

DESIGN AND DEVELOPMENT OF SOCIAL SCIENCE ETD REPOSITORY IN BHARATHIDASAN UNIVERSITY

*A dissertation submitted to the Bharathidasan University in partial fulfillment
of the requirements for the degree of*

**MASTER DEGREE
IN
LIBRARY AND INFORMATION SCIENCE**

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MAY 2024

DECLARATION

I hereby declare that the project, “**Design and Development of Social Science ETD Repository in Bharathidasan University**”, which is being submitted in partial fulfillment of the course requirements leading to the award of Master of Library and Information Science, is the result of the work carried out by me under the guidance and supervision of **Dr. C. Ranganathan., Professor**, Department of Library and Information Science, Bharathidasan University.

I further declare that this project has not been previously prepared and submitted to any other institution /university for any degree / diploma by me or any other person.

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CERTIFICATE

This is to certify that the Project entitled **“Design and Development of Social Science ETD Repository in Bharathidasan University”**, submitted in partial fulfillment of the requirements for the award of the Master degree in Library and Information Science, Bharathidasan University, is a record of bonafide research work carried out by **K. Akash (Reg. No. P22MLIS01)** under my supervision and guidance and that no part of this work has been submitted for the award of any other degree, diploma, fellowship or similar titles or prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

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LIST OF ABBREVIATIONS

UGC	University Grant Commission
INFLIBNET	Information Library Network
ETD	Electronic Theses and Dissertations
NDLTD	The Networked Digital Library of Theses and Dissertations
CAETD	California Electronic Theses and Dissertations
FLETDA	Florida Electronic Theses and Dissertations Association
OETDA	Ohio Electronic Theses and Dissertations Association
TxETDA	Texas Electronic Theses and Dissertations Association
SGML	Standard Generalized Markup Language
PDF	Portable Document Format
CD	Compact Disc
DVD	Digital Versatile Disc
MoU	Memorandum of understanding

CHAPTER – I

INTRODUCTION

Information technology (IT) has given us new opportunities to explore with. Scholarly materials like theses and dissertations can now be submitted in electronic form so that they can be distributed to a wider group of users not limited within the library building. This technology however has not gathered the right pace in our part of the world due to various issues. These issues relate to the technology, necessary modification in workflows, hardware and software requirements, copyright, accessibility, security and issues bothering students, reviewers and the faculty members of higher educational institutions and Universities.

Theses and dissertations which contain research and scholarship of students doing Ph.D and Masters Degree in Universities and Higher Academic Institutions are of primary importance to libraries. But managing theses and dissertations in libraries is a difficult job. Each year library receives several of these documents. These documents discuss areas which might be very specific and incomprehensible to library staffs and thus making it difficult to properly classify, catalog and shelve them for reference. Today technology has advanced so fast providing newer and effective solutions to many of our problems. Electronic Theses and Dissertations (ETDs) is one such technology which can enhance the management of theses and dissertations in libraries. This is the right time that higher academic institution gives a good look at this technology which has already proved successful in many countries.

Higher education institutions make significant contributions to the generation and dissemination of knowledge. They make an important contribution to the advancement of knowledge. Ph.D. theses are a valuable source of research data. Every year, research institutions and universities generate a large number of these. Academics and research communities are interested in learning about the evolution of subjects by learning about this type of research work. As a result, INFLIBNET has made efforts to collect, organise, and make available research work on the network. Shodhganga is an online repository of Ph.D. theses from India.

Electronic Theses and Dissertations (ETDs)

Electronic Theses and Dissertations (ETDs) are digital versions of scholarly works submitted by students to fulfill academic degree requirements. Unlike traditional print submissions, ETDs are created in electronic formats and are accessed online. They offer numerous benefits, including wider accessibility, faster dissemination of research, and support for multimedia elements. ETDs can

be accessed globally, facilitating broader reach and impact. They enable efficient searching and browsing through metadata and advanced search functionalities, enhancing discoverability. ETD repositories, such as Shodhganga, play a vital role in collecting, preserving, and providing access to ETDs, ensuring their long-term availability. ETDs have transformed the thesis and dissertation submission process, making research more accessible, discoverable, and interactive in the digital age.

Benefits of Electronic Theses and Dissertations (ETD)

- **Increased Accessibility:** ETDs provide global, 24/7 access to scholarly research. By being available online, they overcome physical barriers, allowing researchers, students, and the general public to access theses and dissertations from anywhere in the world. This accessibility promotes the dissemination and utilization of research findings.
- **Enhanced Visibility and Discoverability:** ETD repositories often employ robust search and browse functionalities, making it easier for users to discover relevant theses and dissertations. Improved metadata and indexing contribute to better discoverability, increasing the visibility of students' research work and potentially attracting more citations and collaborations.
- **Preservation and Long-Term Access:** ETD repositories prioritize the preservation of digital content. Electronic formats ensure the long-term availability and accessibility of theses and dissertations, safeguarding valuable research for future generations. Preservation measures such as backup systems and adherence to digital preservation standards help protect against loss or degradation of research output.
- **Cost and Time Savings:** ETDs eliminate the need for printing, binding, and physical distribution, resulting in cost savings for both students and institutions. Additionally, the electronic submission and processing of theses and dissertations streamline administrative tasks, reducing paperwork and manual handling. This efficiency allows institutions to allocate resources more effectively.
- **Multimedia and Interactive Elements:** ETDs provide the opportunity to incorporate multimedia elements such as videos, images, audio files, and interactive components. This enables students to present their research in more engaging and dynamic ways, enhancing the understanding and impact of their work.

- **Intellectual Property and Copyright Management:** ETD repositories facilitate the management of intellectual property and copyright concerns. Institutions can set policies and access restrictions based on authors' preferences or specific requirements. Embargo periods can be implemented to protect sensitive information or allow time for patent applications or publishing agreements.
- **Collaboration and Interdisciplinary Research:** ETDs encourage collaboration and interdisciplinary research by making a wide range of research accessible in a single digital platform. Researchers from different disciplines can explore and learn from each other's work, fostering interdisciplinary dialogue and potential collaborations.
- **Environmental Sustainability:** By eliminating the need for physical printing and reducing paper waste, ETDs contribute to environmental sustainability efforts. The transition to electronic formats aligns with eco-friendly practices and supports institutions' sustainability goals.

How does an ETD Repository Work?

- **Submission:** The process begins with students or researchers submitting their completed theses or dissertations in an electronic format to the ETD repository. This may involve uploading a PDF or other acceptable file format along with relevant metadata.
- **Metadata and Cataloging:** The repository administrators or designated staff review the submissions and create metadata records for each thesis or dissertation. Metadata includes information such as the title, author, advisor, abstract, keywords, and other descriptive details. This metadata helps in organizing and categorizing the ETDs for easy discovery and retrieval.
- **Access and Discovery:** Once the theses are ingested into the repository and associated with the appropriate metadata, they become accessible to users. The repository typically provides search and browse functionalities, allowing users to discover theses based on different criteria like author, subject, keyword, or department. Users can access the full-text versions of the theses for reading or downloading.
- **Copyright and Access Control:** ETD repositories often include mechanisms to address copyright and access control issues. Depending on

the policies of the institution or the author's preferences, access to the full-text may be restricted to specific user groups or made freely available to the public. Embargoes can also be implemented to delay access for a certain period, protecting sensitive or proprietary information

- **Preservation:** Preservation of the electronic theses is a crucial aspect of an ETD repository. The repository employs measures to ensure the long-term archiving and integrity of the digital content. This may involve employing backup systems, file format migration strategies, and adherence to digital preservation standards.
- **Usage Statistics and Analytics:** ETD repositories often track usage statistics to gather insights into how the theses are being accessed and utilized by users. These analytics can help in evaluating the impact and visibility of the research output.
- **Interoperability and Integration:** ETD repositories may integrate with other scholarly platforms or systems, such as institutional repositories, library catalogs, or digital libraries. This interoperability enhances the discoverability and accessibility of the theses and facilitates seamless integration into the broader scholarly ecosystem.

ETD repository simplifies the process of archiving, organizing, and providing access to electronic theses and dissertations. It plays a vital role in promoting open access to scholarly work, facilitating knowledge dissemination, and preserving valuable research contributions for future reference.

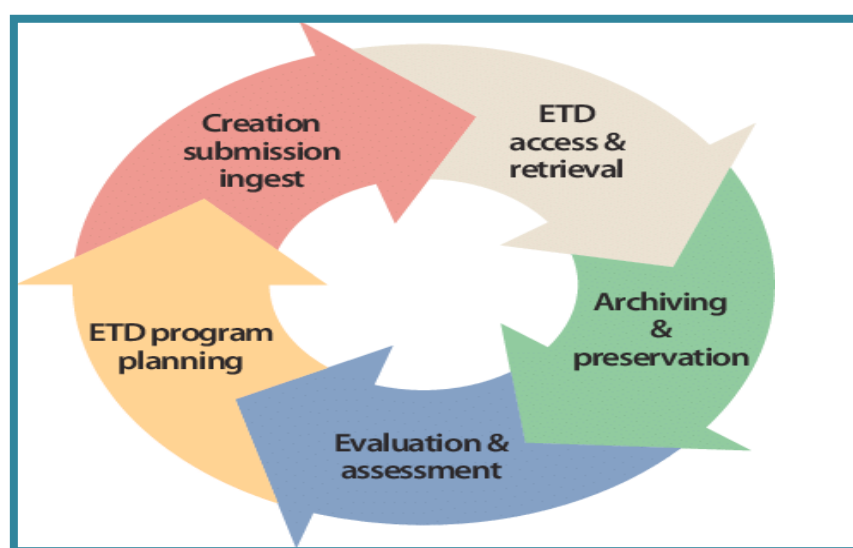


Fig-1: ETDs Lifecycle

INFLIBNET

INFLIBNET (Information and Library Network) is an initiative in India that focuses on modernizing and strengthening library and information services in the higher education sector. It aims to enhance access to scholarly resources, promote collaboration among institutions, and support digital initiatives. Through its network infrastructure, INFLIBNET facilitates the sharing of information and resources among participating universities and colleges. It provides access to electronic resources, negotiates consortium licensing agreements, and supports the development of digital libraries. INFLIBNET also conducts training programs, promotes interoperability, and encourages collaboration and networking among academic institutions. Overall, INFLIBNET plays a crucial role in advancing library services and promoting digital initiatives in the higher education landscape of India.

