Open Access Repositories in Open-DOAR of Asian Countries (India, Japan, China, & Indonesia): A Comparative Study

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Abstract

Open access provides new opportunities for librarians and other users. Open-DOAR provides access to Open Access repositories worldwide.To facilitate open access, such repositories should be implemented using OAI-PMH with the Open Archives Initiative Protocol for Data Harvest.Search engines free up access to repositories around the world, freeing them from the burden of market analysis.The parameters used in this paper for comparative study of repositories of Asian countries as follows: growth of repositories, types of repositories, content sorting, use of software system, subject content, language content etc.
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Keywords

Open-DOAR; Open Access Repositories(OAR); Institutional Repositories; Disciplinary Repositories; Governmental Repositories,

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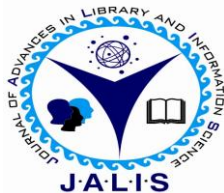
INTRODUCTION

In the age of information and communication technology, the growth of institutional resources is increasing day by day. Therefore, many organizations and institutions are focusing on preserving and promoting their intellectual production. One of the important reasons for institutional establishment is that the open access to repositories in educational libraries are digital collections of scholarly material collected by their authors and are called self-archives. It is installed and controlled to provide worldwide and free access to information in electronic form to enhance and disseminate research products.Digital world research to change scholarly communication methods, Electronic medium provide researchers with the opportunity to work in collaborative and effective ways to prioritize information resources and services. In the information explosive age, researchers face many problems and challenges when managing scholarly content. Open access repositories are digital or electronic collections of scholarly material collected by their researchers and authors and are also called self-collections.They are put in and managed to supply universal and free access to info in electronic kind to reinforce and circularize analysis merchandise.

What is Open Access?

There square measure a unit some ways in which to stipulate open access, but here is that the definition given by the national capital Open Access Initiative: "By "open access" to the current literature, we've a bent to mean its free accessibility on the overall public web, permitting any users to browse, download, copy, distribute, print, search, or link to the whole texts of these articles, crawl them for compartmentalization, pass them as info to code, or use them for the opposite lawful purpose, whereas not financial, legal, or technical barriers except those inseparable from gaining access to cyberspace itself. the only real constraint on copy and distribution, and so the exclusively role for copyright throughout this domain, need to be to relinquish authors management over the integrity of their work and so the proper to be properly acknowledged and cited." There square measure 2 routes to open access:

1. Gold Route: this type of open access provided through Journals. Gold OA makes the last word version of a bit freely and permanently accessible for everyone, instantly once publication. Copyright for the article is maintained by the authors and most of the

permission barriers square measure removed. Gold OA articles could also be written either in all OA journals or hybrid journals.

2. Green Route: this type of open access provided through Institutional Repositories. Green OA, to boot mentioned as self-archiving, is that the follow of inserting a version of Associate in nursing author's manuscript into a repository, making it freely accessible for everyone.

REVIEW OF LITERATURE

The Literature review is that the important part of a pursuit, which supplies an inspiration regarding the previous studies and insight towards the chances of the current study. Some most well-liked literature reviewed for the current study are made byAlekhaKaradia (2021), Mohmmad Azim (2018), Anil Kumar and Manpreet Kaur (2020) AlekhaKaradia (2021) made a comparative analysis of India and Australia repositories listed in Open-DOAR in terms of their growth, type, operational standing, content kind, software, subject coverage, language and policies regarding content, submission, and preservation.The study by Mohammad Azim &Nabi Hasan (2018) represents associate degree analysis and explored the Indian repositories,which have registered inthe Open-DOAR and permits to access and transfer their data through Open-DOAR platform. The study together highlights the tributary Universities, Institutions and regarding the assorted sorts of code used to manufacture their repositories.Another study byAnil Kumar and Kaur Manpreet (2020) build a case for Indian contribution towards the Open Access Repositories (Open-DOAR) that archives books, theses, journal articles, monographs, patents, learning objects, and unpublished papers between 2005-2019.

