An Assessment on Present Situation of Institutional Digital Repositories in India : A Study

Bairam Khan   Amit Kumar Das

Abstract

This paper highlights the present status of Institutional Repository (IR) in India by its collection type, subject coverage and total number of digital repository collections available to academic community as open sources. For this purpose, the Directory of Open Access Repositories (OpenDOAR) and the Registry of Open Access Repositories (ROAR) have been consulted. This paper focuses to develop humanities and social sciences institutional repositories in India. Results have been shown by collection type and subject coverage.

1.   Introduction to Repositories

As libraries may progress in creating digital collection, more precise terminology is emerging to describe specific kinds of digital libraries. One example is the Institutional Digital Repository (IDR), which is currently the focus of intense discussion and study among libraries supporting scholarly research and higher education. As the name suggests, an Institutional Repository is concerned with collecting, disseminating, and preserving the intellectual product of an organization. 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' [1]. 'An institutional repository is the collective intellectual output of an institution recorded in a form that can be preserved and exploited' [2]. 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' [1]. However, as Lynch has noted, 'Institutional Repositories can structure and make effective otherwise diffuse efforts to capture and disseminate learning and teaching materials' [3].

2.   Scope and Objectives

An understanding of how IR systems are functioning is important to assess the strengths and weaknesses of systems and thus point to directions for improvements. Such an understanding is also useful to identify the best practices and develop guidelines future development. Although there is sizeable number of IR in India and maintaining a steady growth but there is no single study undertaken for total collection, subject coverage, collection types & how academic community is getting benefit from it. So, this study highlights the subject coverage & collection type such as ETD, Conference Proceedings, Research report etc and how it is developing as an IR in India. The purpose is to examine the current status of subject coverage and collection type of Indian IR as open sources.

3. Literature Review

Resources for this review are primarily publications from 2000 to onwards, gathered in the first instance from citations in online version of Library, Information Science & Technology Abstracts (LISTA) published by EBSCO Publishing, we have consulted the E-LIS and LDL repository to know the background of the subject. The literature on IR or Electronic Theses and Dissertations are fairly recent; documentation about ETD development and initiatives from different countries have appeared through the online proceedings of a series of ETD international symposiums viz Memphis(1998), Blacksburg(1999), Florida (2000) California (2001), Utah (2002), Germany(2003), Kentucky (2004), Australia (2005), Canada(2006), Uppsala(2007) ,Scotland(2008)

4. Methodology and Selection of Sample

For conducting this study, we have consulted the Registry of Open Access Repositories (ROAR) and the Directory of Open Access Repositories (Open DOAR). Both the repositories have given IR list in India 34 and 30 respectively till September 2008. After checking duplication

from above two repositories, we have got 37 IR in India presently. Then content analysis has been done all the 37 IR website of India for getting total collection, collection type and subject coverage and their growth. But few homepage of IR is not available at the present time; these are Delhi College of Engineering, ISI Library, Thapar University and DU Eprint Archive.

5. Institutional Repositories in India

Presently, there are 37 IR in India from different academic institutions such as research & development, management, universities etc. It indicates that India is the 2nd position in Asia after Japan. So, India is competing with other developed countries across the world regarding this matter. India is moving towards open access movement in the developing countries since last decade by establishing a number of open access repositories, embracing free and open source software (FOSS). The Indian information professionals experiment with the open source software for establishing institutional repository (IR) in a local library, such as Greenstone, DSpace and EPrints. If an IR is successfully implemented in the local library setup, it then scales up to the institution-wide application through campus-wide network or intranet. Likely, it turns open to the wider audience with the implementation of open access institutional repository, when the authority of institution convinced. With the availability of the dedicated information infrastructure combined with 24X7 broadband connectivity and national educational grid, some national institutions and universities implemented institutional repositories for wide dissemination of scholarly literature emanated from the respective institutions. Some institutional repositories in India are specially established to diffuse intellectual outputs of the country in the form of electronic theses. Vidyanidhi and ETD@IISc are examples of such kind. Other institutional repositories provide all kind of scholarly materials such as research papers, conference papers, presentations, photographs, along with e-theses. The OpenMED and Librarians' Digital Library are examples of such kind.

