

Institutional Repositories: The Prospects and Challenges in Indian Digital Library Environment

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Abstract

The information evolution leads to the flood of publication. User needs are also rapidly growing. They have to read more journals, require more information but the prices have increased faster than library budget. So to cope up the situation and meet the user requirement the institutional repositories has been emerged. In the age of ICT, the concept of institutional repository has arisen, which have become very essential mode of accessing and sharing the information. Information is always considered the root cause for the development of any society/community. Institutional Repositories are digital collections of the outputs created within a university or research institution. This paper discussed about growth of IR in India and also global scenario of IRs. This paper is a consideration of some of the important aspects related with IRs. It also explores the trends at global and national level of IR. The present paper also discusses about some important software, which is being used by IR of various organizations world wide and described objective, definitions, content, use, features, design, advantages, key components, issues and challenges, etc. IR consists of formally organized and managed collections of digital content generated by the faculty, staff and students of an institution. IR enhance the visibility of the research outputs locally produced. The paper concludes with the remarks that the LIS professionals need to have more active and responsible for generation and maintenance of IR systems efficiently and effectively. Librarian is the focal point, the IR system as he plays a role of designer as well as service provider.

Keywords: Institutional Repositories, Institutional Achieves, Open Source, Software, GDLS

1. Introduction

In the age of ICT, the concept of institutional repository has arisen, which have become very essential mode of accessing and sharing the information. Information is always considered the root cause for the development of any society/community. Institutional repositories are digital collections of the outputs created within a university or research institution. IR is the best solution to this. The information evolution leads to the flood

of publication. User needs are also rapidly growing. They have to read more journals, require more information but the prices have increased faster than library budget. So to cope up the situation and meet the user requirement the institutional repositories has been emerged. The decreased in price of information technology particularly network technology and new innovations in www helped emergence of IRs and interoperability framework as pre-print achieves but rather than being discipline-based, represent the wide range of research output, produced by one institution of knowledge, or intellectual capital, produced by



scholars and their parent institution(Universities) tends to end up being disseminated by commercial publishers, who are required to under take the work of indentifying and selecting appropriate material for capturing, preservation and publication. In the recent years much discussion and initiatives are taken in the area of institutional repositories. It is noted that many of the IRs were established on the basis of the subject disciplines, nature of the parent institutions, nature of the users served, etc.

2. Institutional Repository (IR) some definitions

According to Shearer (2006) “an institutional repository (IR) is a digital archive of an institution’s intellectual out put. They collect and make accessible a range of research material and also part of a larger global system of repositories”.

Institutional repository is a digital achieve of intellectual product created by the faculty, research staff, and students of an institution and accessible to end-users both within and outside of the institution with few if any barriers to access (Johnson, 2002).

An Institutional Repository is an online locus for collecting, preserving, and disseminating in the digital form- the intellectual output of an institution, particularly a research institution.

Mary R Barton of MIT libraries and Margaret M Waters of Yale University have defined Institutional Repository (IP) as “a database with a set of services to capture, store, index, preserve and redistribute an institute scholarly research in digital formats”.

An institutional repository is a new method for capturing, collecting, managing, disseminating and preserving scholarly works created in digital by the members of an institution.

Clifford Lynch defines Intuitional Repositories as “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”.

3. Objective of Institutional Repository

The four main objectives for having an institutional repository are

- ❖ To provide open access to institutional research output by self-archiving it;
- ❖ To create global visibility for an institution’s scholarly research;
- ❖ To collect content in a single location;
- ❖ To store and preserve other institutional digital assets, including unpublished or otherwise easily lost literature;

4. Features

An IR contains digital contents which can be vast including text, audio, video, images, learning objects and database.

