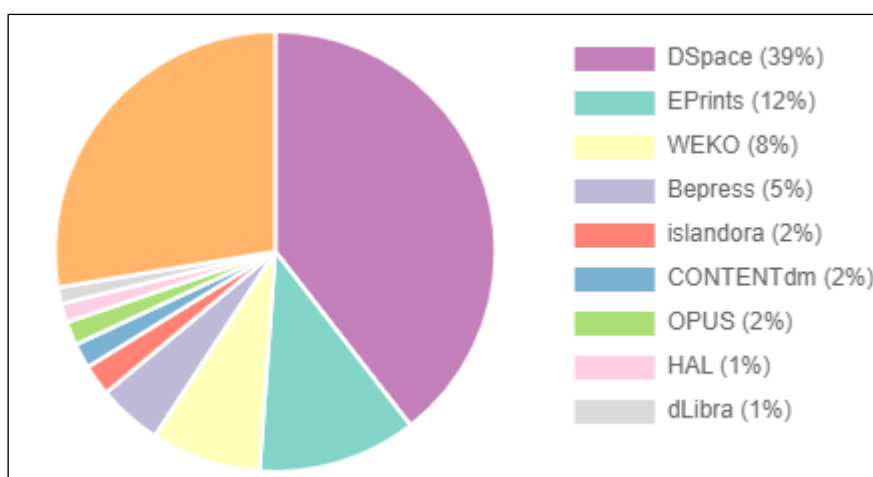
Table 1 shows the country wise distribution of repositories which are available in the World. As per the respective sources totally 5268 repositories available and it identified maximum 898 from United States of America and it is first position and Japan occupies the second position with 546. It reveals from the table, India is the sixteenth position among the countries with 92 repositories.

Table 2: Languages Wise Repositories Available in the World



The table 2 indicate languages wise open access repositories available in the World. Among the 5268 repositories, 3528 repositories are in ‘English’, 690 repositories are in ‘Spanish’, 348 repositories in ‘German’ 292 repositories in ‘French’ and 543 repositories in ‘Japanese’ language. Followed by 240 repositories are available in ‘Portuguese and 154 repositories available in ‘Italian’ language. It is highlighted from the table; highest numbers of repositories are available in English language.

Table 3: Software Wise Repositories Available in the World



The table 3 shows that the software wise distribution repositories available in the World which is registered in the DOAR. Among the 5268 repositories, 39% repositories are used DSpace, 12% of the repositories are used EPrints, 3% of the repositories are used 'Islandora' 8% of the repositories are used WEKO, 5% of the repositories are used equally by 'Islandora' 'OPUS' CONTENTdm and 1% of the repositories are used 'HAL' and dlibra. It is pointed out that the nearly 40% percent of the repositories are using DSpace.

Table 4: Subject Wise Repositories Available in the World

Sl.No.	Type of Subject	No. of IRs
1.	Multidisciplinary	3277
2.	Health and Medicine	508
3.	Technology General	321
4.	Business and Economics	322
5.	Science General	335
6.	Social Sciences General	304
7.	Education	233
8.	Arts and Humanities General	243
9.	Law and Politics	305
10.	Agriculture, Food and Veterinary	196
11.	Language and Literature	171
12.	Computers and IT	201
13.	Ecology and Environment	204
14.	Biology and Biochemistry	196
15.	Philosophy and Religion	166
16.	Chemistry and Chemical Technology	126
17.	Library and Information Science	147
18.	History and Archaeology	282
19.	Management and Planning	112
20.	Mechanical Engineering and Materials	96
21.	Physics and Astronomy	131
22.	Mathematics and Statistics	150
23.	Electrical and Electronic Engineering	70
24.	Earth and Planetary Sciences	121

25.	Fine and Performing Arts	130
26.	Civil Engineering	65
27.	Geography and Regional Studies	197
28.	Psychology	85
29.	Architecture	72
30.	Others	20

The table 4 indicate subject wise open access repositories available in the World. Among the 5268 repositories, 3277 repositories are in ‘Multidisciplinary’, 508 repositories in ‘Health and Medicine’ 322 repositories in ‘Business and Economics’ and 325 repositories in ‘Science General’ subjects. It is highlighted from the table, there are 147 repositories are available in ‘Library and Information Science’ subject.

