

Awareness to Electronic Theses and Dissertations (ETD) with Special Reference to Shodhganga among Research Scholars in University of Allahabad: A Case Study

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Abstract

Electronic Theses and Dissertations (ETDs) are primary sources of information produced in the college and university departments world-wide and require reach among academics and researchers. Shodhganga in India and some other ETDs in several countries which are part of Networked Digital Library of Theses and Dissertations (NDLTD) are availing open access to theses and dissertations to the researcher community. Submission of theses is mandatory to the universities in India to enhance its reach. ETDs are authentic sources of information; however, several studies show low or moderate awareness about ETDs among users in higher education institutions (Tella et al., 2016; Evans & Merham, 2006; Sinha & Purkayastha, 2018). User perspectives are essential to serve them efficiently and effectively; therefore need arises to know the same for the Shodhganga and other ETDs. Main objectives of this study are to know about awareness, impact and usability of the same along with benefits and problems imparted while using it. A descriptive type of study with survey technique of data collection with 95% confidence level has been used. The survey is based on a questionnaire which was distributed by in hand and online to the respondents. Research scholars in the University of Allahabad constitute population of this study. It was found that ETDs are moderately useful to the research scholars. Awareness towards the Shodhganga is very high; it is less in the case of other ETDs. It is suggested to the librarian community from the colleges, universities and research centers to avail links of the Shodhganga and other ETDs on its websites and instruct the users as per needs.

Keywords: ETD, Networked Digital Library of Theses and Dissertations, Electronic Resources, Theses and Dissertations, Shodhganga, Open Access Resources.

1. Background

Theses and dissertations are produced after the research studies in colleges and university departments and play a significant role as primary sources of information. Online availability of it increases its reach among the researcher community. There are a large number of repositories in open and closed access serving the users. Shodhganga in India and some other online Electronic Theses & Dissertations (ETDs) in several other countries which are part of Networked Digital Library of Theses and Dissertations (NDLTD) are open access repositories serving the researchers in the respective countries and world-wide too. The present study is an attempt to know about user experiences with the same.

About Shodhganga

Shodhganga is an online repository of theses deposited to the Information and Library Network Centre (INFLIBNET), Ahmadabad. The INFLIBNET is an inter-university centre of the University Grants Commission, New Delhi to support college and university libraries by support in access to the information and library services. The repository officially receives a copy of all theses of PhDs awarded to the research students in any private/government university in India including colleges and research centres. It was established in 2011 in the premises of Gujarat University on the mandates of UGC, New Delhi notifications in 2009 (revised in 2016). It was later shifted to the INFLIBNET Centre, Ahmadabad. Submission of theses is mandatory to the universities in India to enhance its reach. The number of theses crossed 450,000 at the Shodhganga in April 20, 2023 (INFLIBNET, 2023).

Need of the Study

Theses and dissertations are important information sources for the scientists, research scholars, faculty members and others interested in development of knowledge in any subject. Online availability of these resources enhances its access and use. There are some studies available in India and abroad on the Shodhganga and other ETDs; however, those do not disclose all the aspects. Further studies are essential to know about its use and usefulness. User perspectives are essential to serve them efficiently and effectively; hence need arises to know about users' perspectives on Shodhganga and other ETDs.

Objectives

There is an important question about awareness, impact and usability of ETDs including Shodhganga in academics and research. The present study is centered on seeking the answers of same questions in reference to a small population. The population for this study is constituted of the research scholars in a particular institution. Following are the main objectives of this study:

1. To know about the awareness of the Shodhganga, other ETDs in India and abroad among the research scholars in University of Allahabad.
2. To investigate about benefits and problems in utilizing ETDs by the same population of research scholars.
3. To confirm if the citations are being made from ETDs by the same population.
4. To determine how research scholars conceive about usefulness of ETDs in the specified institution.

Scopes and Limitations

The present study is concerned to the electronic theses and dissertations. It is a user study limited to the University of Allahabad. Users are specific in nature and constitute a small population; however, expanded to the complete spectrum of the subjects from sciences to social sciences and arts.

