
INSTITUTIONAL REPOSITORY IN INDIA: CURRENT STATUS AND DEVELOPMENT

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ABSTRACT

Institutional Repository (IR) disseminates rich source of digitize materials drafted and published by research communities. In India major R&D institutions and few academic institutions provide Institutional Repository service to its user. The purpose of this article is to review the current status of Institutional Repository in India. It is an attempt to identify the Institutional Repository in India. It also gives the comprehensive listing of top most Institutional Repository in India. The paper closes with an outlook on various recommendations.

KEYWORDS: Institutional Repository, Digital Repository, Digital Library

INTRODUCTION

Universities and research institutions are the main information and knowledge generation sources. Though new ideas and thoughts emanate everyday from these knowledge production centers through seminars, discussions, assignments and working papers, only some portion of them (the published research papers) reaches the public and other peer institutes.

As professional journals and working papers are the major information dissemination vehicles, most activities that take place inside the universities and research organizations go unnoticed. Even the information that gets disseminated through professional journals fails to reach many serious researchers as most of them do not have access to costly scientific journals. One solution put forward to control this unnecessary waste of intellectual output is that the organizations should publish their intellectual output online so that it can be accessed by anyone from any place on the web. That is, the organizations should create mechanisms that can capture/store/disseminate the various information products generated by the researchers and academicians. This kind of self-publication software/hardware infrastructure created by an organization is called an Institutional Repository. A Repository will certainly contain the necessary tools that help the researchers of an organization self-publish their research output. It not only enables a person interested in an organization's intellectual output to access it, but it also has the potential to enhance the prestige of the organization by attracting the attention of other researchers worldwide. They can be organized in several different manners.

Institutional Repository is a new concept of collecting managing and dissemination, preserving library works created in digital form by faculty and student in individual university or collage. It is born out problems with the current scholarly communication model structures by commercial journals, publishers and vendors. An Institutional Repository is an accessible collection of scholarly work that represents the intellectual capital of the university. Some of the prominent researcher's views regarding the Institutional Repository are:

CROW'S (2002) DEFINITION DISCUSSES THE POTENTIAL OF IRS TO CHANGE THE SCHOLARLY COMMUNICATION SYSTEM:

Institutional repositories – used in this paper to mean digital collections capturing and preserving the intellectual output of a single or multi-university community – provide a compelling response to two strategic issues facing academic institutions. Such repositories:

- ✓ Provide a critical component in reforming the system of scholarly communication – a component that expands access to research, reasserts control over scholarship by the academy, increases competition and reduces the monopoly power of journals, and brings economic relief and heightened relevance to the institutions and libraries that support them; and
- ✓ Have the potential to serve as tangible indicators of a university's quality and to demonstrate the scientific, societal, and economic relevance of its research activities, thus increasing the institution's visibility, status, and public value.

BAILEY (2005) FOCUSES ON THE DIVERSITY OF DIGITAL MATERIALS THAT IRS CAN CONTAIN:

An Institutional Repository includes a variety of materials produced by scholars from many units, such as e-prints, technical reports, theses and dissertations, data sets, and teaching materials. Some Institutional repositories are also being used as electronic presses, publishing e-books and e-journals.

WARE (2004) ADDS OAI-COMPLIANCE IN HIS IR DEFINITION:

An Institutional Repository (IR) is defined to be a web-based database (Repository) of scholarly material which is institutionally defined (as opposed to a subject-based Repository); cumulative and perpetual (a collection of record); open and interoperable (e.g. using OAI-compliant software); and thus collects, stores and disseminates (is part of the process of scholarly communication). In addition, most would include long-term preservation of digital materials as a key function of IRs.

Last five years, Institutional repositories have sprung up at academic institutions across the world. Like most ideas whose time has come, a number of technical solutions came to prominence at the same time. In addition to DSpace, eprints and open source products like Fedora, addressed the issues of repatriating the university's scholarly work from commercial publishers and providing long term, secure access.