- ❖ IR is community driven and community focused that means the users will determine what should be deposited and individually responsible for making the deposits
- ❖ IR reflects the scholarship, research, and interests of an organization
- ❖ For a successful IR, it is required to collaborate among divisions across an institution

❖ It is not black achieve, the content is not hidden from the entire world. With some exceptions, the contents can be accessed by more than just contents owner because the materials in IR are meant to shared

5. IR Use

- ❖ IR enhances the professional visibility of the faculty
- ❖ Raises the prestige of the institution
- ❖ Lower access barriers
- ❖ Offers wider dissemination of scholarly communication
- ❖ Open access online articles are highly cited
- ❖ Students can easily access the papers written by the faculty members
- ❖ Publication in IR can be immediately found in global search service

6. Content of IRs

- ❖ The contents of a repository may be
- ❖ Peer-reviewed journal articles
- ❖ Conference proceedings
- ❖ Research data, post prints, working papers
- ❖ Monographs, books, theses, dissertations
- ❖ Reports, annual reports, video presentation
- ❖ Teaching resources, paper published
- ❖ Posters , photographs, patent, pre-prints
- ❖ Annual reports, journal articles, conference paper
- ❖ Publisher PDFs, technical reports, book chapters
- ❖ Digital research, research papers, research databases

❖ Text audio-video recordings and unpublished works, etc

7. Strategies for IRs

- ❖ According to Mark and Shearer strategies for IRs can be placed into six categories
- ❖ General promotional activities
- ❖ Mediated depositing services
- ❖ Content harvesting
- ❖ Researcher bibliographies
- ❖ Usage information, and
- ❖ Self-archiving policies

8. IR Design Architecture

- ❖ IR may have multi-tier design architecture. It has been divided in to three groups
- ❖ Operational architecture
- ❖ Technical architecture
- ❖ System architecture

9. Key steps for developing Institutional achieve

Some important steps involved in developing an institutional achieves are

- ❖ Registration
- ❖ Certification
- ❖ Awareness
- ❖ Digital preservation policy
- ❖ Archiving
- ❖ Self-achieving
- ❖ OAI

10. The Role of the Librarian

In networked era like IR, the librarian plays a vital role in using and disseminating information of all kinds. Using and creating IRs is also one of the

major role played by the librarian. Only the librarian is the right person to take initiative for the development of an IR the required project can be completed without the constitution of a committee, in which outside experts need to be presents. The committee would comprise the hardware and software experts, internal members, decisions making authority and the librarian. The committee would suggest the right hardware and software. The librarian will play an important role in converting the meetings and implementing the same in-co-operation with other faculty members.

11. Key Components

There are several key components of IR system;

❖ **Generators or users of the Information**

(Authors): They need to supports IR initiatives by self-archiving, refereeing, reading and citing articles. Without their cooperation IR initiatives are not possible.

❖ **Information providers or IR designers:** The librarians and computer scientists are responsible for generation and maintenance of IR system efficiently and effectively. Librarian is the focal point of the IR system as he plays the role of a designer as well as service providers. Also they need to publicize and promote the IR initiatives.

❖ **Infrastructures:** Infrastructures support means the software and hardware requirements, internet, intranet connectivity and other technical tools for the successful establishment of IR.

❖ **Funding /OAI society /Political support:** Funding and support from professional as well as from political boundaries are also necessary for the success of IR initiatives.

❖ **Contents:** It may contains a wide range of intellectual assets such as preprints, articles,

course materials, handouts, theses, reports, proceedings, dissertations, monographs, institute journals, standards and notes etc. The resource could be a text document, data or multimedia.

❖ **Advantages of Institutional Repositories:** A repository has the following purpose and benefits for an institution:

❖ Opens up the outputs of the university to the world

❖ Maximizes the visibility and impact of these outputs as a result

❖ Showcases the university to interested constituencies – prospective staff, prospective students and other stakeholders

❖ Collects and curates digital outputs

❖ Manages and measures research and teaching activities

❖ Provides a workspace for work-in-progress, and for collaborative or large-scale projects

❖ Enables and encourages interdisciplinary approaches to research

❖ Facilitates the development and sharing of digital teaching materials and aids

❖ Supports student endeavors, providing access to theses and dissertations and a location for the development of e-portfolios

❖ It is beneficial to all researchers, institutions and entire research community

❖ Cost saving, avoid duplication of efforts, broaden communication process, reduction time in announcing the findings.

