Development of Institutional Repositories in Academic and Research Universities in India

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Abstract

Institutional repositories emerged as a new strategy that allows universities and research institutions to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication through the digital content. The increased demand for scholarly information, especially in science and technology demands scholarly societies and universities for centralized access to institutional rich resources revealing the scientific output. Digital publishing, global networking, more research, and increased communication among communities of scholars are driving the demand for broader access. The paper explores the essence of developing Institutional Repositories as a hidden treasure to the academic and research community providing its conceptual development. Further, mentions the issues to be considered before developing institutional repository in the form policy documentation on the part of the institution. The initiatives undertaken by the Academic and Research Libraries in India towards building Institutional Repositories have also been highlighted.

Keywords : Institutional Repository, Open Source Software, Status of Digitization

1. Essence of Institutional Repositories

The challenge for digital preservation is not just the volume of data. The hardware and software used to store and access digital information are constantly upgraded and superseded. Technology obsolescence is generally regarded as the greatest technical threat to ensuring continued access to digital material. The speed of changes in technology means that the timeframe during which preservation action must be taken is very much shorter than for paper, often measured in just a few years. Digitization projects in libraries seem ubiquitous as libraries become increasingly involved in the acquisition, development, and management of digital information and libraries typically target archival and special collections materials. Projects to digitize vast collections of books began as early as 1971 with Project Gutenberg and are now getting widespread media attention with the launch of Google Book Search, the Internet Archive, and others (Coyle, 2006).

The broad view of institutional repositories as a means to manage and preserve effectively an institution's knowledge base and intellectual assets results in the content of institutional repositories expanding beyond e-prints to include research data, e-learning materials and other forms of institutional intellectual outputs, which are generally not published or preserved elsewhere. Researchers, students, staff and institutions will require ongoing availability and confidence in the future accessibility of the content within the repositories. Those running institutional repositories, therefore, naturally have the responsibility to ensure this for the content they are entrusted with

managing by their institutions and researchers. It needs to be ensured that content within the repositories remains accessible and retains its authenticity, reliability and integrity for as long as it is needed. As Lynch (2004) has rightly pointed out, "An institutional repository needs to be a service with continuity behind it ... Institutions need to recognize that they are making commitments for the long term".

Institutional repositories are a new but important area within the educational landscape. Through free and unrestricted online availability, they make it easier for researchers to disseminate and share research outputs and thus support the open access goal of scholarly communication. As noted by Scholarly Publishing and Academic Resources Coalition (SPARC), institutional repositories are becoming a major component of the evolving structure of scholarly communication (Crow, 2002).

Institutional repositories are now being created to manage, preserve, and maintain the digital assets, intellectual output, and histories of institutions. Librarians are taking leadership roles in planning and building these repositories, fulfilling their roles as experts in collecting, describing, preserving, and providing stewardship for documents and digital information. Repositories provide services to faculty, researchers, and administrators who want to archive research, historic, and creative materials. Thus, development of institutional repository has become a necessity to reveal the scientific research output for which Library and Information professionals have to take keen interest and initiation.

2. Institutional Repository Policy

Repositories now represent potentially rich sources of information, data, images, and valuable research results. The movement is new and the time it takes to plan, formulate policies, and bring institutional communities to consensus can make it a slow process. Each institution defines its own policies dealing with access to and use of materials in repositories. Not all materials can be made available freely. Copyrighted materials may carry a variety of restrictions. Nonexclusive publisher licenses would increase availability to these materials and place the publishers in the open access arena. Some publishers permit authors to self-archive. Other publishers opt for exclusive licenses for a limited time, while still others will not allow any deviation from exclusive copyright.

Some materials may be restricted to a small group of researchers or to people associated with the institution because they represent work in progress deemed proprietary or that may entail sponsor restrictions. For example, a group working on a patentable device or process may want to share data only with members of the group.

Librarians both use and create institutional repositories. In establishing repositories there are a variety of decisions to make. Policies, systems architecture, and other elements will depend on institutional context and the scope and purposes of the repository. Policies appropriate for an academic institution may not work in a corporate setting. Not-for-profit organizations have unique purposes and cultures that will dictate how their repositories are formed and maintained (Drake, 2004).