Table 5: Country Wise Repositories Available in Asian Countries

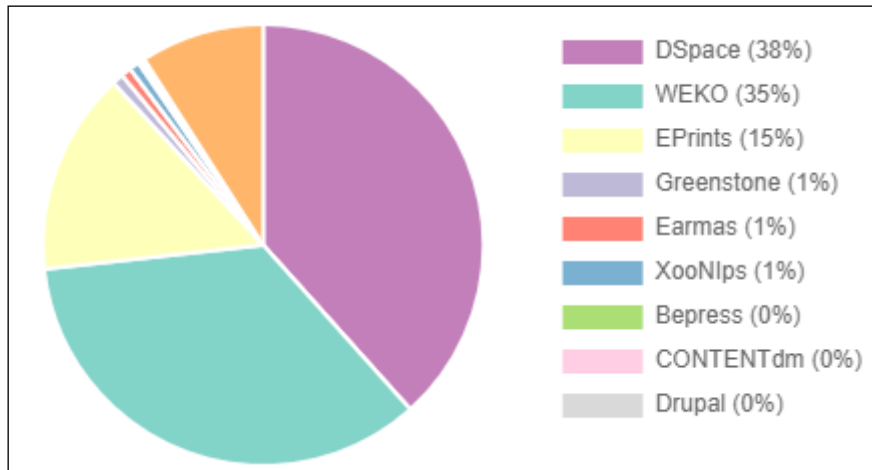
S.No.	Region	No. of IRs	Country	No. of IRs
1	Central Asia	13	Kazakhstan	11
			Kyrgyzstan	2
2	Eastern Asia	700	China	47
			Hong Kong	7
			Japan	546
			Korea (Republic of)	40
			Taiwan, Province of China	60
3	South-Eastern Asia	194	Indonesia	136
			Lao People's Democratic Republic	1
			Malaysia	25
			Myanmar	2
			Philippines	8
			Singapore	6
			Thailand	15
Viet Nam	1			
4	Southern Asia	145	Afghanistan	1
			Bangladesh	14
			India	92
			Iran (Islamic Republic of)	18
			Nepal	1
			Pakistan	4
Sri Lanka	15			
5	Western Asia	160	Armenia	2
			Azerbaijan	2
			Cyprus	5
			Georgia	3
			Iraq	2
			Kuwait	1
			Lebanon	3
			Palestine, State of	5
			Qatar	1
Saudi Arabia	12			

			Turkey	122
			United Arab Emirates	2
	Total	722		1212

Table 5 shows the region wise distribution of repositories which is available in the Asian countries. Among 1212 repositories, 13 from Central Asia, 700 from Eastern Asia, 194 repositories from South Eastern Asia, 145 from Southern Asia and 160 from Western Asia. It is highlighted from the table, the highest number of repositories is available Eastern Asia region.

Among the 145 repositories in Southern Asia, India is the first position with 92 repositories, Iran is the second position with 18 repositories and Sri Lanka is the third position with 15 repositories. It is pointed out that from the table, Nepal and Afghanistan has only one repository in the Southern Asia region.

Table 6: Software Wise Repositories Available in Asian Countries



The table 6 shows that the software wise distribution repositories available in the Asian Countries which is registered in the DOAR. Among the 1212 repositories, 38% repositories are used DSpace, 35% repositories are used DWEKO, 15% repositories are used EPrints, and 1% of repositories are equally used by Earmas, Greenstone, XooNlps software. It is pointed out that the 9% of the repositories are used other software based in the respective sources.

Table 7 Language Wise Repositories in Asian Countries

Sl.No.	Languages	No. of IRs
1.	English	680
2.	Japanese	530
3.	Turkish	121
4.	Chinese	112
5.	Indonesian	110
6.	Korean	40
7.	Arabic	29

8.	Russian	15
9.	Persian	14
10.	Other	104

Note: repositories with the less-frequent languages are multi-lingual.

The table 7 indicate languages wise open access repositories available in the Asian countries. Among the 1212 repositories, 680 repositories are in ‘English’, 530 repositories in ‘Japanese’ 112 repositories in ‘Chinese’ and 121 repositories in ‘Turkish’ language. Followed by 110 repositories are available in ‘Indonesian’ and 40 repositories available in ‘Korean’ language. It noted from the table, only few repository are available in the languages of like; Sanskrit, Pashto, Spanish, Marathi, Urdu, Latin, Azerbaijani, Nepali and Vietnamese.

