

RAIITH: Institutional Repository at IIT Hyderabad and its impact in scientific community

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Abstract

The digital content produced now a days is enormous and in this connection libraries role at various level is crucial. Higher educational institutions generate and make available a quantum of digital academic and scholarly content. The crossover from print to electronic databases in the libraries is playing prominent role to collect, archive, maintain and publish the content. In this context, the establishment of institutional repository is an important step towards enhancing the visibility of the educational institute across the globe.

Research Archive of Indian Institute of Technology, Hyderabad (RAIITH) is built and managed by using open source software (Eprints). Also it discusses about the methods used to collect, collate and publish scholarly content in RAIITH. The challenges come across during the implementation and the testing phase were well addressed. In addition, to complement the traditional citation-based metrics, the latest metric tool viz. Altmetric is structured for its influence in the scientific community. The importance of open access model for scholarly communications has been discussed in details to improve the overall visibility of scientific and technological outcome.

Keywords: Institutional Repository (IR), IITHLibrary, Eprints, RAIITH.

INTRODUCTION:

It has been said by many of us that libraries and information dissemination centres are heart for the academic and research organizations. The drastic changes can be noticed in the comparison of the present with old traditional libraries almost in all the aspects, in terms of different types of resources, users, access level restrictions. In the traditional libraries, the resources were mostly in the physical form like books, periodical, geographical materials (viz., maps, atlas and globes) and variations in the materials depends with respect to the information domain specific, where the libraries or information centre's set-up to cater the information needs to the user community. Later the information explosion has made the information to be catered to various users by narrowing down the library system to specific user's viz., Academic libraries, Research & Development libraries, Special libraries and corporate libraries.

The changeover took place in the material which we are handling to pass the information from the medieval period to till date. It was papyrus, clay tablets and later on the invention of paper and printing technology by Gutenberg. Then the information sources were again categorized as primary, secondary and tertiary. The available resources in the book banks used to be curated manually. The process of information transfer used to be very lengthy and time taking process. It used to be very difficult to access the required information from the information generation centres or so called libraries. The main reason behind this are the access restrictions

to the required material or information, like book chains and the concept of closed access which used to be a barrier between the libraries and the end users. The access to information has also separated individuals by the content to which they get access and to who do not get access. Information explosion changed the scenario by breaking its access barriers and laid the path for digital revolution where the information storage and retrieval were made very easy for the end users. Recall time for information retrieval levels comes down as compared to the traditional libraries. To serve the societal goals, institutions have to accommodate certain technologies to overcome the knowledge gap among individuals by creating, collecting, storing, processing, distributing, of the information. As per the future perspectives it is mandatory to design and deploy the new technologies as per the needs. There have been unprecedented strides in the information and communication technology (ICT) for the recent few decades.

1. DIGITAL LIBRARY:

Here comes the era of Digital world, the buzz word 'digital' also seeped gradually into the library system. Automation concept is one among them which is closely related to libraries. The work done by Charles Babbage in the nineteenth century is considered the next major development in the history of computer design. By the end of nineteenth century two key engineering concepts: a machine operated by the set of instruction and data represented in code on cards has been established. There followed by the Computer generations, this made the libraries step-in to for automation of libraries. This made the life easier for them to make the physical resources available to the users in a short span of time.

Once the resources increased in the traditional library system the retrieval rate also increased. Then came the concept of Digitization and Digital library. There are many different definitions for digital libraries, it is same as traditional library system, except that the material is represented in the digital format.

- “A library that encodes journals, books, and information into a digital format.”
- “A collection of texts, images, etc., encoded so as to be stored, retrieved, and read by computer.”

Information objects which are in large and well organized are called as digital libraries. Even the non-professional personnel can also enable to put together, frame and disperse the latest information collection with a well-designed digital library software. Digitization bring across a great social impact as it democratized the information dissemination. Digital libraries took a drastic change in which the education is conducted and teaching material are prepared.

1.1 CLOSED ACCESS TO OPEN ACCESS:

Lot many revolutions emerged and enormous research is taking place in around every aspect of our day to day activities, and also need to be able to address few posed question below:

- Who is the creator of this?
- From where and how is this been produced?
- Where this research output is can be available?
- How can be accessible?

The above are few questions which arise in the due course of digital libraries and digitization age. Books, monographs, and journals are major information sources which we can come across in a traditional library, on the counterpart if we take the same in a digital library eBooks, e-journals are the major resources which caters the information requirements

⁸Everything we have gained by opening content and data will be under threat if we allow the enclosure of scholarly infrastructures. We propose a set of principles by which open infrastructures to support the research community could be run and sustained. – Geoffrey Bilder.

For the past decade, the research progress has increased only in very few disciplines because of the availability of the research data, the rest of them could not reach as there were information access barriers. Closed access, book chains were the traditional access restrictions used to persist. Now in this digital era more advanced access restrictions like (paid firewalls) came into limelight with-in all the major subject disciplines which hinders the scientific community to get full access to the research materials. Only very few researchers can gain access to the required information as they will be having access to the reputed publications which are held by the ⁸private enterprises. To compete with these private enterprises or major publishers, the innovation and customer focus in this space is so exciting with which our participation can't be balanced. Even though our research is being funded by foundation and public the pressure builds up to show revenue opportunities. To overcome this why can't the community own and build the open scholarly infrastructure.

