

# Current Status of Electronic Theses and Dissertations (ETDs) in Shodhganga by State Universities in West Bengal

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## Abstract

*The aim of this study is to assess the status of Electronic Theses and Dissertations (ETDs), from state universities in West Bengal. These ETDs are stored in an open-access repository called Shodhganga, which is hosted and maintained by INFLIBNET. There are currently 37 state universities in West Bengal, out of which 20 have signed a Memorandum of Understanding (MoU) with INFLIBNET. However, only 17 of these universities have submitted their ETDs to the repository. Among them, the University of Calcutta leads with the 13850 number of ETDs. Jadavpur University and the University of Kalyani both deposited 3575 and 2837 ETDs, respectively, securing second and third place. The State University of West Bengal's ETDs were also evaluated for their contributions on a departmental and linguistic level. The University of Calcutta's Department of Science had the most contributions (2230 ETDs), while English was the most popular language for ETDs at Shodhganga.*

**Keywords:** Electronic Theses and Dissertations (ETD), Open-Access Repository, Shodhganga, West Bengal

## 1. Introduction

Theses and dissertations (TDs) have served as an essential source of information. For academicians and research scholars but at the same least utilized. Their under-utilization is due to either unawareness about their existence or because of their accessibility issues. Most academic institutions have a policy for accessing their TDs only for their users which makes them under-utilized and led to duplication of these vital resources. But with the advent of the internet and its related technology libraries have also executed these technologies for upgrading their services and work. Electronic Theses and Dissertations (ETDs) are one such technology that is a digital representation of conventional TDs. It is the same as its paper counterpart in content and organization. Ph.D. theses can be quite challenging to find since they are exclusively held in the university library that awarded the degree. On the other hand, electronic theses and dissertations (ETDs) are conveniently accessible online, making them easily discoverable and available, to anyone, through the Internet. (Vijaykumar and Murthy, 2001). An EDT program offers a system, guidelines and software to streamline tasks along, with a framework, for accessibility and long-term retention. (Lippincott, 2006). The UGC Notification of 2009 which was later amended on May 2016 marked a milestone. It requires researchers, in universities to submit Electronic versions of their theses and dissertations to a digital repository called Shodhganga hosted and maintained by the INFLIBNET Centre. The purpose is to enable access to theses

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and dissertations for the global academic community. This initiative aims to promote quality research and address issues related to research duplication. Currently out of the 37 State Universities, in West Bengal only 20 have signed an MoU with INFLIBNET.

### 1.1 Shodhganga: An Overview

“Shodhganga” refers to the collection of Indian Electronic Theses and Dissertations established by the INFLIBNET Centre. The term “Shodh” comes from Sanskrit. Signifies research and exploration. “Ganga” represents the largest and longest river, in the Indian subcontinent. Shodhganga represents a reservoir that houses contributions of Electronic Theses and Dissertations, managed by the INFLIBNET Centre. It serves as an open-access platform where researchers can deposit their Electronic Theses and Dissertations (ETDs) for access by the community. Shodhganga utilizes DSpace, an open-source repository software developed through collaboration, between MIT (Massachusetts Institute of Technology) and Hewlett Packard (HP) to capture, index, store, disseminate and preserve ETDs submitted by researchers.<sup>1</sup>

### 1.2 Status of academic institution in West Bengal: An overview

The general development of the foundational infrastructure of the higher education sector in India, both in terms of policy and planning within a planned development process, is the responsibility of the Department of Higher Education under the Ministry of Education, Government of India.<sup>2</sup> The Directorate of Education, the Directorate of Technical Education, and the Directorate of State Archives make up the administrative structure of higher education in West Bengal. West Bengal has the second-highest number of state universities in India after Karnataka. Presently there are 37 State universities, out of which 16 are having 2(f) status and 21 are having 12(B) status. Apart from this, there are 1 Central University, 2 Deemed Universities 11 State private universities, and 552 Colleges (77 Government and 473 non-government) as per the data available on UGC’s official Website<sup>3</sup>.

### 1.3 Status of State Universities of West Bengal having MoU with INFLIBNET

Table 1 shows that only 20 of the 37 State Universities in West Bengal have signed Memoranda of Understanding (MoU) with INFLIBNET as of November 2021. WBNUJS and NBU both signed Memorandums of Understanding with INFLIBNET in 2011. The MoU CBPBU and INFLIBNET, were recently agreed on in 2021. NBSOU is not found in the MoU list besides the fact that it has 1 ETD contribution.