5.1 Annals of IR in India

Table 1

Sl.No.	Name of the Repository	Name of the Institution	Collection Type	Subject Coverage	No. of Collection	URL
1	ePrints@NCCR	National Centre for Catalysis Research	Articles; Conferences ; Theses	Chemistry and Chemical Technology	644	http://203.199.213.8/
2	Delhi College of Engineering Repository	Delhi College of Engineering	Articles; Unpublished ; Learning Objects; Multimedia; Special	Science General; Technology General	326	http://202.141.12.109/dspace
3	ISI Library	Indian Statistical Institute, Bangalore	Articles	Mathematics and Statistics	191	http://library.isibang.ac.in:8080/dspace\
4	DRS@nio	National Institute Of Oceanography	Articles; Conferences ; Theses	Science Technology Arts and Humanities	1431	http://drs.nio.org/drs/index.jsp
5	DSpace@IBSA	ICFAI Business School,	Articles; Conferences ; Unpublished ; Books; Special	Math and Stat; Business and Economics; LIS, Management and Planning	206	http://202.131.96.59:8080/dspace
6	DSpace@IIMK	Indian Institute of Management Kozhikode	Articles; Conferences ; Theses; Unpublished	Business and Economics	608	http://dspace.iimk.ac.in/
7	DSpace@NCL	National Chemical Laboratory	Theses; Unpublished ; Patents	Chemistry and Chemical Technology	357	http://dspace.ncl.res.in/dspace/index.jsp
8	DSpace at NCRA	Indian Institue of Technology, Bombay	Articles; Theses; Unpublished ; Learning Objects; Multimedia	Physics and Astronomy	84	http://ncralib.ncra.tifr.res.in:8080/dspace/
9	DSpace at Vidyanidhi	University of Mysore,	Theses	Multidisciplinary	5478	http://dspace.vidyanidhi.org.in:8080/dspace/browse-title
10	DSpace@IITB	Indian Institue of Technology, Bombay	Articles; Conferences	Multidisciplinary	25	http://dspace.library.iitb.ac.in/dspace/

11	DSpace@INFLIBNET	INFLIBNET	Conferences ; Learning Objects; Special	Multidisciplinary	500	http://dspace.inflibnet.ac.in/
12	Dspace@NITR	National Institute of Technology, Rourkela	Articles; Conferences ; Theses; Books	Chemistry and Chemical Technology; Physics and Astronomy; Mechanical Engineering and Materials	682	http://dspace.nitrkl.ac.in/dspace/
13	DSpace@TU	Thapar University	Articles; Conferences ; Theses	Multidisciplinary	292	http://dspace.tiet.ac.in/dspace/
14	DU Eprint Archive	University of Delhi	Articles; Conferences	Multidisciplinary	170	http://eprints.du.ac.in/
15	eGyankosh	IGNOU	Learning Objects	Multidisciplinary	13142	http://www.egyankosh.ac.in/
16	edt@IISc	Indian Institute of Science, Bangalore	Theses	Multidisciplinary	302	http://etd.ncsi.iisc.ernet.in/
17	EPrints@IITD	Indian Institute of Technology, Delhi	Articles; Theses	Multidisciplinary	2141	http://eprint.iitd.ac.in/dspace/
18	Eprints@SBT MKU	SBT, MKU	Articles	Biology and Biochemistry	14	http://eprints.bicmku.in/
19	IMSc Eprint Archive	The Institute of Mathematical Sciences	Conferences ; Learning Objects	Mathematics and Statistics	33	https://www.imsc.res.in/eprints
20	DSpace@IIA	Indian Institute of Astrophysics	Articles; Theses; Multimedia; Special	Physics and Astronomy	3654	http://prints.iiap.res.in/
21	Kautilya@igidr	Indira Gandhi Institute of Development Research	Conferences ; Theses; Unpublished	Multidisciplinary	172	http://oii.igidr.ac.in:8888/dspace/index.jsp
22	Librarians' Digital Library	DRTC, ISI	Articles; Conferences ; Theses; Multimedia	Library and Information Science	381	https://drtc.isibang.ac.in/
23	DSpace@MDI	Management Development Institute	Articles; Conferences ; Books; Special	Multidisciplinary	286	http://dspace.mdi.ac.in/dspace/
24	NAL Repository	Information Centre for Aerospace Science and Technology	Articles; Conferences ; Theses; Unpublished ; Learning Objects; Multimedia;	Mathematics and Statistics; Technology General; Mechanical Engineering and Materials	1320	http://nal-ir.nal.res.in/