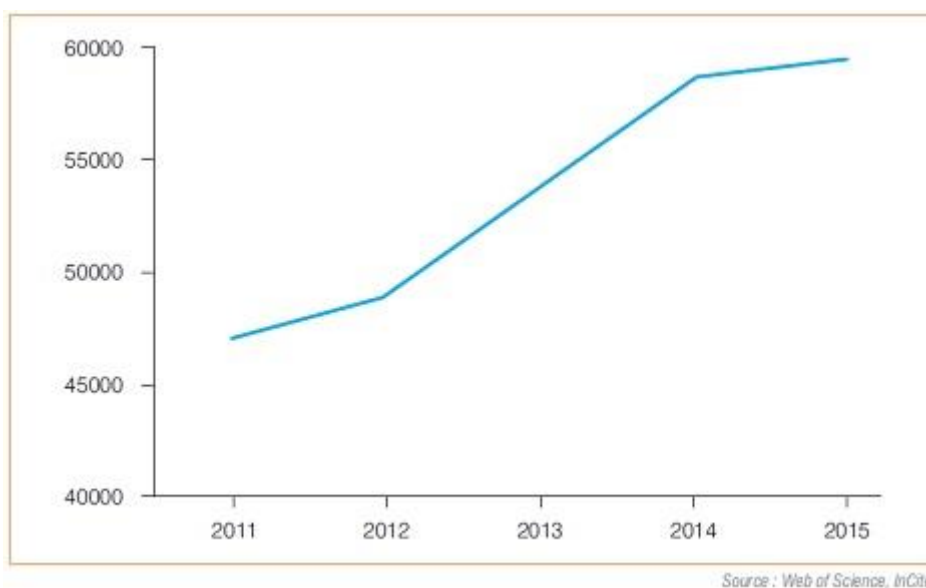


Figure 1: Number of articles from India by year of publication

2. ROLE OF INSTITUTIONAL REPOSITORIES:

Traditional repositories gather, compile, catalogue, preserve, and provide access to the research intellect. Institutional repositories (IR's) accomplish the same task with the potential incentive of increased accessibility and collaborative efforts, which are created by building a justifiable program. Institutional repositories, henceforth called IRs, are a fairly modern innovation among top tier academic institutions and major science and technological institutes, providing open access to the research outputs of teaching, non-teaching and research fellows. Institutional repositories are also described as "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” (Lynch, 2003). In the early 1990s the big push started when most of the academic disciplines started contributing their scholarly work through open-access publishing. Institutional Repositories have been progressively recognized as an important tool for scholarly communication, source of institutional visibility and a possible source of institutional knowledge organisation. Here the major difference between the traditional and existing institutional repositories is that authors are potentially the major stakeholders. Acceptance of the target audience make the Institutional repository (IR) success and sufficient funding for the long-term visibility.

2.1 INSTITUTIONAL REPOSITORIES:

The key factors for institutional repositories or for its successful implementation, the IR should be community-drive and community-focused. It should facilitate scholarly communication and archiving, IR provides a safe custody for the home materials in the long-term. IR’s can become in house research treasure for any of academic or research organizations, as it motivated and impedes self-archiving practices. Through repositories it can be a new way to gather and disseminate the works of the in-house faculty or research team, students & staff, fast forward to 2010 and there are over 1,900 repositories in the world and over 300 at U.S. institutions according to the Registry of Open Access Repositories (ROAR), now as per ROAR statistics the repositories throughout the world has increased and have 4,365 repositories, these repositories differ widely and serve a variety of purposes.

For any institution or research organization, the repository can raise the visibility of faculty research, help preserve the intellectual output. Particularly for public institutions, can be an effective way to share research with their domain expert communities. For the producers of the research like faculty, the repository is a way to distribute their research within their peer community to get the feedback and to increase citations to their work. The authors noted that libraries were the motivating force in the creation of institutional repositories with support from information communication technology (ICT) units. With journals cost increasing and new pricing models developing, institutions worldwide are configuring ways in which their users can have the most accessible method of acquiring information. Institutional repositories are becoming invaluable means of storage for scholarly works that are accessible to all who would be interested.

3. INDIAN INSTITUTE OF TECHNOLOGIES (IIT’S) AND INSTITUTIONAL REPOSITORIES INITIATIVES:

Among the higher education system in India, specifically with respect to technical education Indian Institutes of Technology (IIT) are premium institutes stand the best in India. These institutes were established under The Institutes of Technology Act, 1961 and funded by the Public money. The ultimate goal of these premium institutes is to produce a core of knowledgeable professionals from multidisciplinary areas. Par to the standards and the excellence which they have, they are lacking behind to share the knowledge which is been generated in these institutes in the form of research articles, research finding which were presented in reports, conference and symposium presentations, pioneering lectures and teaching methods. These materials are means of referring to further research findings and learning. Institutional repositories (IRs) play the role to archive, curate and disseminate the

knowledge in open access domain. The intellectual knowledge sharing through the interoperable repositories enhances the academic status and quality of an institution.

Sl. No	Name	Year of est.,	Acronym	State	IR in public domain	Software
1	IIT Kharagpur	1950	IITKGP	West Bengal	Available	Dspace
2	IIT Mumbai	1958	IITB	Maharashtra	Available	Dspace
3	IIT Madras	1959	IITM	Tamil Nadu	Available	
4	IIT Kanpur	1959	IITK	Uttar Pradesh	Intranet	
5	IIT New Delhi	1961	IITN	Delhi	Available	Eprints
6	IIT Guwahati	1995	IITG	Assam	Available	Dspace
7	IIT Roorkee	2001	IITR	Uttarakhand	-	-
8	IIT Gandhinagar	2008	IITGN	Gujarat	Available	Dspace
9	IIT Bhubaneswar	2008	IITBBS	Odisha	Available	Dspace
10	IIT Jodhpur	2008	IITJ	Rajasthan	Available	Dspace
11	IIT Hyderabad	2008	IITH	Telangana	Available	Eprints
12	IIT Patna	2008	IITP	Bihar	Intranet	Dspace
13	IIT Ropar	2008	IITRPR	Punjab	Intranet	Dspace
14	IIT Indore	2009	IITI	Madhya Pradesh	Intranet	Dspace
15	IIT Mandi	2009	IITMandi	Himachal Pradesh	Not available	Not available
16	IIT (BHU) Varanasi	2012	IIT(BHU)	Uttar Pradesh	Not yet initiated	Not available
17	IIT (ISM) Dhanbad	2016	IIT(ISM)	Jharkhand	Not yet initiated	Not available
18	IIT Tirupathi	2016	IITTP	Andhra Pradesh	Not yet initiated	Not available
19	IIT Palakkad	2016	IITPKD	Kerala	Not yet initiated	Not available
20	IIT Dharwad	2016		Karnataka	Not yet initiated	Not available
21	IIT Goa	2016	IITGoa	Goa	Not yet initiated	Not available
22	IIT Bhilai	2016	IITBhilai	Chhatisgarh	Not yet initiated	Not available
23	IIT Jammu	2016		Jammu	Not yet initiated	Not available