**Table 1: State Universities of West Bengal having MoU with INFLIBNET**

Sr. No.	University Name	Abbreviation Used	University Co-Ordinator Name	Signed On
1	University of North Bengal	NBU	Mr. Manash Esh	31 <sup>st</sup> March 2011
2	The WB National University of Juridical Sciences	WBNUJS	Dr. R Parameswaran	25 <sup>th</sup> July 2011
3	The University of Burdwan	BDU	Dr. Bikash Mukhopadhyay	5 <sup>th</sup> November 2012

ENRICHING ETDs AND THEIR REACH

4	University of Kalyani	KLU	Dr. Asitabha Das	24 <sup>th</sup> March 2015
5	Rabindra Bharati University	RBU	Prof. Sujata Mukherjee	20th April 2015
6	Jadavpur University	JU	Sri Samit Pahari	22nd April 2016
7	University of Calcutta	CU	Prof. Soumitra Sarkar	22 <sup>nd</sup> Dec. 2016
8	Presidency University	PU	Mr. Rabishankar Giri	23th Jan.,2017
9	Vidyasagar University	VDU	Prof Prakash Chandra Dhara	21th April,2017
10	The WB University of Teachers' Training, Education Planning and Administration	WBUTTEPA	Dr. Sujit Pal	18th May,2017
11	University of Gour Banga, Malda	GBU	Dr.Biswajit Das	17th July,2017
12	Sidho- Kanho Birsha University	SKBU	Dr.Sushanta Kumar Mondal	21st Nov.,2017
13	Raiganj University	RGU	Dr. Ajay Misra	14th March, 2018
14	Aliah University	ALU	Mr. Nihal Alam	2nd January, 2019
15	Kazi Nazrul University	KNU	Biswajit Saha	24th Jan.,2020
16	Bankura university	BKU	Dr. Bappa Das & Yogananda Sahu	1st March, 2021
17	Maulana Abul Kalam Azad University of Technology	MAKAUT	Mrs. Najmun Nessa	31st March, 2021
18	Diamond Harbour Women's University	DHWU	Dr. Tania Chakravarty	12th April, 2021
19	West Bengal State University	WBSU	Dr. Sushanta Banerjee	04th Oct, 2021
20	Cooch Behar Panchanan Barma University	CBPBU	Souvik Koner	17th Nov, 2021

Source- <http://shodhganga.inflibnet.ac.in/newmoredetails/mou.html>

## 2. Literature Review

Sinha, A. K. (2006) in their study discusses the salient features such as total no. of ETD submissions, Top 10 ETD contributors, software aspect, plagiarism, role, and responsibility of INFLIBNET, the responsibility of students and research scholars as well as significance, and implications of the Shodhganga. The University of Calcutta has achieved 1<sup>st</sup> rank in terms of ETDs submission as of 17 September 2017. Savitribai Phule University, Pune and Aligarh Muslim University have secured 2<sup>nd</sup> and 3<sup>rd</sup> positions respectively. In their article, Chakravarty (2019) used the Web Analyzer Test Score (WATS) to evaluate the performance of India's national ETD repository. He has compared of the Open Access (OA) ETD repository's status with other OA content, such as research articles and conference papers, preferably using the same software that was used to create the ETD repository. The results of the Webometric analyses revealed a 6.4 overall score. Bhat et al., (2014) has tried to determine the status of participating Indian Universities in Shodhganga in terms of ETDs submitted to it till Jan, 2014. In this connection Bundelkhand University has secured first rank with 1436 ETDs, Mahatma Gandhi University has secured second position with 1164 ETDs while Pondicherry University has secured third position with 679 ETDs. In his paper, Ghosh (2007) examined the present status of the major ETD projects in India, focusing on the Ph.D. thesis repositories like INFLIBNET, Vidyandhi, the