INFLIBNET Initiatives

Network Infrastructure: INFLIBNET establishes a robust network infrastructure connecting universities, colleges, and other academic institutions across India. This network facilitates efficient and seamless sharing of information, resources, and services among participating institutions.

E-Resources and Digital Libraries: INFLIBNET provides access to a wide range of electronic resources, including e-journals, e-books, databases, and digital repositories. It supports the development and maintenance of digital libraries, making scholarly content easily accessible to students, researchers, and faculty members.

Consortium Licensing: INFLIBNET negotiates consortium licensing agreements with publishers and content providers to procure e-resources at affordable rates. This helps institutions overcome financial barriers and provides access to a broader range of scholarly materials.

Shodhganga: INFLIBNET hosts Shodhganga, the national repository of electronic theses and dissertations in India. It promotes open access to research outputs and provides a platform for students and researchers to share their scholarly work.

ShodhGangotri: INFLIBNET also hosts ShodhGangotri, a platform for universities and research institutions to deposit and share their research

proposals. It acts as a database of ongoing and completed research projects, fostering collaboration and avoiding duplication of research efforts.

Training and Capacity Building: INFLIBNET conducts training programs and workshops to enhance the skills and knowledge of librarians, researchers, and academic staff. These initiatives focus on areas such as library automation, digital preservation, research data management, and utilization of e-resources effectively.

Interlibrary Loan and Document Delivery: INFLIBNET facilitates interlibrary loan services, enabling users to access resources available in other participating libraries. It also supports document delivery services, ensuring timely access to required research materials.

Collaboration and Networking: INFLIBNET encourages collaboration and networking among institutions through various activities like conferences, seminars, and working groups. These initiatives promote the exchange of ideas, sharing of best practices, and joint initiatives to enhance library and information services.

INFLIBNET INITIATIVES on ETD

The INFLIBNET initiative in India actively promotes Electronic Theses and Dissertations (ETDs). It hosts Shodhganga, the national ETD repository, providing a centralized platform for universities and research institutions to deposit and share their electronic theses and dissertations. INFLIBNET conducts training programs, offers technical infrastructure, and supports interoperability efforts to enhance the visibility and accessibility of ETDs. Collaborative activities, networking opportunities, and adherence to international standards further strengthen the ETD ecosystem in India. Overall, INFLIBNET plays a crucial role in advancing ETDs by facilitating their creation, preservation, and dissemination, benefiting researchers and the academic community.

SHODHGANGA

"Shodhganga" refers to the digital repository of Indian theses and dissertations submitted to universities in India. The repository is called "Shodhganga" and is maintained by the Shodhganga@INFLIBNET Centre, which is a part of the Information and Library Network Centre (INFLIBNET).

Shodhganga serves as a platform for research students, particularly those pursuing Ph.D. degrees, to deposit their theses and make them available to the scholarly community in an open-access format. The repository's primary objective is to capture, index, store, disseminate, and preserve electronic theses and dissertations (ETDs) submitted by researchers in India.

The repository was established in 2011 and has since become a significant resource for accessing Indian research output. It acts as a reservoir or digital archive of Indian theses and is considered a valuable source of scholarly work in various disciplines.

Shodhganga@INFLIBNET Centre provides researchers with a convenient platform to deposit their Ph.D. theses, making them accessible to the wider academic community. The platform supports the principles of open access, enabling free access and utilization of the research output for educational and research purposes.

To access the Shodhganga repository and explore the collection of Indian theses, one can visit the official website at <https://shodhganga.inflibnet.ac.in/>. The website provides a search interface that allows users to explore and discover relevant research works. The repository captures metadata records, abstracts, and full-text copies of the theses and dissertations deposited by the researchers.



Fig-2: Shodhganga Logo

Theses and dissertations are the rich and unique source of information, often it is the only source of research work that does not find its way into different publication channels. Theses and dissertations remain an un-tapped and under-utilized asset, leading to unnecessary duplication and repetition that, in effect, is the anti-theses of research and wastage of huge resources, both human and financial. These are one of the most important documents for scholarly information with minimum chance of availability among the public. But, Due to the lack of availability, the contents and information of these documents remains unexplored. Here the needs of Electronic Theses and Dissertations (ETDs) were raised. Brigham Young University (BYU) explains the concept as “An ETD is an electronic thesis or dissertation document expressed in a form simultaneously suitable for machine archives and worldwide retrieval. The document is similar to its paper predecessor, but differs in that ETDs provide a technologically advanced medium for expression. (Sengupta, 2019). Online availability of electronic theses through centrally-maintained digital repositories, not only ensure easy access and archiving of Indian doctoral theses but will also help in raising the standard and quality of research. This would overcome serious problem of duplication of research and poor quality resulting from the "poor visibility" and the "unseen" factor in research output. The UGC Notification (Minimum Standards & Procedure for Award of M.Phil. / Ph.D Degree, Regulation, 2016) dated 5th May 2016 mandates submission of electronic version of theses and dissertations by the researchers in universities with an aim to facilitate open access to Indian theses and dissertations to the academic community worldwide. As per the Regulation, the responsibility of hosting, maintaining and making the digital repository of Indian Electronic Theses and Dissertation (called "Shodhganga"), accessible to all institutions and universities, is assigned to the INFLIBNET Centre.

Theses and dissertations are known to be the rich and unique source of information, often the only source of research work that does not find its way into various publication channels. The UGC Notification dated 1st June 2009 mandates submission of electronic version of theses and dissertations by the researchers in universities with an aim to facilitate open access to Indian theses and dissertations to the academic community worldwide. Theses and dissertations remain an untapped and underutilized asset,

leading to unnecessary duplication and repetition that, in effect, is the anti theses of research and wastage of huge resources, both human and financial. Online availability of electronic theses through centrally maintained digital repositories, not only ensure easy access and archiving of Indian doctoral theses but will also help in raising the standard and quality of research. As per the Regulation, the responsibility of hosting, maintaining and making the digital repository of Indian Electronic Theses and Dissertation called Shodhganga accessible to all institutions and universities, is assigned to INFLIBNET Centre.

Presently, India is the world's third largest country in terms of higher education system with 889 universities. As per the data available as on 12th December 2018, there are more than 889 universities, including 48 Central Universities, 394 State Universities, 125 deemed Universities and 322 State Private Universities in India. In the 21st century, ETD has become very popular and useful open access knowledge resource for academicians and researchers at the global level. To facilitate open access to Indian ETDs, the UGC has mandated submission of ETDs of PhD/M.Phil Degrees as per the Notification dated 1st June 2009 (Minimum Standards & Procedure for Award of PhD/M.Phil Degree, Regulation, 2009). In India, many ETDs repositories (Vidyanidhi, Bhagirathi, KrishiPrabha, ETD@IISc, eprint@IITD, ETD@ JNU, Gyanganga@AMU and Shodhganga@INFLIBNET etc.) are managed at the university level, group level and national level. As a primary source of scholarly information, Ph.D. thesis and M.Phil. dissertations constitute valuable research literature. To make valuable scholarly information contained in ETDs, almost all Indian universities followed the UGC guidelines and made the submission of ETDs mandatory by all researchers irrespective of universities. Consequently, INFLIBNET Centre under its Shodhganga project has been able to upload 210548 plus PhD thesis. However, only 423 plus Indian Universities have so far signed MoU with INFLIBNET Centre for uploading awarded PhD thesis on its Shodhganga site. Recently, all Centrally Funded Institutions like IITs, NITs, IIITs and IIMs have become the part of the Shodhganga project.

ETD Submission Procedure at Shodhganga Repository

As per University Grant Commission (UGC) notification (Minimum Standards & Procedure for Award of. Phil. / PhD Degree, Regulation, 2009) dated 1st June 2009 every Indian university submitting all newly awarded PhD thesis in Shodhganga repository within 30 days of award of PhD degree by the University Coordinator/Researchers. The submission process of PhD thesis is very simple and it's completed in six steps. These steps for submission of thesis in Shodhganga are listed below.

How to Submit @ Shodhganga, INFLIBNET Centre Submission Process

The Shodhganga repository at INFLIBNET replicates structure of each university in terms of Departments / Centres and School each university has. This structure facilitates researchers from each university to deposit their theses in the respective Department / Centre. While online submission of electronic theses by researchers / supervisor or university's representative under university's mandate is preferred, the INFLIBNET encourages individual researchers to submit their theses and dissertations either online or off-line (through E-mail or CD / DVD) on voluntary basis till universities adopt and implement UGC Notification, 2016. Workflow for submission of electronic version of theses and dissertations consists of the following six steps:

Step – 1: Registration/Login

The Ph.D. student, his / her research supervisor or an authorized representative of the University (submitter), visits the INFLIBNET's ETD Web site and register himself / herself following the steps mentioned below:

- Visit ETD Registration Website
- Choose University and Department
- Choose Role (Researcher / Guide / University Representative)
- Enter e-mail ID (User-ID) and other details and upload scanned copy of certificate

Step – 2: Validation of Account

As soon as a submitter registers himself / herself, an e-mail alert is triggered alerting INFLIBNET Staff to validate the registered user and allow him / her to submit his / her thesis. As soon as the account is validated by the concerned INFLIBNET staff, an email addressed to the submitter is triggered with a web link

prompting him / her to submit his / her thesis.

Step – 3: Submission of Content / Metadata by Registered User

After validation of account, submitter is permitted to create metadata for his / her thesis and upload the content of his / her thesis. During the process of submission, the researcher (submitter) is also asked to grant non-exclusive rights to the INFLIBNET Centre to host his / her theses in the INFLIBNET's open access digital repository. In case, a user sends his / her thesis via e-mail / CD, the INFLIBNET staff will be responsible for creation of metadata and uploading the theses on behalf of the submitter.

Step – 4: Verification of Submitted Metadata and Content

The metadata created and chapter uploaded by the submitter will have to be verified for its completeness and correctness preferably by the research supervisor or university representative or alternatively by the INFLIBNET Staff. As soon as a submitter creates metadata for his / her theses and upload chapters of his / her theses, an e-mail is triggered to the research supervisor(s) / university representative to verify correctness and completeness of theses submitted.

Step – 5: Publish on ETD Repository

Once the metadata and uploaded content are verified for its completeness and correctness in the process mentioned above, theses get published in the ETD repository. While the metadata of thesis could be made available on submission, the full-text of thesis would be published only after receiving confirmation of award of degree by the University through notification / e-mail confirmation (in cases where theses is submitted prior to award of theses).

