

Institutional Repository at CSIR's Central Food Technology Research Institute (CFTRI): A Study

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Abstract

In this digital era, Institutional Repository is the digital archive of the institution's publication. It is one of the most promising developments that utilize new web based technologies to offer a viable & sustainable alternative to the current model of scholarly publishing. Institutional repository is the exhibition of an institution to the world where institution displays its valuable research program, projects and initiatives to the world. It serves as a platform for the researchers, scientists to disseminate their research work to the peers, quickly and efficiently. It is a formally organized and managed collection of digital content generated by the faculty, staff and students of an institution. This paper discusses in brief about basic concept of Institutional Repository like its definition, present trend etc with special reference to CSIR-CFTRI Institutional Repository. Thus, this study will highlight the different types of digital content their numbers and other aspects related to the Institutional Repository of CSIR-CFTRI.

Keywords: Institutional Repository, CFTRI, CSIR

1. Introduction

The recent development in Information and Communication Technologies has opened new ways of dissemination of information from one to another in just a few seconds. Institutional Repository is the outcome of the development of ICT avenue through which academic and research communities make their research results and findings available to their peers. The institutional repository can boost the visibility of an institution (academic or research) and enable global access to the research output of the institution. Institutional Repository by capturing, preserving and disseminating, collective intellectual capital, serve as a meaningful indicator of an institution's scientific quality. It concentrates the institutional product credited by a research, making it easier to demonstrate its scientific, social and financial value.

Due to budgetary constraints there are many libraries over the world that cannot subscribe and provide access to expensive journals to their readers. The repositories have helped them in providing access to information resources by bridging the gap created by budgetary constraints of organization. Besides grey literature such as R & D report thesis/dissertation, presentation paper, lectures, graph, teaching materials etc can also be deposited and can be viewed in the institutional repository.

Council of Industrial and Scientific Research (C.S.I.R) established in 1942 is an autonomous body and Indian largest R& D organizations with 37 laboratory spread across the nation. The R & D activities of C.S.I.R include in various fields like aerospace engineering, structural engineering, life science, metallurgy, chemical, mining, food, petroleum etc.

Over more than two decades now, CSIR has been annually benchmarking its research output using scientometric techniques and comparing itself with other leading Research Institutions in the country. To provide seamless and wider access to its research output, it is developing Institutional Repository. As said by the R. R. Hirwani, head of CSIR Unit for Research and Development of Information Products, at the National Conference Reaching Out to Users through Technology (Route 2013), *“With publishers trying to exploit their monopoly position and quoting unreasonable prices for granting electronic access to research resources, the plan is to create an open access repository of CSIR’s own papers and help other laboratories with copies of papers from journals subscribed by them,”*

All the CSIR laboratories having Institutional Repository are being indexed by the CSIR-CENTRAL.CFTRI is one of the laboratories of the CSIR. CFTRI established during 1950 in Mysore. It is one of the premier institutes of CSIR, devoted toward the R & D in the areas of food sciences and technology. CSIR-CFTRI has also developed its own Institutional Repository. It has been developed using Open Source Software Eprints in the year 2004. The main aim of the repository is to collect, store and disseminate the intellectual output created by the CFTRI community. At present, it enables the CFTRI community to deposit their pre-prints, post-prints, conference proceedings, etc. Its IR is accessible within campus only.

Definitions of Institutional Repository:-

According to Clifford Lynch

“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.”

According to the Raym Crow's

“An institution repository is a digital archive of the 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.”

In other words, the content of an Institutional Repository is:

- Institutionally defined;
- Scholarly;
- Cumulative and perpetual; and
- Open and interoperable.

2. Institutional Repository Content

The selection of digital content depends upon the policy of the Institutional Repository. The collection may differ from one laboratory to another and also on the publication of the institution. IR consists of formally organized and managed collections of digital content generated by the faculty, staff and students of an institution. Following are the different types of digital content:

- Published materials
- Journals papers (Post-prints)
- Book chapters
- Conference papers etc
- Unpublished Papers
- Pre-prints
- Working papers
- Minutes
- Thesis and dissertation
- Course materials
- Multimedia materials, etc

3. Key steps for developing Institutional Repository

Some important steps involved in developing an institutional achieves are

- Registration
- Certification
- Awareness
- Digital preservation policy
- Archiving

- Self-achieving
- OAI
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4. Institutional Repository Benefits

Following are the benefits of the Institutional Repository:-

- It provides wider access to the institution's research output;
- It showcases the unpublished literature;
- For long term preservation;
- It helps in tying library with different parts of the campus community;
- Freely available articles are cited more as compared to the print as they are more visible;
- It shows that library moves forward to contribute to the evolution of scholarly communication;
- It increases institution's visibility, status and public value;
- It provides faster communication.