The key issues to be considered while developing institutional repositories are

- Institutional culture and consensus has to be discussed
- The scope of the repository as to type of publications to be part of Institutional repository.
- The information content of the repository.
- Access levels as to full text or abstract level/ access to type of users or privileges.
- Legal aspects i.e. copyright acts.
- Standards
- Sustainability and maintenance
- The appropriate software and funding has to be taken into account before going for institutional repository projects at institution level.

Institutional culture depends on how the organization is structured as well as how much collaboration and trust exists within an institution. In academic organizations, faculty belongs to departments, disciplines, and research groups. Academic competition may be fiercer in some universities than in corporations. In an internally competitive environment where cooperation and trust are not nurtured, building a repository will become more difficult. Faculty will not contribute willingly to a central repository unless they have been consulted and trust the process. Faculty need to be convinced that contributing to a repository will enhance their reputations in their disciplines and result in wider dissemination of their work.

3. Institutional Repositories in India: A Status-Quo

Institutional repositories have been developed by some of the major institutes of India with a purpose for

- Self-archiving: A researcher wants a place to put working papers and similar documents.
- Developing national level, domain-specific or omnibus harvesting services
- Preservation of information repository content for perpetual access
- Integration of institutional repositories with other institutional e-resources and e-services
- Learning objects includes instructional materials.
- E-learning: An instructor wants to store problems for a web based home work system ion a repository. The problems themselves are expressed in a markup language that requires external application to render. The instructor would like to be able to efficiently search for problems render appropriately when delivered to students' browsers.
- Repository management: Operators of the repositories listed in these use case need to be able to manage these facilities and the content. The repository manager then needs to develop tools to deal with a large-scale format migration. Repositories need to provide reporting facilities and interfaces that will support these activities.
- Integration with traditional publishing systems and development personalization of e-information services.

Some of the Information Research Repositories developed in India are shown in table 1.

Table 1: Information Research Repositories developed in India.

Software	Archives	Institution subject coverage
GNU EPrints	Indian Institute of Science	Science and Technology
GNU EPrints +DSpace	Indian Institute of Management – Kozihikhode	Management disciplines and IT
GNU EPrints	Indian Medlars Centre, NIC, Open MED@NIC	Health Sciences MESH classification
GNU EPrints	National Aerospace Laboratory	Aerospace Sciences NASA classification
GNU EPrints	One world South Asia	ICT for development
DSpace	National Institute of Technology – Rourkela	Engineering, Physical and Mathematical Sciences
DSpace	Indian Statistical Institute-Bangalore	Mathematics and Statistics
DSpace	Documentation Research And Training Centre (DRTC)	Library and Information Science
DSpace	Indian Institute of Technology-Delhi	Engineering Section
DSpace	INFLIBNET-Inter University Centre	Library Science and IT DDC Classification
DSpace	Indian Institute of Astrophysics, Bangalore	Astronomy and Astrophysics
DSpace	Raman Research Institute, Bangalore	Physics and Astronomy
GNU EPrints	University o Delhi	Pure, Social and Applied Sciences
Greenstone	Indian Institute of Technology	Engineering Sciences
DSpace	National Chemical Laboratory, Pune	Chemical Sciences
DSpace	Vidyanidhi – E-theses repository	Pure, Social and Applied Sciences
DSpace	Tata Institute of Social Sciences, Mumbai	Social Sciences
DSpace	Gulbarga University, Gulbarga	Pure, Social and Applied Sciences

4. Conclusion

Institutional repositories represent the logical convergence of faculty-driven self-archiving initiatives, library dissatisfaction with the monopolistic effects of the traditional and still-pervasive journal publishing system, and availability of digital networks and publishing technologies. As Institutional repositories are the face index of any institute or university shows the status of its strength in the form of research productivity and as such importance be given for development of Institutional repositories, for which Libraries needs to take positive initiation to develop the scientific temper of the institution.

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