A Repository established by a particular university or other research institution is known as an Institutional Repository. It can be intended to collect and preserve -- in digital form -- the intellectual output of an institution, as PhD thesis, EngD theses, preprints, post prints, working papers, or technical reports. It can also contain the institutions digital library, the collection of printed and manuscript documents, public archives, & graphic material, originating from the institution or elsewhere, that the university has converted to digital form for use within the university, and generally available to anyone. It can also contain the administrative output of the institution, as reports, directories, and local archival documentation. A well-developed example is the scholarship Repository of the University of California Digital Library.

A Repository established for the use of a particular academic department or laboratory is properly called a departmental Repository, though the term Institutional Repository is also used. An example is the Repository for the Indian Institute of science's ePrints@iisc.

A Repository established to collect and preserve material in a particular subject is called a subject Repository; they can be organized by a government, a government department, or by a research institution, or be autonomous. The two best known are arXiv, for mathematics and physics articles or reports, and PubMed Central for biomedical journal articles.

A Repository for general use by scholars working in a particular country is a national Repository, but such repositories can also be organized on a more local basis. In the UK, the British Library operates a national Repository open to those who have no Institutional Repository. A Repository can also be intended for a particular type of material, such as a thesis Repository or a newspaper Repository. For example etd@IISc is a digital Repository for thesis produced by IISc researchers.

SELECTED INSTITUTIONAL REPOSITORY INITIATIVES IN INDIA:

Following is the list of Institutional repositories from India which are currently active on the Internet.

Institution	Repository URL	Types of Documents	Software Used
Documentation Research & Training Centre (DRTC)	https://drtc.isibang.ac.in/	Research Papers, Articles, Reports, etc.	DSpace
G.B. Pant University of Agriculture & Technology	http://202.141.116.205/dspace/	Research Papers, Articles, Reports, Thesis, etc.	DSpace
Indian Institute of Astrophysics	http://prints.iiap.res.in/	Research Papers, Articles, Reports, Thesis, etc.	DSpace
Indian Institute of Information Technology, Allahabad	http://eprints.iiita.ac.in/	Research Papers, Articles, Reports, etc.	EPrints
Indian Institute of Management, Kozhikode (IIMK)	http://dspace.iimk.ac.in/	Research Papers, Articles, Reports, etc.	DSpace
Indian Institute of Management,	http://eprints.iimk.ac.in/	Research Papers, Articles, Reports, etc.	EPrints
Indian Institute of Science (IISC) Kozhikode (IIMK)	http://eprints.iisc.ernet.in/	Research Papers, Articles, Reports, etc.	EPrints
Indian Institute of Science (IISC)	http://etd.ncsi.iisc.ernet.in/	Theses & Dissertations	DSpace
Indian National Science Academy (INSA)	http://61.16.154.195/dspace/	Conference Papers, Articles, Reports, etc.	DSpace
Indian Statistical Institute, Bangalore	http://library.isibang.ac.in:8080/dspace/	Research Papers, Articles, Reports, etc.	DSpace
INFLIBNET	http://dspace.inflibnet.ac.in	Research Papers, Articles, Reports, etc.	DSpace
National Aerospace Laboratories (NAL)	http://nal-ir.nal.res.in/	Research Papers, Articles, Reports, etc.	EPrints
National Centre for Radio Astrophysics	http://ncralib.ncra.tifr.res.in/dspace/	Research Papers, Articles, Reports, Thesis, etc.	DSpace
National Chemical Laboratory (NCL)	http://dspace.ncl.res.in/	Theses, Research Papers, Articles, Reports, etc.	DSpace
National Informatics Centre (NIC)	http://openmed.nic.in/	Research Papers, Articles, Reports, etc.	EPrints
National Institute of Oceanography	http://drs.nio.org/drs/	Journal articles, conference proceeding	DSpace
National Institute of Technology, Rourkela	http://dspace.nitrkl.ac.in/dspace/	Theses, Research Papers, Articles, Reports, etc.	DSpace
Raman Research Institute	http://dspace.rri.res.in/	Research Papers, Articles, Reports, Thesis, etc.	DSpace