Step – 6: Intimation to stakeholders by Sending Notification to Researcher / Guide and the University

Once full-text of theses is published in the INFLIBNET's ETD repository, all stakeholders including researcher, guide and the university will be informed through email which will be triggered automatically by the ETD repository. RSS Feed technology will be used to disseminate and deliver new content added to the ETD repository to the users.

The advent of digital technologies has revolutionized the way scholarly research is conducted, documented, and disseminated. Electronic Theses and Dissertations (ETDs) have emerged as an important component of this digital transformation, providing a platform for universities to showcase the valuable

research conducted by their students. In line with this paradigm shift, Bharathidasan University (BDU) has taken a commendable step towards digital scholarship by awarding theses in electronic format.

This project aims to develop e-content for Shodhganga, the ETD Collection of BDU awarded theses. Shodhganga, the repository of Indian electronic theses and dissertations, has become a significant platform for researchers, students, and scholars to access and explore the wealth of knowledge generated by Indian universities. By contributing to Shodhganga, BDU aims to make its awarded theses accessible to a wider audience, fostering collaboration, and promoting academic excellence.

The primary focus of this project is to ensure the seamless integration of BDU's awarded theses into the Shodhganga platform, following the guidelines set by Shodhganga. This integration will involve the development of a dedicated ETD collection within Shodhganga, housing the theses awarded by BDU. Each thesis will be enriched with metadata, including information such as title, author, advisor, abstract, and keywords, to facilitate easy retrieval.

Furthermore, this project emphasizes the importance of standardizing the format and structure of the theses, ensuring consistency and ease of access. The theses will be reviewed, formatted, and converted into a uniform electronic format, such as PDF, to provide a cohesive and user-friendly experience for researchers and readers.

To enhance the overall scholarly value of the theses collection, this project will also involve the collection and inclusion of supplementary materials associated with the theses. These materials may include datasets, questionnaires, software code, or multimedia files that provide additional context and depth to the research conducted.

By developing e-content for Shodhganga's ETD collection of BDU awarded theses, this project aims to contribute to the advancement of digital scholarship and knowledge dissemination. It aligns with the vision of BDU to promote research excellence and facilitate access to valuable scholarly work. Through this endeavor, the research community and society at large will benefit from the wealth of knowledge generated by the dedicated scholars at BDU.

As we embark on this project, we anticipate significant outcomes, such as increased visibility and recognition for BDU's research output, enhanced collaboration opportunities with other institutions, and a wider dissemination of knowledge among the academic community. Ultimately, the integration of BDU's awarded theses into Shodhganga will contribute to the growth and progress of digital scholarship, fostering a culture of research excellence within the university and beyond.

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CHAPTER – II

REVIEW OF LITERATURE

This chapter deals with the relevant Review of Literature. It enables one to be aware of the past and current trends in any particular branch of research and devotes to examine the review of works relating to various aspects. It could be observed that there are various research studies highlighting the open access journals gateways and their applications to library management and administration. This type of work enables the researcher to identify the research gap in the previous studies. Review of related studies further avoids the duplication work that has already been done in that area. It enables the researcher to identify the unexplored areas, in order to create new grounds for research.

Sudhier, K. G., & Abhijith, B. (2023). Ontologies are formal representations of knowledge that define the structure and meaning of information. By describing the content of ETDs with ontologies, it is possible to make them more interoperable, discoverable, and searchable. This paper seeks to investigate the influence of ontologies and the Semantic Web on ETD publishing and performance. This paper reviews the literature on ontologies and the Semantic Web and discusses how these technologies can be utilised to enhance the quality of ETD services. In addition, the paper provides case studies demonstrating how ontologies and the Semantic Web are utilised in ETDs. In each case, a comparison of features such as Ontology-based metadata, Semantic search engine, Semantic annotation tool, and Semantic portal was performed and presented in a tabular format, with a distinct section devoted to a discussion of these features. The paper demonstrates that ontologies and the Semantic Web can be used to enhance the interoperability, discoverability, and search ability of Electronic Theses and Dissertations (ETDs). It also indicates that ontologies and the Semantic Web can support more sophisticated search and retrieval functionality in ETDs

Mehroof, A., & Rai, S. (2023). As professionals and academicians, we are all aware of ETDs (Electronic Theses and Dissertations) ' impact on the discourse, communication, and dissemination of research in our respective fields. ETDs are more widely used and advantageous than their conventional equivalents. ETDs, which are academic works that students submit as a requirement for their degree programs, provide various advantages

made possible by technological improvements. One significant benefit is the simplicity with which digital research materials may be accessed and distributed, making knowledge easy to share and retrieve. This paper discusses the ETDs' importance, aim, and initiatives in India. In addition, it discusses the Central universities and their role and contribution to ETDs. The study's primary objective is to evaluate the ETDs platform aspect of newly established central universities in India. ETDs offer several advantages over their traditional counterparts. They provide easy and convenient access to research work, and their accessibility enhances the visibility and usability of the research. We will try to evaluate the Findability and Accessibility of ETDs that are really easily discoverable and accessible. In this study, a webometric method is utilized for the evaluation of the websites of ETDs. Webometrics is the quantitative study of developing and using web-based information resources, structures, and technologies. As is common knowledge, a website serves as a digital representation of the ETDs themselves, reflecting the discoverability and accessibility of the ETDs' content. Using webometrics tools Google Page Speed Insights, we assess the discoverability and accessibility of the websites of ETDs. We also used a manual approach for findability and accessibility; a simple Google search for findability and for accessibility, we check whether ETDs provide contents openly, full-text availability, and how many platforms a university uses for content dissemination. The present work is limited to newly established central universities. The data were acquired and analyzed using the methods as mentioned above and instruments. This study's findings shed light on the applicability of webometrics in assessing the ETDs' findability and accessibility. It also sheds light on the significance of other parameters affecting discoverability and accessibility in ETDs. The study attempts to justify using a webometric approach to evaluate the platform aspect of ETDs. By focusing on discoverability, and accessibility, we provide a comprehensive website-evaluation approach to ETDs, which will aid in assessing the quality, influence, and standing of ETDs. This method will apply to other ETDs Platforms, and similar methods can also be developed in the future.

Ahuja, A., Devera, A., & Fox, E. A. (2022). Electronic theses and dissertations (ETDs) contain valuable knowledge that can be useful for a wide range of purposes. To effectively utilize the knowledge contained in ETDs for downstream tasks such as search and retrieval, question-answering, and summarization, the data first needs to be parsed and stored in a format such as XML. However, since most of the ETDs available on the web are PDF documents, parsing them to make their data useful for downstream tasks is a challenge. In this work, we propose a dataset and a framework to help with parsing long scholarly

documents such as ETDs. We take the Object Detection approach for document parsing. We first introduce a set of objects that are important elements of an ETD, along with a new dataset ETD-OD that consists of over 25K page images originating from 200 ETDs with bounding boxes around each of the objects. We also propose a framework that utilizes this dataset for converting ETDs to XML, which can further be used for ETD-related downstream tasks

Saloi, A. (2021) present study attempts to evaluate the contributions made by the central universities of Northeast India to the open access repository of Shodhganga by INFLIBNET. Out of total 10 central universities of Northeast India, 9 Universities have already signed with MoU of Shodhganga repository and all are contributing their theses and dissertations to this project. North Eastern Hill University (NEHU) made the first initiative to signed MoU with Shodhganga and it has the highest numbers of 2,093 contributions in the repository and ranked 1st among all the central universities of Northeast India. Department of Education of North Eastern Hill University (NEHU) has the highest numbers of contribution in the repository of Shodhganga by INFLIBNET. English was the most preferred language for the theses and dissertations of the central universities of Northeast India

Choudhury, et.al. (2021). Electronic Theses and Dissertations (ETDs) contain domain knowledge that can be used for many digital library tasks, such as analyzing citation networks and predicting research trends. Automatic metadata extraction is important to build scalable digital library search engines. Most existing methods are designed for born-digital documents such as GROBID, CERMINE, and ParsCit, so they often fail to extract metadata from scanned documents such as for ETDs. Traditional sequence tagging methods mainly rely on text-based features. In this paper, we propose a conditional random field (CRF) model that combines text-based and visual features. To verify the robustness of our model, we extended an existing corpus and created a new ground truth corpus consisting of 500 ETD cover pages with human validated metadata. Our experiments show that CRF with visual features outperformed both a heuristic baseline and a CRF model with only text-based features. The proposed model achieved 81.3%-96% F1 measure on seven metadata fields.

Sivakumaren, S. K., & Swaminathan, S. (2020). investigates the contributions of Electronic Theses and Dissertations (ETDs) by 16 State Universities of Tamil Nadu in INFLIBNET-Shodhganga project. It is found that 41870 Electronic Theses and Dissertations were uploaded by 16 State Universities. Among these Universities, Anna University, Chennai and University of Madras were contributed highest number of ETDs in

this project. The Department of Information and Communication, Anna University and Department of Tamil Studies, Bharathidasan University, Trichy were the top two departments, which contributed more number of theses in the respective domains. Further, the study has analyzed the number of theses uploaded on various disciplines. The result shows that highest number of ETDs was found on “Information and Communication” and “Commerce.”

Flynn, E. A., & Ahrberg, J. H. (2020). Academic libraries and graduate schools have a variety of workflows and practices for creating and disseminating metadata for electronic theses and dissertations (ETDs). A survey of United States academic institutions in the fall of 2017 addressed the lifecycle of ETDs and their metadata, including policy setting, metadata creation, and access. Participants from 137 institutions, both public and private, were sent the 23-question survey that contained a combination of qualitative and open-ended questions. This survey helped to identify trends and will expand the ETD literature with its comparison of policies, workflows and practices of ETD metadata.

Chavan, S. P., & Sawai, A. B. (2019). Conducted the study on Electronic Thesis and Dissertation Contributions in Shodhganga by Universities in India. At present, there are 10 non-agricultural universities of Maharashtra listed in UGC website signed MOU with INFLIBNET to contribute their theses on Shodhganga. There are totals 23523 e-thesis was uploaded and Savitribai Phule Pune University has contributed highest 9725 (41.34%) e-thesis. The majority of 19342 (82.22%) E-Thesis Submitted to Sodhaganaga in English language. University of Calcutta 11528 (15.75%) is on 1st rank regarding the top ten Universities in India to uploaded Ph.D. Theses in Shodhganga.

