

---

# INSTITUTIONAL REPOSITORIES : A KEY ROLE FOR LIBRARIES

P VENKATA RAO

## Abstract

The institutional repository is a digital archive, owned and maintained at either departmental or institutional level. It is a tool for collecting, storing and disseminating information to advance scholarly communication. The paper mentions essential elements that an institutional repository should have and benefits to different stakeholders. Dealt with the issues and challenges for creating the institutional repositories. Briefly discussed about the initiatives taken at international and national level in implementing the institutional repositories. The key role of the libraries in successfully implementing the institutional repositories is also discussed.

**Keywords :** Institutional Repository/ Digital Archives

## 1. Introduction

The universities and research organizations all over the world have begun to pay more and more attention to the production and usage of documents in the digital form, which includes text, graphics, photographs, archival material, websites, blogs and vlogs, video and audio material, television and radio broadcasts, which is held and / or transmitted in electronic form. These institutions have been exploring ways and means to capture and reuse the intellectual output of teaching and research as more and more scholarly output is bypassing the traditional libraries and the publishers favour the Internet. One of the approaches has been the institutional repository (IR), which is the collective intellectual output of an institution recorded in a form that can be preserved and exploited. The IR is an online locus for collecting and preserving - in digital form - the intellectual output of an institution, particularly a research institution. For a university, this would include materials such as research journal articles (preprints/post prints) undergoing peer review, and digital versions of theses and dissertations. It might also include other digital assets such as administrative documents, course material, etc. The content of an IR may be purely scholarly or may comprise administrative, teaching and research materials, both published and unpublished. Foster and Gibbons describe an IR as “an electronic system that captures, preserves, and provides access to the digital work products of a community”.

---

## 2. Objectives

- to provide open access to institutional research output by self-archiving it
- to store and preserve other institutional digital assets, including unpublished or otherwise easily lost literature

## 3. Essential Elements

The four essential elements that an IR should have:

**Institutionally defined:** The IR should have the content generated by the community in an Institution. The content represent the historical and tangible embodiment of the intellectual life and output of an institution. There is no need for each institution to act on its own to create an institutional repository. The existing library consortia will be a platform with its infrastructure to create an IR. The consortia could help proliferating IRs and attaining a critical mass of open access content.

**Scholarly Content:** An IR may contain any work product generated by the students, faculty, non-faculty researchers and the staff of an institute. The content may include preprints, working papers, published papers, teaching materials, theses and dissertations, research and technical reports, conference proceedings, statistical repots, technical documentation, video recordings, and other gray literature.

**Cumulative and Perpetual:** The content or the materials included in the IR should not be withdrawn except in rare cases and should be preserved for current and future scholars to use. The IR should accommodate more and more digital objects as the submission will continue piling up year by year.

**Interoperable and open access:** Providing access to the intellectual output generated by the institution increases awareness of research contributions. The users outside the institute must be in a position to find out information from the repository. So the system needs to support interoperability to provide access via search engines and other discovery tools. The system should maintain and expose the metadata to allow other services to harvest and search the content. An Open Archive Initiative Protocol for Metadata Harvesting (OAI-PMH) compliant information system allows the repository to provide indexing, search and content description services so that the internal and external users can access the content.

## 4. Stakeholders and their benefits

**Individuals:** For individual authors, the IRs can provide a central archive for their research work. The individual's work can be widely disseminated and this will have a great impact. The IRs can act as a full CV for the individual authors.

**Institutions:** The institutions can use the IRs as a marketing tool to attract high quality faculty, students and funding for its research activities. The IRs are a means of

---

---

increasing visibility and prestige. These can be the centralized storage of all types of institutional output including unpublished gray literature and also for standardization of institutional records for long term cost savings.

**Research Community:** The research community will be able to access the world's research available in different IRs, which ensure long-term preservation of institute's academic output. The IRs facilitate faster communication process and also avoid unnecessary duplication.

## 5. Issues and Challenges

**The institutional culture :** The existence of collaboration and trust within the institution should convince the faculty to contribute to a repository to enhance their reputations in their disciplines in order to disseminate their work.

**Scope of the repository:** The IR may be limited to self-archiving by authors or may include the intellectual output and business and administrative documents for the whole institution. A repository should provide the means for unearthing the treasures and bringing them to light.

**Content:** The criteria for deposit into the repository could come from each community or from a central body with input from the participants

**Access Levels:** Each institution defines its own policies dealing with access to and use of materials in repositories. Copyrighted materials may carry a variety of restrictions. Some materials may be restricted to a small group of researchers or to people associated with the institution

**Rights Management:** Materials placed in an IR are subjected to intellectual property rights. These be owned by the institution, the author, or in the case of post-print, a publisher. Librarians and Administrators responsible for operating and maintaining repositories need to ensure that all legal requirements for software and content licenses are met.

