Electronic Theses and Dissertations’ (ETDs) Repositories: A Case Study of Maharshi Dayanand University, Rohtak, Haryana (India)

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Introduction

• Emergence of the digital libraries has rattled the traditions of library and information science.

• Digital libraries, institutional repositories, digital archives and learning objects are developed as the results of cutting-edge research in the area of information communication and technology for advanced information storage and retrieval systems and can store different types of digital information.

• Digitization refers to the process of conversion of a physical object such as printed text, manuscript, image, sound or any other format to a digital format so that it can be stored and accessed digitally by using a computer system.

• The idea behind digitization which addresses needs of libraries is preservation of documents in library and enhancing their discoverability, accessibility and reusability.
Introduction Contd…

• Initially, digital libraries were developed to preserve the documents of colossal cultural importance for human civilizations such as rare books, documents, archival records, manuscripts, paintings etc.

• But now, along with providing a sheath to such rare documents in digital form, digital libraries embrace the “born digital” documents as well.

• Digital material can be categorized in two types, viz., Digitized and Born Digital.

• One type of material that is initially produced in the print format such as printed books, manuscripts etc. and then by using digitization process it is converted into digital format.

• Another is “born digital” i.e. the material which is produced in machine readable form such as e-books, e-journals, multimedia etc.
Need and Purpose of Digitization:

• First goal of theses digitization is to preserve the research outputs in digital format and easy access of the valuable contents. Digitization provides sheathing to the rare and expensive material which is probable to damage if accessed and used regularly. So, the restricted access material can be accessed by anyone.

• Digitization allows easy searching and access to the library material. Digital material is stored along with some additional bibliographic information for indexing which helps users in locating the material in library.

• It provides a multi-user environment in the libraries. A single copy of digital material can be accessed by multiple users at the same time without any interruption.

• It solves the problem of travelling to the library in search of material. Users can access digital material through web interface of the digital library without physically travelling to the library.

• It solves the problem of limited library hours in a day i.e. unlike a traditional library; a digital library can be open to users every time they need to consult it.
Indian Scenario:

- Librarians are participating in introducing new advancements from Information Technology because of its influence in society and systematic nature.

- The systematic approach of information technology in libraries have resulted an enormous quantitative growth in information which is referred by term “Information explosion”. But where the systematic approach emphasize on quantity of information, the Indian traditional meditative approach to knowledge emphasizes on quality. We have been slow to introduce or develop a program to implement this approach completely, by preserving our rich cultural heritage and traditional values at the same time (Neelankavil, 2003).

- India is a country with huge cultural diversity where a multicultural society encircles people with different religious, ethnic, regional, democratic and language backgrounds. From time to time many cultural institutions have created the repositories to embrace this cultural heritage. As a result of these initiatives various kinds of literature have been produced. In a country like India with such a unique rich cultural and traditional methods in library science, there are still opportunities and obligations of development of digital libraries (Das, 2012).
Major digital library initiatives in India:

- Digital Library of India (DLI) collectively implemented by Indian Institute of Science (IISc), Bengaluru; IIIT Hyderabad and C-DAC. This project is funded by Ministry of Communication and Information Technology (MCIT).

- Kalasampada: Digital Library - Resource for Indian Cultural Heritage (DL-RICH) hosted by Indira Gandhi National Centre for Arts (IGNCA) and funded by Ministry of Communication and Information Technology (MCIT).

- Traditional Knowledge Digital Library (TKDL) implemented by National Institute of Science Communication and Information Resources (NISCAIR). This project is funded by Department of Indian Systems of Medicine and Homoeopathy (ISM&H).

- Mobile e-library developed by C-DAC Noida under the Ministry of Communication and Information Technology (MCIT).

- Nalanda Digital Library developed by National Institute of Technology Calicut and funded by All India Council for Technical Education (AICTE).
Major digital library initiatives in India: Contd...

• Archives of Indian Labour: Integrated Labour History Research Programme hosted by V.V.Giri National Labour Institute and Association of Indian Labour Historians.

• National Science Digital Library (NSDL) developed by National Institute of Science Communication and Information Resources (NISCAIR).

• Down the Memory Lane an initiative of National Library of India under the Ministry of Culture.

• Digitization of Manuscripts initiative of National Mission for Manuscripts under the Ministry of Culture.

• Digitization, electronic archiving, indexing and retrieval system of the Indian Journal of Medical Research (IJMR) an initiative of Indian Council of Medical Research (ICMR).
About the MDU, Rohtak: a succinct summary

• The Maharshi Dayanand University (MDU), Rohtak, Haryana (India) was established in 1976 with the objective to promote inter-disciplinary higher education and research with special emphasis on studies of environmental, ecological and life sciences.

Affiliated Colleges, Departments and Programmes offered:

• In a span of 35 years, the University has progressed leaps and bounds to emerge as a leading centre of higher education not only in the state of Haryana. It has since acquired the status of a teaching-cum-affiliating University with 518 colleges presently affiliated to it, including Colleges of Education, Degree Colleges, Engineering Institutions, Management Institutes, and Law Colleges.

• At present, the University offers courses of study through 11 faculties, 38 post-graduate teaching departments (UTD), one autonomous constituent institute known as University Institute of Engineering and Technology (UIET), a University Institute of Law and Management Studies at Gurugram, and a Directorate of Distance Education (DDE) that operates from the main campus.
Courses of Study:

• Maharshi Dayanand University is a fast growing hub of wide range of courses being offered in the traditional, professional, and job-oriented streams. The University runs 74 programmes of study through its 38 PG departments on the campus and three centres, besides offering Ph.D. programmes in almost all subjects.

• The University has diploma level courses in French and Spanish to cultivate in its students linguistic skills in select foreign languages to create better mobility and greater employability in a wider arena.