Singh, S., & Tanwar, N. (2017). A steep escalation is observed in Electronic Thesis and Dissertations’ (ETDs) Repositories throughout the world during the last few years. This increase in ETDs is transforming the way of learning, research and scholarly communication in academic institutions and their scholars. ETDs underpins research and national development, hence, there was a need to setup an ETD at our institutional level. The transformation from print to electronic theses and dissertations has brought new attention to the researchers. Theses and dissertations are considered original research works in every university. The quality of research is also a key criterion while measuring the reput of any academic institution. This paper focuses on the practical problems faced during implementation of this project. We faced many challenges to implement this project but we took it as an opportunity. It highlights techniques to seek knowledge using various software packages. The authors highlight the experiences in developing ETDs and experiments with

knowledge discovery software packages. Furthermore, the paper explores the extent to which academic libraries are grappling with the emerging genres of ETDs, for example, the use of linked data to enhance discoverability. The paper also makes recommendations to implement the ETDs to enhance effective utilization of ETDs and knowledge discovery. This paper skilfully explores the workflow of making inventory, selecting the theses for digitization, unbinding, scanning, OCRing, formatting, quality checking, converting to secured PDF-A format, binding of theses, uploading into IR (Institutional Repository) and Shodhganga. The success of this innovative project has helped in making the mandatory submission of the Ph.D. thesis possible to the Vivekananda Library at MDU, Rohtak in desired PDF or MS-Word format to protect this important research treasure of the University.

Ezema, I. J., & Igbo, H. U. (2016). Africa has been ranked low among the other regions of the world on the production and communication of research findings. Many have attributed this to poor research culture in the continent, while others blame it on lack of research sponsorship through grants. However, a major issue that is yet to be examined is the visibility of existing research in the region to the international research community. Theses and dissertations are very important research productions that are critical for sustainable national development. Unfortunately, their visibility is not certain to the global scholarly community. The study was conducted to examine the potential of electronic theses and dissertations in promotion of scholarship in Africa and to propose strategies for the full development and adoption of electronic theses and dissertations in African universities

Potvin, S., & Thompson, S. (2016). This study uses a mixed methods approach to raise awareness of divergences between and among current practices and metadata standards and guidelines for electronic theses and dissertations (ETDs). Analysis is rooted in literatures on metadata quality, shareable or federated metadata, and interoperability, with attention to the impact of systems, tools, and practices on ETD date metadata. We consider the philosophies that have guided the design of several metadata standards. An examination of semantic interoperability issues serves as an articulation of the need for a more robust ideal moving forward, rooted in lifecycle models of metadata and concerned with the long-term curation and preservation of ETDs

Schöpfel, J., Zendulkova, D., & Fatemi, O. (2014). Electronic Theses and Dissertations (ETDs) programs have been recognized as one of the most effective channels through which theses and dissertations can be made available to academic communities and beyond. ETD program management, however, needs to be aware of the Critical Success Factors (CSFs) throughout the process of design and development of ETDs. As the name implies, CSFs are those considerations decisive in achieving the projects' mission and goals. Based on a structured review of the existing literature about ETDs, this study identifies the CSFs that are crucial for the implementation of ETD programs. By comparing and classifying the identified CSFs, the study conceptualizes a generic framework comprised of five generic dimensions: management and organization, participation, content, technology, and service. The framework can help the ETDs community, both scholars and practitioners, to make informed decisions on how to allocate effort and resources to the development, implementation or improvement of ETD programs

Bhat, M. I., Mudhol, M. V., & Mahesh, V. (2014). ETDs can contain non-text elements such as multimedia, sound, video, and hypertext links. This enables scholars worldwide to locate, search, and download ETDs. For most scholars, the the Ph.D thesis and M.phil dissertations are the first major work of scholarship they produce. To make those works more readily available to other scholars, as well as to save money, many universities and libraries are now making digitized (or electronic) versions available. The Shodhganga@INFLIBNET is set-up using open source digital repository software called DSpace developed by MIT (Massachusetts Institute of Technology) in partnership between Hewlett- Packard (HP). The DSpace uses internationally recognized protocols and interoperability standards. Shodhganga provides a platform for research scholars to deposit their Ph.D. theses and make it available to the entire scholarly community in open access. An attempt has been made to determine the present status of participating Indian Universities in Shodhganga.

Baro, E. E., & Otiode, P. G. (2014). investigates the extent of Electronic Theses and Dissertations's (ETDs) adoption in university libraries in Africa as a way of making local content visible globally in open access institutional repositories (IRs). The study includes current theses submitted in electronic form and digitized theses that were in paper form (retrospective digitization). Quantitative and qualitative research methods were used. Collection of data was in two phases: website investigation and an online question-naire. The study revealed that 56 university libraries have already adopted ETDs in their IRs; many universities in Africa have made it mandatory for their graduate

students to submit their theses and dissertations in electronic form. It emerged that DSpace is the most widely adopted software used to manage ETDs in university libraries in Africa. Some of the benefits of ETDs that were identified by respondents to our questionnaire include improved university visibility and ranking, increased access to the theses and dissertations (T&Ds), saving of physical space in the library, preservation, cost savings for students, increases in readership, enhancing graduate education, introducing students to electronic publishing, and reduction of plagiarism among researchers. Issues related to the cost of equipment, lack of approved repository policy for ETDs, lack of IT skills, copyright issues, and metadata standards were identified as challenges. It is hoped that the study might provide useful insights for librarians planning to embark on a project involving digitization

Dhanavandan, S., & Tamizhchelvan, M. (2013). Theses and Dissertation are an important part of information resources in any University. In Tamil Nadu some universities are creating repositories for their theses and dissertations but work on a national level project has recently begun. Educational institutions should have their thought contents in a place where members can access them for their reference within the institutions. The same contents may also be made available to public domain with open access for the public use. The main thought contents in higher educational institutions are Theses which can be converted in to electronic format and put them in a common database. It is a grate opportunity to the library professionals to implement makes the initiatives to create the MoU from Shodhganga from Infflibnet for the purpose of submission of electronic theses and dissertations. This paper aimed to analysis some of the universities from Tamil are signed MoU to submit electronic copy of the theses. Out of 18 Universities from Tamil Nadu, 9 universities are from state government and nine universities are runs by self supported or privates

Ramírez, et.al. (2013) In academia, there is a growing acceptance of sharing the final electronic version of graduate work, such as a thesis or dissertation, in an online university repository. Though previous studies have shown that journal editors are willing to consider manuscripts derived from electronic theses and dissertations (ETDs), faculty advisors and graduate students continue to raise concerns that online discoverability of ETDs negatively impact future opportunities to publish those findings. The current study investigated science journal policies on open access ETDs and found that more than half of the science journals contacted (51.4%) reported that manuscripts derived from openly accessible ETDs are

welcome for submission and an additional 29.1% would accept revised ETDs under certain conditions

Boock, M., & Kunda, S. (2009) the Oregon State University Libraries began accepting electronic versions of student theses and dissertations into ScholarsArchive@OSU, the library's institutional repository. By January 2007, all Oregon State University graduate students were required to deposit their final research. This article compares past processes and workflows for print theses and dissertations with the present workflow for electronic. We provide the rationale for changes and review the cost- and time-savings produced. We describe the changing roles of students, technicians, and librarians in the metadata process as well as the value of students describing their own work.

Lubas, R. L. (2009). The University of New Mexico will mandate in 2009 that theses and dissertations be submitted in electronic form as the copy of record. These documents will reside in the university's digital repository, operated on a DSpace platform. This article reviews practices for thesis and dissertation metadata creation with a focus on DSpace instances, best practice recommendations for author-submitted metadata, recommendations for subject analysis, and training for metadata practitioners. The article recommends processes for author submission, metadata quality control and enhancement, and cross walking of the metadata to the library's catalogue to maximize discovery

Al Salmi, J. (2008). understanding the positive and negative factors affecting the adoption and development of electronic theses and dissertations (ETD) programs with particular reference to the situation in the Arab Gulf States. The reviewed literature shows that several interrelated factors have been found to encourage the adoption and development of ETD programs in university libraries: the appreciation of the benefits of ETD programs, awareness of these programs, and effective promotional and advocacy work that lead to cultural changes related to views on ETD programs. With regard to the Arab Gulf States, even though there is a lack of available literature, it appears that university libraries have the required infrastructure for encouraging the adoption and development of ETD programs. On the other hand, some factors have been found to discourage the adoption of ETD programs. These include: technological factors, legal issues and other administrative issues. With regard to the Arab Gulf States, the available literature shows that some of the influencing factors are the same as those found in other countries, especially administrative and technological factors. In conclusion, it seems that most issues influencing the adoption and development of ETD programs can be resolved by undertaking appropriate promotional and advocacy activities.

Suber, P. (2008). open access (OA) to electronic theses and dissertations (ETDs). ETDs are the most invisible form of useful literature and the most useful form of invisible literature. ETDs should be considered low-hanging fruit for the OA movement, along with journal articles. Their authors are not paid to write them, and can consent to OA without losing revenue. Fears that OA for ETDs will prevent future publication are understandable but groundless. There are easy work-arounds for ETDs describing patentable discoveries or containing chapters for which copyright has already been transferred to publishers. An OA requirement will even elicit better work

Rodríguez, K. (2006). The increased sophistication and availability of technology in daily life have changed the expectations of library users which demand remote access to full text resources including theses and dissertations. The convergence of technology, open source initiatives, and emerging new paradigm on intellectual property rights have encouraged Electronic Theses and Dissertations (ETDs) projects. The purpose of this paper is to conduct a literature review looking at the evolution of bibliographic control and access of theses and dissertations including (ETDs) initiatives and the identification of persistent issues and concerns on the implementations of ETDs projects. The management and access to thesis literature at the University of Puerto Rico, Rio Piedras Campus is also covered

Copeland, S., & Penman, A. (2004). An increasing number of universities are accepting and encouraging the submission of theses and dissertations in electronic format. Two hundred and three institutions are now members of the international 'Networked Digital Library of Theses and Dissertations' (NDLTD), and in May 2003 over 200 individuals travelled to Berlin to participate in the ETD symposium ('Next Steps—Electronic Theses and Dissertations Worldwide'). The support of UNESCO and the work undertaken by key institutions such as Virginia Tech. has led to wide-scale developments at national and individual level. Within the UK, funding from the Joint Information Systems Committee (JISC) has enabled three project teams to engage in research and development associated with the creation, management, and use of electronic theses and dissertations (ETDs). This paper considers recent ETD-related activity in the UK within the broader international context. It concentrates, in particular, on the work of the *Electronic Theses* project consortium that is led by The Robert Gordon University. The benefits of ETDs, issues of concern, the selection of software, and advocacy requirements are amongst the topics addressed. The authors welcome comments on both the project and the information available on the *Electronic Theses* project Web page

Seamans, N. H. (2003). An increasing number of colleges and universities throughout the

world are adopting electronic theses and dissertations (ETDs) as either an option or a requirement for graduate degrees. This movement has resulted in questions about the role of these electronic documents in the world of scholarly communications and publishing. One specific question raised by students and their faculty advisors has been whether or not ETDs would be viewed as prior publications and would, as such, be ineligible for consideration for publication in traditional journals. This article presents survey findings that indicate that, while more study is needed, this concern appears to be largely unwarranted

Fox, E. A. (2002). provides an overview of a guide for electronic theses and dissertations that is being prepared as requested by UNESCO to help with the expansion of ETD activities around the world. It roughly follows the outline developed through discussions involving the many partners working on that guide, coordinated by Saline Urns. It builds upon experiences related to the evolution of the Networked Digital Library of Theses and Dissertations, a federation of groups interested in ETD programs. It introduces key concepts, explains matters according to the interests of students and universities, highlights technical issues, recommends a scheme for expanding training, and suggests likely future activities.