**Standards:** Interoperability requires that repositories employ standards developed to handle issues associated with open access. These standards include the Open Archival Information System (OAIS) Reference Model; Open Archives Metadata Harvesting Protocol (OAI-PMH) and the Metadata Encoding and Transmission Standard (METS).

**Sustainability and funding:** The repository needs constant attention to run. The talents and commitment of time and energy from Librarians, Archivists, faculty and IT staff is essential to the success of a repository project. The repositories can not be sustained without long-term infusions of funds. Everyone associated with the IR should understand that the IR is part of their lives and will require attention and funding in perpetuity.

**Cost:** Creating an IR using OSS may be less or may not be at all. The on going costs - staff costs and other maintenance costs may be high.

---

---

## 6. IR Implementation

- Learning and examining the existing institutional repositories
- Exploring and conducting need assessment in your set up for the possibility of having an IR
- Developing policies for content acquisition, distribution and maintenance
- Grouping a team of experts to create an IR
- Technology considerations – Software and Hardware and installation
- Creating and maintaining the IR

## 7. IR Initiatives

Growing number of institutions have actively been engaged in creating and managing the IRs. Some of the initial players at the international level who have developed the IRs are mentioned below:

### **DSpace Repository Project at MIT (<http://dspace.org>)**

- DSpace developed open source software with a grant from Hewlett Packard and created a federation of universities – Cambridge University, Columbia, Cornell, MIT, University of Rochester, University of Toronto and the University of Washington - to work collaboratively on the project.
- Contains a variety of research materials deposited in accordance with the policies developed by departments and research units at MIT.

### **eScholarship Repository of the University of California (<http://repositories.cdlib.org>)**

- Part of the California Digital Library
- Offers a central facility to the faculty at ten campuses to deposit their scholarly output
- Uses Berkeley Electronic Press Software licensed by the University of California

### **SHERPA - Securing a Hybrid Environment for Research Preservation and Access (<http://www.sherpa.ac.uk>)**

- Established by the Consortium of University Research Libraries (CURL) and the Joint Information Systems Committee (JISC) to build institutional repositories in UK research universities.
  - Creating six OAI compliant repositories
  - To work with service providers to achieve acceptable standards and dissemination of the content
  - To investigate key issues in populating and maintaining e-print collections
  - To set up an e-print data provider advisory service
-

---

**SPARC - The Scholarly Publishing and Academic Resources Coalition ( <http://www.arl.org/sparc/> )**

- Promoting both open access journals and the development of institutional repositories

## **8. IR developments in India**

Many of the frontline research institutes and universities in India have developed IRs and the number of universities and research institutes that are creating and managing the IRs is gradually increasing. A few examples of IRs of Indian institutions are given below:

- Indian Institute of Management Kozhikode, Kozhikode  
<http://dspace.iimk.ac.in/>      <http://eprints.iimk.ac.in/>
- National Chemical Laboratory, Pune  
<http://dspace.ncl.res.in/index.html>
- National Institute of Technology, Rourkela  
<http://dspace.nitrkl.ac.in/dspace/>
- Indian Institute of Science, Bangalore  
<http://etd.ncsi.iisc.ernet.in/>      <http://eprints.iisc.ernet.in/>
- University of Delhi, Delhi  
<http://eprints.du.ac.in/>
- National Aerospace Laboratory, Bangalore  
<http://nal-ir.nal.res.in/>
- National Informatics Centre, New Delhi  
<http://openmed.nic.in/>
- INFLIBNET Centre, Ahmedabad  
<http://dspace.inflibnet.ac.in>
- DRTC, Bangalore  
<http://drtc.isibang.ac.in>
- Vidyanidhi, University of Mysore, Mysore  
<http://www.vidyanidhi.org.in>

## **9. IR Software**

Though there are a number of software available to implement the IR. But the open source software like EPrints (<http://www.eprints.org>) and DSpace (<http://www.dspace.org>) are finding a growing number of users at national and international level as implementing this technology is relatively simple as compared to other available software.