2. Previous Literature

Several studies show low or moderate awareness about ETDs among users in higher education institutions in some African countries and India (Tella et al., 2016; Evans & Mersham, 2006; Sinha & Purkayastha, 2018). Wani & Wani (2019) found that open-access resources are sufficiently used by research students in three prominent universities in the

USA. Schopfel & Prost (2013) emphasized the need to avail ETD to a larger audience since open-access ETDs are also less available as compared to other sources of information. Goodfellow et al. (2012) found that nursing scholars did not make use of ETDs with fullest potential in institutions selected in Australia, New Zealand, the United Kingdom, and the United States of America. Only 27% of the participants had cited ETD resources in their research works. Only 44 percent of them knew how to access ETDs in their institution libraries. Haneefa (2018) analyzed in his study that ETDs avoid duplication of works, support quick access to research information, and promote resource sharing between libraries. He further suggested running awareness programs to enhance its usability. Dolan (2011) expressed that faculty members need hassle-free access to the ETDs and they did not see libraries as a hosting place for their works at first view. They further investigated that faculty members are aware of institutional repository services available in the West Virginia University library; however, they had not utilized its services beyond confirmation of submission of theses and dissertations to the university. Wani et al. (2015) investigated that 23.05% only of theses in the science subject (available on the Shodhganga from 2010-2015) have been cited in which earth sciences have received largest citations (66.67%). Average citations are in the range of 1.0-1.6. They further found that 18.31% only of theses from social sciences have received citations. Soni et al. (2018) disclosed that 95% of research scholars utilize the Shodhganga followed by the DOAJ. Lack of skills (22.7% of total respondents) and inadequate number of computers (27.3% of total respondents) were the most significant problems faced by the research scholars in accessing/using e-resources. Ahmed et al. (2014) found that more than half of all the information repositories listed in the OpenDOAR contain ETDs in Asia; however, the number of universities having online ETDs is meager therein.

3. Methods

The present study has to describe about some specific issues related to the Shodhganga and ETDs, hence a descriptive type of study was considered most appropriate with survey technique of data collection. The survey is based on a pre-determined questionnaire. The main theme of the study is to know about the awareness, impact and usability of the Shodhganga and other ETDs among a specific user group.

Population: The research scholars in all the subjects in the University of Allahabad constitute population of the present study. University of Allahabad is situated in Prayagraj city in Uttar Pradesh state in India. It is a central university and is among the oldest universities in India. As per details available in the Central Library of the university, following are the number of registered users in the category of research scholars:

Year	2018-19	2019-20	2020-21	2022-23	Total
No. of Research Scholars	1574	1861	1665	2025	7125

Sampling, Sample Size, Response Rate: Simple random sampling was applied in the study. The study is based on 95% confidence level. The questionnaire was shared with 302 research scholars in offline and online mode. The questionnaire was printed and responses were collected by hand at starting. However, observing the delay in collection of data, the Google Form was created and shared with the research scholars. Total 206 questionnaires were received compositely by the two modes. Hence the response rate is $206/302 = 0.6821 = 68.21\%$ which may be considered good for data collection. The calculations confirm the value of margin of error i.e. confidence interval is 6.73%.

Data Collection and Data Analysis: As has been described in earlier sub-section, the data was collected in offline and online mode. The data collected were nominal and non-parametric in nature primarily, hence mode and chi-square test were applied for general and inferential analysis respectively as a general. However, mean and one-tailed analysis of variance (ANOVA) was applied for interval parametric data. Microsoft Excel was used as an instrument for calculations and analyses.

4. Major Observations and Findings of the Study

In this section, major observations of the study have been discussed after data collection and analysis. The numbers of respondents choosing different options for a question along with necessary analyses have been dealt, along with necessary discussions.