Zhang, Y., Lee, K., & You, B. J. (2001). The Korea Institute of Science and Technology Information (KISTI) Electronic Theses and Dissertations (ETD) system is a national digital library of ETDs in South Korea. Provides a comprehensive picture of how this system has been used during its first two years in service since June 1999. The system transaction logs were collected and analysed to reveal the usage patterns of the system. Results of the study indicate that the KISTI ETD system usage has seen a significant increase since its second year. While most users appear to be domestic users, the system also attracts users from many other countries, suggesting that the KISTI ETD system has become a part of the international networked digital library of theses and dissertations. It was also found that there are a very large number of one-time visitors to the KISTI ETD system. Nevertheless, the system began to maintain a frequent user group in its second year in service. The usage statistics regarding system features and the characteristics of users' visits indicated that the search function was by far the most frequently used system function. Finally, discusses the implications of the findings

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CHAPTER – III

RESEARCH DESIGN

NEED OF THE STUDY

A worldwide literature search showed the increase in Ph.Ds worldwide and its importance in furthering academic research. The present scenario in the dissertation of doctoral research results, the problems, faced during accessing them the archival and publication practices of Ph.D. Thesis are solved by the introduction of ETDs as a solution, World Wide. It is with this context, there was a need to study the present scenario in Indian Universities with the recent trend in electronic publication and open access.

OBJECTIVES OF THE STUDY

The design of the project concentrated the following objectives of ETD at Bharathidasan University:

- To create global visibility for research publications of Bharathidasan University.
- To collect content of the theses from Ph.D. Section, Splitting and uploading to Shodhganga database.
- To provide open access to institutional research output by self-archiving it
- To store and preserve the Theses and Dissertations of Bharathidasan University.
- To study the year wise growth and development of e-thesis.

METHODOLOGY

- ❖ The present project is of an experimental and also analytical in nature, as the researcher got involved with technical processing of digitization, creation of digital content of reading materials and also analysing the quantity of the content as to the variables of institution, subject, keywords and gender
- ❖ The following process of works carried out
- ❖ Identification and collection of softcopies of the thesis available in the CD format of the thesis section.
- ❖ Sorting of collected CDs as to be subjects.
- ❖ Examining the CDs content to upload into the system.

- ❖ Creation of separate folders for uploading the thesis chapters as individual file, According to the subject collection
- ❖ Verifying the wholeness of the text files to edit in terms of alignment for uniformity
- ❖ Preparation of list of thesis to be uploaded with bibliographic details
Examine the existing Institutional Repository at Bharathidasan University Library for the availability of listed thesis content
- ❖ Examine the Shodhganga Repository for availability of thesis
- ❖ Eliminating duplicate files and existing files in the Institutional Repository and Shodhganga Repository and avoid duplicate copies of thesis.
- ❖ Metadata creation and final uploaded of the digital collection of Ph.D thesis and dissertation by the Bharathidasan University.

SCOPE AND LIMITATION

The project covers identifying, selecting, examining, editing and uploading of Ph.D thesis awarded by Bharathidasan University alone. The project work covers only the available softcopies of the theses in CD format at the time of study, which is not uploaded into either Institutional Repository or Shodhganga. The work is not concerned on M.Phil/P.G project dissertations. The study also not made any Bibliometric aspects. The data for the present study was collected CD forms of thesis from the “Bharathidasan University Library-Thesis Section”. A total number of 450 thesis CDs were collected from the Bharathidasan University Library. Among the 150 CDs 17 were repeated copy and not functioning the CD, remaining 133 CD were identifying during the period of 2024 and were studied according to the objectives of the study.

BHARATHIDASAN UNIVERSITY INITIATIVES

The Departments in the Bharathidasan University are actively involved in research in the form of Thesis and research publications and its intellectual outputs of the University exists as disorganized and decentralized digital objects held in personal computers, web servers or storage Medias. They represent a vital part of the scholarly property of the University, and at the same time they are also a part that is the most endangered of being lost. The University needs to store and retain their intellectual assets. They also need to make their work available and visible to others within and outside the University, while managing their digital rights and maintaining the integrity of their work. As a Solution, a Shodhganga can take the responsibilities to capture and maintain these intellectual outputs. Bharathidasan University also having own Institutional repository for archiving the digital content including ETD.

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CHAPTER – IV

BDU E-THESES AT SHODHGANGA

Shodhganga

Theses and dissertations are known to be the rich and unique source of information, often the only source of research work that does not find its way into various publication channels. Theses and dissertations remain an un-tapped and under-utilized asset, leading to unnecessary duplication and repetition that, in effect, is the anti-theses of research and wastage of huge resources, both human and financial.

The UGC Notification (Minimum Standards & Procedure for Award of M.Phil. / Ph.D Degree, Regulation, 2009 Amendment made on 2016) dated 5th May 2016 mandates submission of electronic version of theses and dissertations by the researchers in universities with an aim to facilitate open access to Indian theses and dissertations to the academic community world-wide. Online availability of electronic theses through centrally-maintained digital repositories, not only ensure easy access and archiving of Indian doctoral theses but will also help in raising the standard and quality of research. This would overcome serious problem of duplication of research and poor quality resulting from the "poor visibility" and the "unseen" factor in research output. As per the Regulation, the responsibility of hosting, maintaining and making the digital repository of Indian Electronic Theses and Dissertation (called "Shodhganga"), accessible to all institutions and universities, is assigned to the INFLIBNET Centre.

"Shodhganga" is the name coined to denote digital repository of Indian Electronic Theses and Dissertations set-up by the INFLIBNET Centre. The word "Shodh" originates from Sanskrit and stands for research and discovery. The "Ganga" is the holiest, largest and longest of all rivers in Indian subcontinent. The Ganga is the symbol of India's age-long culture and civilisation, everchanging, ever-flowing, ever-loved and revered by its people, and has held India's heart captive and drawn uncounted millions to her banks since the dawn of history. Shodhganga stands for the reservoir of Indian intellectual output stored in a repository hosted and maintained by the INFLIBNET Centre.

The Shodhganga@INFLIBNET is set-up using an open source digital repository software called DSpace developed by MIT (Massachusetts Institute of Technology) in partnership between Hewlett-Packard (HP). The DSpace uses internationally recognized protocols and interoperability standards. Shodhganga provides a platform for research scholars to deposit their Ph.D. theses and make it available to the entire scholarly community in open access. The repository has the ability to capture, index, store, disseminate and preserve ETDs (Electronic Theses and Dissertations) submitted by the researchers.

DSpace supports "Open Archives Initiative's Protocol for Metadata Harvesting" (OAI-PMH) and uses a qualified version of the Dublin Core schema for its metadata. The INFLIBNET Centre, promotes setting-up of institutional and ETD repositories in member universities using OAI-PMH compliant software. A number of member universities have already set-up their institutional and ETD repositories using either DSpace or other OAI-PMH compliant Institutional Repository software. It would be possible for

universities having sufficient network and computing infrastructure to maintain their own ETD repositories wherein their research scholars could deposit e-versions of their theses and dissertations. Moreover, they can use Shodhganga to host their theses as backup archives. INFLIBNET Centre, besides maintaining the Central ETD Repository (Shodhganga) would also deploy a central server to harvest the metadata from all such ETD repositories distributed in universities with an aim to provide unified access to theses and dissertations through its harvesting server.

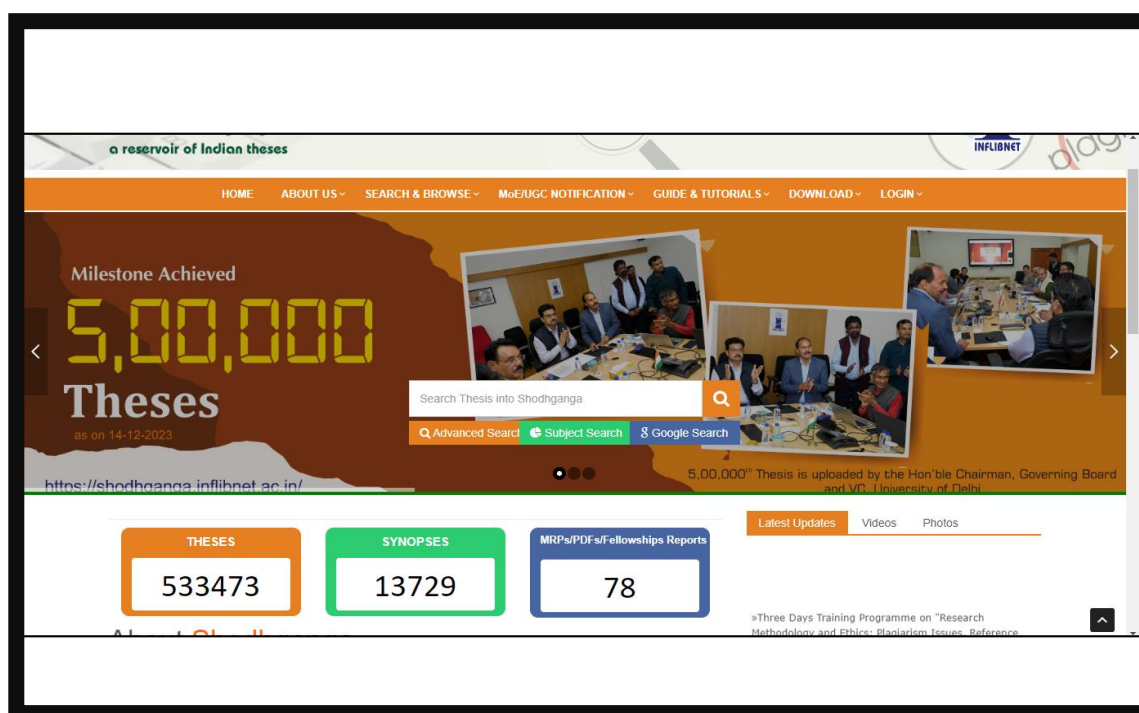


Fig-3: Home page of Shodhganga

Benefits of Shodhganga

- **Open Access:** Shodhganga promotes open access to research work, allowing anyone to freely access and download the electronic theses and dissertations. This facilitates the dissemination of knowledge and eliminates barriers to information access.