Table 8: Subject Wise Repositories in Asian Countries

Sl.No.	Type of Subject	No. of IRs
11.	Multidisciplinary	794
12.	Health and Medicine	150
13.	Technology General	76
14.	Business and Economics	66
15.	Science General	65
16.	Social Sciences General	58
17.	Education	56
18.	Arts and Humanities General	54
19.	Law and Politics	44
20.	Agriculture, Food and Veterinary	44
21.	Language and Literature	39
22.	Computers and IT	35
23.	Ecology and Environment	32
24.	Biology and Biochemistry	31
25.	Philosophy and Religion	30
26.	Chemistry and Chemical Technology	30
27.	Library and Information Science	29
28.	History and Archaeology	23
29.	Management and Planning	23
30.	Mechanical Engineering and Materials	22
31.	Physics and Astronomy	22
32.	Mathematics and Statistics	18
33.	Electrical and Electronic Engineering	16
34.	Earth and Planetary Sciences	16
35.	Fine and Performing Arts	14
36.	Civil Engineering	13
37.	Geography and Regional Studies	12
38.	Psychology	12
39.	Architecture	8
40.	Others	10

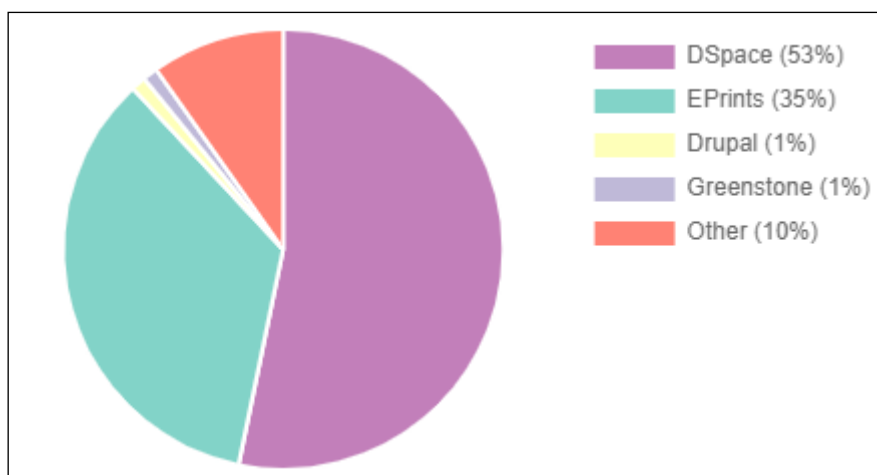
The table 8 indicate subject wise open access repositories available in the Asian countries. Among the 1212 repositories, 794 repositories are in ‘Multidisciplinary’, 150 repositories in ‘Health and Medicine’, 76 repositories in ‘Technology General’ 66 repositories in ‘Business and Economics’ and 65 repositories in ‘Science General. It is highlighted from the table, there are 29 repositories are available in ‘Library and Information Science’ subject.

Table 9: Growth of the Repositories *OpenDOAR* Database by Asian Countries

S. No	Year	No. of Repositories
1	Dec-2005	6
2	Dce-2006	34
3	Dce-2007	91
4	Dce-2008	128
5	Dce-2009	172
6	Dce-2010	283
7	Dce-2011	354
8	Dce-2012	383
9	Dce-2013	444
10	Dce-2014	498
11	Dce-2015	608
12	Dce-2016	672
13	Dec-2017	711
14	Dec-2018	715
15	Dec-2019	1212

The table 9 states the growth of the Repositories *OpenDOAR* Database which is available in the Asian Countries. This graph shows the changing size of the *OpenDOAR* Database over time to time. The shape of the chart in 2005 reflects the work of *OpenDOAR* rather than the growth of the number of actual repositories. A backlog of new records built up while the database was being redeveloped during mid-2005, and clearing this backlog created the step in the graph. At the end of December 2005, totally 6 repositories are available. And followed by the repositories growth in each and every end the years like 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 and 2019 the number of repositories were 34,91,128,172,283,354,383,444,498,608,672,711,715 and 1212 in the openDOAR. Finally, at the end 2019 there are 1212 repositories are available in the Asian Countries as per the data available the sources.

