Review

AN OVERVIEW OF INDIAN ETD REPOSITORIES

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ABSTRACT:

Making the erudite publications accessible through open access and making it more visible to a wider range of audiences across the globe with the help of World Wide Web is the new edged mantra for scholarly communication. This study was undertaken with an attempt to give an abridgment of ETD repositories in India. The chief objective of the study is to find out the development and current status of Indian ETD repositories. The current study depicts the importance of ETD Repositories in the technology driven era especially in developing countries like India. It was found that a number of ETD repositories are coming up and a few among them shows a promising future.The study shows that maximum number of Indian ETD repositories has adopted the open source software Dspace for building up the repositories and Shodhganga is leading in terms of the records contained in the ETD repository

KEYWORDS:ETD Repository, India, Shodhganga, Vidyanidhi, Dspace

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INTRODUCTION

Theses and Dissertations are the most important constituents of primary information resources as they are the most scholarly output of any research(Sheeja, 2012). And these scholarly outputs are the bases of further researches as authors or researchers derive ideas, concepts from works done earlier in their domain. So it is very important from research perspective that the output of previously done researches should be reached by the current researchers. But in Indian perspective it is seen that Theses and Dissertations satisfy only the local needs as most of the Indian libraries prohibit the lending or photocopying of Theses and Dissertations which is a barrier in the path of scholarly communication. In a country like India, it is not feasible for researchers both financially and physically to travel from one part of the country to the other part and get the desired theses or dissertation. An ETD repository of national or international coverage is an immediate solution to this problem as a result INFLIBNET took the initiative to build a repository of Theses and Dissertations generated in Indian Universities to serve the need of the researchers by providing access to these resources.

The growth of Internet and its applications have added new dimensions to scholarly communication. Academic publishing has been changed tremendously with the ability to publish, access and store scholarly works digitally (Campbell-Meier, 2008). As electronic communication is developing at the speed of light, academic research has also introduced new technologies and tools for scholarly communication. These new technologies implemented have helped in the faster retrieval of information which is the need of the hour. Theses and Dissertations are scholarly output of research conducted at universities. Recently these scholarly works are also getting transformed from print form to E- form as a result of incredible e- growth (Mikeal et al. ,2009).

It is seen thatthe digital libraries of Electronic Theses and Dissertations(ETDs) are promising to be extremely advantageous toscholars, especially in developing countries, however, the advent of ETD lifts up certain issues and responsibilities for libraries to address, including improving access to resources, maintaining the information server and archiving. A blooming ETD initiative involvesamalgamation of library, systems, and university participation and cooperation. ETDspresently submitted in Indian universities are primarily in textformat, and many libraries have no open access policy(Ghosh, 20069). Today, Developing and maintaining a sustainable model of open accessETD repositories for users is a challenge for the librarian. Open access to these scholarly harvests of universities is vital for the reason that these intellectual assets in the form of Theses and Dissertations can be used for the betterment of society and forfurther research. The open accesspublishing model triumphs over the dilemma of financial barrier in the path of free flow of information and makes the research works freely available to institutions and individuals.

Institutional Repository

An institutional repository includes a variety of materials produced by scholars from many units, such as e-prints, technical reports, theses and dissertations, data sets, and teaching materials. Some institutional repositories are also being used as electronic presses, publishing e-books and e-

journals (Bailey, 2005). According to Prosser (2003) there are undoubted benefits to institutions in building up of repository as they are able to greatly extend the amount of material they can offer to their researchers. The classical definition of IR by Lynch (2003) as follows: 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 organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution.

Resting on thehymn of "shared and open access", institutional repository (IR) systems have broughtrevolutionary changes to the way the scholarly communication is taking place. As anemerging publishing model, the institutional repository is here to stay, as long as thedegree of user participation is high, and there are sound policies and stakeholderengagement. This transformative force driving information dissemination has usheredin new challenges to the traditional routines of librarianship, and institutionalrepositories are seen as creditable information channels in institutional settings acrossthe world, transforming scholarship media (Lynch, 2003). The emergent institutional repositories have incredible impact as they are capable of facilitating timely and open access to research and scholarship; maximize thepotential research impact of archived publications,supporting alternative forms of journalpublishing and novel forms of digital scholarship by preserving and making

accessibleacademic digital objects, datasets, and analytic tools that exist outside of the traditionalscholarly publishing system (Chan, 2004).Although IRs are still evolving and taking on differing manifestations in specific institutions , they can be defined in general as systems and service models designed to collect and organize, store, share and preserve an institutions digital information or knowledge assets worthy of such investments. This may look similar to libraries but the technical infrastructure and types of materials collected in such a repository presents new challenges and extended responsibilities for traditional libraries. An Institutional Repository provides access to much larger variety of documents as compared with traditional print publishing such as:Pre-prints / post prints, Research reports, Conference papers / posters, Book reviews, Teaching materials, Student's assignments / projects ,Doctoral theses and dissertations ,Datasets resulting from research projects ,Audio / video materials such as speech ,Photographs / images ,Convocation address ,Programs / software ,Annual reports / manuscripts / maps ,Newspaper clippings / articles ,Profiles of faculty members / administrative staff / scientists etc. (Hirwade & Hirwade, 2006).