- **Increased Visibility:** By uploading their research work on Shodhganga, researchers can increase the visibility of their work. It allows their theses and dissertations to reach a wider audience, including fellow researchers, students, and potential collaborators.
- **Collaboration and Networking:** The platform facilitates collaboration among researchers working on similar topics or within the same discipline. By providing access to a centralized repository of research, Shodhganga encourages networking, knowledge sharing, and interdisciplinary collaboration.
- **Avoiding Duplication of Effort:** Researchers can benefit from the existing research available on Shodhganga by avoiding duplication of effort. By accessing previously published theses and dissertations, researchers can identify gaps in the existing literature and build upon the work of others.
- **Reference and Citation:** Shodhganga serves as a reliable source of references and citations for researchers. It allows researchers to refer to and cite the work of other scholars, enhancing the credibility and quality of their own research.
- **Resource for Students and Scholars:** Students pursuing higher education can benefit from the wealth of research available on Shodhganga. It provides them with a valuable resource for literature review, referencing, and gaining insights into various research topics.
- **Preservation of Research:** Shodhganga acts as a digital repository for preserving research work. It ensures the long-term accessibility and availability of electronic theses and dissertations, preventing loss or damage to valuable research material.

- **Compliance with Open Access Policies:** Many funding agencies, institutions, and universities have open access policies that require researchers to make their work publicly accessible. Shodhganga helps researchers comply with these policies by providing a platform for sharing their research in an open access format.

Features of Shodhganga

Shodhganga provides simple search and advanced search options to access theses. It also includes the following browse options, communities, collection, title, author, subject, and data. The repository contains many useful links, as well as highlighting a list of recent submission and links to other ETD services. Totally 713 Universities Contributing and other centrally funded universities and nationalized institutions nearly 106 have signed MoU with shodhganga @ INFLIBNET. So far more than 500000 plus theses were uploaded in Shodhganga and more than 13729 synopses were uploaded. Anna University stands first with 15906 theses and University Eleventh with 8300 theses. Nearly 131 theses have been uploaded to shodhganga by Bharathidasan University which is in the pipeline process.

- **Repository of Electronic Theses and Dissertations:** Shodhganga serves as a comprehensive repository of electronic theses and dissertations from various Indian universities and institutions. It provides a centralized platform for storing and accessing research work in a digital format.
- **Search and Discovery:** The platform offers powerful search functionality, allowing users to search for specific research topics, keywords, authors, universities, or disciplines. Users can easily discover relevant theses and dissertations through

advanced search filters and browse through different categories.

- **Full-Text Access:** Shodhganga provides full-text access to theses and dissertations, allowing users to read the complete research work. The platform supports various file formats, including PDF, making it easy to view and download the research papers.
- **Metadata and Abstracts:** Each thesis and dissertation in Shodhganga is accompanied by detailed metadata and abstracts. This information provides a summary of the research work, including the title, author, keywords, abstract, university name, and other relevant details. It helps users quickly evaluate the content and relevance of a particular research paper.
- **Institutional Repositories:** Shodhganga encourages universities and institutions to set up their own institutional repositories within the platform. This allows institutions to manage and showcase the research work of their scholars and researchers, ensuring a comprehensive collection of research output from across the country.
- **Statistics and Analytics:** Shodhganga provides statistical data and analytics on the usage of the platform and the research papers. It offers insights into the number of downloads, views, and citations received by individual theses and dissertations. This information can be useful for researchers, institutions, and funding agencies to evaluate the impact and reach of research work.

- **Online Submission:** Researchers can submit their electronic theses and dissertations directly through the Shodhganga platform. The submission process involves providing necessary metadata, uploading the research document in the specified format, and complying with any institutional requirements or guidelines.
- **Quality Control:** Shodhganga maintains quality control measures to ensure the authenticity and reliability of the research work available on the platform. Theses and dissertations go through a verification process conducted by the respective universities or institutions before being included in the repository.

The top 10 listed universities at Shodhganga

The table presents the number of theses from various universities and states. Anna University in Tamil Nadu has the highest count with 15906 theses, followed closely by the University of Madras with 15006 . The University of Calcutta in Calcutta ranks third with 14244 theses. Overall, the table reflects significant research output and academic contributions from these universities, totaling **119168** theses.

Table-1: The top 10 listed universities at Shodhganga

S.no	Name of the University	State	No. of Theses
1	Anna University	Tamil Nadu	15906
2	University of Madras	Tamil Nadu	15006
3	University of Calcutta	Calcutta	14244
4	Savitribai Phule Pune University	Pune	12765
5	University of Mumbai	Mumbai	11589
6	Aligarh Muslim University	Uttar Pradesh	10293
7	Chhatrapati Sahuji Maharaj University	Uttar Pradesh	10180
8	Andhra University	Andhra	10082
9	Babasaheb Bhimrao Ambedkar Bihar University	Bihar	9675
10	Panjab University	Punjab	9428
Total			119168

The Top 10 Tamil Nadu Universities at Shodhganga

The table provides insights into the research output of various universities based on the number of theses they have produced. Anna University secures the top position with 15906 theses, demonstrating its strong commitment to research and academic excellence. Bharathidasan University follows closely in second place with 8300 theses, showcasing its significant contribution to the research landscape. Bharathiar University ranks third with 7394

theses, highlighting its active research culture. Madurai Kamaraj University and Annamalai University secure the fourth and fifth positions with 5837 and 2,882 theses, respectively. The remaining universities, namely Periyar University, Alagappa University, Tamil Nadu Agricultural University, Mother Teresa Women's University, and Thiruvalluvar University, have also made valuable contributions to research. This table provides a glimpse into the universities that have excelled in producing theses, reflecting their dedication to fostering knowledge creation and scholarly pursuits.

Table-2: The Top 10 Tamil Nadu Universities at Shodhganga

S.no	Name of the University	Number of theses	Rank
1	Anna University	15906	1
2	Bharathidasan University	8300	2
3	Bharathiar University	7394	3
4	<u>Madurai Kamaraj University</u>	5837	4
5	Annamalai University	3244	5
6	Periyar University	3210	6
7	Alagappa University	2478	7
8	Tamil Nadu Agricultural University	1415	8
9	Mother Teresa Womens University	1071	9
10	Thiruvalluvar University	289	10
Total		49144	

BDU ETD @ SHODHGANGA

BDU ETD @ shodhganga provides a platform for Bharathidasan University research to deposit their Ph.D theses and make it available to the entire scholarly community in open access. The Repository has the ability to capture, index, store, disseminate and preserve ETDS submitted by the researchers. It covers nearly 450 Electronic Thesis and Dissertations.



Fig-4: Bharathidasan University ETDs collection pages at Shodhganga

BDU top 10 Departments ETD Collection

The table showcases the number of theses produced by various departments at Bharathidasan University. The Department of Tamil Studies leads the way with 1,120 theses, followed closely by the Department of Commerce and Financial Studies with 1,119 theses. Other prominent departments include Chemistry with 680 theses, Mathematics with 671 theses, and Physics with 549 theses. These departments demonstrate their active engagement in research and their contributions to their respective fields of study. This table offers valuable insights into the research productivity of different

departments or centers within the institution, shedding light on their areas of focus and expertise.

Table-3: BDU top 10 Departments ETD Collection at Shodhganga repository

S.No	Name of the Department / Centre	Number of Theses
1	Department of Tamil Studies	1120
2	Department of Commerce and Financial Studies	1119
3	Department of Chemistry	680
4	Department of Mathematics	671
5	Department of Physics	549
6	Department of English and other Foreign Languages	467
7	Department of Economics	411
8	Department of Botany	410
9	Department of Computer Science and Applications	372
10	Department of Zoology	348
Total		6147

SEARCH TECHNIQUES

1. Department wise

This report is generated using THESIS database file. It contains list of theses under a particular title.

2. Title wise

This report is generated using THESIS database file. It contains list of theses under a particular title.

3. Author wise

This report is also generated using thesis database file. It contains list of theses written by a particular scholar.

4. Guide wise

- This report is generated using thesis data base file. This report contains list of thesis on a particular guide.
- This table shows the department-wise list of theses uploaded in shodhganga . It is clearly seen from the table that 135 theses uploaded in shodhganga were from the Department of tamil
- Followed by 89 theses from the Department of physics 76 theses from the Department of Mathematics.

Type of Access @ Shodhganga, INFLIBNET Centre

- Each thesis in Shodhganga is determined by the respective institution and the decisions made by the authors. It is important to note that while Shodhganga strives to provide open access to as much content as possible, certain restrictions or embargoes may be in place to protect the rights and interests of the authors and institutions involved.
- All theses and dissertations submitted to Shodhganga are available in full-

text in open access to the academic community world-wide. However, it is possible to impose restrictions on access as a special case, if so desired, by the university/research scholar.

Browsing

The browsing methods of Institutional Repository University Library are different types. That is browse by Subject; Browse by Title, browse by author search is Given below.

Browse by Title

Shodhganga : a reservoir of Indian theses @ INFLIBNET

The Shodhganga@INFLIBNET Centre provides a platform for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access.

