

## Institutional Repositories: An Evaluative Study

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### Abstract

**Purpose:** The paper examines five web based open access repositories for the purpose of identifying their strength and limitations, using pre-defined standard parameters.

**Design/Methodology/Approach:** The study used Directory of Open Access Repositories (Open DOAR) as a base for the collection of data.

**Findings:** The analysis found that the repositories are credible and are equipped with rich sets of functionalities to facilitate depositing, accessing and retrieving scholarly materials.

**Originality/Value:** The paper highlights the credibility related issues of institutional repositories in the present web based information retrieval environment.

**Keywords:** Institutional Repositories (IR); Evaluation; Open Access Repositories

**Paper Type:** Research

### Introduction

The availability of open-source IR systems has encouraged a proliferation of institutional repositories (IRs) worldwide, particularly among academic and research institutions. Based on the number of institutional repositories established over the past few years, the IR service appears to be quite attractive and compelling to institutions. They are beneficial for access to knowledge and the development of Science. These provide a permanent record of the research output of the institution and maximize the visibility, usage and impact of research through global access.

Institutional repositories have become a platform of researchers and other academicians worldwide. They have helped the researchers to break the chains of time and space. Exposure to research and long term preservation have tempted the institutional elements to accept the repository technology with open arms.

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With the first academic institutional repository projects, the *EPrints archive at Southampton* (founded in 2001, and now internationally renowned as *e-Prints Soton*) and the *DSpace initiative at MIT* (2002) that begun in parallel with the Open Access Initiative (**Cullen & Chawner, 2011**), the growth of Institutional repositories has become ceaseless as is evident from sources like Open DOAR (<http://www.opendoar.org/>) and Open ROAR (<http://roar.eprints.org/>) .

Institutional repositories have been successfully introduced, because of innumerable benefits associated with them they indeed provide a solution to concerns about the system of scholarly publishing (**Cullen & Chawner, 2011**). They have resulted in institutional progress in general and research community in particular. The development of 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 (**Lynch, 2003**).

All repositories hold a similar mission to disseminate the research output of the scholarly community. The success of a repository depends on the quality of its content and service it provides. So, it is important that various features like acquisition, access of various materials and associated policies and various issues are needed to evaluate.

### **Review of Literature**

A sizable literature is available on evaluation of repositories. A study by **Fernandez (2006)** reflects the status of open access repositories across India. **Bertot and McClure (1998)** also evaluated nine open access repositories in the field of Computer Science and Information Technology. The repositories have been evaluated using content; preservation policies; right management; promotion advertisements;

services; feedback and access status as important parameters. **Lynch (2003)** has also discussed about the infrastructure of institutional repositories visualizing the future developments also. **Carpenter, Graybill, Offord, Jr, and Piorun (2011)** have also envisioned new features in the institutional repository world. Workflow pattern in institutional repositories has been researched by **Hanlon and Ramirez (2011)**. A shifting landscape of institutional repositories is well knitted by various authors (**Shreeves & Cragin, 2008; Nykanen, 2011**). Repository management has been well been researched by number of authorities (**Bide, 2002; Genoni, 2004; Medeiros, 2003; Poynder 2006; Markey, Rieh, St. Jean, Kim, & Yakel, 2007; McDowell, 2007**). Metadata issues in institutional repositories has been researched by **Dunsire (2008); Goldsmith & Knudson (2006)** .

### **Scope**

The scope of is limited to five web based open access repositories.

### **Objective(s)**

The main objective of the study is to evaluate the various features of the institutional repositories using standard parameters identified for this purpose.

### **Methodology**

After reviewing existing literature useful and relevant inform about evaluation activities of institutional repositories were studied. The literature proved extremely useful in identifying the main elements and issues. Five repositories were randomly selected using **Toppet's (1927) Random Number Table**. These were:

- The Sydney eScholarship Repository, University of Sydney
- University of Melbourne Digital Repository
- Digital Repository of the University of Wolverhampton
- National Aerospace Laboratories Institutional Repository (NAL)
- Open MED@NIC

Questionnaires were sent via e-mail to *repository administrators* to ascertain the content management policies of the repositories.

