DEVELOPMENT AND PROMOTION OF ELECTRONIC THESES AND DISSERTATIONS (ETD): A PRACTICAL EXPERIENCE AT ALAGAPPA UNIVERSITY, KARAIKUDI, INDIA

Ganesan, P.
Librarian
Central Library
Alagapppa University
Karaikudi – 630 003
Sivaganga (DT)
Tamil Nadu, India
Mobile: +919865621121
E-Mail: gharieni2003@yahoo.com

Abstract

Theses and dissertations are considered as major research work by the researchers to gain more knowledge on work carried out by them. Consultation of these works are limited duo to many reasons such as availability of single volume, retrieval, damage, loss, and not allowed to take photocopy. Because of these limitations, many of the theses are seldom or never used. The ultimate aim of digitization of theses is to provide global visibility so that access through web can be maximised. The other major reason for digitization are limited space of storage, issue of duplication of research and repetition, ensuring of standards and quality and no master copy if the thesis is lost. The emergence of Information and Communication Technology (ICT) have made easy to access the digital resources. In India, most of the elite institutions such as Indian Institute of Science, Indian Institute of Technologies (IITs) have started digitising their theses and dissertations long back and the process is either low or not yet started in many of the state universities due to many reasons sucn as lack of adequate fund, technical man power, infrastructure facilities and so on. In this situation, Information Library Network (INFLIBNET), a centre established by University Grants Commission (UGC) to network the university libraries in India has developed an Institutional Repository in the name "Shodhganga" has taken the responsibility of digitising, hosting and maintaining the digital repository of electronic theses of Indian universities. To ease the digitization process, UGC has issued regulations to all Indian universities in 2016 to submit electronic version of theses to all the research scholars pursuing their research before it is being awarded to the INFLIBNET centre for hosting the theses on Institutional Repository. UGC has funded to most of the higher education institution in India to digitize the printed theses and establishing ETD lab. Present paper highlights the digitization work carried out and efforts taken to promote the ETD among the academic and research community.

Keywords: Digital Library, Electronic Theses and Dissertations, ETDs, Institutional Repository, Alagappa University.

INTRODUCTION

India is major South Asian country has many universities, research institutions, specialised institutions and research centres meeting the information needs of the user community in almost all major subject areas. Theses and dissertations are treated as major research work carried out by the researchers are used large extend to get more insight in the research title they have chosen, overcome the issue of duplication of research and repetition and ensuring of standards and quality.

Developments in scholarly communication process and open access movement has made a paradigm shift in information genertaion and dissemination (**Mashroofa and Seneviratnel 2016, 182).** To meet the information needs, libraries in India have started digitizing the theses to preserve and make it available widely to the academic and research community. The other reasons for digitization are restriction on borrowing, library timings, loss of theses and limited space for storage. Setting up of Institutional repository allows the research visibility and disseminate the knowledge globally in the light of financial difficulties faced by many institutions in world (**Abdelrahman 2017, 45).** Like, Networked Digital Library of Theses and Dissertations (NDLTD), in India, the Information Library Network (INFLIBNET) Ahmedabad, a centre established by University Grants Commission (UGC) for networking of Indian University Libraries has developed an Institutional Repository in the name 'Shodhganga' has taken the responsibility of digitising, hosting and maintaining the digital repository of electronic theses of Indian universities, which can be accessed freely on the web using many search fields. The system helps the users to search and retrieve chapters or sections of thesis.

To ease the digitization process, UGC has issued regulations to all Indian universities in 2016 to submit electronic version of theses to all the research scholars pursuing their research before it is being awarded to the INFLIBNET centre for hosting the theses on Institutional Repository (**Ministry of Human Resource Development, 2016).**

Shodhganga is setup using DSpace software uses qualified version of the Dublin Core scheme for metadata promotes to setup ETD repositories in member institutions. A number of universities already have setup institutional repositories using either DSpace or OAI-PMH complaint software. INFLIBNET provides access to its server holds the responsibility of keeping the data intact, usable and back-up of the data so as to avoid loss. It also provided configuration, specification and technical guidance to our university for procurement of computer hardware and networking accessories for setting-up of ETDs.

CURRENT SITUATION OF ETD AT OUR UNIVERSITY

Alagappa University is one of the state universities accredited with 'A+" Grade by National Assessment and Accrediting Council (NAAC) (CGPA: 3.64 out 4) in the third cycle and Graded as Category-1 University by Ministry of Human Resource Development (MHRD) (**Alagappa University, n.d.)** The University has signed Memorandum of Understanding (MOU) with INFLIBNET Centre on 09th April 2014 for digitization of old theses and building up digital repository. Based on recommendations by INFLIBNET Centre, UGC has released Rs. 16.65 lakhs for completing the above said digitization process.

