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Open Access and Institutional Repositories: Pathways to Knowledge Sharing, an overview

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Abstract:

The Institutional Repository (IR) is a computerized document possessed and kept up with at either the departmental or institutional level. It is a device for gathering, putting away, and dispersing data to progress insightful correspondence. The paper specifies the fundamental components that an IR ought to have and its advantages to various partners. Managed the issues and difficulties in making the IR. Momentarily examined about the drives taken at the worldwide and public level in executing the IR. The vital job of the libraries in effectively executing the IR is additionally discussed about.

Keywords: Institutional Repository, Open Access, Knowledge Sharing

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 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of an IR may be purely scholarly or may comprise administrative, teaching and research materials, both published and unpublished.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”.

An IR gathers, stores, and spreads advanced assets and, furthermore, protects computerized materials for long-haul use. It is a bunch of administrations that a foundation or college offers to the individuals from its local area for the administration and dispersal of computerized materials made by the establishment and its local area individuals. A compelling IR fundamentally requires coordinated effort

among curators, data technologists, document and record directors, the workforce, organizations, and policymakers. (Chandran, 19-21st August, 2010)

IRs were made possible by the closed access system that covers the majority of academic publications, both published and unpublished. Encouraging research and development publications to be publicly accessible online is the fundamental goal of open access. The goal of this program was to make the research findings more widely visible. In order to spread their academic publications, Indian research and development (R&D) institutes as well as educational institutions experimented with IRs. In India there are number of prominent R & D institutes, which develop scholarly valuable research documents every year, now accept this IR service in their homepage.

Importance of Institutional Repository:

IRs are essential for an institutions that are vital to the distribution, conservation, and accessibility of an organization's intellectual products. These repositories act as centralized platforms for the methodical organization, archiving, and display of intellectual works, such as articles, theses, datasets, and other digital assets, by academic and research institutions. In addition to serving as a platform for an institution's intellectual accomplishments, IRs are vital for promoting open-access ideals, raising the profile of research findings, and advancing the interests of the international scientific community.

Figure 1 institutional repository

Source: OpenAI

IRs raise institutional profiles, expand the effect and reach of scholarly contributions, and promote the ideas of cooperation and information sharing by making a wide range of research materials easily accessible.

In the world of academia and research, IRs are quite important. They offer a host of advantages to academic institutions, researchers, academics, and the general public.

IRs are significant for the following main reasons:

- ✓ Open Access to Knowledge:
- ✓ Better Impact and Visibility:
- ✓ Securing Intellectual Property:

- ✓ Putting Institutional Excellence on Display:
- ✓ Adherence to institutional and funding agency policies:
- ✓ Cooperation in Transdisciplinary Research:
- ✓ Utilization Data and Evaluation of Effects:

Fundamental Components:

The four essential elements that an IR should have:

1) 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 IR. 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.
2) 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 grey literature.
3) 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.
4) 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.

Partners and their advantages:

- People: For individual creators, the IRs can give a focal point to their exploration work. The singular's work can be broadly dispersed, and this will have an incredible effect. The IRs can go about as a full CV for the singular creators.
- Establishments: The organizations can involve the IRs as a showcasing instrument to draw in top-notch workforce, understudies, and subsidizing for its exploration exercises. The IRs are a method for expanding perceivability and eminence. These can be the incorporated stockpiling of a wide range of institutional results, including unpublished dim writing, and furthermore, for normalization of institutional records for long-haul cost reserve funds.
- Research People Group: The examination local area will actually want to get to the world's exploration accessible in various IRs, which guarantee long-haul safeguarding of the organization's scholastic result. The IRs work with a quicker correspondence process and, furthermore, stay away from pointless duplication.