OBJECTIVES

- To study the number of OARs in Asian countries
- To study the annual growth of OA repositories registered at Open-DOAR
- To study types of repositories registered at Open-DOAR in Asian Countries
- To study the subject wise OA repositories registered at Open-DOAR in Asian Countries.
- To study commonly used language of content in such repositories registered at Open-DOAR.

SCOPE AND LIMITATIONS

The data from Asian countries have been retrieved by browsing the website (Directory of Open Access Repository - Open-DOAR). The objective ofthisstudy is to evaluate OpenAccessrepositories from some Asian countries like - India(98),china(62),Indonesia(160)andjapan(682).

METHODOLOGY

In the present study, the data has been collected from Open-DOAR in the month of September 2021, and carefully analyzed on selected parameters such as - total number of OARs and its annual growth, use of IR software, open access repositories types, content languages and subject wise open access repositories.

DATA ANALYSIS AND INTERPRETATION

Fig. 1: Homepage of Open-DOAR

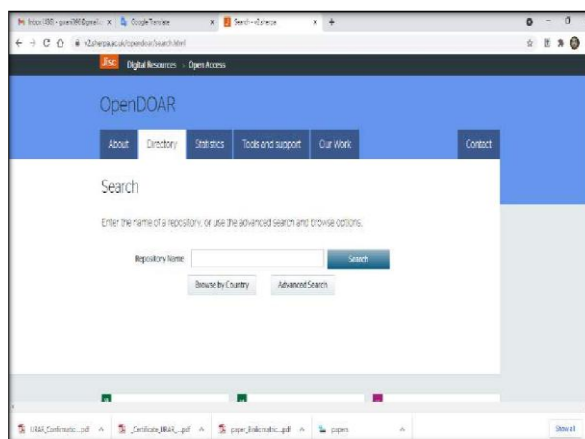**Total Number of OARs:**

Table No.1 shows the number of Open Access Repositories (OARs) in Open-DOAR of Asian Countries. The study reveals that maximum OARs are from Japan (682) and minimum from China (62).

Table 1: Total Number of OARs

Sr. No.	Country Name	No. of OARs
1	China	62
2	India	98
3	Indonesia	160
4	Japan	682

Annual Growth of OAR

The present comparative study (Fig.3) shows that more Awareness about Open- DOAR was observed in Japan and hence it has highest registration Open Access Repository than India, China and Indonesia.

Table 2: Years wise growth of Open Access Repositories (OARs)

Year	Country			
	India	**China**	**Indonesia**	**Japan**
2005	2	2	0	0
2006	10	0	0	3
2007	1	2	0	14
2008	11	1	1	44
2009	4	2	1	6
2010	4	2	2	6
2011	13	21	13	51
2012	2	2	6	6
2013	4	5	3	3
2014	11	1	10	6
2015	9	3	4	1
2016	2	0	18	46
2017	6	1	11	20
2018	0	0	0	7
2019	5	5	28	3
2020	12	0	40	322
2021	2	15	23	144
Total	*98*	*62*	*160*	*682*

Table No. 3 indicates the month wise annual growth of Open Access Repositories (OARs) in Open-DOAR.