❖ It can accepts more than a limited number of articles to be stored which may helpful for publishing the finding of the entire scientific community from developing countries

- ❖ Researcher benefits through wider dissemination of their work, resulting in more “research impact”
- ❖ University benefits from a higher profile by making all output publicly available and also by having a comprehensive managed and preserved record of its research output

12. Issues for IR

There are various issues which need to be properly addressed before establishing any IR such as

- ❖ IPR or copy rights
- ❖ Preservation
- ❖ Existing digital collection
- ❖ Cultural issues affecting faculty take-up
- ❖ Organization and administration
- ❖ Accession policies and metadata
- ❖ Funding & business model
- ❖ Open access and sound policy
- ❖ Lack of awareness to words IRs
- ❖ Inadequate information and communication technology infrastructure
- ❖ Inadequate funding and advocacy for IRs
- ❖ Lack of government reorganization /policy to promote research and development of digital preservation and IRs

13. Institutional Repository: Major Steps in Building

Broadly speaking, the following steps are the major milestones you will encounter in building an IR. We present them here in logical order but realize that many of you will experience them differently.

- ❖ Learning about the process by reading about and examining other IRs
- ❖ Developing a service definition and service plan

- ◆ conduct a needs assessment of your university
- ◆ develop a cost model based on this plan
- ◆ create a schedule and timeline
- ◆ develop policies that govern content acquisition distribution, and maintenance
- ❖ assembling a team and marketing
- ❖ technology-choose and install software platform
- ❖ launching a service and running a service

14. How do people use IRs?

Universities and research libraries around the world use IR in the following ways:

- ❖ Scholarly communication
- ❖ Storing learning materials and course ware
- ❖ Electronic publishing
- ❖ Managing collections of research documents
- ❖ Research assessment and housing digitized collections
- ❖ Encouraging open access to scholarly research
- ❖ Knowledge management
- ❖ Institutional leadership role for the library
- ❖ Preserving digital materials for the long term

Each university /research institution has a unique culture and assets that require a customized approach. The information model that best suits one university / research institution would not fit another university /research institution.

15. International Achieves

- ❖ ARON (Academic Research in Netherland online).

- ❖ Australia National University - <http://eprints.anu.edu.au/>
- ❖ California Digital Library - <http://escholarship.cdlib.org/wprepositories.html>
- ❖ DARE (Digital Academic Repositories) - www.surf.nl/en/themas/index2.php?oid=7
- ❖ INSAP - <http://www.inasp.org.uk>
- ❖ SHERPA(Securing a Hybrid Environment for Research and Preservation & access)- www.sherpa.ac.uk

DSpace@cambridge - www.lib.cam.ac.uk/dspace/

16. National Achieves

- ❖ Indian National Science Academy(INSA) journals (www.insa.ac.in)
- ❖ Indian Academy of Science (IAS) Journals (<http://www.ias.ac.in>)
- ❖ IndMed database (<http://indmed.delhi.nic.in>)
- ❖ National Centre of Biodiversity informatics (<http://www.ncbi.org.in>)
- ❖ NISCAIR (<http://www.niscair.res.in>)
- ❖ DRTC (<http://drtciisibang.ac.in>)
- ❖ eprint@iisc-<http://eprints.iisc.ernet.in>

17. Challenges for IRs

- ❖ The problems and hurdles which implementation team faces in building a repository in clued the following:
 - ❖ Adoption rate by academics
 - ❖ Providing for sustainable
 - ❖ Identifying key stakeholders
 - ❖ University Support

- ❖ Cost management
- ❖ Developing Policies
- ❖ Managing Intellectual Property Rights
- ❖ Digital preservation

18. Software's for IRs

- ❖ The software systems, which are used for IR, should have the following characteristics
 - ❖ There are currently released and publicly available
 - ❖ There are available via an open source license
 - ❖ They are complying with the latest version of the Open Archives Initiative metadata harvesting protocols
 - ❖ There is a number of software, used for IR; These are the some examples of softwares, which are using world wide for IR
- ❖ Archimede
- ❖ ARNO
- ❖ CDS ware
- ❖ D-Space
- ❖ Fedora
- ❖ Greenstone
- ❖ E-prints
- ❖ i-Tor
- ❖ My Core
- ❖ Roads
- ❖ OPUS
- ❖ **Archimede:** Developed by Laval University Library in Quebec City, Canada the Archimede project was designed to accommodate electronic

preprints and post prints from the institutions faculty and research staff. Archimede organizes the content submission process around a network of locally-managed research communities. Archimede was specifically designed to support multilingual international implementations.

❖ **ARNO:** The ARNO project –Academic Research in the Netherlands online has developed software to support the implementation of institutional repositories and link them to distributed repository world wide. It is designed to provide a flexible tool for creating, managing, and exposing OAI-compliant achieves and repositories .The system supports the centralized creation and administration of repository content, as well as end-user submission.