There is a range of open source software for building up an IR such as Eprints, DSpace and Greenstone. So the major initial cost that the institution has to bear is to purchase hardware and pay for staff that will be responsible for the activities related to the repository (Barton & Waters, 2004).It is mandatory to formulate certain policies and regulations by the developing authority for their collection. The institution needs to decide certain guiding principles such as Who is

allowed to deposit materials; What types of digital documents can be deposited (e.g. Pre-prints, post-prints, working papers, theses, chapters, datasets, etc.); What digital formats will be accepted ; Quality assurance procedures; Preservation procedures; Metadata quality standards; Restricting Access; Content guidelines for submission and organization (Barton & Waters, 2004).As the concept of Institutional Repository is not known to the research community, it is very important for the responsible institution to promote the repository by conducting various promotion activities such as passing out brochures, conducting presentations to faculty committees, publishing articles in the library or campus newsletters / newspapers, and formally launching the repository.

As of March 15, 2014, there are 59 Indian repositories registered in OpenDOAR (http://www.opendoar.org/), do not completely represent open access initiatives in India as they depend on voluntary registration. ROAR also includes archives in testing or development phase which may not be openly accessible. While ROAR can provide a graphical representation of the cumulative growth of records in Indian open access archives over the last few years, OpenDOAR has subject and content type classification potentially useful to librarians (Fernandez, 2006).

Institutional repositories can provide long time preservation of research output of scientific and academic organizations; it can offer perpetual access to those literatures as well. Institutional repositories (IRs) form a key element in the open access movement tobring scholarly research onto the open World Wide Web. IRs are a practical,cost-effective, and strategic means for institutions to build partnerships with theirfaculty to advance scholarly communication by capturing and preserving intellectualoutput of academic or research institution.Cultural diversity of organizations is demonstrated through their collections preserved in institutional repositories. Also, it includes more open scholarship. Setting up an IR demands certain necessities such as user engagement, retrieval efficiencies, testingand evaluation of systems, and strong support from all stakeholders. Unlike the traditional backdrop of information services, institutional repositories help toencourage participation by end-users, because potential users contribute in the openaccess development either through self-archiving or because of institutional mandates,which in turn increases the rate and scale of research impact of usage and citation.

ETD Repositories

Theses and dissertations are the most scholarly works that takes years together to study, investigate, survey, research and write. Theses and dissertations are regarded as the substratum of graduate education. However, the vastmajority of these works pine away in gloom in college and university libraries andarchives. So, there is a serious need of bringing this original research to light and it can be accomplished in the best way by publishing it electronically and by giving students and researchers' free and open access to these documents viathe World Wide Web.

History of ETDs

The origin of ETDs started in 1987 with a meeting summoned by Nick Altair of UMI in Ann Arbor, Michigan, involving participants from

VirginiaTech, the University of Michigan, and two fledgling software companies: ArborTextand SoftQuad.In 1988, the earliest SGML Document Type Definition (DTD) for theses and dissertationswas developed by SoftQuad's Yuri Rubinsky with funding from Virginia Tech. In 1992, Virginia Tech joined with the Coalition for Networked Information, theCouncil of Graduate Schools, and UMI, to host a meeting with ten other universitiesthat had documented the interest of their graduate schools, and library and/or informationtechnology groups. In 1996, the pace of ETD activities gained momentum when the U.S. Department ofEducation funded a three-year, nationwide effort to extend the concept of ETDs acrossthe country. Also, in 1996 the free, voluntary federation called NDLTD (Networked Digital Library of Theses andDissertations) was established and quickly began to expand.

Types of ETDs

Presently, there are two standard types of ETDs:

i. Author-created documents consistingof a Word file converted to PDF, HTML, or XML and submitted (typically) over a networkconnection with relatedmetadata; and electronic files createdby scanning the pages of a paper, thesis or dissertation.

ii. Thesecond one is usually created by universityor service company staff andthe resulting documents (or pageimages) are much less desirablethan author-created documentsbecause they cannot be manipulated.Scanned ETDs also require more storage space.

Significance of ETD repositories

ETD repositories play a very important role in scholarly communication as they help in enhancing the availability of research to theacademic community worldwide. Once a thesis or dissertation is deposited in the ETD repository with proper metadata then it becomes easy for the research community to search it and access it through World Wide Web. It increases the exposure to potential employers, improve studentunderstanding of electronic publishing issues andreduce the need for library space. ETDs offera new generation of theses and dissertations thatcan include color diagrams, color images, hypertextlinks, audio, video, animations, spreadsheets, databases, simulations, and virtual reality worlds.ETDs are a way of sharing intellectual production because they make the resultsof graduate programs widely known.ETDs can identify and connect national and internationalresearch groups. In addition to the multimedia aspects discussedabove, the ETD will be given an address on theWorld Wide Web after it is publicly released so itcan be accessible worldwide. In this way the ETDcan answer other's questions and inspire furtherresearch. Through the World Wide Web, peopleanywhere in the world can link directly to students'ETDs or ETD collections of universities. ETD is cost-effective for both studentand university.

