



## Scenario and status of ETD e-Infrastructure in Indian academic libraries

**Abstract:** India has huge academic platform, more than 1027 Universities, 161 premier institutions and more than 1,000 R & D institutions serving in the field of Teaching and Learning. As quality index is measured by output, number of thesis produced year after year, taken into account. As per UGC, India guidelines, after awarding Ph.D., thesis should be made available on ETD, mainly on Shodhganga of INFLIBNET. Beside this it is observed that there are four kind of channels in which one can get ETD in India i.e. Shodhganga, NDL, Institutional repositories and OPAC of particular institutes' libraries. These channels are serving academic communities for ETDs. Looking into this scenario, researcher wants to study mainly duplication of availability of ETDs, methods of searching ETDs, packaging of ETDs and metadata of ETDs across various channels. To study this, researcher collected sample of thesis of Science & Tech, Arts & literature, Social Science & humanities by random method from each channel and tried to justify objectives determined for the study. The aim behind this study is accessibility of ETDs, to suggest a common and comprehensive format of metadata as well thesis itself, to point out duplication of theses across and within ETD, create awareness about creative commons and copyrights and point out loop holes in searching methods especially for multidisciplinary thesis. To study this, researcher has collected secondary data from ETD itself and also went through literature and study published on India based ETDs. It is also noted here during the study that whether this channels are providing bibliometric reports or has provision for downloading data in standards bibliometric formats which can support in performing bibliometric analysis in R studio or Python or Bibexcel like analytic tools? Whether these ETD platforms have been providing statistical / bibliometric parameters for available contents? To perform this study, meta data were collected categorically classified and compared and further analysed against aim and objectives of the study. For each objective a negative hypothesis formed as null-hypothesis.

- To study this is necessary to divide major players in to cases, that is classified by their objectives, functions, operations and target users.

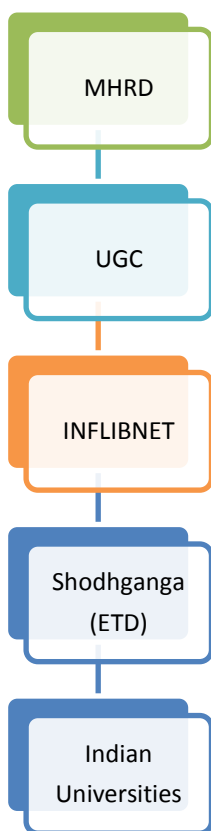
### Case – 1 Shodhganga

The first case is of Shodhganga which is national electronic thesis data base, which has largest ETD collection and growing day by day.

Shodhganga is an ETD, developed and maintained by INFLIBNET which is an Inter-University Centre of UGC. Beside serving as reservoir to the researchers, Shodhganga is acting as a tool for accreditation agencies Like NAB and NAAC. As plagiarism remain concern for poor quality in research, this ETD is providing more visibility to plagiarism checking platforms like Turnitin and Urkund.

On this date nearly 3,50,000 doctoral theses have been submitted by different universities of India. Almost, 627 universities did MOU with INFLIBNET. This is open access database, anyone can access, view and download content of thesis. In case of metadata, Shodhganga is following Library of congress Subject Headings (LCHS). It can be search by Author (researcher), Guide (Supervisor), Title, University, departments, Key words, Degree awarded, etc. It also supports Boolean search.

It supports almost all open standard documents like PDF, HTML, LaTeX, and XLM but it prefers PDF formats. INFLIBNET has clearly mentioned it's role and responsibilities.