At the first stage, thesis is to be checked for plagiarism level using URKUND software and must be certified by the research supervisor that the plagiarism level is less than the level specified by the university. This varies from university to university. If the

plagiarism level is more than the accepted level, the researcher has to minimise by rewriting. After plagiarism process, the research scholars used to submit the theses along with softcopy (MS Word and PDF) to the research section. After completing the Viva voce examination process, the research section used to send list of printed theses and softcopies to the library, which are verified. Each thesis in the CD is divided into different metadata files as mentioned below in order to ensure the quality, standards and uniqueness. Following are the different metadata fields followed for digitization of theses **(Shodhganga: a reservoir of Indian theses, n.d.)**

01_title.pdf
02_Certificates.pdf
03_acknowledgements.pdf
04_contents.pdf
05_preface.pdf
06_list of tables figures.pdf
07_chapter1.pdf
08_chapter2.pdf
09_chapter3.pdf
10_chapter4.pdf
11_chapter5.pdf
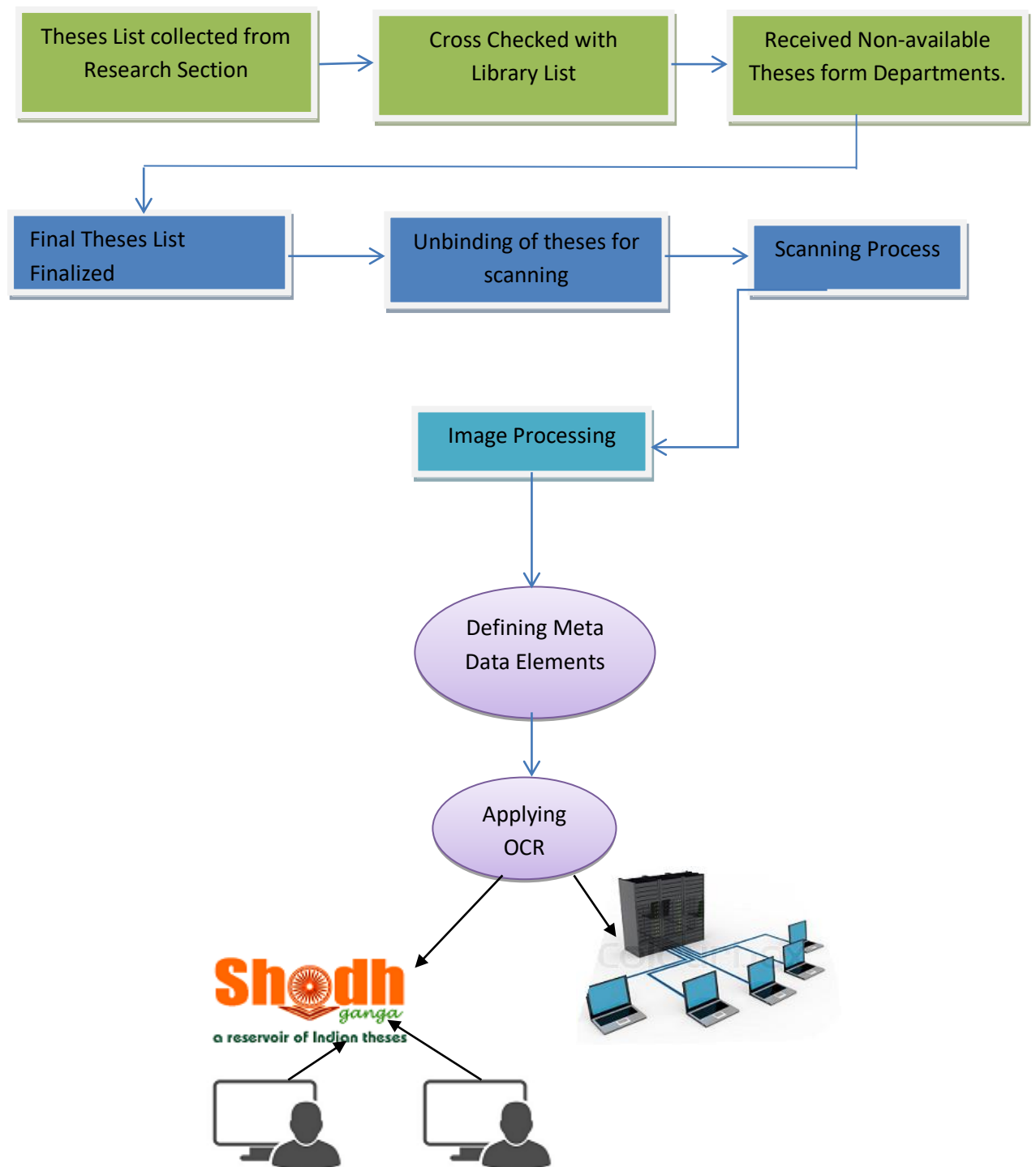12_chapter6.pdf
13_chapter7.pdf
14_references.pdf