ARON software available from <http://arno.uvt.nl/arno/arnodist/>

❖ **CDSware:** The CERN Document Server Software (CDSware) was developed to support the CERN Document Server. The software is maintained and made publicly available by CERN (The European Organization for Nuclear Research) and supports electronic preprint servers, online library catalogues and other web-based document depository systems. CDSware was designed to accommodate the content submission, quality control, and dissemination requirements of multiple research units. It complies with Open Achieves Initiatives Metadata Harvesting Protocol (OAI-PMH) and uses MARC-21 as its underlying bibliographic standard. It is free software issued under GNU-GPL license.

CDSware software available from <http://cdsware.cern.ch/download/>

❖ **DSpace:** DSpace is developed as a joint research project of the MIT libraries and Hewlett-Packard(HP) through invent@MIT, the HP-MIT alliance. It was developed in response to expressed faculty needs for an easy-to-use, dependable repository that accommodates a broad range of formats. It is intended to provide a solid foundation for the collection of digital material from and around the institute. MIT libraries hold a non-exclusive license to distribute and preserve items but do not own the DSpace content. DSpace is also focused on the problem of long-term preservation of deposited research material. It is incumbent upon libraries to develop strategic and economic plans for the preservation and usability of those resources over times.

DSpace software available from <http://www.dspace.org/resource/start.html>

❖ **E-prints:** The e-prints software has the largest and most broadly distributed-installed base of any of the repository software systems described here. Developed at the University of Southampton, the first version of the system was publicly released in late 2000.The project was originally sponsored by Cogprints, but is now supported by JISC, as part of the Open Citation project; and by NSF. E-prints world wide installed base affords an extensive support network for new implementations. The size of the installed base for e-prints suggests that an institution can get it up and running relatively quickly and with a minimum of technical expertise.

E-prints software available from <http://software.eprints.org/download.php>

❖ **Fedora:** It is developed Cornell University and the University of Virginia. It is based on the

Flexible Extensible by Digital Object and Repository Architecture (FEDORA). It is an open software license under Mozilla Public License. It requires Sun Java Software Development Kit V1.4. It works both on window and Unix Operating System. The system is designed to be a foundation upon which full-featured IRs and other interoperable web-based digital libraries can be build.

Fedora software available at <http://www.fedora.info/>

❖ **Greenstone:** The Greenstone Digital Library (GSDL) software is developed by university of Walkato and is freely available on <http://greenstone.org/cgl-bin/library>. It is a suite of software for building and distributing digital library collections. It provides new ways of organizing information and publishing it on the Internet or on CD-ROMs. It is available for both windows and Linux operating systems. It requires Perl software for building collection.

❖ **i-Tor:** i-Tor is an IT-A section of NIWI-KNAW product, which is available at <http://www.i-Tor.org/en/>. It is open-source software that enables you to create websites. They may be straight forward web pages, or information from a database, an Open Archive, or some other file. i-Tor can also be used to make modifications; the creator of a web page can manage it directly on the site, either alone or in collaboration with others. Users can search all of the information that is linked to i-Tor. No special actions are required to make content such as web pages, PDF documents, database records, etc, full text searchable. And users can simply click on links in these documents everything is accessible

through the site. i-Tor aims to implement a “data in independent “ repository, where the content and the user-inter-face function as two independent parts of the system.

❖ **MyCoRe:** MyCoRe grew out of the MILESS project of the University of Essen. The MyCoRe system is now being developed by a consortium of Universities to provide a core bundle of software tools to support digital libraries and achieving solutions. MyCoRe provides a sample application, based upon a “Core” of functionality that shows users how to build their own applications using metadata configuration files. The core contains all the functionality that would be required in a repository implementation, including distributed search over geographically dispersed MyCoRe repositories, OAI functionality, integrated audio/video streaming support, file management and on line metadata editor. Local implementations can customize the core to serve their particular requirements.

MyCore software available from <http://www.mycore.de/engl/index.html>

❖ **OPUS:** Online publications of the University of Stuttgart was developed in 1998 by the University Library and the computing centre of the University of Stuttgart. The goal of the original project was to provide a system by which faculty, students, and staff at the university could manage their electronic publications, including published and unpublished articles and theses and dissertations. The OPUS interfaces and documentation are primarily in German, and all current implementations of the software are in Germany .Therefore, the system would appear to

have its most direct appeal to repository implementations in German speaking countries.

