

# Digital Repositories for Sophisticated Information Management: Emphasizing Development of Digital Repositories in India

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(Received on 18 August 2012 and accepted on 28 October 2012)

**Abstract**–Digital repositories are the main practice of Information Science. In simply manner digital repositories refers to the Archive holds digital content, information or object. Digital repositories to some extent related with Information Systems and Networks (ISN) but the main differences in between two are Digital Depositories are the internal form where as ISN are opposite of that. Digital repositories may be for institutional user or it may be used as knowledge dissemination systems to others. This paper describes the aspects related with digital repositories like- digital repositories in characteristics, problems and so on. The trends regarding open repositories are increasing day-by-day.

**Keywords:** Digital repositories, Information Management, Information Science, Knowledge Organisation, Digitalization, India, Archives, Documentation, Information Systems, Information Science-Practice, Virtualization

## I. INTRODUCTION

Digital repositories are the digital store room responsible for information, data, content and knowledge storage and dissemination. Digital repositories may be classified various way it is may be open or it may be closed. The digital repositories may be subject based or it may be based on institutional documentation archive restricted for only office use [13]. Digital repositories recently established and emerged as open Academic way rather than other. Open repositories of international and national level are provides wider knowledge access facility for knowledge seeker around the world. The open and free depositories are belongs to India however facing some challenges and issues [10].

## II. OBJECTIVES

The main aim of this research work is as follows:-

1. To know about digital repositories;
2. To find out the latest characteristics about the digital repositories;

3. To understand about the related organization of digital repositories;
4. To find out the latest and Government and research organization established digital repositories;
5. To learn the main Digital repositories and related foundation established by the private player;
6. To know the main issues and challenges of digital repositories in India;
7. To learn the main benefits of digital repositories;
8. To suggest the requisite depending upon identification and verification.

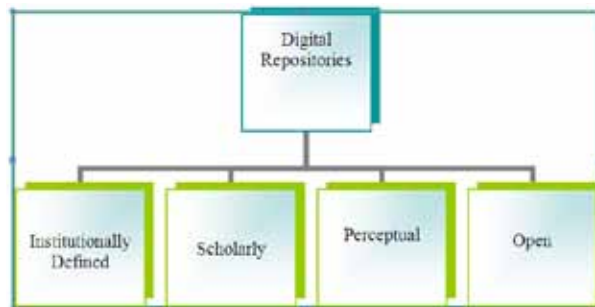


Fig. 1 Digital Repositories and its types

## III. DIGITAL REPOSITORIES: OVERVIEW

Digital repositories are the digital foundation responsible for information collection, selection, organization, dissemination is shown in figure 1. The Digital Repositories can store wide range of content in various forms and format. It is usually helpful for learning, teaching, research and other scholarly communication process of an organization. The movement of digital institutional repository started last decade with the initiative of institute of National Importance. According to the SPARC “An institutional repository is a digital repository is a digital archive of intellectual product created by faculty, research staff and students of an institution,

with few of any barrier to access". The nature of the digital repository is shown in figure 2. The digital repository may be online or it may be on online system where user can get data from remote place.

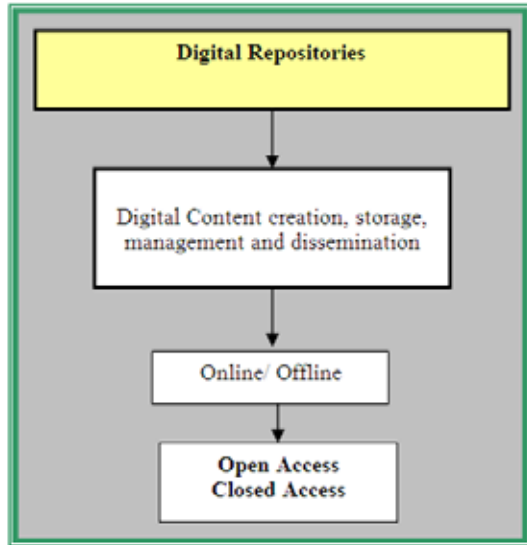


Fig. 2 Digital repositories nature

#### IV. DIGITAL REPOSITORIES: RELATED FOUNDATION

There are so many foundation working or consider as equivalent to digital repositories are shown in figure 3. The digital archives also treated as digital repository normally stored old manuscript. Information systems are the information foundation responsible for information activities and connected with so many information centers [4, 12].

The ISN is another foundation where digital content, assets are stored and also can be search and retrieve depending upon need. Fundamentally as Johnson mention these repositories can be defined as:

- Institutionally defined;
- Scholarly;
- Cumulative and Perceptual;
- Open and Interoperable.

The institution and Multinational companies both are using this system for better information practice.