three IIT repositories (IIT Bombay, IIT Delhi, and IIT Kanpur), IISc Bangalore, and others, in terms of the subject matter covered, the quantity of items, the policy regarding access, the search and browse option, services with value, etc. The survey found that the top universities, including the Indian Institute of Science and the IITs, have advanced, broad, and comprehensive electronic resource systems. The majority of them uses dspace software. IIT Kanpur has the most records in its ETD, according to the report. Gunjal, B., & Gaitanou, P. (2015) highlighted the latest trends in ETDs with respect to various technologies and discovery services that meets user's need. It also covers the global initiatives taken in the field of ETDs. As a result of this study, it was found that the growth of ETDs has increased from 54 as of Nov. 24,2005 to 2944 as of August 5, 2015. Gayan, M. A. (2014) tried to determine the development and current status of ETDs in India as of March 15,2014. The paper revealed that the ETDs has a promising future. Most of the ETDs in India has adopted Dspace software for building up repository and shodhganga is leading in terms of records contained in its ETD. Ramdas Lihitkar, S., & Lihitkar, R. S. (2014) have analysed 41 institutional archives based on software used, Format, Total items included, Types of publication, search parameters etc. Out of 41, 31 are using Dspace software. University of Mysore has access to 5482 ETDs, the highest of any institution in this study. Esh & Ghosh, (2021) examined the ETDs contributed to Shodhganga by universities in Northeast India in their study. According to the survey, the state of Assam submitted the most these i.e.,78273. SenGupta, S. (2019) reviewed the contribution of ETDs from the state universities of Maharashtra in Shodhganga. According to the study, the universities that have supplied the most ETDs to Shodhganga are Savitribai Phule Pune University, Dr. Babasaheb Ambedker Marathwada University, and SNDT University. In their paper, Khaparde and Ambedkar (2014) explore the growth and development of ETDs in India as well as the national policy framework for creating ETD repositories. The report also covers the National Knowledge Commission's guidelines for providing open access to research and the UGC regulations of 2005, 2009. Saloi, (2021) reviewed the contribution made by central universities in Northeast India to the Shodhganga. The study highlighted that North Eastern Hill University has the most contributions in Shodhganga i.e., 2093. Dhanavandan & Tamizhchelvan, (2013) in their study evaluated contribution of ETDs of 18 universities of Tamil Nadu that have signed MoU for submitting electronic copies of theses. The study revealed that Bharathidasan University secured first rank in terms of theses submission in Shodhganga. The amount of ETDs contributed by the 16 state institutions of Tamil Nadu in Shodhganga was examined by Sivakumaren (2015) in his work. It was found that Anna University and University of Madras contributed the most ETDs to Shodhganga. In their study, Jeelani et al. (2016) provided a comprehensive list of institutional repositories in India, along with information about the distinctive qualities and features that make each one unique and useful to the community of users. The study depicts that "Archives of Indian Labour" is the first Institutional repository in India established in 1998. The author also found that maximum no. of repositories contains multidisciplinary literature in them. The study reveals that out of the 43 institutional repositories, 27 have opted for DSpace software (63%). Vijayakumar et al., (2004) examined about social implication of ETDs, Indian initiatives taken for it and role of librarians for popularizing ETDs.

### 3. Purpose of the Present Study

The purpose of this study is to evaluate the current status of EDTs of the State Universities of West Bengal in Shodhganga. Along with this the additional goals are as follows-:

1. Ranking of West Bengal State Universities according to the number of EDTs they have contributed to Shodhganga.
2. To identify the department in Shodhganga that has the most EDTs across all state universities in West Bengal.
3. To rank the department from each University based on their EDTs contribution in Shodhganga.
4. To identify the language-wise distribution of the EDTs and rank them.

### 4. Methodology

A web-based survey was conducted to collect the data from Shodhganga Website and UGC official website. Present study follows the below mentioned steps:

1. Step 1: List of all State Universities in West Bengal has been retrieved from UGC official website<sup>4</sup> on 29-07-2023.
2. Step 2: From the Shodhganga official website, universities that have an MoU with INFLIBNET were recognized.
3. Step 3: Each institution that has signed an MoU with INLIBNET was counted separately for their EDTs contribution on Shodhganga<sup>5</sup> Website by observation method . Apart from this the metadata records such as Language, departments were counted too within each university on the Shodhganga website and recorded in MS Excel under the category; Total EDTs contribution, department wise EDTs contribution and language wise EDTs contribution for each participating university.