OPUS software available from <http://elib.uni-stuttgart.de/opus/doku/english/index-english.php>

❖ **ROADS:** ROADS was originally developed as part of the UK electronic libraries programme (elib) by a consortium including the Institute of Learning and Research Technology at the University of Bristol, and the UK office of library and Information Networking at the University of Bath. It is available at <http://www.roads.sourceforge.net/>. This software is suite of programs intended to aid in the setting up and day-to-day running of www based catalogues of online resources. Although designed specifically to meet the requirements of the eLib subject gateways ROADS software may be useful in a variety of other purposes. It works on a variant of the Unix Operating system with HTTP Apache web server and perl languages.

❖ **Ganesha Digital Library Software (GDLS):** Ganesha Digital Library is open source software, which enables institution or personals to share their knowledge as well as simultaneous access and utilize knowledge. GDSL is a tool for managing and distributing digital collections using web based technology. GDL enables institutions or personal to share their knowledge as well as simultaneously access and utilize knowledge in Indonesian “giant memory” in the form of network of Indonesian DLN digital libraries.

❖ **iVia:** iVia is a software package for building and presenting virtual libraries of Internet resources. Librarians can use it to build a database

of metadata records, either manually or by employing its many record building metadata assignment and focused crawling tools. The virtual library itself is searchable and browsable through a standard and web browser, & can be presented with any number of data views. iVia was developed by the INFOMINE project at the library of the University of California, Riverside as the engine for the INFORMINE Scholarly Internet Resource collections. iVia is free software, distributed under the terms of the GNU public license.

❖ **Phronesis:** Phronesis is a software tool for the creation of distributed DL. A distributed DL is built of one or many digital document repositories. Each repository stores a creation of document. Use can retrieve entire document in original format or just display its text or metadata for quick review. It can index document in a wide variety of formats. Phronesis repository can perform a parallel search on any of the available repository in the net. Phronesis is developed by CONACYT, ITESM and it is licensed under GNU General Public License

19. IRs - Indian Scenario

E-print@IISC was the first IR in India which was established by Indian Institute of Science under the supervision of late Dr T B Rajshekhar. According to Registry of open Access Repositories (ROAR) [10] [11], there are about more then 48 IRs in India. The detail of Institutional Repositories of India is given in the following table.

Sl.No.	Name of Institution/Host	Name of the repository	Software Used
01	National Informatics Centre	openMED@NIC	Eprint
02	Institute of Mathematical Sciences	IMSc Eprint Achieve	Eprint
03	National Institute of Technology, Rourkela	ethesis@nitr	DSpace
04	Bangalore Management Academy	DSpace@BMA	DSpace
05	IGM library , University of Hyderabad	DSpace@UoH	DSpace
06	S.V. National Institute of Technology	Eprints@SVNIT	Eprints
07	School of Biotechnology, Madurai Kamaraj University	Eprints@SBTMKU	Eprints
08	National Institute of Immunology	Eprints@NII	Eprints
09	National Metallurgical Laboratory	Eprints@NML	Eprints
10	National Centre for Radio Astrophysics	DSpace@NCRA	DSpace
11	Indian Agricultural Research Institute	Eprints@IARI	Eprints
12	Institute of Mineral and Materials Technology	Eprints@immt	Eprints
13	Ministry of Earth Sciences	Eprints@MoES	Eprints
14	National Institute of Advanced Studies	Eprints@NIAS	Eprints
15	Guru Gobinda Singh Indraprastha University	DSpace@GGSIPU	DSpace
16	Indian Institute of Science	ETD@IISc	Eprints
17	Indian Institute of Technology, Delhi	ETD@IITDelhi	DSpace
18	Raman Research Institute	DSpace@RRI	DSpace
19	Thapar University	DSpace@TU	DSpace
20	National Chemical Laboratory	DSpace@NCL	DSpace
21	Indian Institute of Information Technology, Allahabad	Eprints@IIITA	Eprints
22	NIT-Rourkela	DSpace@nitr	DSpace
23	National Centre for Antarctic Research	DSpace@NCAOR	DSpace
24	Information and Library Network Centre	DSpace@INFLIBNET	DSpace
25	IIM, Kozhikode	DSpace@IIMK	DSpace
26	Indian Statistical Institute ,Bangalore	DL@ISIB	DSpace
27	ICFAI Business School, Ahmedabad	DSpace@IBSA	DSpace
28	Indian Institute of Astrophysics	DSpace@IIA	DSpace
29	Indian Institute of Technology , Bangalore	DSpace@IITB	DSpace
30	Indian Institute of Space Research	DSpace@IISR	DSpace
31	Central Marine Fisheries Research Institute	Eprints@CMFRI	Eprints
32	Digital Knowledge Repository of Central Drug research Institute	DKR@CDRI	DSpace
33	Digital Repository of Cochin University Sciences & Technology-Dyuthi		
34	DRS at National Institute of Oceanography		