---

---

## 10. Key Role of Libraries

The libraries are moving from the traditional role of custodian, access, and distributor into a new role as part of the creation and dissemination process. The libraries have long experience with developing and managing content and many of the skills applied to print and other forms of digital collections will be transferable to the institutional repository environment and the librarians can greatly increase the relevance and visibility of an institution by involving themselves in building an IR. The concept of IRs seems to hold great promise for making open access a reality and because of the benefits of open access; libraries could provide direct access to scholarly publications via IRs instead of publishers and vendors. If the libraries are to build repositories that incorporate informal scholarly communication, then they will need to develop an improved understanding of how this content contributes to the processes of research and scholarly communication.

Most repositories will be build upon a system of self archiving, with the producer being responsible for adding an item to a repository and creating the associated metadata. It will probably be unwise for institutions to attempt to mandate self-archiving of relevant material. The onus will be on libraries to convince producers of the benefit of archiving their research output. A particular challenge libraries face in assuming the lead role in the development of institutional repositories and their normalization within the collection management programs will be that of providing adequate staffing support. The libraries would need to recruit librarians who posses digital collection management and OAIS management skills. Training the faculty and students to use OAIS, helping them prepare their digital products, involving them in institution-wide policy making and setting repository goals would be some of the new tasks that libraries will face. The librarians should be aggressive in lobbying for project funding that should deliver important benefits to a university or an institution.

## 11. Conclusion

The libraries should take a key role to establish the IRs to preserve and make accessible the digital content of scholarly publications. The libraries and the librarians do play crucial role in enhancing the visibility and importance of institutions for which they serve by actively taking part in the building, maintenance and sustenance of IRs. The libraries will also come to rescue of individual authors by helping them deposit their content into the IR and also deposit the content on behalf of the individuals who can not self-archive their content. Nicholas Joint, Editor of the Library Review, suggests that libraries and librarians are well placed to give input to the metadata and digital preservation activities inherent in building IRs and made a strong case for librarian-mediated deposit rather than pure-self-archiving as the future of building IRs.

## References

1. Carver, Blake. (2003). "Creating an institutional repository: A role for libraries". *Ex Libris*. No. 181. Available at: <http://marylaine.com/exlibris/xlib181.html>
-

2. Chang, Sheau-Hwang. (2003). "Institutional Repositories: the library's new role". OCLC Systems & Services, 19 (3). pp.77-79.
3. Doctor, Gayatri. (2005). "Institutional Repositories - a new paradigm to sharing information". Proceedings of the 7th MANLIBNET Annual Convention. Kozhikode: IIMK. pp. 294-303.
4. Drake, M.A. (2004). "Institutional repositories: Hidden treasures". Searcher, 12 (5). Available at: <http://www.infotaoday.com/searcher/may04/drake.html>
5. Foster, N.F. and Gibbons, S. (2005). "Understanding faculty to improve content recruitment for institutional repositories". D-Lib Magazine, 11 (1). Available at: <http://www.dlib.org/dlib/january05/foster/01foster.html>
6. Genoni, Paul. (2004). "Content in institutional repositories: a collection management issue". Library Management, 25 (6-7). pp. 300-306.
7. Johnson, Richard K. (2002). "Institutional repositories: Partnering with faculty to enhance scholarly communication". D-Lib Magazine, 8 (11). Available at: <http://www.dlib.org/dlib/november02/johnson/11johnson.html>
8. Joint, Nicholas. (2006). "Institutional repositories, self-archiving and the role of the library". Library Review, 55 (2). pp. 81-84.
9. Lynch, Clifford A. (2003). "Institutional repositories: Essential infrastructure for scholarship in the digital age". ARL Bimonthly Report 226. Available at: <http://www.arl.org/newsltr/226/ir.html>
10. Prosser, David. (2003). "Institutional repositories and open access: The future of scholarly communication". Information Services & Use, 23 (2-3). pp.167-170.
11. Wikipedia - [http://en.wikipedia.org/wiki/Institutional\\_repository](http://en.wikipedia.org/wiki/Institutional_repository)
12. Yeates, Robin. (2003). "Institutional repositories". VINE: The Journal of Information and Knowledge Management Systems, 33 (2). pp. 96-100.

#### BIOGRAPHY OF AUTHOR



**Mr P Venkata Rao**, is working as Librarian with M G State Institute of Public Administration, Punjab, Chandigarh. Presently working towards to his doctoral thesis in library & Information Science. Recently he was honored with "Young Librarian Award" by SATKAL for the year 2006. He is actively associated with the library activities in Chandigarh and presently he is the Chief Coordinator of Chandigarh Libraries Consortium (CLC) Chandigarh and Senior Vice-President of Chandigarh Librarians' Association (CLA) Chandigarh. He has to his credit one edited book, and over 20 publications.

**Email: [pvrao@mgsipap.org](mailto:pvrao@mgsipap.org)**