Issues and Difficulties

- The institutional culture: The presence of coordinated effort and trust inside the foundation ought to persuade the staff to add to a store to improve their notorieties in their disciplines to disperse their work.
- Extent of the storehouse: The IR might be restricted to self-filing by creators or may incorporate the scholarly result and business and authoritative reports for the entire foundation. A vault ought to give the necessary resources to uncovering the fortunes and exposing them.
- Content: The standards for store into the vault could emerge out of every local area or from a focal body with input from the members.
- Access Levels: Every institutions' characterizes its own arrangements managing admittance to and utilization of materials in repositories. Protected materials might convey various limitations. A few materials might be limited to a little gathering of scientists or to individuals related with the institution.
- Privileges the executives: Materials put in an IR are exposed to protected innovation freedoms. These be possessed by the institution, the creator, or on account of post-print, a distributer. Custodians and Chairmen answerable for working and keeping up with repositories need to guarantee that all lawful necessities for programming and content licenses are met.
- Principles: Interoperability expects that repositories utilize norms created to deal with issues related with open access. These guidelines incorporate the Open Archival Information System (OAIS) Reference Model; Open Archives Metadata Harvesting Protocol (OAI-PMH) and the Metadata Encoding and Transmission Standard (METS).
- Maintainability and financing: The repository needs consistent regard for run. The gifts and responsibility of significant investment from Curators, Chroniclers, personnel and IT staff is crucial for the progress of a vault project. The repositories cannot be supported without long haul implantations of assets. Everybody related with the IR ought to comprehend that the IR is essential for their lives and will require consideration and financing in unendingness.
- Cost: Making an IR utilizing OSS might be less or may not be by any stretch of the imagination. The ongoing expenses - staff costs and other upkeep expenses might be high.

There are about 2618 repositories in the whole world hosted by Open DOAR, out of which 2218 are institutional. In Indian case, there are about 69 repositories which are listed by Open DOAR and run by various types of organizations such as universities, institutes, research organizations, government and nongovernment organizations, etc. These repositories contain various types of items. Out of these 69 repositories, 60 are institutional, 7 are disciplinary and 2 are aggregating.

Programming embraced by Indian IRs-

	CDS Invenio	DSpace	EPrints	Fedora	Greenstone
Year of creation	1993	2002	2000	1997	1997
Development provided	Yes	Yes	Yes	Yes	Yes
Development organisation	CERN, Switzerland	DSpace Foundation, Massachusetts, USA (MIT/HP)	University of Southampton, Great Britain	Cornell University, University of Virginia, USA	University of Waikato, New Zealand
Programming language	Python (PHP, Common LISP)	Java	PERL	Java	PERL, GDBM, MG
Operating system, operation	Unix, Python/Apache	Unix, Apache... (Windows/XP)	Unix, Apache, PHP ...	Unix, Apache	Unix, Linux, Windows ...
Database	MySQL	PostgreSQL Oracle	MySQL	MySQL, Oracle ...	Not necessary
OAI-PMH	Yes	Yes, provider	Yes	Yes	Yes
Z39.50	No	No	No	No	Yes
Metadata format	MARC21, flexible	Dublin Core	Dublin Core	Dublin Core, METS ...	Dublin Core
Identifiers	their own	CNRI Handle	their own	their own	their own

Table 1: Explanation about software adopted

For institutions assessing repository platforms, the Institutional Repository Software Comparison Guide was created. It is meant to be a tool for academic libraries, both those upgrading systems and those starting from scratch when developing a repository program. An IR is an exceptionally strong practice that can act as a motor of progress for establishments of advanced education and, all the more comprehensively, for the insightful endeavors that they support. On the off chance that an IR is appropriately evolved and kept up with, it advocates for understanding the objectives of an institution and addresses a great scope of necessities. An ever increasing number of colleges in India have laid out their IRs. The capabilities and advantages of these IRs have been steadily perceived by numerous nations, sadly, IRs in India are currently at their undeveloped stage and there are as yet many works should have been finished. IRs' sustainment and improvement rely upon numerous perspectives like administration, preparing, stage building, metadata advancement, document design, quality control, and innovation update, yet consolation of staff to readily add to IRs is anyway a crucial variable.

Knowledge Sharing:

Knowledge sharing is a process of exchanging an information, ideas over the institution or organization. By sharing of knowledge, there are several benefits for both individual and institute level such as skill development, career growth, improved problem solving timing, improved productivity, innovation, elimination of data, better decision making, etc.