35	DSPACE at CUSAT		DSPACE
36	DSPACE in Vidhyanidhi	DSPACE@vidhyanidhi	DSPACE
38	eGyankosh		
39	ICRISAT open Access Repository		
40	Kautilya Digital Repository at IGIDR(Indira Gandhi Institute of Development Research	Kautilya@igidr	DSPACE
41	Indian Aerospace Laboratories Institutional Repository	IR@NAL	Eprints
42	National Science Digital Library		
43	NISCAIR online Periodical Repository		
44	Indian Institute of Technology, Bombay	DSPACE@IITB	DSPACE
45	DU Eprint Achieve		
46	DSPACE at IBS Ahmadabad	DSPACE@IBSA	DSPACE
47	Management Development Institute –Open Access Repository		
48	Petro space-PDPU Repositories		DSPACE

Table 1: Institutional Repositories of India

Sl. No	Name of Software	Developer	Licenses	System Requirements	Operating System
01	CDSware	CERN Document Server	GNU General Public License	MySQL database Server & Apache(PHP, Python)	Unix
02	DSPACE	Massachusetts Institute of Technology(MIT) libraries and Hewlett packed Labs	BSD License	Apache web server, Tomcat Servlet engine & postgres SQL relational database system	Unix or Linux
03	E-prints	University of Southampton	GNU General Public License	Apache, MySQL database , Perl Language	Unix
04	Fedora	Virginia and Cornell Universities	Mozilla Public License	Sun Java Software, My SQL/Oracle9	Windows Unix
05	Green Stone	University of Waikato, UNESCO and the human Info(NGO)	GNU General Public License	Apache web server, MySQL database, perl Language	Windows, Linux/unix
06	i-Tor	NIWI-KNAW	GNU General Public License	Java Script, MySQL Jetly web Server	Unix/Linux
07	Phronesis	CONACYT, ITESM	GNU General Public License		Unix, Linux
08	ROADS	Institute of Learn & Research Technology(ILRT) UK office of library and Information Networking	Artistic License GNU/GPL	HTTP Apache web server and perl language	Unix
09	I-Via	INFOMINE Look,Me!, and Virtual Reference Library at the library of University of California	AGPL(13) Free software license	MySQLand Berkeley DB Management packages, C++	Linux
10	Ganesha Digital Library Software			Apache MySQL and HPH	XML

Table 2: Open Source Software Identified for IR

20. Conclusion

The essence of Institutional Repositories is to facilitate the faculty researchers and administrators who want to achieve materials. IR is one of the best solutions to this. Many academic and research libraries are involved in building IR in their own way for accessing their intellectual outputs in networked environment. Great progress has made in the development of standards and software tools that permit the easy creation of repositories. IR are being recognized as essential infrastructure in the digital world. The establishment of IR in the developing countries ensures that their national research becomes mainstream and contributes on an equal footing to the global knowledge pool. By using this repository, the institution can offer service like dissemination of information. India is also competing with other countries in open access movement. Libraries and LIS professionals should have to take part in IR in developing successful and valuable repositories of their institution. To promote IR in national level, effective and technical mechanism is essential. At the end, IR provides large number of scholarly literature for the academic community. The role of IR has become very essential in the present age of ICT and it has been accepted by the library & information science professionals and also realized the importance and need of IR in India. The Government should promote to the research & development based support of initiatives in digital preservation. IR are digital collections that capture, collect, manage & disseminate, and preserve scholarly work created by the constituent members in individual institutions.

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