**Figure - 1** Structure of Shodhganga (INFLIBNET)

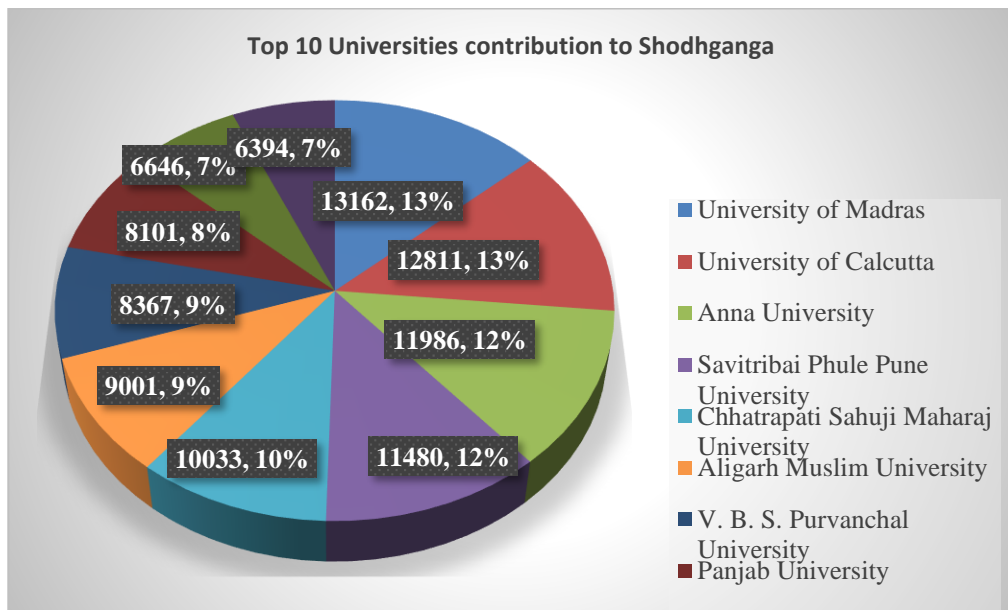


Figure 2: Top 10 Universities contribution to Shodhganga

This data shows that almost 30 % contribution came from top 10 Universities. This database is growing rapidly.

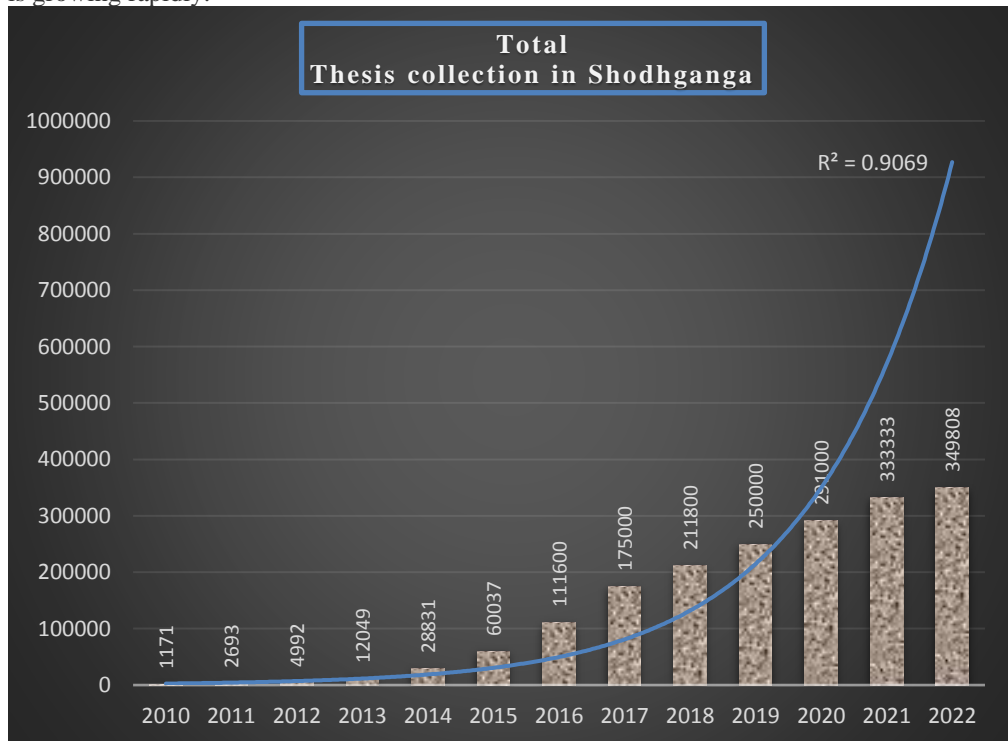
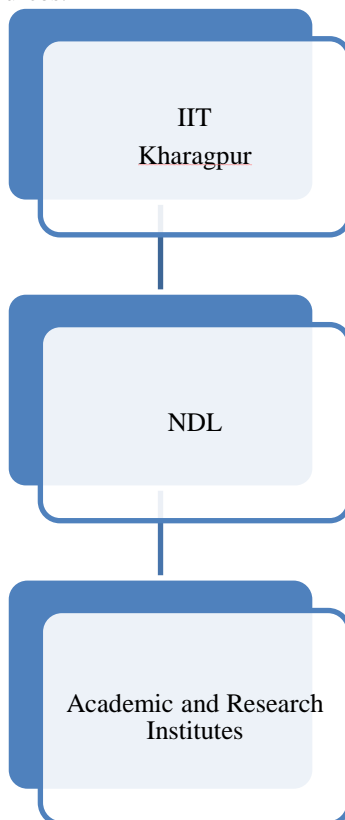


Figure – 3 Year wise growth of ETD collection

### Case 2: National Digital Library of India

The second case is of NDL, (National Digital Library, India) is also part of Indian government sponsored project. The core area of NDL is not ETD but it preserve and disseminate all kind of academic resources.



