

INSTITUTIONAL REPOSITORY: A FREEBIE TO THE INSTITUTIONAL INTELLECTUAL OUTPUT

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Abstract: An Institutional Repository (IR) collects, stores, preserves and disseminates the intellectual output of an institution. It provides access to a variety of digital object at free of cost. It also helps the scholars to overcome the price barrier and copyright barrier. This paper aimed to provide a brief description of an IR, its history and benefits. It reviewed significant studies on IR and discussed the Institutional Repository initiatives in India.

Keywords: Open Access movement, Open Access Repository, Institutional Repository (IR).

1.0 Introduction

Open Access movement is a revolt that the World has witnessed in recent times. The Open access repository offers the provision to access its content at free of charge, describing them as the repositories which justify the definition of open access.

Lynch (2003) defined that "A university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organisational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organisation and access or distribution". Barton & Waters (2004) interpreted that the Institutional repository is a database with a set of services to capture, store, index, preserve and redistribute a university's scholarly research in digital formats.

2.0 History of Institutional Repository

Open access movement has begun in 1990s to overcome the copyright barrier and price barrier faced by the scholars in scholarly communication. It was powered up by the events Budapest Open Access Initiative (February, 2002), Bethesda Statement on Open Access Publishing (June 2003) and Berlin Declaration on Open Access to Knowledge in the Science and Humanities (October 2003). In this venture, open access journals and repositories also played significant role. The works which are published in an open access journals are called as Gold OA, while the works which are published in non open access journals but archived in OA repositories are called as Green OA. Development of Open access repositories is a remarkable event in the 21st century. In order to make the open access repositories interoperable, OAI- PMH version 1.0 was released at Washington DC on January 2001 and after the subsequent modification, version 2.0 of the OAI- PMH was also released on June 2002 (Lagoze and Sompel, 2003). Nicholas (Nicholas et-al, 2012) and Pinfield (Pinfield et al., 2014) distinguished five types of open access repositories, these are

2.1 Disciplinary Repository: It holds the output of a particular subject community, Eg: arxiv (Physics), PubMed Central (Biomedical and Life Science), RePEC (Economics).

2.2 Institutional Repository: It holds the intellectual output of the Institution irrespective of subject. E.g., eprint@iisc (Open Access Repository of IISc Research Publications), Dyuthi (Cochin University of Science and Technology)

2.3 Format Repository: It holds specific the type of files, e.g.: - e -theses, data sets or learning Objects. E.g., Vidyanidhi (University of Mysore), mgutheses.org

2.4 Governmental Repository: This type of repositories managed by governments. E.g.: National Repository of Open Educational Educational Resources, NCERT, New Delhi

2.5 Aggregating Repository: It holds the data harvested from other sources. E.g.: Shodhganga: a reservoir of Indian theses at INFLIBNET.

3.0 Benefits of Institutional Repository

The primary intention of an Institutional Repository is to overcome the price barrier and fulfill the unlimited information needs of scholars. Institutional Repository preserves the Intellectual output of an institution and makes that intellectual output accessible for scholars at free of charge. Furthermore, It acts as a part of a global system of distributed interoperable repositories that provides the foundation for a new disaggregated model of scholarly publishing (Crow, 2002). Institutional Repositories have lot of advantages. The major beneficiaries of the IRs are Authors, Institutions and Public. It is hard to point out the head most beneficiary of the Institutional Repository and all are getting a great deal of benefit in a different way.

An author gets gratified when his article is more communicated and discussed among other intellectuals. The citation is a visible sign of recognition and it ensures the idea, which is communicated by the author to the world loud and clear. In the initial stage, increasing the paper visibility is a great hurdle for the authors. Once it is achieved, the citation will be increased at a significant rate. Published paper can be deposited in free repositories and it will boost the visibility of papers (Ebrahim, 2014).

When hosting the IR, Institution is proclaiming the research output that accomplished in the institution in front of the public. Actually, an IR is the mirror that reflects the Institution's scholarly research. An IR can showcase the research, teaching, and scholarship at an institution (Gibbons, 2004). If the Institutions have more Intellectual output and it is showcased through an IR, the prestige and status of the Institution will increase. More research funding agencies will be attracted to the institution. Lynch & Lippincott (2005) writes "there is a growing interest among research funding agencies in data management, curation and archiving that is not necessarily closely coupled to the open access debates". The last but not least beneficiary of Institutional Repository is public. Each tax payer has a right to access the Scholarly research at free of cost.