Table 1: IIT's & Institutional Repository availability

Sl.No	Institute	Article	Book section	Monograph	Conference or workshop item	Book	Thesis	Patent	Teaching resource	other
1	IIT Kharagpur						✓			
2	IIT Mumbai	✓	✓		✓	✓			✓	✓
3	IIT Madras									
4	IIT Kanpur									
5	IIT New Delhi	✓					✓			
6	IIT Guwahati						✓			
7	IIT Roorkee									

8	IIT Gandhinagar	✓	✓		✓	✓	✓		✓	✓
9	IIT Bhubaneshwar	✓			✓					✓
10	IIT Jodhpur						✓			
11	IIT Hyderabad	✓	✓	✓	✓	✓	✓	✓		✓

Table 2: Items availability in IIT IR's

3.1 EPRINTS IN SCHOLARLY INFORMATION INFRASTRUCTURE:

Since 1970, the role of manuscripts, preprints of articles yet to be published (Lim 1996), have envisioned prominence in scientists' informal communication of research. In late 1980-90^{ss} scientists—notably Paul Ginsparg and colleagues at Los Alamos National Laboratory (LANL)—began posting preprints on the Internet (Ginsparg 1997). In electronic environment, preprints came to be called e-prints, and they enjoyed quicker dissemination, wider scattering, and lower costs than paper preprints. ⁹Eprint limited its presence as a platform to obtain its feedback from the other research community such as Scientists and field colleagues. Research fraternity are knee in submitting their work to a top tier journals which need to go through a peer reviewed process, before that authors promote and recommend for a better feedback on the research findings for improvement. Eprints may play a role of bridge between colleagues in the same research to inform the progress as well as to seek expert comment. For most of the academic institutions and research organizations maintaining of the electronic resources has become unmanageable due to the abrupt raise in the subscription charges of e-journals and databases. As lucky puts it in relation to scientific communication, “Communication has always been the circulatory system of science, if not it's vary heartbeat” (Lucky, 2000, p. 259).

Before any article get published in Internet, the draft version of the research article can be circulated among the same research community and other subject experts to get better feedback, better dissemination of knowledge. Author version accepted manuscript were referred frequently as pre-prints. With evolution of internet particularly WWW, the draft versions (pre-prints) are exchanged in the electronic format as eprints. Free, unrestricted and easy access for the current and latest research findings can be provided from these eprints. Eprints broke the information exchange barriers as they turned to a widely circulated model for free, easy and fast information exchange. Integration of data elements in Eprints is quite a good model where the drawings and text images can be combined and updated. The integration part of information and updating of the research content at various stages in Eprints at the author drafting stage and publication process is easy. ROAR statistics says that there are 611 institutional repositories (IRs) installed worldwide, using Eprints software of various available versions. In India there are 109 repositories hosted using different open source software. Almost all the CSIR laboratories setup their in-house IRs using Eprints and DSpace softwares.

4. ADVANTAGES OF EPRINTS:

Institutional repositories are of self-archiving mechanism to showcase the research out-put of the academic and research organisations. There are many software's which helps to setup repositories with different features and functionalities to make free, immediate online access to the research finding. Among them Eprints is one of them, which has its own unique advantages embedded. Following are few which were discussed.

4.1 PUBLICATION SWIFTNESS

In most of the subject areas the swiftness and promptness or rapid transformation of knowledge and information is critical. To catch the pace and disseminate the information in right time, preprints has the absolute necessity to draw out timely feedback and establish priority. Association of Learned and Professional Society Publishers' (APLS) survey (1999) come up with a major factor is 'speed of publication', among them selection of journals to publish is the first priority and major factor. For example, arXiv is a trusted source for physics information. Worldwide use arXiv to notify, post and keep up-to-date of current research. arXiv is a key publishing platform for many fields, particularly Physics and Mathematics, it currently hosts over 1 million research articles, with more than 8000 submission per month.

4.2 COST

Cost is not a major issue in establishing an eprint server in any of the academic institute. Only we need an initial budget to setup the server. Generations changed and saw the technological paradigm, physical space to cloud space is the latest technology which can be implemented by most. Rather than spending on the traditional journal subscriptions the eprints servers in the libraries can provide access to the scholarly literature to the users.

4.3 INSTALLATION AND CUSTOMIZATION:

Eprints is completely graphical user interface (GUI) based, no high-end programming or coding jargon is required to start up the installation process. Very much compatible with Linux Distribution Ubuntu or CentOS. GUI interface customization. Also it has Eprints Bazaar which hold more than 50 plugin which can be deployed on to the server to get connected with the eprints content to get the best results, like Altmetrics and IRstats to capture the article level metrics which will be cited in major social networking tools. Also IRstats to monitor the uploaded records, see the download statistics over the globe, download of top authors and top published papers. IRstats also lets the user community know how much content has been available as open access and how much content is available as full text. The workflow mechanism is appreciative, setting the role and responsibility level from User to Admin is fair enough.

4.4 OPEN ACCESS:

The standard protocol behind all the archival repositories world-wide for harvesting the metadata records is Open Archives Initiative Protocol for Metadata Harvesting [OAI-PMH] Most of the institutional repository software's are customised to be interoperable in nature so that they can speak with the other available IR's for better resource sharing, Eprints is also of interoperable in nature, followed the same protocol.

5. RESEARCH ARCHIVES OF INDIAN INSTITUTE OF TECHNOLOGY (RAIITH):

Academic libraries have played a significant role in the scholarly communication process for the past 150 years. The organization of information plays a key role in any digital library or IR, however the libraries are somewhat bound by the software that they implement. IIT Hyderabad started functioning in the year 2008 form its temporary campus located in Ordnance Factory (ODF), Medak district and shifted to its permanent campus allocated nearby Kandi

village, Sangareddy, Telengana. The space where library was set-up both in temporary and permanent campus was very minuscule, but the services which library caters to its users are wide spread to all the user community in IITH. It houses more than sixteen thousand book collection, access to all major e-resources subscribed individually and through E-Shod Sindhu (eSS) consortium for higher education funded by Ministry of Human Resources & Development (MHRD), Government of India. Also it has very few gratis collection of journals. It accommodates all the major library housekeeping activities.

