An Institutional E-Prints Archive Assist the Research Scholar to Free Access to the Refereed Research Literature

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Abstract

An institutional repository (IR) is an online archive for collecting, preserving, and disseminating digital copies of the intellectual output of an institution, particularly a research institution. Over the past several years the Institutional Repositories movement has attracted great attention from academic libraries worldwide, often as a way of furthering the cause of Open Access to scholarship. In the present era of Information technology, the role of librarians has become challenging to effectively deal with the information explosion and circulation of books and non-book materials. E-prints will help the scholarly and scientific literature, eventually to be free from cost barriers and institutions will able to create E-print archives in which their authors can self-archive all their refereed papers for free, for all and forever. The paper s will review libraries long point of view of adopting e-print archives as well as outline the most important issues turning around the e-prints evolution. Also, the author would like to introduce you to an existing e-print' archive known as RCLIS and which are the Indian Institution Libraries created e-prints archives will be described in this article.

Keywords: Institutional Repository, Open Access Initiatives, India, RCLIS, E-prints

Introduction

Institutional repositories are digital collections of the outputs created within a university or research institution. While the purposes of repositories may vary (for example, some universities have teaching/learning repositories for educational materials), in most cases, they are established to provide Open Access to the institution's research output and this is the focus here. A short account of the development of institutional repositories can be found at http://poynder.blogspot.com/2006/03/institutional-repositories-and-little.html.

Repositories adhere to an internationally-agreed set of technical standards that means that they expose the metadata (the bibliographic details such as author names, institutional affiliation, and date, titles of the article, abstract and so forth) of each item in their contents on the Web in the same basic way. In other words, they are 'interoperable.' This common protocol to which they all adhere is called the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). The contents of all repositories are then indexed by Web search engines such as Google and Google Scholar, creating online Open Access databases of freely-available global research.

As the level of self-archiving (the process by which authors deposit their work in repositories) grows, the Open Access corpus will represent an increasingly large proportion of the scholarly literature.

Institutional Repositories

There are currently almost 1300 repositories around the world. Over the past three years, the number has been growing at an average rate of one per day. The statistics on numbers and where they are can be found in the Registry of Open Access Repositories (ROAR: http://roar.eprints.org/) and in the Directory of Open Access Repositories (OpenDOAR http://www.opendoar.org/). There is also a mapped representation at Repository66 (http://maps.repository66.org/)

Institutional repositories represent an important OA-channel and are relatively new developments in scholarly communication process compared to open journals and subject-specific repositories. The development of in Institutional repositories emerged as a new strategy that allows universities to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication, both moving beyond their historic relatively passive role of supporting established publishers in modernizing scholarly publishing through the licensing of digital content, and also scaling up beyond ad-hoc alliances, partnerships, and support arrangements with a few select faculty pioneers exploring more transformative new uses of the digital medium. The characteristics of IR include - Institution-based; Scholarly material in digital formats; Cumulative and perpetual; Open and Interoperable. Institutions and their libraries are in a better position than individual researcher to guarantee that the material is available even after decades and that the collection is systematically maintained, for instance, to take account of changing file formats and media. Institutional repositories represent an integral part of the long-term strategies of the universities in question, in particular as these have to redesign their publishing and library policies to take into account the new conditions.

The roles of an IR include storing and providing access to research information, especially on the intranet. The information available includes articles by the university's researchers and scholars. Such articles could include pre-print and post-prints of journal articles, conference papers, conference proceedings, research reports, seminar papers, newspaper and magazine articles, books departmental technical reports or working papers, theses and dissertations. IRs' major advantages include the promotion of scholarly publishing among researchers and making research information easily accessible. IRs can also be used as an information repackaging tool. Since they are internally managed, IRs present lesser challenges with regards to Internet congestion. Software packages such as DSpace, Fedora, E-prints and Greenstone are being used to develop and manage IRs.

Open Access

'Open access' (OA) means that a reader of a scientific publication can read it over the Internet, print it out and even further distribute it for non-commercial purposes without any payments or restrictions. At the most, the reader is in some cases required to register with the service in question, which for instance can be useful for the service providers given the production of readership statistics. The use of the content by third parties for commercial purposes is, however, as a rule, prohibited. Thanks to the open availability the linking from reference lists to OA publications is substantially facilitated, since the reader does not encounter barriers such as use licenses, and each reference is only a mouse-click away. In general, the author keeps almost complete copyright and can also publish the material elsewhere. The concept of OA came into existence sometime in 1991 due to the necessity of facilitating scholarly communication. According to the Berlin Declaration act "open access is a comprehensive source of human knowledge and cultural heritage approved by the scientific community." Budapest Initiative defines Open access as 'freely available on the Internet for the public, permitting to read, download, copy, distribute, print, search or link to the full text, crawl them for indexing, pass them as data to software or use them for any other lawful purpose, without financial, legal or technical barriers other than those inseparable from gaining access

to the Internet itself". The four most important OA channels are electronic, refereed, scientific periodicals, research-area-specific archive (e-print) servers (in this paper called subject-specific repositories), institutional repositories of individual universities/institutions, and self-posting on authors' home pages. The e-prints archives. Open access journals and self-archiving institutional repositories are the initiatives for open access. E prints archive is an online repository of materials, freely available on the web for the widest possible dissemination of knowledge. The Networked Digital Library of Theses and Dissertations (NDLTD), an international organization is dedicated to promoting the adoption, creation, use, dissemination and preservation of electronic analogs to the traditional paper-based theses and dissertations.