And, also there are some challenges during the process of knowledge sharing such as lack of time, lack of trust, inadequate technology, lack of skilled staff members, resistance to change

Figure 2 Knowledge Sharing

Source: OpenAI

IR integration with library services.

- ✓ **Digital knowledge centre:** Librarians can help repository articles, papers, and theses in digital form.
- ✓ **Scholarly communication:** IRs can help advance scholarly communication by collecting, storing, and sharing information.
- ✓ **Open access:** IRs can be used to make scholarly literature freely available and accessible to the public.
- ✓ **Knowledge management:** IRs can help with knowledge management and research assessment.
- ✓ **Monitoring:** IRs can monitor and control scholarly output, and can serve as an indicator of the scope and extent of an institution's research activities.

Key Role of Libraries:

Libraries are increasingly moving from their traditional roles as custodians and distributors to new roles as part of the process of creating and disseminating information and resources. This gives libraries a long history of developing and managing content. Many of the skills used in print and other types of digital collections are also transferable to institutional collections environments, and librarians can greatly enhance the relevance and visibility of an institution by involving themselves in the creation of IR.(Chakravarty, 2010)

The concept of IR seems to hold great promise for making open access to information and resources a reality, and because of the benefits of open access; libraries can provide direct access to scholarly publications through IR rather than through publishers and vendors. If libraries are to create collections that engage with informal scholarly interaction, they will need to develop an improved understanding of how this content contributes to the process of research and scholarly interaction. (Rao, 2007)

Most repositories can built on a self-archiving system, in which the producer is responsible for including resources in the repository and creating associated metadata. In this regard, it would be unwise

to mandate that institutions self-archives the relevant materials. The onus falls on libraries to convince producers of the benefits of archiving their research output. A particular challenge that libraries will face in assuming a leading role in the development of institutional repositories and their generalization into collections management programs is to support and provide adequate staff and their training. Libraries will need to recruit librarians with digital collections management and OAIS management skills. Training faculty and students to use OAIS, helping them create their digital products, involving them in the development of institution-wide policy, and setting collections goals will be some of the new tasks that libraries will face that are both important and difficult in today's digital age. Librarians should be aggressive in lobbying for project funding that will provide significant benefits to the university or institution.

Conclusion:

Institutional repositories are a very powerful tool that can act as engines of change for higher education institutions and, more broadly, for the scholarly activities they support. If properly developed and maintained, institutional repositories can support the achievement of the institution's goals and meet a variety of needs. More and more universities in India have established their institutional repositories. The functions and benefits of these institutional repositories are gradually being recognize by many countries but, unfortunately, institutional repositories in India are still at their early stage and there is still a lot of work to done. Maintenance and development of institutional repositories depends on many aspects such as management, training, platform building, metadata development, file formats, quality control and technology upgrades, but encouraging faculty to voluntarily contribute to institutional repositories is an indispensable factor. (Rao, 2007)

Bibliography

1. Chandran, V. (19-21st August, 2010). INSTITUTIONAL REPOSITORIES: A POWERFUL TOOL FOR ACCESSING INFORMATION FOR EDUCATIONALISTS. Next Generation Digital Libraries and web technologies: challenges and opportunities. 1, pp. 6.92 -6.97. Coimbatore: Sri Krishna College of Engineering & Technology, Coimbatore,.
2. Chang, S.-H. (2003). "Institutional Repositories: the library's new role. OCLC Systems & Services, 19(3), 77-99.
3. Genoni, P. (2004). Content in institutional repositories: a collection management issue. Library Management, 25(6-7), 300-306.
4. Rahman, M. M., & Mezbah-Ul-Islam, M. (2014). Issues and strategy of institutional repositories (IR) in Bangladesh: A paradigm shift. The Electronic Library, 32(1), 47-61. doi:10.1108/EL-02-2012-0020
5. Rao, V. P. (2007). INSTITUTIONAL REPOSITORIES : A KEY ROLE FOR LIBRARIES. 5th International CALIBER, 5th International CALIBER -2007, Panjab University, Chandigarh, 689-695.
6. Yeates, R. (2003). Institutional repositories. VINE: The Journal of Information and Knowledge Management Systems, 33(2), 96-100.