5. Issues for Institutional Repository

There are various issues related to the development of Institutional Repository:

- Lack of awareness about institutional repository
- Lack of fund
- Institutional Policies and metadata
- IPR or copy rights
- Existing digital collection
- Cultural issues affecting faculty take-up
- Organization and administration
- Funding & business model
- Lack of government reorganization /policy to promote research and development of digital preservation and IRs

6. Current Scenario of Institutional Repository

Institutional Repositories become popular and nowadays, many institutions have their own repositories using open source software. In India, numerous Institutional Repositories are being developed. Some of these are functional institutional repositories, developed by research and academic institutions of national and international importance, such as the Council of Scientific and Industrial Research CSIR), Indian Institute of Science (IISc) , Indian Institute of Management (IIM) etc. Apart from institutional repositories, subject specific repositories also exist in India.

E-print@IISc was the first Institutional Repository in India which was established by Indian Institute of Science under the supervision of late Dr T B Rajshekhar. At present according to Registry of Open Access repository (ROAR) total 107 Repositories have been registered under this created by research institutions, academic institutions and many others. List of some of the active institutional repository is as follows:-

- Digital Repository of IIT, Bombay
- DRS @ NIO – National Institute of Oceanography
- DSpace @ NITR – National Institute of Technology, Rourkela
- DSpace @ MDI – Management Development Institute, Gurgaon
- DSpace @ IIMK – Indian Institute of Management, Kozhikode
- DSpace at National Chemical Laboratory, Pune
- DSpace at INFLIBNET centre, Ahmedabad
- Shodhganga at INFLIBNET centre
- ePrints@CFTRI- Central Food Technology Research Institute
- ePrints @ SVNIT – Sardar Vallabhai National Institute of Technology
- eGyanKosh at IGNOU
- ePrints @ IIT, Delhi – Indian Institute of Technology
- ePrints @ IISc – Indian Institute of Science, Bangalore
- ePrints @ Catalysis – National Centre for Catalysis Research (NCCR)
- ePrints @ SBTMKU – School of Biotechnology, Madurai
Kamraj University, Madurai
- Indian Institute of Astrophysics (IIAP) Repository, Bangalore
- Institutional Repository of National Aerospace Laboratories (NAL)
- Kautilya Digital Repository of IGIDR (Indira Gandhi Institute of Development Research, Mumbai)
- NISCAIR Online Periodicals Repository
- OpenMED @ NIC – Medical and Allied Sciences
- RRI Digital Repository (Raman Research Institute Digital Repository)

7. Objectives of the study

The objectives of the study are:

1. To find out the total number of digital content;
2. To compare the total digital content of CFTRI with other CSIR's laboratories IR;
3. To find out the different types of digital content and their numbers;
4. To find out the number of division and their digital content;
5. To Study the growth of digital contents in last ten years.

8. Methodology used for the study

The data collections adopted for the present study are both primary and the secondary. The primary data is collected through the Questionnaire followed by the interview and also the observation method. The secondary data were collected from the survey reports, monographs, research articles, library websites and the web portals etc.

9. Analyses of Data and Interpretation

Table 9.1 Total Digital Content of CFTRI and Comparison with other CSIR's IR digital Content

Si. No	Name of the CSIR's Laboratory	Total Digital content(as on 1/1/2015)
1	CDRI,Lucknow	1028
2	CFTRI,Mysore	7337
3	IICB, Kolkata	1539
4	IIP, Dehradun	454
5	NCL,Pune	935
6	NIO,Goa	4601
7	NPL,Delhi	1010