#### V. CHARACTERISTICS OF DIGITAL REPOSITORIES

Digital Repository has following unique characteristics or benefits:

1. The Digital Repositories are may be online or offline- depending upon nature;

2. The Digital Repository may be based on Single subject or may be based on Multidisciplinary or in discipline wise;
3. The Digital repositories may be Private Institution or may be Government Institutions;
4. It can hold document in many format and forms;
5. The content may be presented short term or long term basis;
6. The digital repository supports mechanism to import, export, identify, store and retrieval of digital asset and content.

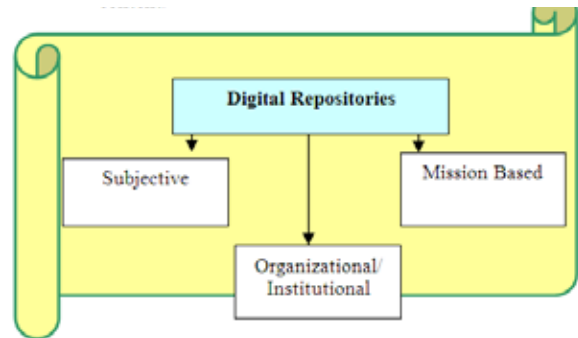


Fig. 3 Digital Repositories and formation

#### VI. DIGITAL REPOSITORY DEVELOPMENT IN INDIA

The digital repositories in India develop during the last decade with the initiative of centrally funded research centre and institute of national importance [5]. The digital repositories in India may be classified as follows:

- Digital repositories established by Institute of National Importance like IIT, IIM, IIIT, NIT, IIS, IISER and so on;
- Digital Universities established and funded by Universities and Institutions;
- Digital Repositories established by Private Organization, institutions and Private Universities.

Digital Repositories in India basically stored the Resources including abstract, full text, full thesis and so on. The University Grants Commission already initiated UGC Regulation, 2005 in which submission of metadata and full text of doctoral thesis is possible is explained in fig: 4. According to This regulation UGC consider two set

of planned actions like- creation of Indian National thesis Database (INTED) and submission on electronic thesis. The UGC minimum regulation for the award of MPhil/PhD implements this plan.

### VII. DIGITAL REPOSITORIES ESTABLISHED BY CENTRAL AND RESEARCH INSTITUTIONS

As far as central and research institution is concerned India has near about 300 academic and research foundation out of which near about 100 are having the digital repository and similar kind of facility. Out of these number only about 70 are registered with repository consortium like-

- DOAR- Directory of Open Access Repository;
- ROAR-Registry of Open Access Repository.

As Biswas and Mukhopadhyay reported that the growth rate of Registered Digital Repositories is around 20 in the year 2010. The fact is that in the year 2006 the maximum numbers of institutes are established of central and research category. While in the year 2010 many digital repositories are established private player and universities. The following Table I shows the eminent digital repositories at a glance. (Note- This category is only included the centrally funded repositories along with NIT's,IIT's,IIT's and other centrally funded institute.)

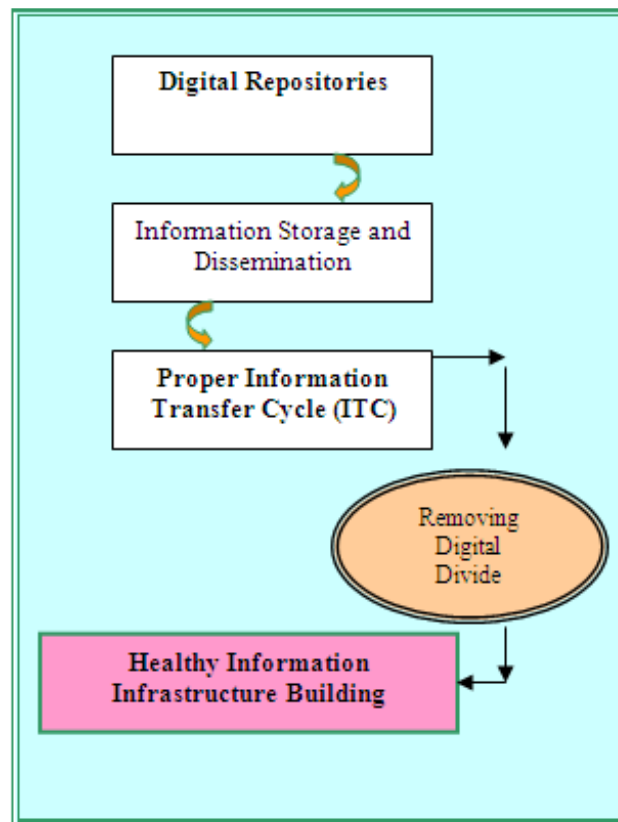


Fig. 4 Digital Repositories and proper ITC building

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TABLE I SOME POPULAR INFORMATION NETWORKS IN INDIA

Name of ISN	Type	Established	Field	Indian Yes/No
MEDLARS	Information System	1964	Medical	No
INSPECT	Information Network	1969	Physics & Engineering	No
OCLC	Information Network	1971	General	No
INIS	Information System	1974	Nuclear Science	No
AGRIS	Information System	1975	Agriculture & Related	No
ERNET	Academic Network	1986	General	Yes
JANET	Academic Information Network	1984	Education	No
DELNET	Information Network	1988	General	Yes
INFONET	Information Network	2003	Education	Yes
NIC	Information & Knowledge Network	----	Information Management	Yes
National Knowledge Network	Information & Knowledge Network	2007	Multi disciplinary	Yes