Indian Institute of Technology Hyderabad (IITH) initially used to have an IR making its presence only on intranet. The retrospective IR used to archive all the thesis and dissertations of MSc, M.Tech and PhD courses. The genesis of Research Archives of Indian Institute of Technology Hyderabad (RAIITH) took place in the year 2014. Eprints was initially installed on a personal computer desktop to test the features by uploading very few records, then could manage to do at most research on the test bed by increasing the addition of records to the database in the form of multiple type of documents (viz., Article, Book chapter, conference proceeding, Thesis, Patent, monograph etc..) also this gave a scope to add few more plugins to the existing software for better output. Then the database mirrored on to an individual blade server with sufficient hardware requirements. Eprints 3.2 was the basic version which was installed on the test bed and then could later update to the version 3.3.12

5.1 CONTENT:

RAIITH was initially uploaded with 554 records of institute's research output in the form of thesis (viz. M.Sc., M.Tech, Ph.D.). The pdf format of these records have been gathered and could successfully added to the newly installed eprints IR from the retrospective in-house repository. Later the content of the IR slowly increased its pace by collecting all the research publication from the major bibliographic database via. Scopus. And from the year 2015 onwards IITHLibrary team started collecting the research publications from another pioneered bibliographic database Web of Science (WoS). RAIITH holds preprints, post-prints, open access articles, conference papers, monographs, book chapters, IITH news articles and patents. Most of them cover the major research areas involved at Indian Institute of Technology, however a small number of them cover a wider subject base.

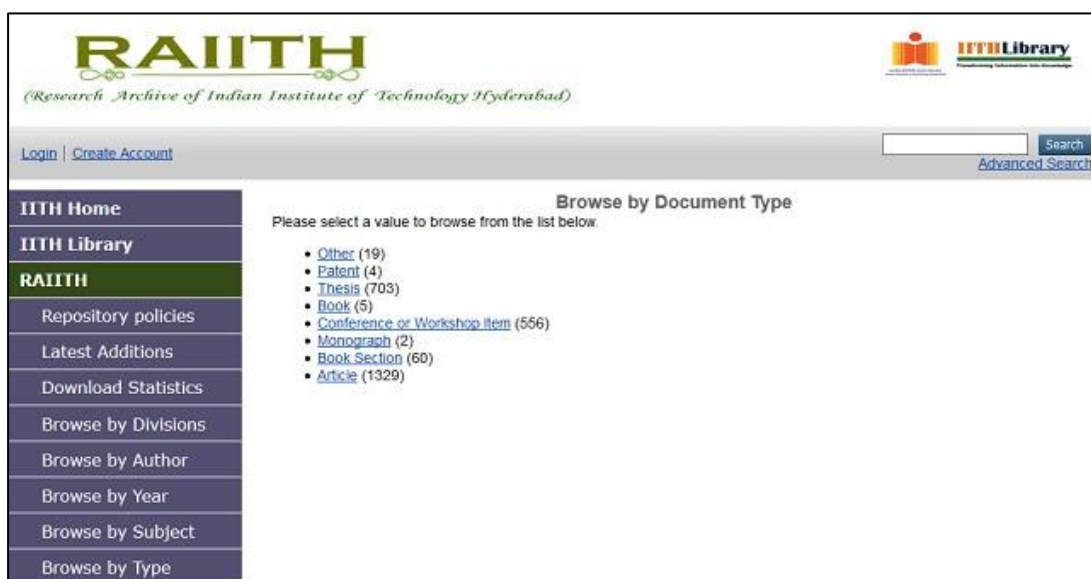


Figure 2: RAIITH - Document type

RAIITH - Type of resources:

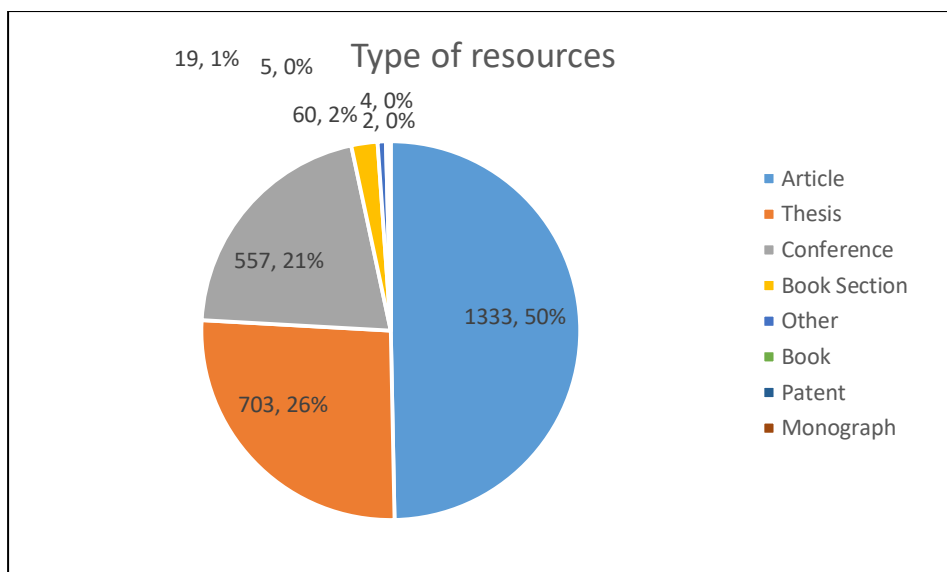


Figure 3: RAIITH – Type of resources

Article	1333
Thesis	703
Conference	557
Book Section	60
Other	19
Book	5
Patent	4
Monograph	2
	2683

Table 3: RAIITH – Resource type

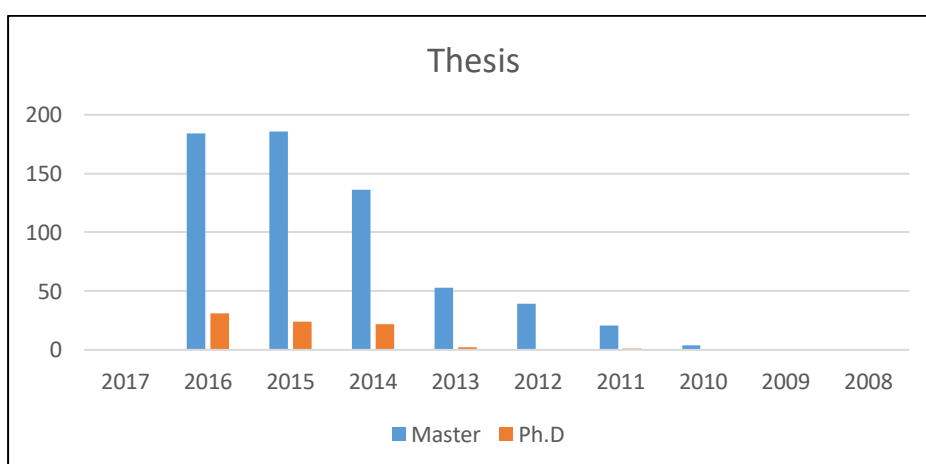


Figure 4: RAIITH – Thesis

Thesis		
	Master	Ph.D.
2017		
2016	184	31
2015	186	24
2014	136	22

Thesis		
	Master	Ph.D.
2013	53	2
2012	39	0
2011	21	1
2010	4	0
2009	0	0
2008	0	0
Total	623	80