University of Mysore	http://www.vidyanidhi.org.in /	Theses & Dissertations	DSpace
Indian Institute of Technology, Delhi (IITD)	http://eprint.iitd.ac.in/dspace	Research Papers, Articles, Reports,	Dspace
Indian Institute of Technology, Kharagpur (IITKGp)	http://10.17.250.202:8080/dspace/	Research Papers, Articles, Reports, etc.	Dspace
Indian Institute of Technology, Kanpur (IITK)	http://172.28.64.70:8080/dspace	Theses	Dspace
Indian Institute of Technology, Bombay (IITB)	http://dspace.library.iitb.ac.in/jspui/	full-text of book chapters, conference/proceeding papers etc.	Dspace

If we look in current scenarios of these the Institutional Repository in India, most of the repositories are in testing stage and accessible only within the Local Area Network. The saddest point of these repositories is that they started with an objective of long terms goal to serve the users but once it has implemented, Institutions don't have a mission statement for its proper maintenance and continuous up gradation. Institutes don't have a clear guideline for new resources for these repositories. They don't have full dedicated staff that can responsible for overall activities of its care and upgradation. As almost all repositories are implemented using open source software, the upgradation is so much important aspect for which most of the institutes don't have guidelines.

LITERATURE REVIEW

Several studies of Institutional Repository have been carried out in the global context but very few in context of India. In India the vast majority of these studies have focused on large research universities (such as Indian Statistical Institute, some CSIR Laboratories, IISc and IIM's etc.)

In India, some institutions, like Indian Institute of Science; Indian Institute of Management, Kozhikode; Indian Statistical Institute, Bangalore; Indian Institute of Technology, Delhi; National Institute of Technology, Rourkela; National Aerospace Laboratories, Bangalore; National Chemical Laboratory, Pune; Information and Library Network (INFLIBNET), Ahmedabad; National Institute of Oceanography, Goa; Raman Research Institute, Bangalore; etc. have established open access Institutional repositories (IRs) that disseminate research outputs of respective institution. Sometimes, these are self-archived. Otherwise, administrator of the repositories collects the research documents from different sources and submits the documents to the IR on behalf of the persons concerned.

Some of the university (such as central University of Hyderabad, university of Delhi, Univesity of Burdwan etc) already started their initiatives in building Institutional Repository. Almost all are experimental in nature (except few such as Librarian's Digital Library at DRTC, Bangalore and eprints at Indian Institute of science etc.). The saddest part of this is that various institutes had created these digital repositories for testing or trial purpose only and could not maintain the pace to streamline those.

It is difficult to review all the literature available in this field; some of the studies are as following:

Westell, Mary (2006): draws on a study of Institutional Repository in Canada, He found that Institutional repositories are growing in Canada and that the Canadian IR community is on the way to the proposed model future – integration with existing university research practices Institutional repositories: proposed indicators of success.

Sutradhar, B (2006): examine the prerequisite to setup a Institutional Repository and provides evidence on how to set up an IR and how to create different communities and, under each community, many collections using the DSpace software. He found that setting up an IR is very simple but its maintenance is very difficult. One person needs to have the computer knowledge, particularly in the Linux operating system environment and must be dedicated to carry out the IR administrative activities like registration, permission authenticity, submission and grant, installation of the updating version of the software, etc.

Phillips, Holly and Carr, Richard (2005): Gives insight into how Reference librarians are strategically placed to promote and administer Institutional Repository initiatives successfully. The professional challenge rests in reference librarians' readiness to become scholarly publishing change agents.

Barwick, Joanna (2007): Draws on the experience and highlight some of the challenges involved in setting up an Institutional Repository.

Krishnamurthy, M (2008): Suggest that an Open source software and open access to research findings are of great use to scholars in developing nations.

Mittal, Rekha and Mahesh, G (2008): Studies the use of Open source software to build Institutional Repository. They found that use of open source software especially for the creation of Institutional repositories is found to be common. However, major digital library initiatives such as the Digital Library of India use custom-made software. The collection size in most digital libraries and repositories is in a few hundreds.