Table 3: Month wise annual Growth

Sr. No	Year	Country			
		India	**China**	**Indonesia**	**Japan**
1	Dec.-2005	2	2	--	--
2	Feb.-2006	--	--	--	3
3	Sept.-2006	12	2	--	--
4	Dec.-2006	--	--	--	14
5	June.-2007	13	3	--	--
6	Oct.-2007	--	--	--	58
7	Mar.-2008	19	5	--	--
8	July.-2008	--	--	1	--
9	Aug.-2008	--	--	--	63
10	Mar.-2009	--	--	1	--
11	June.-2009	--	--	--	71
12	Nov.-2009	--	--	3	--
13	Dec.-2009	24	5	--	--
14	April.-2010	--	--	--	74
15	July.-2010	--	--	5	--
16	Sept.-2010	28	7	--	--
17	Feb.-2011	--	--	--	124
18	June.-2011	32	8	--	--
19	Mar.-2011	38	9	13	--
20	Nov.-2011	--	--	17	--
21	Dec.-2011	--	--	--	129
22	July.-2012	--	--	23	--
23	Oct.-2012	--	--	--	132
24	Dec.-2012	45	30	--	--
25	Mar.-2013	--	--	24	--
26	Aug.-2013	--	--	--	134
27	Sept.-2013	47	32	--	--
28	Nov. -2013	--	--	33	--
29	June.-2014	51	32	--	140
30	July.-2014	--	--	36	--
31	Mar.-2014	62	38	--	--
32	Dec.-2014	62	38	--	--
33	Mar.-2015	--	--	40	--
34	Apr.-2015	--	--	--	177
35	Sept.-2015	71	41	--	--
36	Nov.-2015	--	--	49	--
37	Feb.-2016	--	--	--	186
38	June.-2016	73	41	--	--
39	July.-2016	--	--	56	--
40	Dec.-2016	--	--	--	206
41	Mar.-2017	76	41	62	--
42	Oct.-2017	--	--	--	213
43	Nov.-2017	--	--	69	--
44	Dec.-2017	79	42	--	--
45	July.-2018	--	--	69	
46	Aug.-2018	--	--	--	213
47	Sept.-2018	79	42	--	--
48	June.-2019	84	43	--	226
49	Mar.-2019	--	--	96	--
50	No.-2019	--	--	136	--

51	Apr.-2020	--	--	--	538
52	Mar.-2020	91	47	--	--
53	July.-2020	--	--	139	--
54	Dec.-2020	96	59	--	--
55	Sept.-2021	98	62	160	--
56	Oct.-2021	--	--	--	682

Types-Wise Repositories

TableNo.3shows the number of different types of Open access Repositories. Although Japan has highest number of repositories, all belong to only institutional type. Likewise Indonesia also have only institutional type repositories. India and China are having all four types of repositories, and among them India is having high number of disciplinary and aggregating types of repositories.

Table 4: Types-Wise Repositories

Sr. No.	Country	Institutional	Disciplinary	Aggregating	Governmental	Total
		Types of OARs				
1	India	85	8	4	1	98
2	China	58	1	2	1	62
3	Indonesia	160	0	0	0	160
4	Japan	682	0	0	0	682
	Total	985	9	6	2	1002
	%	98.30 %	0.98 %	0.59 %	0.19 %	100 %

Software-wise repositories

Table 4 shows the percentage of use of Open access Repository through D-Space Open Sources Software byAsian countries like India (56 %) , China (60 %) , Indonesia (9 %) and Japan(8%). It also indicates that the e-Print software are used for Open access Repository in India (33 %) and Indonesia (78 %), which are not in use in China and Japan. India uses different software's like Drupal, Greenstone, and others for Open access Repository. Indonesia uses soft wares like Digital Commons, Omeka, Open Repository, WEKO and others for Open access Repository. Japan uses

software like WEKO, Fedora, XooNlps, and Earmas etc., and among these WEKO is most popular.

Table 5: Software-Wise Repositories

Sr. No	Software Name	India	China	Indonesia	Japan
1	D-Space	56	60	9	8
2	E-Prints	33	0	78	0
3	Greenstone	1	0	0	0
4	Drupal	1	0	0	0
5	Fedora	0	0	0	0
6	Digital Commons	0	0	1	0
7	Omeka	0	0	1	0
8	Open Repository	0	0	1	0
9	WEKO	0	0	1	77
10	Earmas	0	0	0	4
11	XooNlps	0	0	0	1
12	Others	9	40	11	10

Language-Wise Repositories

The use of English is observed to be the common language for Open access Repository almost in all countries. However Japan and Indonesia uses their own official languages, while in India different languages like Hindi, Marathi are also being used Open access Repository. The use of different languages in the Asian countries Open access Repository have been given in the Table 6.