Table 4: Thesis in RAIITH (dtd. 26-12-2016)

RAIITH – deposits counts for the years (2014, 2015 and 2016)

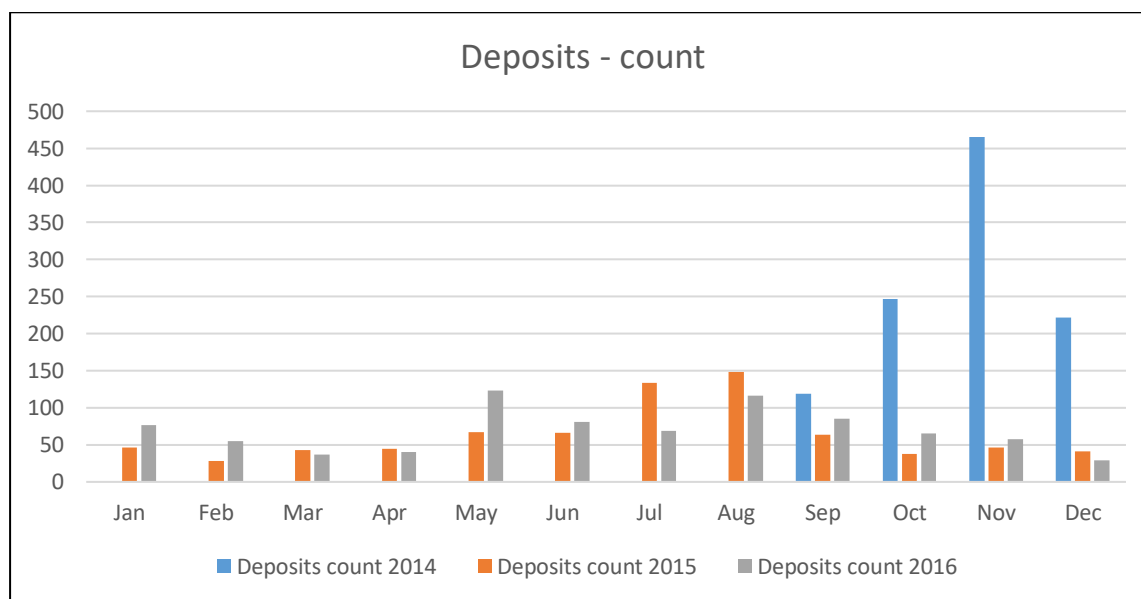


Figure 5: RAIITH – Deposits count

	Deposits count		
	2014	2015	2016
Jan		46	77
Feb		28	55
Mar		43	37
Apr		45	40
May		67	123
Jun		66	81
Jul		134	69
Aug		148	116
Sep	119	64	85
Oct	247	38	65
Nov	465	46	58
Dec	222	41	29
TOTAL	1053	766	835
	2654		

Table 5: RAIITH - deposits

RAIITH – deposits average for the years (2014, 2015 and 2016)

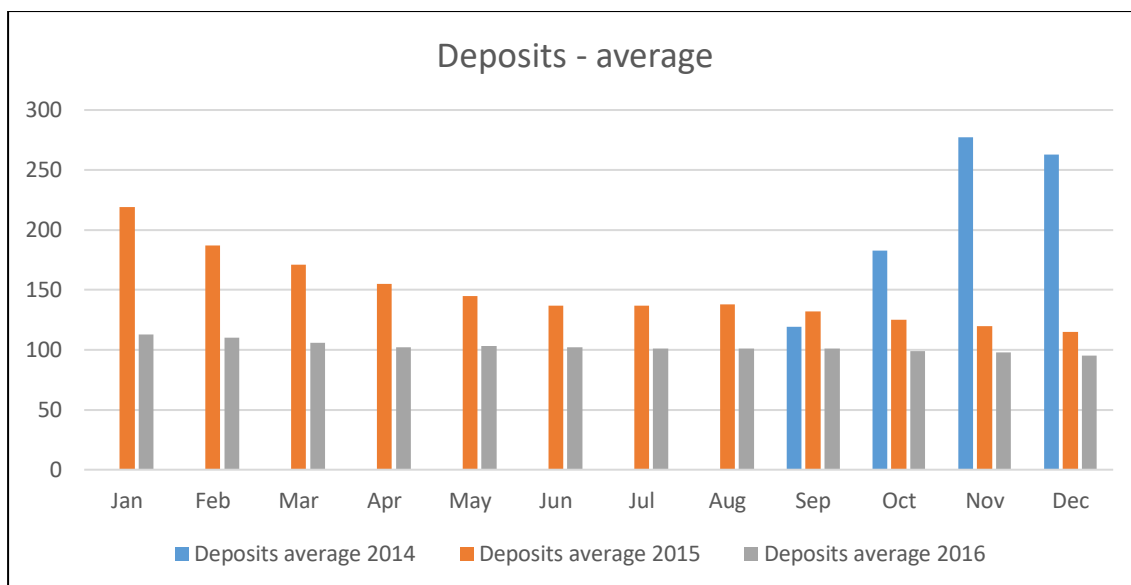


Figure 6: RAIITH – Average deposits

	Deposits average		
	2014	2015	2016
Jan		219	113
Feb		187	110
Mar		171	106
Apr		155	102
May		145	103
Jun		137	102
Jul		137	101
Aug		138	101
Sep	119	132	101
Oct	183	125	99
Nov	277	120	98
Dec	263	115	95
TOTAL	842	1781	1231
	3854		

Table 6: RAIITH – average deposits

RAIITH
(Research Archive of Indian Institute of Technology Hyderabad)

IITH Library

Login | Create Account

Search
Advanced Search

Browse by Division and Year
Please select a value to browse from the list below.