Collaborations with Prominent Institutions:

• The University sincerely embraces its mission of providing quality education. To further this goal, it has inked MoUs with reputed educational and research organizations both at national and international level.
University Library Services:

- The University has carved out a highly conducive and enabling academic environ with its Vivekananda Library, named after the great social reformer Swami Vivekananda.

- Its rich knowledgebase encompasses 3,50,632 print books, 20,146 eBooks, 50,800 bound volumes of Journals, 442 Indian and 108 Foreign Journals are subscribed in print form, more than 13,000 electronic journals and 5 databases are accessible through e-ShodhSindhu – a MHRD, Govt. of India consortium.

- Housed in a modern spacious building with 84,000 sq.ft. carpet area, the library provides seating capacity for 963 library users, with another 358 seats in its five offshoots.

- It has an air-conditioned Internet Lab with 80 PCs, 1 Gbps bandwidth internet connectivity.

- The university library system is indeed fully automated in true sense. The innovative Radio Frequency Identification Technology (RFID) has made the task of check-out check-in, self check-in and tracking of books and other material easier and more efficient.
Need for Digitization of Theses:

• The Vivekananda Library has a separate Archives Section where 18,089 Ph.D. and M.Phil. theses produced in the University are stacked with restricted access to information seekers. An air-conditioned Reading Hall with a seating capacity for 250 readers remains open 24X7 throughout the year, with a large number of readers thronging around all the time in search of a seat inside.

• Laced with the latest technologies, Vivekananda Library of Rohtak is contributing its part well and good in the digitization. The digitization project of Vivekananda Library aims to provide an open access environment to the academic community world-wide by online availability of electronic theses and dissertations through centrally managed repository.

• It can provide easy access and archiving of the theses and dissertations of Maharshi Dayanand University to help raising the standard and quality of research among academic community.
Implementation Plan:

• For providing digital resources such as electronic theses and dissertations, Vivekananda Library has collaborated with the Shodhganga. It is a digital repository of Indian Electronic Theses and Dissertations set-up by the INFLIBNET Centre set-up using an open source digital repository development software D-Space developed by MIT (Massachusetts Institute of Technology) in contribution with Hewlett-Packard (HP).

• To execute and implement the project in a transparent way a detailed tender consisting work and the technical requirements was prepared meticulously to avoid any possible shortcomings in the work.
Execution of digitization of theses:

• Brief execution details for digitization work are as under:
• Ph.D. Theses segregated from Post-Graduation and M.Phil Theses
• Made inventory of all Ph.D. theses
• Searched for duplicate theses and identified unique theses for scanning
• Selected theses were unbounded for scanning
• Scanned theses using Image Scanner fi-7260 in .TIFF file format on 300 dpi (dot per inch) resolutions with [Bit depths: Bit, not less than 8-bit Grayscale, or 24-bit Color.
• Done basic image enhancement, Raster cleaning, De-skew, De-Speckle Cropping & hole removal etc. on each images for optimum images clarity without compromising the quality of text, photographs etc.
Execution of digitization of theses.... Contd...

- Checked files for integration and noted missing pages and repeated the process of scanning, cleaning and converting files into PDF/PDFA file.
- Created chapter-wise PDF/PDF-A files in a systematic way.
- Captured and created Metadata for each and every thesis and created .xls file using MS-Excel.
- Rebinding done after final check of the soft-copies of the PDF/PDF-A files.
- Upload the Digitized PDF on Document Management Systems (DMS), that is, our own Institutional Repository and Shodhganga.
- Metadata of digitized theses uploaded to our Library Management System Libsys which is searchable through Web OPAC.
- Digital copy of entire digitized content is backed up in Portable Hard Disk.
There is a large collection of 18089 theses in Vivekananda Library of Maharshi Dayanand University, Rohtak, Haryana (India). We created an inventory of all these theses and found that the number of M.Phil and Post Graduate theses and dissertations are 80.3% (14,524) and 19.7% (3,565) theses are doctoral theses.

**Theses classification**

- M.Phil & PG: 80%
- Doctoral: 20%
Format of Doctoral Theses:

Since the inception of Library, total 3,565 Ph.D. were submitted to the library. Out of this, 73% theses (2,593) were received in traditional print format. During the last six years, we received 27% theses (972) in digital format. All the digitized and born digital theses have been uploaded on Shodhganga and 2550 (out of 2593) theses digitized under Shodhganga ETD project have been uploaded on our Institutional Repository.
Faculty-wise distribution of digitized theses:

- We digitized total 2550 doctoral theses. We observed that out of these 2550 theses 74.94% (1944) theses were written in English language and remaining 25.6% (639) theses were written either Hindi or in Sanskrit.

**Faculty-wise theses digitized**

- Commerce
- Education
- Engg. & Technology
- Humanities
- Law
- Life Sciences
- Management Sciences
- Performing & Visual Arts
- Pharmaceutical Sciences
- Physical Sciences
- Social Sciences
Observations:

• Out of total digitized theses, 73% (2,593) were received in traditional print format.
• 74.94% theses were written in English language and 25.6% theses were written either in Hindi or in Sanskrit.
• University Faculty of Humanities contributed highest 23.2% theses while Faculty of Pharmaceutical Sciences contributed lowest 0.9% theses to the library collection.
Suggestions:

• The university library has a large collection of M.Phil. dissertations which needs to be digitized and preserved for the use of future generations.

• Migration to Future Storage Formats and Technology: Computer technologies are very dynamic in nature, therefore, the university must prepare a future plan to decide what digital storage formats and technologies shall constitute acceptable archival storage and migrate the Collection to those formats and technologies as and when required.

• The digital copy should be kept on cloud by the library for purpose of future use and record.
Thank You !!!