Addition of metadata fields for thesis are possible using add menus. The above metadata files are then uploaded into the Shodhganga reservoir using login and password assigned to the Coordinator by NFLIBNET Centre

As on date, 1687 theses have been uploaded to Shodhganga, out of which 916 printed theses are digitized using outsource mode as per the guidelines, technical standards and specifications given by the INFLIBNET Centre. The printed theses are unbounded before digitization work. Later, bunch of theses papers are kept on the Fuji TSU scanner tray, which is being scanned automatically. The scanner is able to scan 10,000 pages per day. Pages, pictures and diagrams are scanned using black and white using setting mode. Each thesis is saved as one file and indexing also done for each thesis with name of the author, title, guide, year, pages etc.

Abby FineReader Software version 8.0 is being used for image processing functions for improving the quality of the document images. Distorted text lines, noise, skew etc found in the theses were removed or corrected. The pages were scanned using black and white with 300 dpi and images, pictures were also scanned using black and white mode. The image edges which are not useful were removed. Optical Character Recogniser is applied to digital databases, which has taken the picture of the page and converted to digital text.

These files were uploaded to the Shodhganga reservoir and two files namely PDF and TIFF have been received in external hard disk from the company. A local database for ETD established with the help of one server and 12 computers. The following picture depicts the digitization process undertaken in the Central Library of Alagappa University

Figure 1: Digitization Process at Alagappa University Central Library

Example of uploading of theses Alagappa University thesis in to Shodhganga - Reservoir

Upload Thesis

University Details

University Name:

Alagappa University

Department/Place:

Department of Library and Information Science   **Place:** Karaikudi

Guide/Researcher

Name of Researcher: Laila T. Abraham   * eg.Gandhi M.K.

Name of Guide: Ganesan, P   Don't use Prof./Dr.

Degree

Type of Degree: Ph.D.

Registration Date: 07/12/2012   (DD/MM/YYYY)*

Completed Date: 2016   (YYYY)

Awarded Date: 17/08/2017   (DD/MM/YYYY)

Thesis Details (Special Characters &!#$%^*()+=-[]\\\';,./{}|\:? are not allowed)

Title(with Subtitle):   Use of Agricultural Information System by Farmers in Kerala :*

Alternative Title:

Abstract:

NIL

(Maximum characters: 2048)   You have 2020   characters left.

Note:

Keywords: Agricultural Information   Add More

Language: English   *

Coverage:

Citation Reference:

Submitted By: University

Copyrights: University   *

Submission Details

Size: e.g. Initial Page, All Pages

Dimensions:

Figure : 2 Metadata Source: http://shodhganga.inflibnet.ac.in:8080/ietd/TechUploadThesis.jsp

For effective usage of ETD and to create awareness among the faculty members and research scholars, training programmes on ETD and Plagiarism have been conducted periodically. Before digitization, theses were not utilised effectively because of many restrictions. Today, most of the users are effectively utilising the resources for many reasons such as ease of access and awareness through information literacy programme.

CONCLUSION

Digital format brings flexibility and creativity and allows to insert music, design, art, interactive formula, graphs and so on which allows the examiner and other researchers to check and prove the findings of the study easily (**Copeland 2008, 89).** According to **Copeland & Penman 2004, 25) "**ETDs are cost effective where the alternative is for students to provide multiple copies of bound paper theses, the process of creating ETDs improves students' IT skills".

In spite of many programs organised on ETD and plagiarism, research scholars are facing little problems while submission of thesis. Hence, there is a plan to organise Information Literacy programme once in two months with more emphasis on scanning, converting document file to PDF file, splitting the files and naming metadata and uploading.

As per the Ph.D regulations, the research scholars must submit a soft copy of thesis and synopsis in both PDF and MS Word Format. But, while digitization, variation in pages of print and electronic thesis found and also some times, the files were not able to open. Hence, checking mechanism at the time of submitting the thesis will solve the problem.

Theses were digitized in English Language, since OCR facility is available to English Language. Development of OCR in local language is going on in some of the institutions and believed to be available soon so that the Indian language theses also will be OCRed.

Networking of all the affiliated colleges to the local institutional repository is in process and will be completed soon

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