Shodhganga@INFLIBNET

Browsing "Bharathidasan University" by Title

Jump to: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

or enter first few letters: [Go](#)

Sort by: [Title](#) In order: [Ascending](#) Results/Page: [20](#) Authors/Record: [All](#) [Update](#)

Showing results 1 to 20 of 8270

Upload Date	Title	Researcher	Guide(s)
26-Jul-2018	21st Century Puthukavithaigal	Sornareha S.	Dhanarajan N.
19-Jul-2022	2d Transition Metal Dichalcogenide Mos2 Vs2 And Nbs2 Heterostructures For Hydrogen Evolution And Nitrogen Reduction Reactions	Paulraj, G	Jeganathan, K
18-Sep-2018	A STUDY ON THE MANAGEMENT OF WASTE ASSETS IN THE SELECT TEMPLES IN NAGAPATTINAM DISTRICT TAMILNADU	BALACHANDRAN C.	GANESHAN K.
19-Oct-2016	A case study on socio _economic conditions of aged persons among the tribal communities in Pachamalai Hills Tamil Nadu	Sathyan, G	Saminatha Ratnam, R
17-Oct-2016	A comparative analysis of institutionally supported and self supported women micro entrepreneurs in Tiruchirappalli District of Tamil Nadu	Manivel, A	Manimekalai, N
19-Oct-2016	A comparative analysis on the financial performance of selected cement units in Tamil Nadu	Leo Franklin J.	Subramani, N

Activate Windows
Go to Settings to activate Windows.

Fig-5: Browse by Title

Browse by Researcher/Guide

Shodhganga : a reservoir of Indian theses @ INFLIBNET

The Shodhganga@INFLIBNET Centre provides a platform for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access.

Shodhganga@INFLIBNET

Browsing "Bharathidasan University" by Researcher/Guide

Jump to: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

or enter first few letters: [Go](#)

Order: [Ascending](#) Results/Page: [20](#) [Update](#)

Showing results 1 to 20 of 11318

Name	Count
.JAYASIMMAN, L	1
.RAIMESH KUMAR K	1
.THANGADURAIK	1
.ABINAYA G	1
.KABALEESWARAN R	1
.KRISHNAKUMAR, R.	1
.PEER MOHIDEEN A	1

Activate Windows
Go to Settings to activate Windows.

Fig-6: Browse by Researcher/Guide

Browsing by Upload date

The screenshot shows the Shodhganga website interface. At the top, there is a navigation bar with 'Home', 'Browse', and 'Help' links, a search bar, and a 'Sign on to:' dropdown. Below the navigation bar, the Shodhganga logo and tagline 'a reservoir of Indian theses @ INFLIBNET' are displayed. The main heading is 'Browsing "Bharathidasan University" by Upload Date'. Below this, there are filters for 'Jump to a point in the index' (Choose year, Choose month, Col) and 'Or type in a year:'. The 'Sort by:' dropdown is set to 'Upload Date', and the 'In order:' dropdown is set to 'Descending'. The 'Results/Page' dropdown is set to '20'. The 'Authors/Record:' dropdown is set to 'All'. The 'Update' button is visible. The results table shows 1 to 20 of 8270 results. The table has columns for 'Upload Date', 'Title', 'Researcher', and 'Guide(s)'. The first five results are listed below.

Upload Date	Title	Researcher	Guide(s)
11-May-2023	isolation purification characterization and biological evaluation of peptide from marine ascidian didemnum sp	A. VELUSAMY	M. GOVINDARAJU
11-May-2023	isolation identification molecular characterisation and phylogenetic studies of bacteria isolated from vivekananda college tiruvudakam west tamilnadu india	V. PARTHASARATHY	R. BABU RAJENDRAN
11-May-2023	utilization of zeolitic sand materials collected from rameswaram island for water softening and their characterization	M. SELVAKUMAR	M. VASANTHY
11-May-2023	phenolics the contaminants of emerging concern cecs in rivers of india fate and toxicological risk assessment and toxicity evaluation using hydra model	PATIL NIKHIL NISHIKANT	R. BABU RAJENDRAN
11-May-2023	emerging pollutants fate of triclocarban and benzotriazole ultra violet stabilizers in rivers of india and their toxicological risk assessment	K. VIMALKUMAR	R. BABU RAJENDRAN

Fig-7: Browsing by Upload date

Browsing by Keyword

The screenshot shows the Shodhganga website interface. At the top, there is a navigation bar with 'Home', 'Browse', and 'Help' links, a search bar, and a 'Sign on to:' dropdown. Below the navigation bar, the Shodhganga logo and tagline 'a reservoir of Indian theses @ INFLIBNET' are displayed. The main heading is 'Browsing "Bharathidasan University" by Keyword'. Below this, there are filters for 'Jump to: [A-Z] ABCDEFGHIJKLMNOPQRSTUVWXYZ' and 'or enter first few letters:'. The 'Order:' dropdown is set to 'Ascending'. The 'Results/Page' dropdown is set to '20'. The 'Update' button is visible. The results table shows 1 to 20 of 3273 results. The table has columns for 'Title' and 'Count'. The first seven results are listed below.

Title	Count
2012	1
5 - Aminolevulinic, Acid, Plant Growth, Substance	1
Aacharkalvi, Karuvikal, Arangam, Aacharkalalium avair Vazhikkalium, Chozhar Kalam	1
Aandal kavithaikal, Thanunarchchi paamarapum	1
Aazhvarkal, Aruli, Seyalgal, oru aavuu	1
Aazhvarkal, Vazhipaattu, Thalangal	1
Absenteeism, Cement, Industries, Tiruchirappalli, Labours	1

Fig-8: Browsing by Keyword

The subject-wise uploading of theses listed at the Shodhganga repository in the year 2024

The Shodhganga repository saw significant contributions from various departments. Commerce (43 theses) Management (13 theses), and English (50 theses) led the way. Other departments, including, and Management, also made noteworthy contributions. Overall, 133 theses were uploaded, reflecting a vibrant research ecosystem and diverse areas of investigation within the institution.

Table-4: The subject-wise uploading of theses listed at the Shodhganga repository in the year 2024

S. No	Name of the Department / Centre	Number of Theses
1	Commerce	43
2	Management	13
3	English	50
4	Economics	10
5	Tamil	17
TOTAL		133

COLLECTION BUILDING

It provides step-by-step instructions for submitting theses and a thesis template is provided to help researchers submit their thesis in a standard format. The repository has also incorporated Web 2.0 applications, such as RSS feeds. Overall, the repository has a user friendly interface that provides many options to submitters and users to enable easy navigation.

Under this, the major steps followed for building up with two stems, Community Creation and Collection Building Creation. Login into the dspace enter username and password. Collection are space described Community Creating Top Level Community There are two options of Communities, first one: following one: Sub-Community click the top level community and describe the top level community name.

Step1: Top Level Community created by INFLIBNET

Creating Sub-Community is similar to Top Level Creation, becomes as below after finishing Top

Step 2: Entering the metadata of Thesis and Dissertations

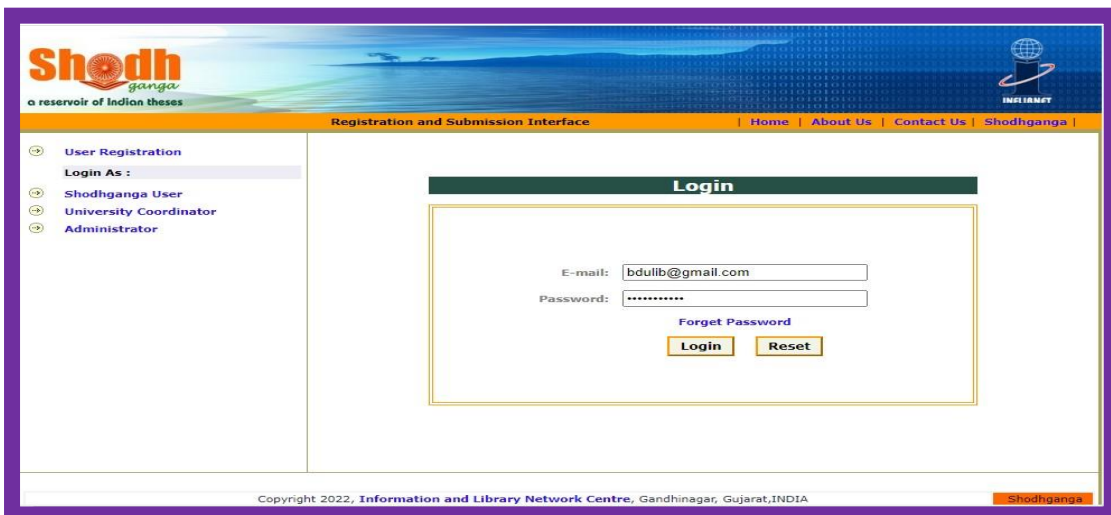
Step 3: upload the full text thesis in the forms of Title, Certificate, Content and Chapters etc.,

SHOHDGANGA UPLOAD THESIS MAIN MENU

1. Name of University.
2. Name of Department.
3. Name of Research
4. Name of Guide.
5. Upload date
6. Registration year
7. Completed Year
8. Awarded Year
9. Title of the Research
10. Language

Login page

This is the login page of Shodhganga website. Every University is given an separate id and password. Once the e-mail and password is entered the university can go inside Shodhganga to upload the theses.



The screenshot displays the Shodhganga website's login interface. At the top, the Shodhganga logo is on the left, and navigation links (Home, About Us, Contact Us, Shodhganga) are on the right. The main content area is titled 'Registration and Submission Interface'. On the left, a sidebar lists 'User Registration' options: 'Login As :', 'Shodhganga User', 'University Coordinator', and 'Administrator'. The central 'Login' box contains an 'E-mail' field with 'bdulib@gmail.com', a 'Password' field with masked characters, a 'Forgot Password' link, and 'Login' and 'Reset' buttons. The footer shows the copyright notice for 2022 and the Shodhganga logo.

Fig-9: University Login Page at Shodhganga

After logging into the Shodhganga website, it enters into the home page where they can upload their theses.