Distribution of the Respondents based on the Subjects and Disciplines

In the present study, total 206 research scholars have responded to the questionnaire. They were classified on the basis of subjects of their PhD study. For ease of the study, the researcher subjects were classified into three disciplines i.e. 1. Science and Technology, 2. Social Sciences and 3. Arts and Literatures. About half i.e. 102 out of 206, of the respondents are from disciplines of ‘Science & Technology’, followed by discipline of ‘Social Sciences’ (86 respondents). Only 18 respondents are from the discipline of ‘Arts and Literatures’. The largest numbers of respondents are from the subject of physics and botany (29 and 27 respectively). Subject and discipline-wise distribution of respondents has been shown in Table 1.

Table 1: Discipline and Subject-wise Distribution of Respondents

Disciplines	Subject	Number of Respondents	
Science & Technology	Physics	29	102
	Botany	27	
	Material Sciences	14	
	Mathematics	14	
	Zoology	10	
	Chemistry	3	
	Molecular biology	2	
	Earth Sciences	1	
	Cognitive Science	2	
Social Sciences	Political Science	18	86
	Economics	15	
	History	14	
	Sociology	12	
	Development Studies	11	
	Anthropology	7	
	Education	7	
Arts & Literatures	Sanskrit	17	18
	Urdu	1	
Total		206	206

Awareness of the Research Scholars to Shodhganga

In reply to the question about prior awareness to the Shodhganga online electronic theses services provided by the INFLIBNET Centre, all the respondents except one respondent, answered that they are aware of the Shodhganga (see Table 2).

Table 2: Awareness of the Respondents to Shodhganga

Options	Science & Technology	Social Sciences	Arts and Literatures	Sum
Yes	101 (99.02%)	86 (100%)	18 (100%)	205 (99.51%)
No	1 (0.98%)	0 (0.0%)	0 (0.0%)	1 (0.49%)
Total	102	86	18	206

Previous Usage of Shodhganga by the Research Scholars

A question was asked from those respondents who replied positively to the previous question, if they have made access to the Shodhganga. Majority of the respondents (87.38%) opted 'Yes' option i.e. majority of them have accessed Shodhganga previously. Some of them (12.62%) have not accessed Shodhganga previously (Table 3). Chi-square test shows that there are significant differences between different categories. All of respondents from 'Arts and Literatures' have used Shodhganga previously where about 90% and 80% only of respondents from the disciplines of 'Social Sciences' and 'Science & Technology' have used it previously.

Table 3: Previous Usage of Shodhganga by the Respondents

Options	Science & Technology	Social Sciences	Arts and Literatures	Sum	Chi-Square P value
Yes	83 (81.37%)	79 (91.86%)	18 (100%)	180 (87.38%)	0.02349 (Significant)
No	19 (18.63%)	7 (8.14%)	0	26 (12.62%)	
Total	102	86	18	206	

Usage of ETDs of Indian Origin other than the Shodhganga by the Research Scholars

In response to the question whether the respondents make use of other ETDs of Indian origin, other than the Shodhganga, about three fourths (75.24%) of them said that they do not make use of the same. Rest said that they make use of them. There were significant variations between different categories. Larger number of research scholars from 'Science & Technology' do not make use of it while less of the scholars from 'Arts & Literatures' do not make use of the same (see Table 4).

Table 4: Usage of ETDs of Indian Origin other than the Shodhganga by the Respondents

Options	Science & Technology	Social Sciences	Arts and Literatures	Sum	Chi-Square P value
Yes	11 (10.78%)	31 (36.05%)	9 (50.0%)	51 (24.76%)	0.000012 (Significant)
No	91 (89.22%)	55(63.95%)	9 (50.0%)	155 (75.24%)	
Total	102	86	18	206	

Usage of ETDs from Abroad by the Research Scholars

In response to the question whether the respondents make use of ETDs from abroad, about four fifths (83.01%) of them said that they do not make use of the same. Most of them of the rest said that they make use of them. One of the respondents did not choose any option. There were significant variations between different categories. Larger number of research scholars from ‘Science & Technology’ (92.16%) do not make use of it while less of the scholars from ‘Arts & Literatures’ (66.67%) do not make use of the same (see Table 5).