- IITH Hyderabad (2651)
 - Department of Biomedical Engineering (60)
 - Department of Biotechnology (52)
 - Department of Chemical Engineering (266)
 - Department of Chemistry (393)
 - Department of Civil Engineering (226)
 - Department of Computer Science & Engineering (206)
 - Department of Design (15)
 - Department of Electrical Engineering (609)
 - Department of Liberal Arts (65)
 - Department of Material Science Engineering (118)
 - Department of Mathematics (97)
 - Department of Mechanical & Aerospace Engineering (133)
 - Department of Mechanical Engineering (169)
 - Department of Physics (258)
 - IITH Publications (28)
 - Magazine (1)

Figure 7: RAIITH – Divisions

5.2 ACCESS FACILITY:

RAIITH allow free access to abstracts without any necessary registration. For the full text article from the repository, eprints provides with a provision of request for full text, where the user or research can request for the full text of the article by a click on the 'Request a copy'. Where in the eprints backend mail mechanism was set in a way that a request mail will go the RAIITH admin as-well-as to the first author or the concerned supervisor of the article or thesis. RAIITH follow the embargo period of 3 years for M.Tech thesis and 5 years for Ph.D. thesis from the date of submission in library while students/researchers submit their No-dues. Also to encourage the open access movement the pre/post prints of the research articles, conference papers and other research findings will be collected from the students/researchers while they submit their thesis in e-copy. Currently RAIITH provides access credentials only to the faculty of IITH, so that they can self-archive their content without the intervention of library staff. However the repository admin who plays the role of editor can review the uploaded file or record and move that to repository to get the research indexed and harvested by the major harvester like BASE, google scholar, OAISTER etc., As it's been harvested by the major search engines RAIITH can be access from anywhere if they are connected to internet.

5.3 COPYRIGHT INFORMATION:

Research Archives of Indian Institute of Technology (RAIITH) follow Sherpa / RoMEO -³RoMEO is part of SHERPA Services based at the University of Nottingham. RoMEO has collaborative relationships with many international partners, who contribute time and effort to developing and maintaining the service. Current RoMEO development is funded by JISC. Past funders have included JISC, the Wellcome Trust and RLUK. Base on Sherpa/RoMEO we will archive the content in RAIITH.

5.4 ALTMETRICS & RAIITH:

Research is growing on day to day enormously leading to publish the research finding in the form of huge number of research articles etc., Now-a-days metrics are the key to reflect any research work from any of the disciplines. To represent the research output quality citations count were the only way. ¹⁶As time passed on their emerged new tools to boost up the metrics which are dealing with citation count, viz. Bibliometric, Scientometrics & Webometrics. There are three major providers of more extensive metrics are Web of Science (ISI-Thomson Reuters), Scopus (Elsevier) and Google. Journal level metrics, article level metrics & H-index are the three difference metric categories. 'Citation Count' is the common indicator which is being used in these metrics. Now, Web-based scholarly publishing, open data, open science, and open access are the swift changes in the publishing evolution.

'Altmetrics', a term coined in 2010 by Impact-Story co-founder Jason Priem, refers to a range of measures of research impact that go beyond citations¹⁷. Altmetrics is the study of new metrics for analysing and informing scholarship based on the social web. Altmetrics is potentially focused on web influence. Altmetrics refers to a range of measures of research impact that go beyond citations. It measure the number of times a research output gets cited, tweeted, liked, shared, viewed or discussed. It harvests open access journals, citation databases which index scholarly articles, web-based research sharing services, and social media.

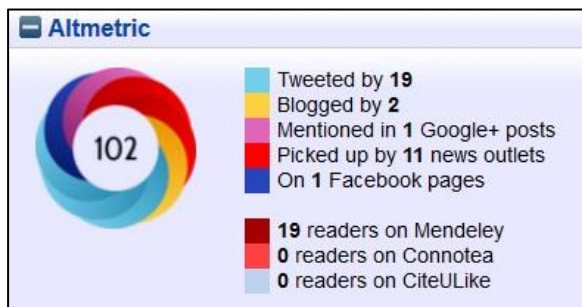


Figure 8: RAIITH - ALTMETRIC

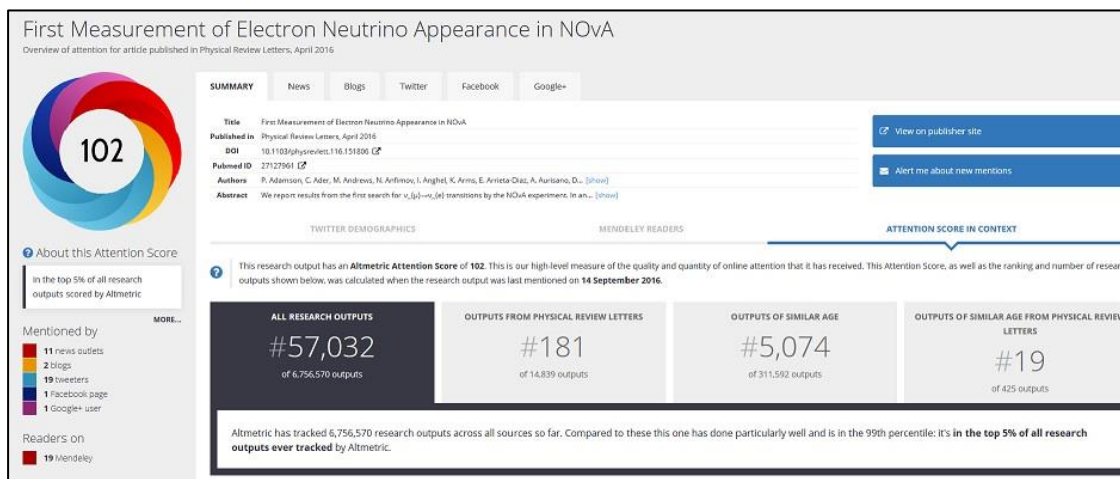


Figure 8.1: RAIITH - ALTMETRIC

5.5 Usage statistics:

Currently RAIITH holds 2,683^{Table3} records having 14,322^{Table7} download with 49% (1316 documents) full text and 20% (573 documents) open access. The repository became popular and could reach to the maximum globally, the IR is registered its presence with most popular harvesting search engines like BASE, google scholar and OAISTER below you can see few images regarding the statistics.