Repositories adhere to an internationally-agreed set of technical standards that means that they expose the metadata (the bibliographic details such as author names, institutional affiliation, date, titles of the article, abstract and so forth) of each item in their contents on the Web in the same basic way. In other words, they are 'interoperable.' This common protocol to which they all adhere is called the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). The contents of all repositories are then indexed by Web search engines such as Google and Google Scholar, creating online Open Access databases of freely-available global research. As the level of self-archiving (the process by which authors deposit their work in repositories) grows the Open Access corpus will represent an increasingly large proportion of the scholarly literature

E-Prints

In academic publishing, an imprint or e-print is a digital version of a research document (usually a journal article, but could also be a thesis, conference paper, book chapter, or a book) that is accessible online, whether from a local institutional, or a central (subject- or discipline-based) digital repository. When applied to journal articles, the term "eprints" covers both preprints (before peer review) and post-prints (after peer review). Digital versions of materials other than research documents are not usually called e-prints, but some other name, such as e-books

Pre-Print

In academic publishing, a preprint is a draft of a scientific paper that has not yet been published in a peer-reviewed scientific journal.

Post-Print

A post-print is an article which has been peer-reviewed in preparation for publication in a journal. Both the preprint and post print may differ from the final published version of an article. Preprints and post-prints together are referred to as e-prints or prints.

Institutional Repositories and Libraries in India

India has adopted the Open Access model much ahead than other developing countries Some Indian scientific research institutions, universities and corporate R&Ds produce high-quality research accompanied by innumerable scholarly communications published by national and international journals and conference proceedings. A good number of high quality, peer-reviewed open access journals are being published by Indian scholars covering a wide spectrum of subjects. Some of the leading institutions in India designed their Institutional Repositories which is listed in the given below. It is inferred that most of the institutions developed their institutional repositories with value-added services based on, a) determine goals/business targets of the institute / organization, b) information needs and accordingly develop products, services and capabilities with these in mind. It is evident from the below-mentioned list that institutes established for specific subject prefer to offer IR service as a mandatory one. And most of the IR's are developed using open source softwares. This table also states that documents such as conference papers and thesis are the preferred documents included in the IR.

S.No	Repository Name	Institution Name & Place	No. of Items	Software Used	Subject
	Eprints@IISC http://eprints.iisc.ernet.in	Indian Institute of Science, Bangalore	3645	E-prints	Science & Technology
	ETD@IISC http://etd.ncsi.iisc.ernet.in	IIS	153	D-space	Theses & dissertations
	Librarians Digital Library-LDL-http://drtc.isibang.ac.in/	DRTC, Bangalore	236	D-space	Library & Information Science
	Dspace at INFLIBNET-http://dspace.inflibnet.ac.in	INFLIBNET Centre, Ahmedabad	428	D-space	Library & Information Science
	IIA Repository http://prints.iiap.res.in/	Indian Institute of astrophysics, B'lore	725	D-space	Astronomy & astrophysics
	Dspace at INSA http://61.16.154.195/dspace	Indian National Science Academy	818	D-space	Member publication, events, images etc.
	ISI Library http://library.isibang.ac.in:8080/dspace	Indian Statistical Institute, Bangalore	10	D-space	Mathematics & Statistics
	OpenMED@NIC Science http://openmed.nic.in	Indian Medlars Centre, Delhi	1035	E-prints	Health Sci. MESH Classic.
	Eprints at NCL http://dspace.ncl.res.in/	National Chemical Laboratory (NCL), Pune	290	D-space	e-theses, chemistry & biological science
	Dspace@IIMK http://dspace.iimk.ac.in	Indian Institute of Management, Kozhikode	133	D-space	Management Disciplines
	Eprints@IIMK http://eprints.iimk.ac.in	Indian Institute of Management, Kozhikode	25	E-prints	Research papers, Articles etc
	NAL Institutional repository http://nal-ir.nal.res.in/	National Aerospace Laboratories	418	E-prints	Aerospace Sciences, NASA Classification
	Eprints@IITA http://eprints.iita.ac.in	Indian Institute of Information Technology, Allahabad	22	E-prints	Articles, Reports Conference Reports
	Repository name	**Hosting Institution**	**No. of rec.**	**Software**	**subject**