			Patents			
25	OneWorld South Asia Open Archive Initiative	OneWorld South Asia	Articles; Conferences ; Theses; Unpublished ; Books; Patents	Computers and IT; Library and Information Science	91	http://open.ekduniya.net/
26	ePrints@iisc	Indian Institute of Science, Bangalore	Articles; References; Conferences ; Unpublished ; Books; Patents; Specia	Chemistry and Chemical Technology; Mathematics and Statistics; Physics and Astronomy	11590	http://eprints.iisc.ernet.in/
27	OpenMED@NIC	Bibliographic Informatics Division, National Informatics Centre	Articles	Health and Medicine	2254	http://openmed.nic.in/
28	Petrospace – PDPU Open Repository	Institute of Petroleum Management, PDPU	Articles; Unpublished	Multidisciplinary	1	http://203.77.192.116:8080/dspace/
29	RRI Digital Repository	Raman Research Institute	Articles; Unpublished ; Learning Objects	Physics and Astronomy	3504	http://dspace.rri.res.in/dspace/
30	ePrints@SVNIT	Sardar Vallabhbai National Institute of Technology	Articles; Conferences	Technology General	26	http://eprints.svnit.ac.in/
31	Bioinformation	Biomedical Informatics	Articles	Biology	12	http://www.bioinformation.net/
32	DSpace at Bangalore Management Academy	Bangalore Management Academy	Articles	Management	1	http://bma.ac.in:8080/dspace/
33	DSpace at Guru Gobind Singh Indraprastha University, Delhi	Guru Gobind Singh Indraprastha University, Delhi	Articles, conferences	Multidisciplinary	74	http://dspace.ipu.ernet.in:8080/dspace/
34	Dspacea@ncaro	National Center for Antarctic Research , Goa	Reports, pictures	Oceanography	474 items	http://dspace.ncaor.org:8080/dspace/index.jsp

Following three repositories (Table1A) have been taken from the ROAR but URL is not available at this time and collection type, subject coverage and no of collection is not available in the ROAR so we have excluded it from the above list but name of the repositories and URL has been given as below:

Table 1A

Sl. no.	Name of the Repository	URL
1	DSpace at CUSAT	http://dspace.cusat.ac.in:8080/dspace
2	DSpace at University of Hyderabad	http://202.41.85.207:8080/dspace/index.jsp
3	MedknowEprints	http://eprints.medknow.com/

* Data has been taken on as 25th September, 2008

From the table 1, we can see that most of the IR in India covers the collection type as theses, books, conferences, articles, learning objects, multimedia, patents, unpublished and etc. One thing is interesting that unpublished material is available through IR as open sources. Only 5 IR cover articles as collection type while only 2 IR cover theses as collection type and total collection has been done as

Table 2

Collection Type	No	Total	Percentage
Only Theses	2	5780	12 %
Only Articles	5	2472	5 %
Theses, Books, Conferences, Patents etc	27	39813	83 %