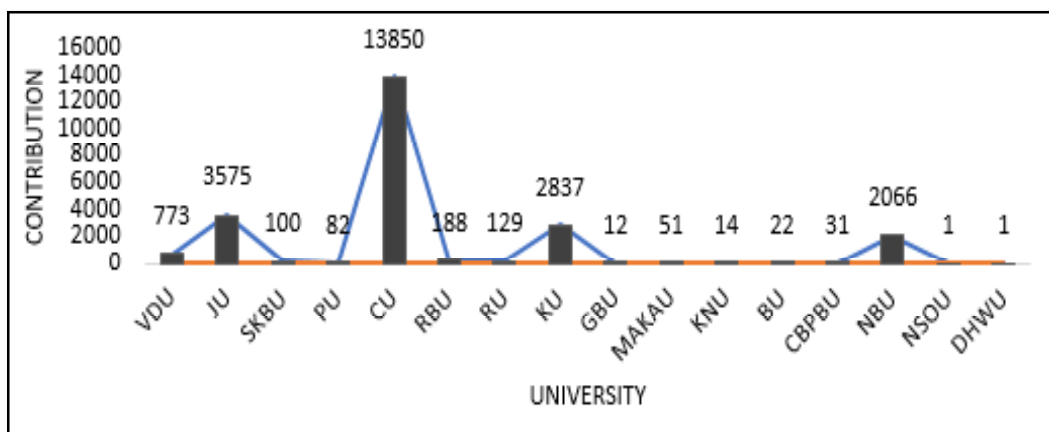
### 5. Data Analysis

**Table 2: Contribution of EDTs by the State Universities of West Bengal in Shodhganga**

S.N.	University	No. of Theses Uploaded	Rank
1	CU	13850	1st
2	JU	3575	2nd
3	KLU	2837	3rd
4	NBU	2066	4th
5	VDU	773	5th
6	RBU	188	6th

CURRENT STATUS OF ELECTRONIC THESES AND DISSERTATIONS (ETDS) IN SHODHGANGA BY STATE  
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7	RU	129	7th
8	SKBU	100	8th
11	PU	82	9th
10	MAKAUT	51	10th
12	WBNUJS	33	11th
13	CBPU	31	12th
12	BKU	22	13th
14	KNU	14	14th
9	GBU	12	15th
15	NSOU	1	16th
16	DHWU	1	16th
	Total	23765	



**Figure 1**

Table 2 and Figure 1 show the count of theses the State Universities, in West Bengal along, with their rankings. Only 20 of the 37 State Universities have signed a Memorandum of Understanding (Mou) with INFLIBNET, and only 17 have deposited EDTs in Shodhganga. CU took top place by giving Shodhganga 13850 EDTs. JU secured second position while KLU has secured third position by contributing 3575 and 2837 numbers of EDTs to Shodhganga respectively. NBSOU and DHWU deposited the lowest numbers of EDTs i.e., 1 and secured 16<sup>th</sup> position.

## 5.1 Language wise Distribution

**Table 3: Language wise distribution of ETDs**

University	Language									Total contribution
	English	Bengali	Sanskrit	Hindi	Urdu	Nepali	Santali	Spanish	Others	
CU(13850)	12936	96	19	51	26	-	-	-	713	13841*
JU(3575)	3289	241	11	-	-	-	-	-	34	3575
KLU(2837)	2485	87	-	1	-	-	-	1	257	2831*
NBU(2066)	1794	232	-	30	-	10	-	-	-	2066
VDU(774)	678	79	-	10	-	-	5	-	1	773*
RBU(188)	79	105	4	-	-	-	-	-	-	188
RU(129)	100	23	6	-	-	-	-	-	-	129
SKBU(100)	69	24	6	1	-	-	-	-	-	100
GBU(12)	12	-	-	-	-	-	-	-	-	12
MAKAUT(51)	50	1	-	-	-	-	-	-	-	51
PU(82)	65	11	-	6	-	-	-	-	-	82
BKU(22)	15	5	2	-	-	-	-	-	-	22
CBPBU(31)	22	9	-	-	-	-	-	-	-	31
KNU(14)	12	2	-	-	-	-	-	-	-	14
NSOU (1)	1	-	-	-	-	-	-	-	-	1
DHWU (1)	1	-	-	-	-	-	-	-	-	1
WBNUJS (33)	33	-	-	-	-	-	-	-	-	33
Total	21641	915	48	99	26	10	5	1	1005	23750

\*Metadata not updated.

