

Institutional Repository Initiatives at Higher Education and Research Organizations in Karnataka, India

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Abstract

This is an age of Information explosion. Institutional Repository is a new concept for collecting, Managing, disseminating and preserving scholarly works created in digital form by faculty and students in individual universities and colleges in India. Most higher education and research institutions are funded by the central and state governments. These institutions have made a significant contribution to the transmission of knowledge and to research in all fields and disciplines. The libraries of those institutions also play a vital role in acquiring and disseminating information for academic and research activities. Digital libraries are a way of making educational and research data and information available to faculty, researchers, students, and others at the institutions and worldwide.

In this electronic publishing age, academic institutions including universities have increasingly recognized that an institutional repository (IR) is an essential infrastructure of scholarly dissemination. An IR is a digital research archive consisting of accessible collections of scholarly work that represent the intellectual capital of an institution. This paper discusses about the Institutional repositories – contents, benefits, and challenges of the major Institutional repository projects in Karnataka.

Keywords: Digital Library; developing countries; Institutional repository; Open source software; Open Archive Initiatives.

Introduction

The world's universities, museums, governments, and other organizations house treasures that have been hidden in archives, basements, attics, print formats, and a variety of storage devices. These treasures encompass scientific, technological, cultural, artistic, and historical materials generally unavailable to searchers and the public. 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 [1].

Institutional Repositories

Development of institutional repositories has largely taken place in universities. Not-for-profit organizations may find repositories useful for relating the histories of the organizations, raising funds, and creating interest in the projects and activities of the organizations. Repositories provide services to faculty, researchers, and administrators who want to archive research, historic, and creative materials. The open access and open archives movement, the need for changes in scholarly communication to remove barriers to access, and the increasing awareness that universities and research institutions are losing valuable digital and print materials have begun driving the establishment of institutional repositories. Using open archive models [2], established metadata standards, and digital rights

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management, important new information sources are seeing the light of day and becoming more generally available.

While the main purposes of institutional repositories are to bring together and preserve the intellectual output of a laboratory, department, university, or other entity, the incentives and commitments to change the process of scholarly communication have also begun serving as strong motivators. Computers have been ubiquitous on campuses since the late 1980s. Students and faculty are comfortable with the power of online communication. Faculty teachers and researchers want to archive their own materials and have them available on personal or institutional Web sites, these articles, along with the development of the Internet and more powerful search engines, have enabled people to think in practical terms about the establishment of central facilities for storing, archiving, preserving, and making scholarly and artistic materials available. Librarians have a unique opportunity to fill a void by taking a leadership role in organizing and preserving digital information [3]. Repositories may be limited to one field, one department, one institution, or a consortium of several institutions. Collaboration through a consortium reduces costs for each member through resource sharing while expanding access to digital materials.

For universities, repositories are marketing tools communicating capabilities and quality by showcasing faculty and student research, public service projects, and other activities and collections. Repositories in universities may include preprints and post prints of journal articles, technical reports, white papers, research data, theses, dissertations, work in progress, important print and image collections, teaching and learning materials, and materials documenting the history of the institution, [3].

Institutional Repository Projects

Digital Library of India

The Indian Institute of Science (IISc), Carnegie Mellon University (CMU), the International Institute of Information Technology, Hyderabad (IIITH), and many other academic, religious, and government organizations in India, a total of more than twenty "Content Creation Centres," have become partners in the Digital Library of India (DLI) [4]. The DLI seeks to preserve Indian heritage that is contained in books, manuscripts, art, and music. Each centre brings its own unique collection. This digital library is also a test-bed for Indian language research. The DLI is a leader in worldwide efforts to make knowledge free. A pilot project to scan some 10,000 books was initiated at CMU and then followed up at IISc, IIIT-H, and other organizations. All the processes involved have been perfected. The vision is to preserve all the knowledge of the human race in digital form and make that content searchable, independent of language and location, and to ensure that the cultural heritage of countries like India is not lost during the transition from paper to bits and bytes, as they were lost during a former transition of cultural content from palm leaves to paper. So far, more than 289,000 books have been scanned, of which nearly 170,000 are in Indian languages. More than 84,000 books (25 million pages) are available on the DLI web site at the Indian Institute of Science, and more than 149,000 books (43 million pages) are available on the DLI web site at the International Institute of Information Technology. The link to other partner sites is also provided through a commonly accessible website.

Funding for the DLI comes from multiple sources. The Office of the Principal Scientific Advisor to the Government of India is funding the project at the Indian Institute of Science.

The Ministry of Communication and Information Technology (MCIT) is funding the project at various DLI partner centres. The National Science Foundation (USA) is providing funding for scanners and software research and development through Carnegie Mellon University. The First Citizen of India, His Excellency Dr APJ Abdul Kalam, President, who himself is one of the contributors to this vision, has personally taken a keen interest in making the Rashtrapathi Bhavan one of the major centres of the DLI.