The following chart shows that only articles cover 5 % as collection type from total collection, while these cover only 12 % as collection type and others included as 83 %. Others also included books, conference proceedings, multimedia, unpublished, patent, theses and articles
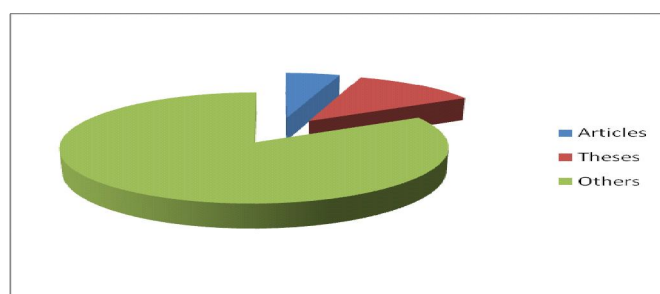

Chart 1

The table 1 also shows that

i) Most of the IR in India cover the subject like sciences & technology and multidisciplinary
ii) Only 4 IR provide the subject coverage like humanities, arts, business economics and management (see sl. no. 4,5,6 & 32 from table 1)

iii) Only 3 IR provide digital information resources on LIS (see sl. no. 5, 22 & 25 from table 1)
iv) Only 2 IR cover the subject like biology and biochemistry (see sl.no.18 &31 from able 1)
v) OpenMED@NIC and Dspacea@ncaro provide subject coverage on health & medicine and oceanography

The table 2 shows that the total collection and their percentage as different subjects such as social sciences, health & medical sciences, science and technology, multidisciplinary and LIS. Here LIS has been treated as whole subject to see its total collection in IR in India.

Table 2

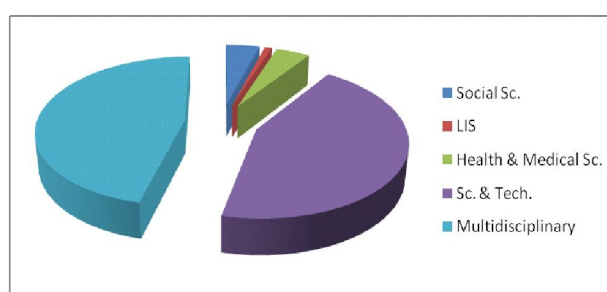| Subjects	Total	Percentage
Social Sciences	2246	4 %
LIS	472	1 %
Health & Medical Sciences	2254	4 %
Science and Technology	22897	45 %
Multidisciplinary	24028	46 %

Chart 2

The above chart shows that social sciences coverage only 4 %, LIS 1 %, health sciences 4 %, sciences and technology 45 % and multidisciplinary 46 % from the total collection of Institutional Repository in India.

6. Findings

1. Most of the IR in India based on sciences and technological subject coverage, attention should be given on humanities as well as to develop specific subject area.
2. Website of the IR should provide total colletion of digital repositotories in their homepage.

3. Only few IR have further categorised their collection type such as theses, books, articles, conferences.These repositories are Kautilaya Digital Library, NCL, Pune,Indian Institute of Astrophysics and Raman Research Institute.

4. Most of the IR developed by R&D institute, only 6 universities have developed IR till now.

7. Conclusion

From the above study, it indicates that India is spearheading open access movement in the developing countries since last decade by establishing a number of open access repositories. Present study shows that IR initiatives are still in developmental phase where more action plans are needed. The stakeholders are mostly aware of the implications of open access, but they are awaiting for some concrete policy frameworks by the national accredited and granting agencies. The maintenance of quality and standards of IR is considered as a major hurdle in expansion of higher education system. Open access to theses literature will bring under the purview of critical studies by scholarly forums and public review. A national-level mechanism is essential to promote IR initiatives and improve awareness. As a result, large no of collection will be available to academic community of India.

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About Authors

Mr. Bairam Khan,Assistant Librarian Gr.-II at the Central Library of the University of Burdwan, West Bengal, India.

Mr. Amit Kumar Das, Librarian in Orgram High School (a Govt. aided school), West Bengal, India.