**Figure – 4** Structure of National Digital Library of India

National Digital Library of India (NDLI) is a virtual repository, sponsored by Ministry of Education, Government of India, through its National Mission on Education through Information and Communication Technology (NMEICT) and It is developed, operated and maintained from Indian Institute of Technology Kharagpur. NDL is a single window system and not dedicated to ETD but, it contains collection of thesis.

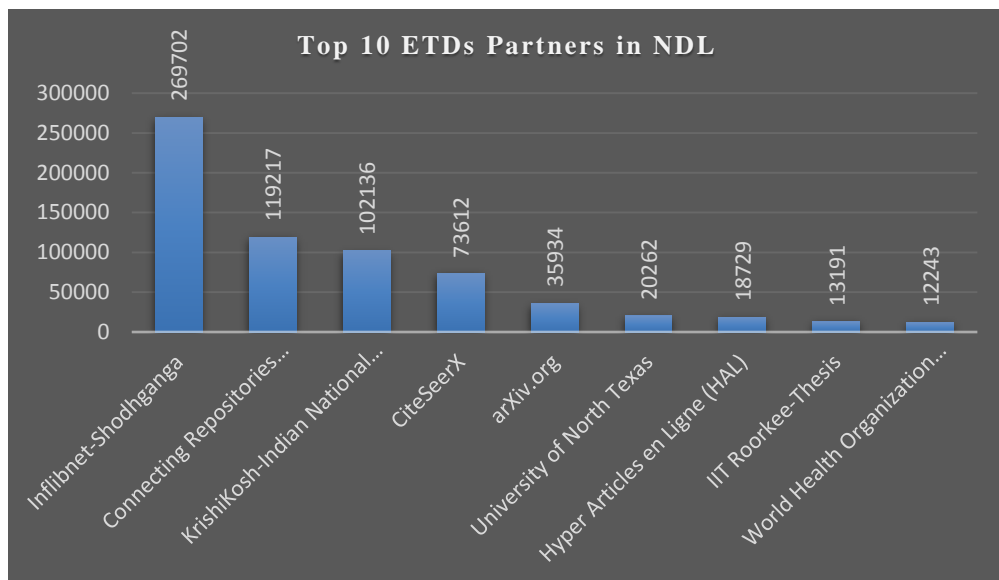
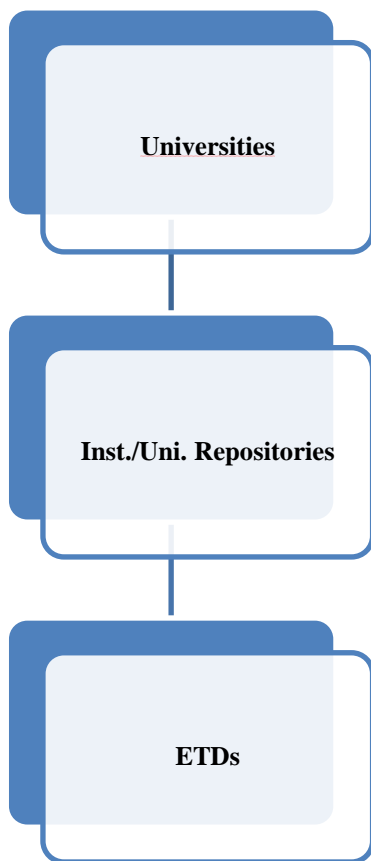


Figure – 5 Top 10 ETD partners in NDL

### Case 3: Institutional /University Repositories

Many Indian universities, premier and autonomous institutions also have established ETD database as part of their institutional repository or Library collections. Similar to case no 2, here also core collection of repository is not ETDs but it is part of their collection.



**Figure— 6** Infrastructure of Institutional/University Repositories

Many universities like Jamia Millia Islamia, New Delhi, JNU, New Delhi and Pondicherry University, Pondicherry have their own repositories. Through these institutional repositories, user can access in-house thesis. Mostly, all the premier institutions like IITs & IIMs have their own Institutional repositories. Several studies were conducted on this and it shows that nearly 100 institutional repositories available for open access through web. However, one study shows that there are only 10% collection of thesis found in these institutional repositories. Mostly they are using e-prints or DSpace for building institutional repositories.

#### **Case 4: ETDs as Part of Library Collection**

Many universities and research institutes have collection of ETDs but this collection is not a separate collection, it is part of library collection. No separate repository has been formed for ETDs. This can be accessed directly through OPAC. Some have restricted ETDs collection and in some libraries ETDs are open access.