## **Results & Discussion**

The collective discussion about evaluation of the repositories under study is given under different headings already being chosen for the purpose.

### ➤ **Overview**

Out of five repositories selected for evaluation, the softwares used are DSpace, digitool , Open Repository Software and E-print Software. The repositories are generally maintained by the Information Management Web team. **Open MED@NIC** is maintained by bibliographic information Division, National Informatics Centre (NIC). The collection of most of the institutional repositories has records in thousands but one repository has records in hundreds. The contents of the selected repositories comprise mainly of journal articles, books, book chapters, conference papers, research datasets, journal/magazine articles, patents, preprints, presentations, research reports, technical reports, theses, multimedia files, documents of creatives, documents of patents, digital version of library collection. Repositories provide usage statistics on the monthly basis about uploading and downloading status, etc.

### ➤ **Visual Interface**

The repositories have a clear user Interface and simple enough for non-experienced users. Each repository is designed with their own branding/web interface design. The site functions are fairly simple and intuitive to use. The FAQ provides help about the most common problems, tailored to the user account type. Online help is also available in all the repositories.

### ➤ **Resource Discovery**

The present study adopted the parameters used by **Smith (2000)** to evaluate the search features of different institutional repositories. The display features of any search interface are very pivotal for it. The results showed that the institutional output can be displayed by the order of relevancy, title, author, submit date, issue date, either ascending order or descending order. Again a sort bar that enables users to sort by author,

date or title and change the number of results is also evident in the selected repositories. The full metadata records can also be viewed and the item recommended was sent via email to individuals. The repositories have browsing facilities in well organized forms. The traditional subject, author and collections listings, besides listing by title, date issued and date submitted can also be generated.

➤ **Access**

The repositories have some mechanism to control access to their collection. Options permit access to free abstracts without any registration. Most repositories seek the user to register for accessing full text collection. Some repositories restrict full text to intranet having an agreement with publishers or owners of content.

➤ **System Features**

The repository need basic software and hardware. They also support the LDAP authentication. Text/document file support in the form of *HTML, PDF, Postscript, plain text, Richtext format ,XML,MS-WORD, MS-EXCEL, MS-Power point JPEG,PNG, GIF, BMP* etc are found in all the repositories. Three types of metadata form the structural framework of selected repositories viz, **descriptive, administrative and structural**. Some metadata elements are auto generated in repositories. W3C standards XHTML 1.0 label is present on site. Metadata standards include *MARC, Dublin Core, Metadata Object Description Schema (MODS), SRW and Metadata Encoding and Transmission standards (METS)*. The workflow integration supports use workflow tools.

➤ **Content Management Policy**

Almost all the institutional repositories accept post and preprints of research publications of in house researchers, annual reports, theses, institutional publications etc. All repositories under study support for web-based document management, auditing, simple workflow, including research status, publishing rights and ability to edit incorrect content. All the contents have to pass through an administration process before publication. The provision for storage and long term preservation is there. OpenMed does not have well documented collection policies.

Most institutions allow both unmediated and mediated submission of documents. The most commonly accepted document formats are *MSWord*, *PDF* and *LaTeX*.

### **Conclusion**

All repositories systems are equipped with rich sets of functionalities to facilitate depositing, accessing, and retrieving scholarly materials and all repositories take advantage of web technology for their cross-server functionality. By introducing their product to the scholarly communities all over the world, they have taken successful steps towards making the repositories they have developed an integrated part of the new means of international information dissemination. Changes in repository content management are changing rapidly. The effectiveness and efficiency of the institutional repositories is reflective in the policies adopted by the institutional repositories to work successfully in the present web based information retrieval systems.

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