A comparison for downloads from the year 2014, 2015 and 2016 till December 2016.

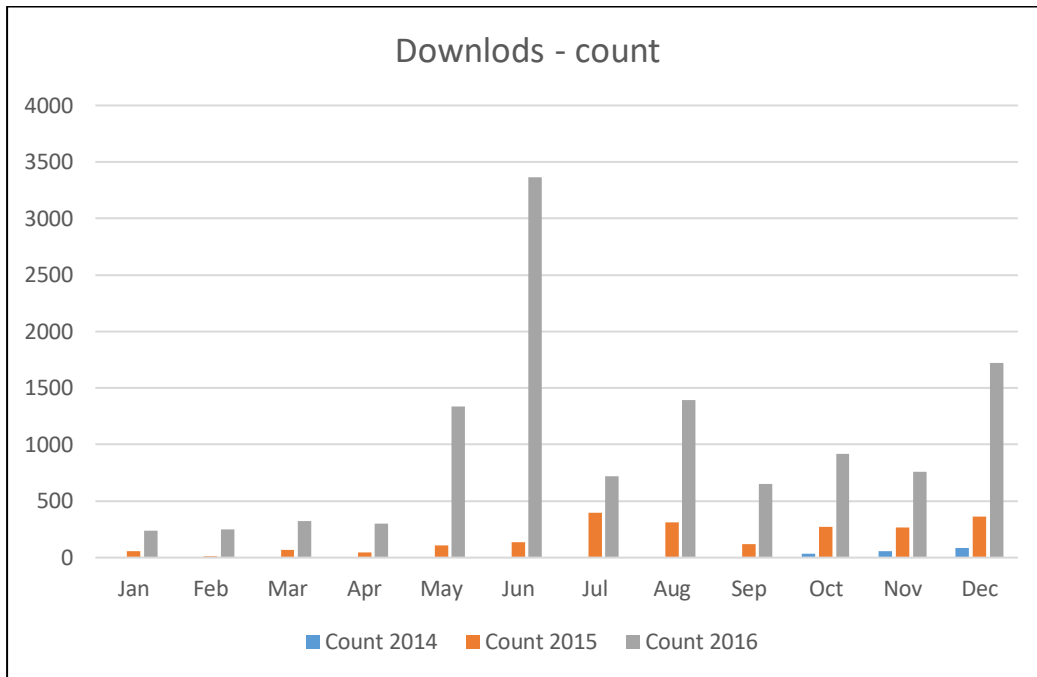


Figure 9: RAIITH - Downloads

	Count		
	2014	2015	2016
Jan		58	238
Feb		14	250
Mar		66	324
Apr		46	301
May		110	1339
Jun		134	3365
Jul		399	722
Aug		309	1392
Sep		121	652
Oct	33	270	920
Nov	58	269	760
Dec	86	364	1724
Total	177	2160	11987
Grand Total			14324

Table 7: RAIITH – downloads count

Downloads – average as on 22.12.2016

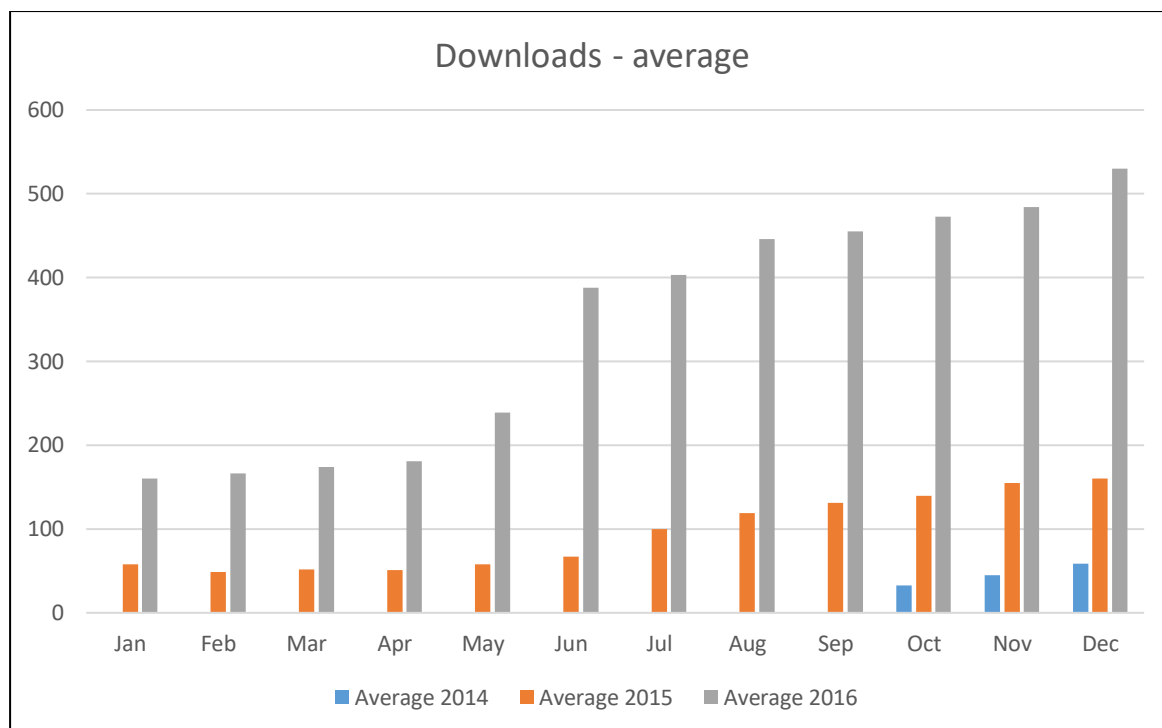


Figure 10: RAIITH – average downloads

	Average		
	2014	2015	2016
Jan		58	160
Feb		49	166
Mar		52	174
Apr		51	181
May		58	239
Jun		67	388
Jul		100	403
Aug		119	446
Sep		131	455
Oct	33	140	473
Nov	45	155	484
Dec	59	160	530
Total	137	1140	4099
Grand Total			5376

Table 8: RAIITH – average downloads

5.6 Search Interface:

The repository can be searchable by a Basic search interface and also an advanced search. For a quick reach the repository has made customization in a way that users can easily get connected to the repository by browsing by Author, Year, Subject and Item type. The recently added content to the repository can be viewed under Latest Additions.