4.0 Literature Review

Today Institutional Repositories have an undeniable role in scholarly communication. Crow (2002) regarded the Institutional Repositories as an alternative scholarly publishing model. In his opinion, it breaks the monopolies of publishers. Lynch (2003) distinctly mentioned that Institutional Repository of University performs a role of dissemination of scholarly communication, not the role of scholarly publishing.

As part of maximizing the usage and impact of research, there is an international trend for funding bodies to require publication of research results through repositories (Hockx-Yu, 2006). User study will help to understand the actual requirement of authors and IR should be designed as per the needs and desires of them (Seemen, 2011). There is a low-level awareness among faculty members about IR and they were using other resources like a personal website/ disciplinary repository other than IR for self-archiving (Kim, 2007). Kim observed that preservation feature of IR motivate the faculty members for self-archiving, while peer review process and academic reward makes less influence on faculty members. The better understanding of faculty research culture, deployment of change agents as cultural intermediaries will populate the IR content with faculty members. Developing a mandate policy with incentive structures, working with commercial vendors and importing deep backfiles to an IR will also accelerate the IR content with faculty members (Jantz, 2008). But open access mandate policy, by itself, will not influence the existing practices regarding the scholarly self-archiving (Xia, 2012).

Xia (2007) has not supported the belief about the faculties, who have a self-archiving practice in a subject-based repository are more likely to contribute to an IR than those without. However, Xu Hong (2008) found that Community of Physics, mathematics, or computer science is a good choice to build the IR because there have been preprint cultures. But, Zuber (2008) strongly supported the findings of Xia through the survey conducted among the IRS of Universities in the USA.

Gandel and Metros (2004) put forward an idea 'Personal digital repository' instead of Institutional Repository to promote the recruitment of the content. Salo, (2008) suggests that Institutional Repository must have a statistical system which should track referring links, reader's location, and count access per author /item/file/collection. He also suggests providing freedom to the authors for depositing whatever he wants in the IR, like raw materials of research, learning objects etc. and to enable an option for the authors to limit the access of their works. IR managers should be careful to provide a proper technical support to the authors for uploading their works. Declaration of the incentives to the authors, who make more uploading etc., will boost

the recruitment of content in IRs. The University of Minho has successfully implemented this technique among their faculties. Furthermore, University of Minho has a self-archiving policy that directs all scientific works of the members of the University to be deposited in their IR. They customized the IR as more user-friendly by developing several add-ons like Request copy add-on, Recommendation add-on, Commenting add-on, Controlled vocabulary add-on, the web of communication add-on etc (Ferreira et al, 2008). The University of Rochester has established Researcher page in their Institutional Repository (Foster and Gibbons, 2005). It is a personalized web page for an author, who deposits their works in the IR. Anyone can access this page and watches the works self-published by the author.

There are certain challenges faced by IR Managers. It includes metadata schema to support the variety of content, preservation and faculty contribution (Shearer, 2006). Actually, IR managers are aware of these critical success factors, but they failed to execute the same (Lagzian, 2015). Intellectual property issues, lack of leadership and poor infrastructure are the main barriers of Indian IRs (Fernandez, 2006).

As the Institutional Repository is a part of Open Access movement, open source Institutional Repository software's are better to construct and run an effective IR. Some repository software characteristics concentrated on the type of object held by them, while some others designed to hold any type of object (Wheatley, 2004). Dspace catches the 43 % of the total population all over the world (Moulaison, 2015). In this 43 %, USA and India have used a good number of Dspace customization function (Chen, 2014).

The default setting of the Open access software may not be search engine friendly; usually, IR managers will construct repositories, but not showing the same care on the web visibility and web presence of repositories. Bhat(2010) concluded that "None of the repositories is 100 percent visible and most of the repositories are visible in popular search engines like Google, MSN, and Yahoo". Orduna- Malea (2015) states that neither Google nor google scholar is accurate or representative of the actual page count of open access content published by Latin American repositories and this indicates the existence of a hidden non-indexed side of OA.

Pinfield (20015) traced out that in the year Dec 2005 to Dec 2006, there is a rapid growth of repositories (128 to 855) in the OpenDOAR. However, the growth rate is decelerated from 2185 to 2251 in the year 2011 to 2012. He concluded that this is because of the repository saturation in certain countries and rationalization of multiple repositories into single systems.