#### **Key Issues related to ETDs in India**

1. As many of instructional repositories possess thesis database along with other intutional material, it will provide ease to institutional users but at the same time, when Shodhganga is available for same objectives, it may become wastage of resources in terms of man-power, money and electronic hard-wares.

2. Another key issues are roles and responsibilities are different for each case. It may create IPR issues.
3. Meta-data issues: As different ETD/ repository use different software; it would not be possible to exchange meta-data or data itself in-between for union catalogue or common search platform.
4. There are no common standards established which must be followed by each repository.
5. Who share resources with whom? and how ? This must be studied.
6. Those who have linkages in-between, it is necessary to find out frequencies of updating and sharing data between one to another ETDs.
7. It is also interesting that to study which ETD is open access and which are restricted. (case to case there may be variation)
8. Which repository is providing updated bibliometric and Altmetrics data for qualitative and quantitative evaluation?
9. Though UGC of India has published regulation for Submission of Metadata and Full-text of Doctoral Theses in Electronic format, how many universities are strictly following this regulation?

#### **Growth and development of ETDs across nation.**

Here we have seen that most of the ETDs grown under some government project or their stack-holders are government bodies. There are few private stack-holders ventured themselves in this area, It should be studied that what are the factors affecting private players in the growth of ETDs.

When we want to perform SWOT analysis, we should have proper knowledge of growth and development of the ETDs. Here researcher has primarily collected secondary data from various literature as well as ETD's web-sites. If we look at this, the major players are less than 10 and they are having nearly 90 % collection. Among these most of associated either Shodhganga or NDL. When one execute SWOT analysis these linkages will useful.

Also time to time studies conducted by some researchers on this subject area but recent data is not available as primary data.

After going through various Institutional Websites and studied done, it is observed that;

1. Premier Institutions like IITs & IIMs have their IRs as each one is working within own subject domain.
2. Other than above, institutes with legacy also IRs
3. All the agriculture universities are working within particular subject domain and they have joint IRs which serves ETDs
4. However, still many universities have yet to establish full-fledged ETDs.
5. Many universities might not have established own ETDs as they are tied-up either with Shodhganga or NDL.

#### **Conclusion**

Continuous evaluation and study is always remaining important part of growth & development of ETD. For giving better services and make robust system it should be examined and evaluated time to time. Also, it is necessary that it should be tested with emerging and trending parameters. Here researcher tried to justify with new things.

## References

1. Andrew Wesolek, Megan Sheffield. Surveying ETD Infrastructure Needs: From Author to End User. 19th International Symposium on Electronic Theses and Dissertations (ETD 2016): "Data and Dissertations", Université de Lille Sciences humaines et sociales, Jul 2016, Villeneuve d'Ascq, France. (hal-01397547)
2. Bunakov, V., & Madden, F. (2020). Integration of a National E-Theses Online Service with Institutional Repositories. *Publications*, 8(2), 20. <https://doi.org/10.3390/publications8020020>
3. Halbert, Martin. (2008). Integrating ETD Services into Campus Institutional Repository Infrastructures Using Fedora.
4. K. Gupta, D., & Gupta, N. (2014). Analytical study of the ETD repositories and government initiatives for depositing ETDs in India. *Library Management*, 35(4/5), 308–319. <https://doi.org/10.1108/LM-09-2013-0092>
5. Khaparde, Vaishali. (2014). Growth and Development of Electronic Theses and Dissertation (ETDs) in India. *Journal of Library and Information Sciences*. 2. 99-116.
6. Kumar Nagesh. (2015). Electronic Theses & Dissertations in Indian University Libraries and National Level Repository: Positions and Challenges. *International Journal of Research in Library Science*, 1(2), 18–26.
7. Kumar, M., Jagdish, A., & Suboohi, S. (2016, July). Indian Electronic Theses and Dissertations. 19th International Symposium on Electronic Theses and Dissertations (ETD 2016): "Data and Dissertations". <https://hal.archives-ouvertes.fr/hal-01397574>
8. Loan, Fayaz Ahmad, and UfairaYaseen Shah. 2020. "Global Electronic Thesis and Dissertation Repositories – Collection Diversity and Management Issues". *Insights* 33 (1): 22. DOI: <http://doi.org/10.1629/uksg.524>
9. Sengupta, S. (2012). Status of E-Theses Repositories with Special Reference to India. *Library Philosophy and Practice* (e-journal). 764. <https://digitalcommons.unl.edu/libphilprac/764>
10. Swain, D. K. (2010). Global Adoption of Electronic Theses and Dissertations. *Library Philosophy and Practice (e-Journal)*, 1–7.