Table 5: Usage of ETDs from Abroad by the Respondents

Options	Science & Technology	Social Sciences	Arts and Literatures	Sum	Chi-Square P value
Yes	8 (7.84%)	21 (24.42%)	6 (33.33%)	35 (16.99%)	0.00164 (Significant)
No	94 (92.16%)	65 (75.58%)	12 (66.67%)	171 (83.01%)	
Total	102	86	18	206	

Citations from the Shodhganga Documents by Research Scholars

A question was asked about citations made from the Shodhganga. More than half (61.65%) of the respondents replied that they did not cited any Shodhganga resources where more than one third (38.35%) of them replied that they have cited Shodhganga resources (see Table 6). Respondents from ‘Social Sciences’ has cited more than the respondents in other two categories.

Table 6: Citations Made from Shodhganga Documents by the Respondents

Options	Science & Technology	Social Sciences	Arts and Literatures	Sum	Chi-Square P value
Yes	30 (29.41%)	45 (52.33%)	4 (22.22%)	79 (38.35%)	0.00190 (Significant)
No	72 (70.59%)	41 (47.67%)	14 (77.78%)	127 (61.65%)	
Total	102	86	18	206	

Citations Made from Other ETDs than Shodhganga by Research Scholars

A question was asked about citations made from the ETDs excluding Shodhganga. About three fourths (71.85%) of the respondents replied that they did not cited any other ETD resources where more than one fourth (28.15%) of them replied that they have cited other ETD resources (see Table 7). The citations made from other ETD are less than the citations made from the Shodhganga sources (Table 6 and 7). Chi-square calculations show that variations between the groups are insignificant ($p = 0.06853$ i.e. $p < 0.05$).

Table 7: Citations Made from Other ETDs Documents by the Respondents

Options	Science & Technology	Social Sciences	Arts and Literatures	Sum	Chi-Square P value
Yes	24 (23.53%)	25 (29.07%)	9 (50.00%)	58 (28.15%)	0.06853 (Insignificant)
No	78 (76.47%)	61 (70.93%)	9 (50.00%)	148 (71.85%)	
Total	102	86	18	206	

Benefits of Online ETD as declared by the Research Scholars

97 of respondents said that online ETDs saves time and 82 of them said that it avoids duplication of works. 141 of them consider it genuine sources of information. The number of total respondents participated in the survey is 206.

Problems faced during accessing the Online ETDs

131 of the respondents expressed that searching is not easy in online ETDs. 34 of them said that information available has poor quality. 47 of them replied that plagiarism was found in the information sources availed by the online ETDs. 21 of them declared no problem experienced during accessing the ETDs. It is notable that total 206 respondents had participated in the survey.

Usefulness of the Shodhganga

In a question, the respondents were asked about usefulness of the Shodhganga. There were four options in Likert scaling. The number of respondents for each option has been shown in the Table 8. Larger number of respondents estimates Shodhganga moderately or very useful. Overall score is 3.330 (moderately useful). The variation between the groups is very highly significant ($p = 0.000021$ i.e. $p < 0.05$). The usefulness is estimated less by the respondents in the group of 'Science & Technology' (see the Table 8).

Table 8: Usefulness of the Shodhganga

	Scale	Science & Technology	Social Sciences	Arts and Literatures	Sum
Not Useful	1	6 (5.88%)	0 (0.0%)	0 (0.0%)	6 (2.91%)
Somewhat Useful	2	14 (13.73%)	4 (4.65%)	0 (0.0%)	18 (8.74%)
Useful	3	47 (46.08%)	29 (33.72%)	8 (44.44%)	84 (40.78%)
Very Useful	4	35 (34.31%)	53 (61.63%)	10 (55.56%)	98 (47.57%)
Total		102	86	18	206
Average on Scale		3.088	3.57	3.556	3.330

Table 9: One-Way ANOVA Test

Source	SS	df	MS	
Between-treatments	11.8217	2	5.9108	$F = 11.34854$
Within-treatments	105.732	203	0.5208	p-value = 0.000021
Total	117.553	205		F- Crit = 3.040379