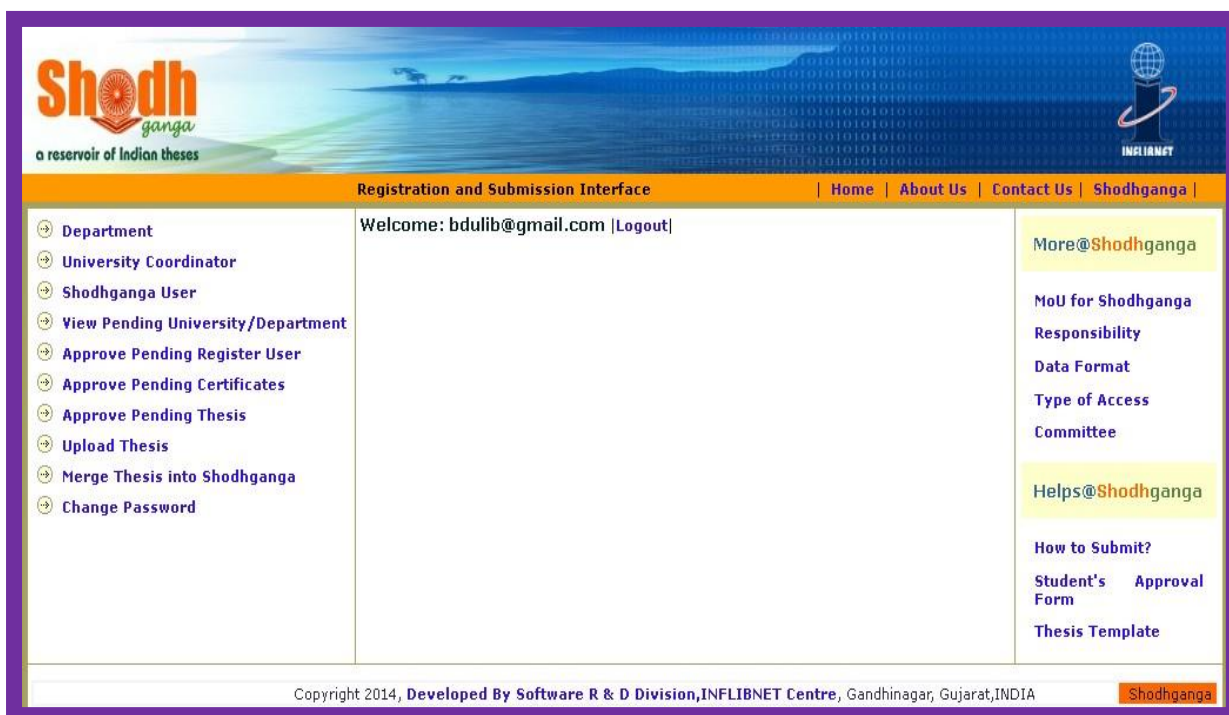


Fig-10: University Login Home Page at Shodhganga

Creation of Metadata and Uploading Theses into Shodhganga

Creation of Metadata:

Proper metadata creation is very important for locating as well as for interchanging Resources between systems. Filling upon the data is to be done with care and diligence any error entered during the creation of metadata will lead into wrong display of thesis information. Special characters need to be avoided during entry else data base will not accept the metadata and it will be stored in trash and system will not generate any auto feedback for such entry so that will make it difficult to our technical person to identify such unfinished and special character field metadata.

Metadata Standards & Formats:

INFLIBNET Centre has simplified the submission process with one-page one-form submission with almost all mandatory fields. While some of the fields can be selected from drop down box and other field should be filled with care. For e. g. in Title text box, first letter is in capital and all other letters are in small case except proper nouns. for example : "Involvement of nitric oxide and associated biomolecules in sunflower seedling growth in response to salt stress" Example of each metadata field is given below for ready reference. Kindly

go through the field list at link:

[http://shodhganga.inflibnet.ac.in:8080/jspui/manual/index.html# q9](http://shodhganga.inflibnet.ac.in:8080/jspui/manual/index.html#q9)

Nb:- Please avoid special characters in title text filled. Kindly ensure to provide abstract, 10 keywords without fail. Please get back to us if you have any query at shodhganga@inflibnet.ac.in

UPLOADING OF METADATA

The following Screenshots show the process of uploading the theses in Shodhganga. Before uploading the theses the Metadatasuch as Title, guide, researcher, etc for theses have to be created. The software allowed only 10 minutes for uploading one thesis for that time.

Shodhganga
a reservoir of Indian theses

Registration and Submission Interface | Home | About Us | Contact Us | Shodhganga

Welcome: bdulib@gmail.com | Logout

Session Time: 7:21

Upload Thesis

University Details
 University Name: Bharathidasan University
 Department/Place: Department of Library and information Science Place: Tiruchirappalli

Guide/Researcher
 Name of Researcher: Divya.R eg. Gandhi, M K or Yadav, Ashish
 Name of Guide: Surulnathi.M Don't use Prof./Dr.
 Please enter Joint Guide Name or Co-Guide name, if any, separated by 'and'.
 (E.g. Yadav, Ravi and Sharma, Ashish)

Degree
 Type of Degree: Ph.D.
 Registration Year: 2021 (YYY) E.g. 1998
 Completed Year: 2023 (YYY)*E.g. 1998

Activate Windows
Go to Settings to activate Windows.

Fig-11: Metadata Filling at Uploading Thesis into Shodhganga Repository

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

Title(with Subtitle): Digital Library
 Check Duplicate

Alternative Title:

Abstract:

Note:

Keywords: (Select 3 levels of Subject and To add more keywords press 'Add More' Button)
 Engineering and Technology
 Computer Science
 Library Information and Science

(Press 'Add More from LCSH' button To add keywords from Library of Congress Subject Heading (LCSH))

Add More
 Engineering and Technology
 Computer Science Remove
 Library Information and Science Remove

Language: English
 Coverage:

Citation Reference:

Submitted By: University
 Copyrights: University

Activate Windows
Go to Settings to activate Windows.

Fig-11(a): Metadata Filling at Uploading Thesis into Shodhganga Repository

Dimensions:

AccompanyingMaterial: DVD ▼

Upload Files:

*(Note : Please press 'Add Recommendation' button at last after uploading all the documents.)

01_title:
Choose File No file chosen

02_prelim pages (title + declaration + dedication + certificates + acknowledgement + list of tables and graphs etc.):
Choose File No file chosen

03_content:
Choose File No file chosen

04_abstract:
Choose File No file chosen

05_chapter 1:
Choose File No file chosen

06_chapter 2:
Choose File No file chosen

07_chapter 3:
Choose File No file chosen

08_chapter 4:
Choose File No file chosen

09_Chapter 5:
Choose File No file chosen

10_annexures (bibliography + references + questionnaire + maps + publications etc.):
Choose File No file chosen

*(Note : Follow Thesis files order and add more files)

Add More Files

Add Recommendation

Enter Captcha

2sTHyK ©

Captcha

Activate Windows
Go to Settings to activate Windows.

Fig-11(b): Metadata Filling at Uploading Thesis into Shodhganga Repository

4.2. Splitting and Naming Convention:

In order to maintain quality, standards and uniqueness in all theses INFLIBNET Centre devised standards and formats based on international practices. This will give a proper photo print of physical appearance of the thesis with the same template available for individual thesis. Kindly Note that file name should be start with serial number like **01_title.pdf**, **02_prelim pages.pdf**, **80_Recommendation ...etc.** An example of split files along with chapter wise naming is given below:

Example of Split files for Upload in " Shodhganga "				
Name	Date modified	Type	Size	
 01_title.pdf	12-03-2022 11:46	Adobe Acrobat D...	45 KB	
 02_prelim pages.pdf	12-03-2022 11:48	Adobe Acrobat D...	17 KB	
 03_content.pdf	12-03-2022 11:51	Adobe Acrobat D...	12 KB	
 04_abstract.pdf	12-03-2022 11:52	Adobe Acrobat D...	25 KB	
 05_chapter 1.pdf	12-03-2022 11:55	Adobe Acrobat D...	13 KB	
 06_chapter 2.pdf	12-03-2022 11:57	Adobe Acrobat D...	18 KB	
 07_chapter 3.pdf	12-03-2022 12:00	Adobe Acrobat D...	881 KB	
 08_chapter 4.pdf	12-03-2022 12:02	Adobe Acrobat D...	5,259 KB	
 09_chapter 5.pdf	12-03-2022 12:04	Adobe Acrobat D...	123 KB	
 10_annexures.pdf	12-03-2022 12:06	Adobe Acrobat D...	56 KB	
 80_Recommendation.pdf	13-03-2022 16:32	Adobe Acrobat D...	352 KB	

*(Note: Add more files as per requirement, follow the Thesisfiles/chapters order.)

*prelim pages to be clubbed as

(title+declaration+dedication+certificate+acknowledgment+list of table+graphs files)

*annexures files to clubbed as

(bibliography+references+questionnaire+maps+publications, etc)

CHAPTER – V

FINDINGS AND CONCLUSION

In the digital era, ETDs repositories play a key role in managing the research output at university and national level through a single platform. The ETDs repository is an ICT based innovative platform to the management of institutional research output for future research work. In the present scenario, it has been noticed that ETDs repositories are very popular and useful information sources for researchers in an open access environment to carry out their research work.

The work discussed the whole process to ETDs submission will involve several steps and Ph.D. thesis to the final hosting of e- thesis in the ETDs repository. A good workflow presents the systematic process to smoothly ETD submission by researchers in their university and uploading to the Shodhganga repository. Presently, almost universities follow the standard workflow process in ETDs submission to facilitate the worldwide accessibility for future research. To manage the ETD submission in universities and Shodhganga repository, library professionals also play a motive role in several aspects.

The Shodhganga project initiatives started in 2010 in India and its popularity is growing rapidly in the higher educational and technical institutions as a method to disseminate newly research and expertise. Till May 2023 the total number of the full-text thesis is 456591 available on Shodhganga repository. The work has observed that since last five years in India, Shodhganga repository plays a role as a lifeline for researchers to carry out future research work.

It also highlights the significant research output and academic contributions of Bharathidasan University. The analysis of theses from various departments and centers reveals the university's commitment to fostering knowledge creation and scholarly pursuits. The top-performing departments, such as Tamil Studies and Commerce and Financial Studies, showcase the university's strengths in these areas. Additionally, departments like Chemistry, Mathematics, and Physics demonstrate the institution's prowess in scientific research. Overall, this project underscores the importance of research and the diverse expertise within Bharathidasan University, furthering its

reputation as a hub for academic excellence and knowledge advancement.

To support the ETDs submission programme in India, the role and responsibilities of library professionals totally changed and they play a key role in ETD submission, deterring plagiarism, development of ETDs repository, conducting user awareness programmes, trainers, research advocacy, anti-plagiarism policymakers and administrator etc and university libraries is helps to carry out the qualitative research work by researchers and academicians. Also, the author presents the changing role of librarians/library professionals in implementing ETDs submission and the metadata creation process as well as the originality of researchers work.

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