McClendon, W. (2005): says that the Institutional Repository (IR) concept has gained momentum as universities begin to question the logic of buying back [their] research, as libraries drop journal subscriptions due to publisher fees outstripping resources, and as taxpayers question paying for research twice by funding the research itself followed by purchasing journal subscriptions to discover the research findings. IRs can preserve and provide access to a university's unpublished material, establish alternatives to the high costs of traditional publications, and contribute to a university's prestige. As information and knowledge resources are increasingly digitized and distributed by local and global networks, those facing the above issues are exploring alternatives to the preservation and distribution of information.

Lynch, C. A. (2003). : opines that 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. While operational responsibility for these services may reasonably be situated in different organizational units at different universities, an effective Institutional Repository of necessity represents collaboration among librarians, information technologists, archives and records managers, faculty, and university administrators and policymakers. At any given point in time, an Institutional Repository will be supported by a set of information technologies, but a key part of the services that comprise an Institutional Repository is the management of technological changes, and the migration of digital content from one set of technologies to the next as part of the organizational commitment to providing Repository services. An Institutional Repository is not simply a fixed set of software and hardware.

Although the evaluation of IR is gaining importance worldwide there has been no comprehensive evaluative study so far in India, though Sutradhar B(2006) provides an insight into a framework design and development of an Institutional Repository at IITK, by using an open source software Dspace.

Two other initiatives that can be included in this reference are Gyandoot and e-Seva. Sharma and Yurcik (2001) have discussed Gyandoot (<http://gyandoot.nic.in/>) as a digital library initiative, however, as stated on the web site it is “an intranet in Dhar district connecting rural cybercafés catering to the everyday needs of the masses” and is more of an e-governance (Government to Citizen, G2C) initiative. This view is strengthened by reports that include Gyandoot under e-Governance products and services (Indian Institute of Technology Bombay, 2006; Indian Institute of Management Ahmedabad, 2003). Similarly, e-Seva is also an e-governance initiative of the Government of Andhra Pradesh (<http://esevaonline.com/>). There are several such e-governance initiatives in India and these do not come under the scope of digital libraries.

ADVANTAGES OF IRs

IRs provide opportunities to enhance skills within library staff to provide better information services regarding the publications, office orders, etc. of their own institutions. It improves resources sharing among the libraries within the globe. Followings are the major advantages of IRs:

- Provide information about the publications of scientists, teachers, students and other members of the concerning institutions.
- For providing e-resources inter and intra network on the behalf of terms and conditions.
- Opening of outputs of the institutions to a worldwide audience.
- Collecting and curation digital material output.
- Managing and measuring research and teaching activities.
- Maximizing the visibility and impact of digital resources.
- Enriching and promote interdisciplinary approaches to research.
- Facilitating the development and sharing the digital teaching material and aids.
- Supporting students, teacher and user's to provide access to these resources for thesis and dissertations preparations.

SUGGESTIONS AND RECOMMENDATIONS

While there has been considerable attention dedicated to the development and implementation of Institutional repositories, there has been little done to evaluate them, especially with regards to their use and usability. There is need of more research to evaluate the scholarly use of Institutional Repository in context of India. The evaluation study in this direction would definitely help to develop and implement Institutional Repository as per the user requirements.

Further more research can draw in the direction of semantic organization of the content. This will definitely provide an innovative and better way of visualizing and searching the information content.

CONCLUSIONS

While progress shows that Institutional repositories are indeed growing in India and that the IR community is working toward the proposed model future, growth has not been as fast as might have been expected. Librarians have promoted the concept to their university administrations and academic colleagues. Enthusiastic scholars and research groups have begun to deposit their research in repositories. Libraries are investing staff resources into this new service. New models and tools for creating and archiving theses have been developed and cross platform searching of repositories has facilitated an institution-specific distributed model of storage. In the absence of mandated deposits to an IR, we need to find a way to integrate the IR into the research practices of our academic colleagues.

Institutional repositories can put libraries right in the middle of research endeavors and provide a true service for both institutions and individual researchers. We need to promote not only the Repository functions, so familiar and obvious to us as information workers, but also the workflow features that will insinuate the Repository into the research process and provide the means to get research “front and centre” for our institutions.

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