Conclusion:

Building open scholarly repositories and exclusively individual institutional repositories are necessary for the Institute's and their own research visibility. IR's support and enhance the idea of rebuilding trust between the Library and the users and they feel that the IR will be the vehicle. The visibility and openness of their work will offer more citations, if we can create more IR's which are interoperable it will be platform for research collaboration among internationally distributed IRs. Eprints is one among the open source Digital repository software's to build institutional repositories.

References:

1. IITH launches online repository of research archives. (2014, December). Retrieved from <http://www.thehindu.com/>
2. IITH launches online repository of research archives. (2014, December 5). Retrieved from <http://economictimes.indiatimes.com/>
3. Clifford A. Lynch (2003). Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age. *ARL: A Bimonthly Report*, no. 226
4. Alemu, G. A. (2011). The Role of Open Access in Fostering Knowledge Sharing and Collaboration in Ethiopia: A Case Study *Qualitative and Quantitative Methods in Libraries* (pp. 262-274): World Scientific.
5. Arano, S., Martinez, G., Losada, M., Villegas, M., Casaldaliga, A., & Bel, N. (2011). The community "resources and primary data" of the Universitat Pompeu Fabra: institucional repositories as scientific infrastructures: a case study. *Revista Espanola De Documentacion Cientifica*, 34(3), 385-407. <http://dx.doi.org/10.3989/redc.2011.3.834>
6. Bamigbola, A. A. (2014). Surveying Attitude and Use of Institutional Repositories (IRs) by Faculty in Agriculture Disciplines: A Case Study. In G. Giannakopoulos, D. P. Sakas, D. S. Vlachos, & D. KyriakiManessi (Eds.), *3rd International Conference on Integrated Information* (Vol. 147, pp. 505-509). Amsterdam: Elsevier Science.
7. Birdie, C., & Vagiswari, A. (2007). Towards establishing an Open Access repository of Indian publications in astronomy - a case study of Indian Institute of Astrophysics repository, *Library and Information Services in Astronomy V*, (Vol. 377, pp. 128-135).
8. Borrego, A., & Fry, J. (2012). Measuring researchers' use of scholarly information through social bookmarking data: A case study of BibSonomy. *Journal of Information Science*, 38(3), 297-308. <http://dx.doi.org/10.1177/0165551512438353>
9. Carlson, J., Ramsey, A. E., & Kotterman, J. D. (2010). Using an institutional repository to address local-scale needs: a case study at Purdue University. *Library Hi Tech*, 28(1), 152-173. <http://dx.doi.org/10.1108/07378831011026751>
10. Danielle Barandiaran, B. R. a. B. T. (2014). Focusing on student research in the institutional repository. *C&RL News*, 546-549.
11. Diaz, J., Schiavoni, A., Amadeo, A. P., & Charnelli, M. E. (2013). Building An Institutional Repository With Multiple Publishing Ways. A Case Study. *6th International Conference of Education, Research and Innovation (ICERI)*, (pp. 2446-2453).
12. Ferreras-Fernandez, T., Merlo-Vega, J. A., & Garcia-Penalvo, F. J. (2013). Impact of Scientific Content in Open Access Institutional Repositories. A case study of the Repository Gredos. *First International Conference on Technological Ecosystem for Enhancing Multiculturality* (Teem'13), 357-363. <http://dx.doi.org/10.1145/2536536.2536590>
13. Hulagabali, S. C. (2015). Institutional Repositories Initiated by Indian Institutes of Technology and Indian Institutes of Management: A Case Study. *Desidoc Journal of Library & Information Technology*, 35(4), 293-298.
14. Kamraninia, K., & Abrizah, A. (2010). Librarians' role as change agents for institutional repositories: A case of Malaysian academic libraries. *Malaysian Journal of Library & Information Science*, 15(3), 121-133.

15. Koler-Povh, T., Mikos, M., & Turk, G. (2014). Institutional repository as an important part of scholarly communication. *Library Hi Tech*, 32(3), 423-434. <http://dx.doi.org/10.1108/lht-10-2013-0146>
16. Lee, J., Burnett, G., Vandegrift, M., Baeg, J. H., & Morris, R. (2015). Availability and accessibility in an open access institutional repository: a case study. *Information Research-an International Electronic Journal*, 20(1), 16.
17. Palmer, C. L., Teffau, L. C., & Newton, M. P. (2008). Strategies for Institutional Repository Development: A Case Study of Three Evolving Initiatives. *Library Trends*, 57(2), 142-167.
18. Serrano-Vicente, R., Melero, R., & Abadal, E. (2016). Open Access Awareness and Perceptions in an Institutional Landscape. *Journal of Academic Librarianship*, 42(5), 595-603. <http://dx.doi.org/10.1016/j.acalib.2016.07.002>
19. Simpson, P., & Hey, J. (2006). Repositories for research: Southampton's evolving role in the knowledge cycle. *Program-Electronic Library and Information Systems*, 40(3), 224-231. <http://dx.doi.org/10.1108/00330330610681303>
20. Singeh, F. W., Abrizah, A., & Karim, N. H. A. (2013). What inhibits authors to self-archive in Open Access repositories? A Malaysian case. *Information Development*, 29(1), 24-35. <http://dx.doi.org/10.1177/0266666912450450>
21. Sutradhar, B. (2006). Design and development of an institutional repository at the Indian Institute of Technology Kharagpur. *Program-Electronic Library and Information Systems*, 40(3), 244-255. <http://dx.doi.org/10.1101/00330330610681321>
22. van Wyk, B., & Mostert, J. (2011). Toward Enhanced Access to Africa's Research and Local Content: A Case Study of the Institutional Depository Project, University of Zululand, South Africa. *African Journal of Library Archives and Information Science*, 21(2), 133-144.
23. Walker, L. (2016). Making Institutional Repositories Work. *College & Research Libraries*, 77(5), 675-676. <http://dx.doi.org/10.5860/crl.77.5.675>



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