Table 4 shows that out of the 23750 total ETDs, English is the language that contributes the most, with 21641 ETDs. 915 ETDs are deposited in Bengali, 48 in Sanskrit, 99 in Hindi, and 26 in Urdu, among other languages, 10 ETDs in Nepali language, 5 ETDs in Santali language and 1 ETD in Spanish language. Shodhganga does not mention the language of 1005 ETDs. They are categorized under “Others” metadata in Shodhganga repository.

## 5.2 Department wise Distribution

**Table 4: Top 3 Department wise distribution of state university in West Bengal**

University/ contribution	Rank	Department	contributions Share
CU(13850)	1st	Science	2230 (16.10%)
	2nd	Bio-Chemistry	832 (6.01%)
	3rd	Botany	675 (4.87%)

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JU(3517)	1st	Chemistry	205 (5.83%)
	2nd	Economics & Physics	156 (4.44%)
	3rd	Mathematics	150 (4.26%)
KLU(2837)	1st	Zoology	375 (13.22%)
	2nd	Chemistry	370 (13.04%)
	3rd	Botany	292 (10.29%)
NBU(2066)	1st	Chemistry	300 (14.52%)
	2nd	Bengali	234 (11.33%)
	3rd	Botany	182 (8.81%)
VDU(774)	1st	Bengali	73 (9.43%)
	2nd	Chemistry & Chemical Technology	72 (9.30%)
	3rd	Applied Mathematics with Oceanology & Computer Programming	60 (7.75%)
RBU (188)	1st	Bengali	33 (17.55%)
	2nd	History	22 (11.70%)
	3rd	Sanskrit	18 (9.57%)
RU(129)	1st	Bengali	22 (17.05%)
	2nd	Mathematics	18 (13.95%)
	3rd	Geography	17 (13.18%)
SKBU (100)	1st	Bengali	19 (19%)
	2nd	Sanskrit	13 (13%)
	3rd	Education	9 (9%)
GBU(12)	1st	Education & Geography	4 (33.33%)
	2nd	Mathematics	2 (16.67%)
	3rd	Botany & English	1 (8.33%)
MAKAUT (51)	1st	School Engineering & Technology	20 (39.22%)
	2nd	School Management and Sciences	9 (17.65%)
	3rd	Pharmaceutical Science and Technology	8 (15.69%)
PU(82)	1st	Life Sciences	26 (31.71%)
	2nd	Bengali & Physics	11 (13.41%)
	3rd	Chemistry	10 (12.20%)
BKU (22)	1st	Bengali & Education	5 (22.73%)
	2nd	Law	4 (18.18%)
	3rd	English & Sanskrit	2 (9.09%)
CBPBU(31)	1st	Bengali	9 (40.91%)
	2nd	Geography	7 (31.82%)
	3rd	History	4 (18.18%)
KNU(14)	1st	English	6 (42.86%)
	2nd	Political Science	4 (28.57%)
	3rd	Bengali & Mathematics	2 (14.29%)



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*Note:* NBSOU, DHWU and WBNUJS are not included in the above list as they have only 1 contributing Department i.e., Department of Sociology and Department of History.

According to Table 4, out of the 13850 ETDs the Department of Science of CU contributed the most, 2230 (16.10%). Departments of Biochemistry and Botany took second and third place, respectively, with contributions of 832 (6.01%) and 675 (4.87%) ETDs. Further Dept. of Bengali in VDU, RBU, RU and SKBU has contributed the highest numbers of ETDs i.e., 73(9.43%), 33(17.55%), 22(11.70%) and 19(19%) respectively.

## **6. Results and Critical Analysis**

In this study, the author discovered that there are 37 State Universities in West Bengal among which only 20 University have MoU with INFLIBNET and out of 20 only 17 Universities have submitted ETDs in Shodhganga. The author has also found that among 17 Universities the highest number of ETDs were deposited by CU (i.e., 13850) in which the Department of Science contributed the highest number of ETDs (i.e., 2230) thereby securing 1<sup>st</sup> rank, and the second highest number of ETDs was deposited by JU (i.e., 3575) in which the Department of Chemistry deposited highest no. of 205 (5.83%) ETDs and secured 1<sup>st</sup> rank. The third-highest number of ETDs were deposited by KLU (i.e., 2837) in which the Department of Zoology has submitted the most of ETDs i.e., 375 (13.22%). The author has also identified the language-wise distribution of ETDs deposited by 17 Universities. A total of 6 languages were identified i.e., English, Bengali, Hindi, Nepali, Sanskrit, and Urdu. The highest number of ETDs are deposited in the English language i.e., 21641. The second place is secured by the Bengali language (1094) and the third by Hindi language (86). Shodhganga does not mention the language of 1005 ETDs. They are categorized under "Others" metadata in Shodhganga repository.