The above table shows the total number digital content of Institutional Repository. The success of any Institutional Repository depends upon the uploading the contents. In this case, the total numbers of records of CFTRI is 7337 and it has the highest number of digital content in Institutional Repository as compared to the other CSIR's laboratories IR that are registered in Registry of Open Access Repository(ROAR). It can be made clearer with the figure drawn below:

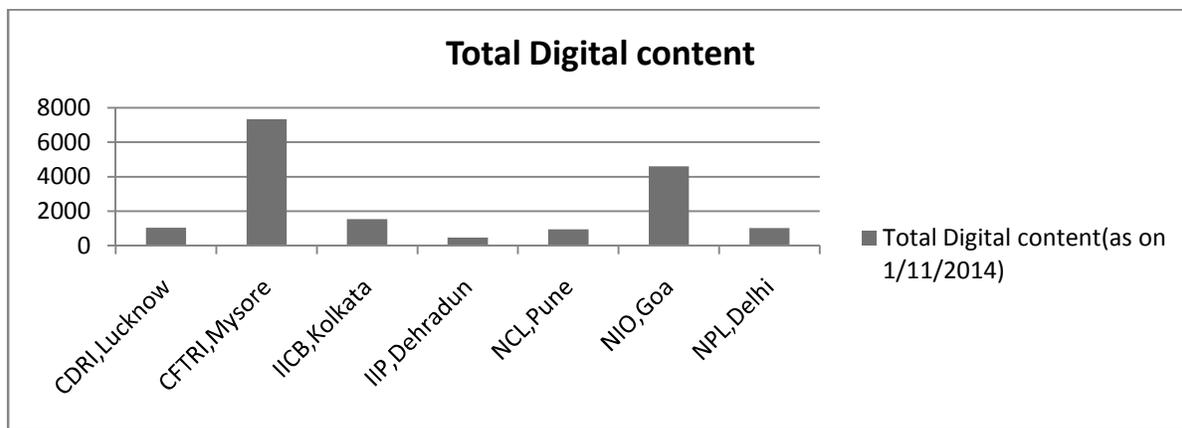


Figure No. 9.1 Total Digital Content of CFTRI and Comparison with other CSIR's IR digital Content

Table 9.2 Types of Documents

Sl. No	Type of Documents	CFTRI
1	Articles	5600
2	Theses	381
3	Conference/Workshop item	3
4	Book	25
5	Student Project Report	1475
6	Book Section	2
7	Other	1

The above table number shows the different types of the digital content uploaded in Institutional repository of the CFTRI. There are many types of digital content which are uploaded in Institutional Repository like Pre-prints, post-prints, conference proceedings, working papers, theses and dissertation, annual reports etc. It shows that maximum numbers of the articles are uploaded in the CFTRI IR i.e. is 5600 followed by student project report i.e. 1475 and then theses 381 book 25 book section 2 and other 1 in numbers. It can be made clearer from the figure drawn below

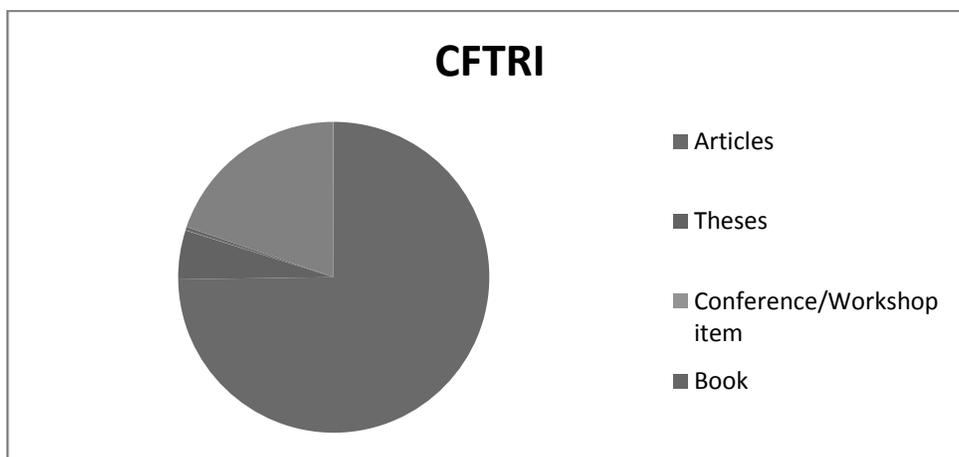


Figure No. 9.2 Types of Documents

Table 9.3 Numbers of Records in Division

The collection of the Institutional repository of CFTRI has been divided into different divisions of the CFTRI institution. Each division has numbers of records. So this table shows the names and number of the documents available in different division.