Table 6: Language-Wise Repositories

Sr. No.	Language Content	India	China	Indonesia	Japan
1	English	96	46	66	199
2	Indonesian	0	0	130	0
3	Japanese	0	0	0	523
4	Chinese	0	56	0	4
5	Hindi	11	0	0	0
6	Marathi	4	0	0	0
7	Gujarati	3	0	0	0
8	Arabic	2	0	4	0
9	Kannada	2	0	0	0
10	Malayalam	2	0	0	0
11	Bengali	1	0	0	0
12	German	1	0	0	4
13	Korean	0	0	0	2
14	Latin	0	0	0	2
15	Javanese	0	0	0	3

16	Malay	0	0	3	0
17	Aragonese	0	0	1	0
18	Galician	0	0	0	1
19	Others	3	2	3	0

Subject Wise OA Repositories at Open DAOR

Table number 7 shows subject wise depositaries in OAR. India (49), China (22), Indonesia (126) and Japan(340) have large number of Multidisciplinary, it is followed by Technology General and Health & Medicine. Open Access Repository are related to different subjects like Mechanical Engineering and Materials, Computer and Information Technology, Biology, Biochemistry, Science general, Physics, Astronomy, Electrical Engineering, Agriculture, Foodand Veterinary, Library and Information Science, Ecology and Environment, Civil Engineering, Mathematics and Statistics, Earth and Planetary Science, Social Science, General, Economics, Psychology, Architecture, Language and Literature, Education, Law and Politics, Fine and Performing Arts, Geography and Regional studies, History and Archaeology, Philosophy and Religion etc.

Table 7: Subject wise OA repositories at Open DAOR

Subject of Content	India	China	Indonesia	Japan
Multidisciplinary	49	22	126	340
Technology General	13	14	10	21
Health & Medicine	12	3	12	80
Chemistry & Chemical Technology	12	8	2	3
Mechanical Engineering & Materials	10	4	4	2
Computers & IT	9	4	7	2
Biology & Biochemistry	9	7	3	4
Science General	8	9	6	19
Physics & Astronomy	8	10	1	1
Electrical & Electronic Engineering	7	1	4	1
Agriculture ,Food & Veterinary	7	5	3	9
Library & Information Science	6	3	1	4
Ecology & Environmental	6	11	2	4
Civil Engineering	5	1	4	1
Mathematics & Statistics	5	2	4	3
Earth & Planetary Science	4	2	1	4
Social Science General	3	2	6	31
Management & Planning	3	4	4	2
Arts & Humanities General	2	3	5	24
Business & Economics	2	3	13	11
Psychology	2	1	4	1
Architecture	1	1	2	0
Language & Literature	1	3	6	10
Education	1	2	9	25
Law & Politics	1	4	10	7
Geography & Reginal Studies	0	5	1	3
History & Archology	0	2	3	6
Fine & Performing Arts	0	1	3	7
Philosophy & Religion	0	2	12	5
Others	0	0	0	153

FINDINGS

Open Access Repositories in Asian Countries have been retrieved after analyzing the data in view of above mentioned objectives.

- There is a consistent growth of Open Access Repositories in Open-DOAR among Asian countries. The study indicates that India, China and Indonesia have more Awareness about registration Open-DOAR however, Japan has highest registration Open Access Repository in the year2021.

- Japan and Indonesia Open access Repositories have only Institutional Repositories (Japan – 682 andIndonesia-160).

- Large number of Open Access repository are Multidisciplinary, India-49, China-22, Indonesia- 126 and Japan-340

- All Four Asian countries use English Language for the Content upload(India– 96; China – 46; Indonesia – 66; and Japan – 199.Open Access Repository. India (56 %) , China (60 %), Indonesia (9 %) and Japan (8 %) are using D-Space Open Sources Software for Open access Repository. India uses other software's like Drupal, Greenstone for Open access Repository. WEKO software is most popular in Japan.

CONCLUSION

Finally, this study concludes that there are highest (682) repositories from Japan and lowest repositories (62) from China in Open-DOAR. Month wise observation shows that a large number of Open Access Repository is included in Open-DOAR during September and October 2021.Mostly all Asian countrieshave Institutional Open Access Repository. Majority of Asian countries contain the contents in English language for Open Access Repository. In India and china D-Space is popular software. E-Print is popular software in Indonesia and WEKO is popular software in Japan. Subject-wise content is highest for Multidisciplinary in all Asian countries of current study.

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