IISc@eprint (Indian Institute of Science)

Eprint @IISc repository [5] collects preserves and disseminates in digital format the research output created by the IISc research community. It enables the Institute community to deposit their preprints, postprints and other scholarly publications using a web interface, and organizes these publications for easy retrieval. While eprints@IISc can be accessed by anybody, submission of documents to this repository is limited to the IISc research community only. eprint@IISc repository is running on EPrints open archive software, a freely distributable archive system available from eprints.org. ePrints@IISc complies with the Open Archives Initiatives (OAI) framework allowing publications to be easily indexed by web search engines and other indexing services.

Vidyanidhi Institutional Repository (Digital library & E-Scholarship Portal@University of Mysore)

Vidyanidhi is India's premier Digital library initiative [6] to facilitate the creation archiving and accessing of doctoral theses. Vidyanidhi is an initiative that began as a pilot project in the year 2000 to demonstrate the feasibility of ETDs in the Indian context. Vidyanidhi pilot project was sponsored by NISSAT, DSIR, and Government of India. Vidyanidhi is envisioned to evolve as a national repository and a consortium for e-theses through participation and partnership with universities, academic institutions and other

stake holders. Vidyanidhi is now expanding and enlarging its horizon from a pilot to a programme with support from the Ford Foundation and Microsoft Corporation. It enhances access to Indian theses and enlarges the reach and audience for Indian doctoral research works. It is also using Dspace digital repository software.

Raman Research Institute Digital Repository

The Raman Research Institute (RRI) digital repository [7] collects preserves and disseminates in digital format the research output of the RRI community. It enables the RRI community to deposit their preprints, post prints and other publications using a web interface and organizes these publications for easy retrieval. In addition to this, it also contains the annual reports of RRI and newspaper clippings from the Raman archives. It is running on DSpace, open source software which complies with the Open Archives Initiatives (OAI) framework allowing publications to be easily indexed and searched by web search engines and other indexing services.

This contains the research publications of the faculty and students of the Raman Research Institute. The collected papers of C V Raman and the historical records of the institute annual reports and newspapers clippings are also housed here.

Institutional repository at National Aerospace Laboratories

The Institutional Repository at NAL [8] is the digital archive of the research output of the scientists. Since the inception of NAL during 1959, till date the R&D staffs have published more than 20,000 research publications in various forms. The Information Centre of NAL with its state of the art expertise, infrastructure and services initiated setting up of its own repository during 2003 using, the then most popular open source software Greenstone Digital Library, developed at university of Waikato, NZ. More than 300 papers at abstract level along with few full text contributed by the scientists

at NAL we uploaded, but were made accessible only through NAL's Intranet. During 2004, the work progressed rapidly with the adoption of open source software GNU EPrints for archiving and managing the digital collections. The knowledge base of NAL-IR covers Journal Articles, conference Papers, Technical Reports, Presentation/ Lectures, Preprints, Project documents, Patents, Thesis and Images.

Indian Institute of Astrophysics Repository

This is the digital repository of publications of Indian Institute of Astrophysics (IIAP), Bangalore, India, [9] developed to capture, disseminate and preserve research publications of IIAP. The Indian Institute of Astrophysics (IIA) is one of the astronomical research institutes in India pioneering the Open Access movement. The institute has set up a pilot project to store the institute's publications in an institutional repository. This repository also hosts papers published in Bulletin Astronomical Society of India. The library at IIA plays an important role in setting up this archive.

Recently archival collections are being included as another community in the repository. Indian Institute of Astrophysics archives has important collections, some of which are more than 200 years old. The collection of archival records has grown over the years to include more than 5000 items in various formats such as manuscripts, photographs, maps, films, awards, hand-drawn sketches, pictures and instruments. Considerable effort has been put in during last two years for collecting, organizing and preserving and digitizing these materials. It is also using Dspace digital repository software.

Librarian's Digital Library

This repository is at the Documentation Research Training Centre, Indian Statistical Institute, Bangalore [10]. It is aimed at librarians world-wide, and uses DSpace. It contains articles, theses and dissertations,

presentations, multi-lingual documents, photographs, etc.

Conclusion

Institutional repositories can make to an evolving, disaggregated scholarly publishing structure capable of addressing many of the current model's dysfunctions, as well as their potential role in enhancing and recognition of work carried out at host institutions. We have to explore the change that institutional repositories will visit on key scholarly communication stakeholders, outlining the benefits that will justify those changes. Institutional repositories can provide an immediate complement to existing scholarly publishing model, while stimulating the emergence of a new disaggregated publishing model that will evolve over time. This outcome will advance the individual and collective interests of faculty researches, academic librarians and institutional administrators.

Digital library activities are gathering momentum in developing countries, especially, Karnataka, India. Most Higher education and research institutions in India are funded and controlled by the central and state governments, clear-cut national plans and policies are needed to infrastructure standards metadata interoperability, multi-lingual database training, co-ordination, copyright, and archiving and preservation methods.

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