Sl. No.	Division	Number of Records
1	Administration	1
2	Biochemistry and Nutrition	1364
3	Central Instrumentation Facility Services	18
4	Construction and Civil maintenance	1
5	Electrical Department	4
6	Fermentation Technology and bioengineering	465
7	Flour Milling Bakery and Confectionary Technology	374
8	Food Engineering	588
9	Food Microbiology	635
10	Food Packaging Technology	222
11	Food Protectants and Infestation Control	354
12	Food Safety Analytical Quality Control Lab	121
13	Fruit and Vegetable Technology	598
14	Grain Science and Technology	447
15	Human Resource Development	324
16	Library (FOSTIS)	4
17	Lipid Science and Traditional Foods	379
18	Lipid Science and Traditional Foods	379
19	Meat Fish and Poultry Technology	382
20	Planning and Monitoring Cell	11
21	Plant Cell Biotechnology	369
22	Plantation Products Spices and Flavour Technology	531
23	Protein Chemistry and Technology	404
24	Sensory Science	165
25	Technology Transfer and Business Development	19
26	CFTRI Resource Centres	183

Table 9.4

Growth of Digital Content in Last Ten Years

Sl. No	Year	No. of Records
1	2013-12	130
2	2012-11	230

3	2011-10	448
4	2010-09	453
5	2009-08	500
6	2008-07	464
7	2007-06	377
8	2006-05	305
9	2005-04	241
10	2004-03	230

The above table shows the growth of digital content in last ten years. It is clear that the numbers of uploading the documents decreased from the year 2010-09. The maximum numbers of the documents was uploaded in year 2009-08 and the least in the year 2013-12. It can be made clearer from the figure shown below

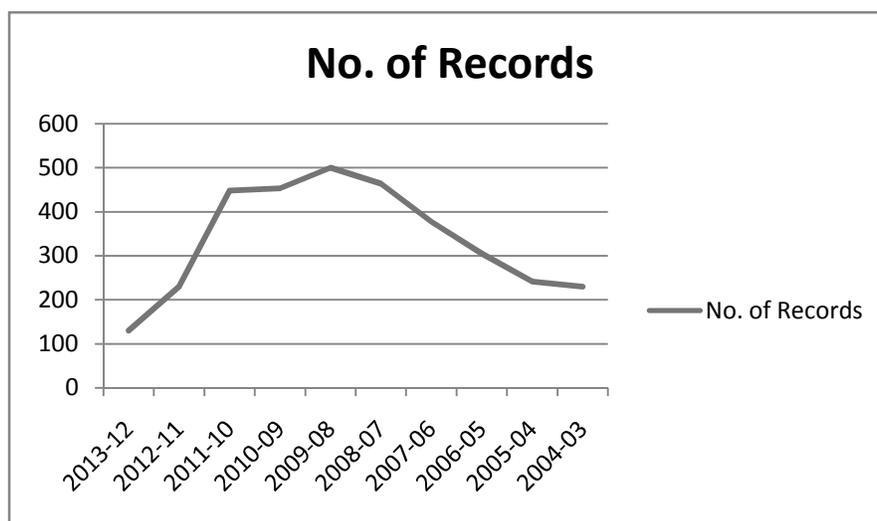


Figure No. 9.4 Growth of Digital Content in Last Ten Years

10. Conclusion

It is clear from the study that CFTRI is very well maintaining its Institutional Repository and uploading digital contents from time to time. It has the highest number of records as compared to the other laboratories of the CSIR. It is very active in uploading the digital content. So the development of institutional repositories is an endeavor by CFTRI to bring those research articles to the forefront which was secluded or not known

to the mass and so far it seems that it have achieved its goals to an extent. Others laboratories of the CSIR should also develop their own institutional repository. It is a good effort to overcome budgetary constraint problems in subscribing journals from publishers. Thus, the IR initiative at CSIR-CFTRI helped to provide worldwide visibility to the research output of the laboratory.

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