## **7. Conclusion**

Nowadays user preferences of the modes and format of information have been drastically changed due to recent advancements in ICTs. Libraries are also adopting these technologies for upgrading their services. ETDs are one such technology that is highly used and has really impacted research practices in higher education. UGC initiative in this context and Shodhganga (INFLIBNET digital repository) made the research qualitative as well as open to the research community as universities are directed by UGC to deposit their ETDs in Shodhganga which is also accessible by other participating Universities. The present study shows that despite such efforts made by UGC only 20 (54.05%) State University out of 37 total Universities in West Bengal, have MoU with INFLIBNET and only 17(45.9%) have submitted their ETDs in Shodhganga and about 45.9 % of the total universities i.e., 17 Universities have even not even signed MoU with INFLIBNET. This study would motivate such types of universities to take the necessary steps in their policy for agreement with INFLIBNET for submitting their ETDs and the existing Universities in Shodhganga to actively submit their ETDs. Apart from this from actively submitting EDTs in Shodhganga, NAAC and NIRF accreditation bodies should also offer some credentials.

## References

- Lippincott, J. K. (2006). Institutional strategies and policies for electronic theses and dissertations.
- Vijayakumar, J. K., & Murthy, T. A. V. (2001). Need of a Digital Library for Indian Theses and Dissertations: a model on par with the ETD initiatives at International Level.
- Sinha, A. K. (2006). Electronic Theses And Dissertations: An Indispensable Tool for Access to Global Research Output.
- Bhat, M. I., Mudhol, M. V., & Mahesh, V. (2014). Importance of Electronic Theses and Dissertations (ETD's) on Internet: A survey of Indian ETD repository Shodhganga. *International Journal of Library and Information Studies*, 4(2).
- Chakravarty, R. (2019). National ETD repository evaluation using web analyzer: A webometric analysis of Shodhganga, India. *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)*, 14(1), 54–68.
- Dhanavandan, S., & Tamizhchelvan, M. (2013). Development of Shodhganga repository for electronic theses and dissertations in Tamil Nadu: A study. *International Research: Journal of Library and Information Science*, 3(4).
- Esh, M., & Ghosh, S. (2021). Role in Contribution to Open-Access Repository by the Northeast Universities in India: A Case Study of Shodhganga. *DESIDOC Journal of Library & Information Technology*, 41(6).
- Ghosh, M. (2007). ETDs in India: Towards a national repository with value added e-theses service.
- Gunjal, B., & Gaitanou, P. (2015). ETDs and Open Access for Research and Development: Issues and challenges.
- Jeelani, S. G. M., Mir, H. A., Wani, B. A., & Ganaie, S. A. (2016). Institutional Repositories in India: An Evaluative Study. *International Journal of Library & Information Science (IJLIS)*, 5(3).
- Khaparde, V., & Ambedkar, B. (2014). Growth and development of electronic theses and dissertation (ETDs) in India. *Journal of Library and Information Sciences*, 2(1), 99–116.
- Gayan, M. A. (2014). An overview of Indian ETD repositories. *Indian Research Journal of Philosophy and Science*, 1(2), 1-9.
- Ramdas Lihitkar, S., & Lihitkar, R. S. (2014). Electronic theses and dissertations (ETDs) in India: A comparative study. *Library Hi Tech News*, 31(2), 9–14.
- Saloi, A. (2021). Contribution of Electronic Theses and Dissertations (ETDs) by the Central Universities of Northeast India to the Shodhganga Project of INFLIBNET: An Evaluative Study. *Library Philosophy and Practice (e-Journal)*, 4825.

Sen Gupta, S. (2019). Mapping the contributions of ETDs to SHODHGANGA by state universities in Maharashtra in lis research.

Sivakumaren, K. S. (2015). Electronic thesis and dissertations (ETDs) by Indian universities in Shodhganga project: A study. *Journal of Advances in Library and Information Science*, 4(1), 62–66.

Vijayakumar, J. K., Murthy, T. A. V., & Khan, M. T. M. (2004). Accessing Indian university research literature: Importance of ETDs in the verge of UGC-InfoNet.