	Dspace at NCRA reports, http://ncra.lib.ncra.tifr.res.in/space	National Centre for radio Astrophysics	22	D-space	Proceedings conference proceedings
	Dspace@NITR http://dspace.nitrkl.ac.in/dspace/	National Institute of Technology, Rourkela	223	D-space	Engineering, Physical & natural sciences
	Repository of RRI http://dspace-rri.res.in/	Regional Research Institute	1064	D-space	Physics and Astronomy
	Eprint@IITD http://eprints.iitd.ac.in/space	Indian Institute of Technology, Delhi	1296	D-space	Engineering sciences
	Vidyanidhi National E-theses Repository http://www.vidyanidhi.org.in	University of Mysore	1835	D-space	Multidisc-plenary,Theses, access by Registration (Under Dev.)
	Dspace at GBPUAT reports, http://202.141.116.205/space	G.B. Pant Univ. of Agriculture and Tech., Pantnagar	82	D-space	Articles, conference proceedings
	Digital Repository NIO reports, http://drs.nio.org/drs/space	National Institute of Oceanography	55	D-space	Articles,Reports Conference Proceedings

Open Source Journals in India

As far as the Journals are concerned, there are a few open access journals providers in India. The prominent open access journal initiatives have come various institutes like Indian National Science Academy, Indian Academy of Sciences, Indian Medlars Center, Medknow Publications and other smaller ventures. Indian National Science Academy (INSA):(http://www.insa.ac.in), INSA's project, "building digital Resources: Creating Facilities at INSA for hosting S&T Journals Online" has strengthed the open archive movement at the national level. The National Information System for Science &Technology funds the project. It facilitated digitizing S&T journals published by INSA and hosting them on a web server. At present, INSA publishes four journals including the proceedings of INSA. It launched the OA versions of their journals in December 2003 in PDF format. User registration is required to access the journals. INSA also encourages other professional societies having their web sites to get a link on INSA's site to facilitate a single point of access. Indian National Science Academy (INSA):(http://www.insa.ac.in), INSA's

project, "Building Digital Resources: Creating Facilities at INSA for hosting S&T Journals Online" has strengthed the open archive movement at the national level. The National Information System for Science &Technology funds the project. It facilitated digitizing S&T journals published by INSA and hosting them on a web server. At present, INSA publishes four journals including the proceedings of INSA. It launched the OA versions of their journals in December 2003 in PDF format. User registration is required to access the journals. INSA also encourages other professional societies having their web sites to get a link on INSAs site to facilitate a single point of access Indian Academy of Sciences (IAS): (www.ias.ac.in/pubs/journals/) publishes 11 journals in all front-line scientific disciplines which are open access, and the full text is available as PDF. Indian Academy of Sciences does not charge authors for publishing their papers. The cost of publishing is met by government funding and subscriptions to their print journals. Current Science, published by the current science association in collaboration with the IAS, has entire back volumes from 1932 and has been online since 1999. Many other journals

including the Journal of Chemical science, Sadhana, Pramana, Journal of Biosciences, etc. have back volumes online. Indian Medlars Center of NIC: (http://medind.nic.in/) National Informatics Center (NIC) and Indian Council of Medical Research (ICMR) has initiated INDMED @NIC that indexes 77 biomedical peers reviewed journals since 1985. Another recent project MEDIN@NIC (http://medind.nic.in) provides full-text contents of 38 biomedical journals which are indexed in Ind MED.

Research and Scholarly Communication

India has prospered through it's strong academic and research establishments. The R&D organizations have also developed expertise in their respective areas that are now recognized worldwide. Leading Indian scientific research institutions, such as Indian Institute of Science (IISC), Indian Institutes of Technology (IITs), Indian Statistical Institute (ISI), laboratories under the Council of Scientific and Industrial Research (CSIR), Indian Council of Medical Research

(ICMR), Indian Council Agricultural Research (ICAR), Indian Space Research Organisation (ISRO), Department of Atomic Energy (DAE), traditional universities, deemed universities and Corporate R & Ds have been playing the crucial role towards national development. The high-quality research accompanied by innumerable scholarly communications to various national and internationals journals and conferences has put India in the forefront in the developing world and leader of South Asian countries. Only the elite institutions have reasonably good information provision facilities that support scholarly communications. On the one, hand the paucity of funds for the subscription based scholarly journals and on the other, the shrinking budget discourages both the access to vast scholarly publications and publication process itself. The open access literature plays a vital role, both regarding research communication and access, provided, of course, the benefits regarding economic and social recognitions are assured by this system. While the ICT infrastructure necessary to take advantage of the open access is not adequate in developing countries, the situation in India is the other way round. The situation has improved to a considerable extent.

The number of Internet subscribers in was 140,000 in 1998 and now the number has crossed 5 million. There is a big leap in the telecommunication facility and Internet bandwidth available.

Conclusion

The developing countries are facing barriers to accessing scholarly literature, as the cost of accessing peer-reviewed journals have increased manifolds over time. In India is no exception, and high impact factor scholarly literature available to the research communities is limited to the elite institutions. Also, research publications from developing countries, published in periodicals of developing countries also do not get much attention in the international community, as distribution channels of such periodicals in developed nations are very limited.

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