**VIII. DIGITAL REPOSITORIES ESTABLISHED BY PRIVATE PLAYERS**

The most emerging scenario of digital repositories is increasing trend of established of Digital Archive by the private player which including:-

- Private Engineering Colleges;
- Private Management and Professional College;
- Digital consortium by the indexing and publishing agency;

Other hand universities considered in this category like-

- Centrally Funded University;
- State Funded University;
- State Legislative but not funded universities;
- Deemed Universities and so on.

As far as this study we find out that most of the digital repositories in this field deals with Digital object like-Journal and Archive like-vidyanidhi Project of Mysore University, which is considered as Doctoral thesis repositories in India. The above chart (fig 5) gives an overview of this category.

Digital Repositories In India (Central & Research Centre)	Field and Area	Web site for accessing
Central Drug Research Institute	Biology, Biochemistry; Health, Medicine	<a href="http://dkr.cdri.res.in:8080/dspace/index.jsp">http://dkr.cdri.res.in:8080/dspace/index.jsp</a>
Central Institute of Medicinal & Aromatic Plants	Agriculture, Biology,	<a href="http://kr.cimap.res.in/index.jsp">http://kr.cimap.res.in/index.jsp</a> or
Central Marine Fisheries Research Institute (CMFR)	Agriculture, Food & Veterinary; Biology & Biochemistry; Ecology & Environment;	<a href="http://eprints.cmfri.org.in/">http://eprints.cmfri.org.in/</a>
Indian Agricultural Research Institute	Agriculture, Food & Veterinary	<a href="http://eprints.iari.res.in/">http://eprints.iari.res.in/</a>
Indian Institute of Astrophysics	Physics & Astronomy	<a href="http://prints.iiap.res.in/">http://prints.iiap.res.in/</a>
Indian Institute of Information Technology	Management Science, Electronics communications Technology	<a href="http://eprints.iiita.ac.in/">http://eprints.iiita.ac.in/</a>
Indian Institute of Science	Physics, Chemistry, Astronomy, Mathematics, Statistics.	<a href="http://eprints.iisc.ernet.in/">http://eprints.iisc.ernet.in/</a>
Indian Institute of Spices Research	Chemistry, biotechnology	<a href="http://220.227.138.214:8080/dspace/index.jsp">http://220.227.138.214:8080/dspace/index.jsp</a>

Fig. 5 Digital Repositories and proper ITC building

### IX. ISSUES OF DIGITAL REPOSITORIES IN INDIA

1. The number of Digital Repositories is very minimum in India than that of its actual requirement;
2. Many Journals are published through out but not included in the digital index or archives [5,12];
3. Most of the running digital repositories facing problem regarding finance and huge funding;
4. Due to globalization many open source software are available in the market out of software available in the market out of which many are not suitable in the format;
5. Still problems are there in case of digitalization all most all type of thesis including MPhil/PhD/Post Doctoral ;

6. In India many Digital Repositories are established around the subject but many of them are not registered with DOAJ or other e-consortium;
7. Availability of well skilled personnel is an important issue;
8. Many organization still not interested for digitalization their documents for several reason;
9. Copy right and matter related with intellectual property Right is an emerging issue.

#### X. FINDING

During this research work we find out the following facts

1. Digital repositories and similar Electronic foundations are in India established rapidly;
2. The largest and maximum digital repositories in India are established by the central academic and research centers;
3. The digital repositories facing financial problem in India;
4. Most of the digital repositories are established in the field of science and technology.

#### XI. SUGGESTION

1. We need to established digital repositories for various kind of subject including humanities and social sciences;
2. It is better to hold the digital thesis of Masters degrees apart from Doctoral and Post doctoral;
3. Government as well as planning commission should take proper step regarding financial problems;
4. It is better to established free and open repositories for improving digital information infrastructure.

#### XII. CONCLUSION

Digital Repositories and similar foundations are the key mover for the societal development [13]. Digital repositories are the main responsible organization for the improvement of the over all information infrastructure. Connection with the information centers and apex information foundation like Information Networks, Information Systems is much better for Networked Information Services [11, 12]. India needs several digital repositories for making information rich country.

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