Table 10: Software Wise Repositories Available in India



The table 10 shows that the software wise distribution repositories available in India which is registered in the DOAR. Among the 92 repositories, 53% repositories are used DSpace, 16% repositories are used EPrints, 1% repositories are used equally Drupal & Greenstone. It is pointed out that the 10% of the repositories are used other software based in the respective sources.

Table 11: Language Wise Repositories in India

Sl.No.	Subject	No.of IRs
1	English	90
2	Hindi	10
4	Gujarati	3
3	Arabic	2
4	Malayalam	2
5	Marathi	2
6	Kannada	2
7	Bengali	1
8	Others	3

Note: repositories with the less-frequent languages are multi-lingual.

The table 11 indicate languages wise open access repositories available in India. Among the 92 repositories, 90 repositories are in 'English', 10 repositories in 'Hindi' 3 repositories in 'Gujarati' and 2 repositories equally available in 'Arabic', 'Malayalam', & Marathi language. It noted from the table, only one repository is available in the languages of Bengali.

Table 12: Subject Wise Repositories in Asian Countries

Sl.No.	Subject	No.of IRs
1.	Multidisciplinary	45
2.	Technology General	12
3.	Health and Medicine	11
4.	Chemistry and Chemical Technology	11
5.	Mechanical Engineering and Materials	10

6.	Computers and IT	9
7.	Biology and Biochemistry	9
8.	Science General	8
9.	Physics and Astronomy	8
10.	Electrical and Electronic Engineering	7
11.	Agriculture, Food and Veterinary	7
12.	Library and Information Science	6
13.	Ecology and Environment	6
14.	Mathematics and Statistics	5
15.	Civil Engineering	5
16.	Social Sciences General	4
17.	Earth and Planetary Sciences	4
18.	Management and Planning	3
19.	Psychology	2
20.	Law and Politics	2
21.	Business and Economics	2
22.	Arts and Humanities General	2
23.	Language and Literature	1
24.	History and Archaeology	1
25.	Geography and Regional Studies	1
26.	Education	1
27.	Architecture	1

The table 12 indicate subject wise open access repositories available in India. Among the 92 repositories, 45 repositories are in ‘Multidisciplinary’, 11 repositories in ‘Health and Medicine’, & ‘Chemistry and Chemical Technology’, 12 repositories in ‘Technology General’ 10 repositories in ‘Mechanical Engineering and Materials’ and 9 repositories are equally available in ‘Computers and IT’, & Biologu and Biochemistry. It is highlighted from the table, there are 6 repositories are available in ‘Library and Information Science’ subject.

Table 13: Growth of the Repositories *OpenDOAR* Database by India

S. No	Year	No. of Repositories
1	Dec-2005	3
2	Dce-2006	13
3	Dce-2007	20
4	Dce-2008	25
5	Dce-2009	29
6	Dce-2010	35
7	Dce-2011	47
8	Dce-2012	48
9	Dce-2013	61
10	Dce-2014	64
11	Dce-2015	73
12	Dce-2016	78
13	Dec-2017	81
14	Dec-2018	81

15	Dec-2019	92
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The table 13 states the growth of the Repositories *OpenDOAR* Database which is available in India. This graph shows the changing size of the *OpenDOAR* Database over time to time. The shape of the chart in 2005 reflects the work of *OpenDOAR* rather than the growth of the number of actual repositories. A backlog of new records built up while the database was being redeveloped during mid-2005, and clearing this backlog created the step in the graph. At the end of December 2006, totally 6 repositories are available. And followed by the repositories growth in each and every end the years like 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 and 2019 the number of repositories were 3,13,20,25,29,35,47,48,61,64,73,78,81,81, and 92 in the openDOAR. Finally, at the end 2019 there are 92 repositories are available in the India as per the data available the sources.

7. CONCLUSION

The Asian Countries are in the second position to the availability of open access repositories in the global level. Among the Southern Asian countries, India has highest number of repositories. In this scenario, the library professionals play the major role among the academic communities to create the knowledge and awareness of digital information sources as well repositories and its sources. The scenario of the research activities has been changed in now a days. So, the academic communities and researchers must utilise the resources available in the OpenDOAR and research as quality.

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