5.0 Institutional Repository Initiatives in India

The release of OAI- PMH and Open sources software like E print and Dspace has made remarkable changes in the growth of IR in India along with internationally. In Asia, India stands in the second position with 79 repositories (OpenDOAR March 2018) behind Japan.

Indian Institute of Science (IISc) has been established India 's first interoperable, open access Institutional Repository in September 2002. Another project, Vidhyanidhi of University of Mysore sponsored by NISSAT started its function in the year 2003, and it has created an online database of theses and dissertations published by Indian Institutions. From 1999, IIT Bombay had directed that all researchers have to submit the online version of theses/ dissertation along with the hardcopy and they established its ETD repository in the year 2003. INDEST Consortium (Indian National Digital Library in Engineering Sciences and Technology) was set up by the Ministry of Human Resource Development (MHRD), India in 2003. MHRD has advised that all the INDEST consortium members to set up e-print archives using appropriate OAI-compliant e-print software and also recommended that a central server may be deployed to harvest metadata from all such e-print archives (Swan et al., 2005). Librarians Digital library (LDL) of DRTC also became functional in 2004. Indian Institute of Astrophysics launched its IR through intranet in 2004, and it was opened to public in the year 2006.

National Centre for Scientific Information (NCSI) of IISc and DRTC have been conducted the number of training programs all over the country to support open access movement. Cross archive search service for Indian repositories (CASSIR) and SJPI cross-journal metadata harvester have developed by NCSI- IISc. The Former one is harvesting metadata from open access repositories in India and the latter one are harvesting metadata from 13 Open access Indian journals. NCSI offers selected list of publishers' policies for local use, Display of the number of items in individual collections, theses template (Fernandez, 2006), browse function by guide and subject, Usage statistics, Research Publications Report system for its users (Jayakant et al., 2006). DRTC offers SDL (Search Digital Libraries), and it acts as a harvester for archives/repositories and e-journals in the subject Library and Information Science. IIT Delhi also developed a metadata harvesting service, SEED (Search engine for Engineering digital repositories). Harvesting of Institutional Repositories of CSIR laboratories in India has been initiated by NAL.

In 2005, IIM Kozhikode developed its Institutional Repository and conducted many workshops on Dspace and Greenstone to facilitate open access movement in India. IIT Delhi, ISI Bangalore, Information Centre for Aerospace Science and Technology, NIT Rourkela, National Chemical Laboratory also came into that peer group in the same year. NCL has developed MOLTABLE, which provide one point access to molecular related data such as computed and experimental data, biological activity data, toxicological data and literature information harvested from the Internet and presented in a computable format (Fernandez, 2006). There are four IRs became operational in the year 2006. They are National Institute of Oceanography, Raman Research Institute, ICFAI Hyderabad and Indira Gandhi Institute of Development Research.

There are many attempts taken by the Government as well as other government agencies to encourage authors to deposit their digital copy of their publication in one or other publicly accessible IRs in the country. A special session on OA was held at 93rd Indian Science Congress in January 2006, which came up with certain recommendations for 'Optimal National Open Access Policy' of Government of India (including DST, DSIR, CSIR, DBT, DoD, DAE, DRDO, ICAR, ICMR, UGC, IITs, IISc and NITs). It directed the authors of research papers resulting from publicly-funded research to deposit electronic copies of their research paper into an institutional open access repository immediately upon acceptance for publication. Grant holders are encouraged to publish in OA journals, and the grant will cover the publication costs also (Bist&Mohanty, 2006). Government grant holders have to be encouraged to retain the ownership of the copyright of published papers, where possible (Sahu&Parmer, 2006). According to the UGC regulations 2009 and 2016, for award of Mphil/PhD Degree, the researchers have to submit the electronic version of theses in Universities to facilitate open access to Indian theses and dissertations. The repository of ETDs, ShodhGanga, was launched by INFLIBNET in May 2010. In order to promote the impact of research, the Government of India, Ministry of Science and Technology, Department of Biotechnology (DBT) and Department of Science and Technology (DST) (2014) have sanctioned an open access policy (Prena Singh, 2016).

6.0 Conclusion

The Institutional Repositories act as the most powerful channel for open access movement. The developing countries like India have also given full support to that leap, which began on a global scale. An efficient IR can be built only through the collective effort of the government, authors and Information professionals. It can be seen that the developed countries like US and UK achieved rapid growth of IR through the implementation of open access policies and the support of Government projects like MIRACLE, LEADIRS projects etc. Such a strong initiative has to be taken by India government in order to achieve the same growth.

7.0 References

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