Major ETD Initiatives in India

As of March 15, 2014 there are 8ETD repository initiatives that have been registered in ROAR but it doesn't give a clear picture as there many other ETD repositories from the country which is not registered in the registry to name Shodhganga and

Vidyanidhi. The ETD initiatives in India can be broadly grouped into two categories:

i. ETD initiatives at Institutional Level.

ii. ETD initiatives at National Level.

Table 1.1

ETD initiatives at Institutional Level in India

Table 1.1shows the ETD initiatives made at Institutional Level in India

Name of the ETD Repository	Software used	No of records	Year of Introduction	Organization
Eprint@IIT Delhi	Dspace	2143	2005	IIT Delhi
National chemical Laboratory - Pune	Dspace	357	2005	National chemical Laboratory - Pune
E-theses A Saurashtra University Library Service	E- Prints	100	2012	Saurashtra University
Open Access Repository of Indian Theses	E- Prints	100	2009	CSIR Unit for Research and Development of Information Products, Pune
ethesis@nitr - ethesis	E- Prints	100	2009	National Institute of Technology, Rourkela
ETD@IISc	Dspace	2350	2005	IISc
Mahatma Gandhi University - Online THESIS	Other software		2008	Mahatma Gandhi University -
ETD Electronic Theses and Dissertations of UAS Dharwad	-	-	2012	University of Agricultural Sciences, Dharwad

From table 1.1 it is clear that most of the ETD initiatives made at Institutional Level in India used Dspace and E prints for building up of the repositories ;Eprint@IIT Delhi contains highest number of records.

Table 1.2

ETD initiatives at National Level in India

Table 1.2shows the ETD initiatives made atNational Level in India

Name of the ETD Repository	Software used	No of records	Year of Introduction	Organization
Shodhganga	Dspace	25110	2010	INFLIBNET
vidyanidhi	Dspace	5496	-	Mysore University

Table 1.2 depicts that both ETD Repositories national level used the open source software Dspace and Shodhganga the product of INFLIBNET is leading in terms of record contained which is almost three times of the record hold by Vidyanidhi

Shodhganga:

It is a product of INFLIBNET, an organ of UGC. It is dedicated to the accomplishment of the task of creating Indian National Theses Database(INTED) in full text by coordinating with alluniversities in India."Shodhganga" is the name coined to signify digital repository of Indian Electronic Theses and Dissertations set-up by the INFLIBNET Centre. The word "Shodh" originates from Sanskrit and stands for research and discovery. The "Ganga" is the holiest, largest and longest of all rivers in Indian subcontinent. The Ganga is the symbol of India's age-long culture and civilization, ever-changing, ever-flowing, ever-loved and revered by its people, and has held India's heart captive and drawn uncounted millions to her banks since the dawn of history. Shodhganga stands for the reservoir of Indian intellectual output stored in a repository hosted and maintained by the INFLIBNET Centre. It is having the responsibility

of hosting, maintaining and making the digital repository of Indian Electronic Theses and Dissertation. Theses and dissertations are recognized to be the richest source of scholarly information but the miserable part is that they remain an un-tapped and under-utilized asset, leading to unnecessary duplication and repetition of research work. To solve this problem INFLIBNET, an organ of UGC took the initiative to collect, store and preserve Theses and Dissertations produced in Indian universities.

Vidyanidhi: This is a digital library initiative to ease thecreation, archiving and accessing of doctoraltheses. Under this initiative, in addition to havingcreated 'Indian Theses Database'(Bibliographical)a separate database 'Vidyanidhi Digital Library of Indian Doctoral Dissertations' provides access to5496 full-text doctoral theses.

CONCLUSION

Electronically publish Theses & Dissertations make the results known nationally and internationally and ETDs can identify and connect national and international research groups.The digital libraries of electronic theses and dissertations (ETDs) are showing potential to be tremendously beneficial to scholars, especially in

developing countries like India.ETD initiatives are important because financial barriers prevent researchers in developing countries from accessing the research information they need. The ETD initiatives started in India during the late nineties and thepopularity of this concept is growing rapidly in the higher educational and research institutions as a method to disseminate newly emerged knowledge and expertise.ETD repositories can expose the intellectual output of country to a wider audience with the help of internet. Through the World Wide Web, peopleanywhere in the world can now link directly to students'ETDs or ETD collections of Indian universities and research institutions which are available through the ETD repository initiatives taken by different Indian institutions.

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