Usefulness of Other ETDs

In a question, the respondents were asked about usefulness of the other ETDs. There were four options in Likert scaling. The number of respondents for each option has been shown in the Table 10. 22.33% of the respondents estimate it somewhat useful. 38.83% and 34.47% of them estimate it moderately or very useful respectively. Overall score is 3.034 i.e. moderately useful. Usefulness of the Shodhganga (Table 8) was also estimated moderately useful; however satisfaction level was higher in the previous case. The variations are found

significant between the groups (Table 11). The usefulness is estimated lesser by the respondents in ‘Science and Technology’ (Table 10).

Table 10: Usefulness of the Shodhganga

	Scale	Science & Technology	Social Sciences	Arts and Literatures	Sum
Not Useful	1	6 (5.88%)	3 (3.49%)	0	9 (4.37%)
Somewhat Useful	2	24 (23.53%)	22 (25.58%)	0	46 (22.33%)
Useful moderately	3	49 (48.04%)	23 (26.74%)	8 (44.44%)	80 (38.83%)
Very Useful	4	23 (22.55%)	38 (44.195)	10 (55.56%)	71 (34.47%)
Total		102	86	18	206
Average on Scale		2.873	3.116	3.556	3.034

Table 11: One-Way ANOVA Test

Source	SS	df	MS	
Between-treatments	8.1373	2	4.0687	$F = 5.71092$
Within-treatments	144.6248	203	0.7124	p-value = 0.003864
Total	152.7621	205		F-Crit = 3.040379

It is clear that the respondents have selected the option of ‘useful moderately’ on average, for the Shodhganga and other online ETDs.

5. Results

The maximum research scholars in the University of Allahabad are found aware of the Shodhganga services of the INFLIBNET Centre of the UGC, New Delhi. However, very few of those know about other ETDs from India or abroad. ETDs are moderately useful to them. Two fifths (38.35%) of the research scholars have make citations from the Shodhganga. The number of research scholars citing other ETDs is less (28.15%) than that citing the Shodhganga documents. Most respondents estimate ETDs as genuine sources of information and agree that ‘online availability of theses and dissertations saves time and money’ also. Some of them expressed that sometimes ETDs have outdated information. In response against the question on usability and importance of Shodhganga, most respondents responded that it is moderately useful. Other ETDs are also estimated moderately useful by the respondents; however, by lesser scores. The research scholars from ‘Science & Technology’ have used less Shodhganga and other ETDs, estimate it less useful and cited less than the research scholars from other two disciplines. However, awareness to the Shodhganga is almost equal in each category of the research scholars.

6. Discussions

38.35% and 28.15% of the respondents claimed to cite from the Shodhganga and other ETD repositories in this study; in this way the percentage of the respondents is more than the percentage found in the study by Wani et al. (2015) who explored that 23.05% and 18.31% of respondents from science and social sciences respectively cited the ETDs. In another

study, Goodfellow et al. (2012) stated that only 27% of the participants had cited ETD resources in their research works. It was found that the ETDs support avoiding duplication of works, in this study, which is similar to the findings by Haneefa (2018). Dolan (2011) investigated that faculty members are aware of institutional repository services available in the West Virginia University library. In India, Soni et al. (2018) also disclosed that 95% of research scholars utilize Shodhganga followed by the DOAJ. In the present study, research scholars are found aware of Shodhganga, but less aware of other ETDs.

7. Conclusions

Theses and dissertations are important sources of research information. Networked Digital Library of Theses and Dissertations (NDLTD) is an organization that promotes online theses and dissertations and open access (NDLTD, 2023). The Shodhganga is a significant online thesis repository that collects theses in India online. The study disclosed that the research scholars know about Shodhganga; however, fourth and one-sixth of them only know about other ETDs in India and abroad respectively. ETDs are estimated useful moderately (scoring above 3 on a scale of 1 to 4) by the users. About two-fifths (38.35%) of the respondents replied that they have cited Shodhganga resources whereas only one-fourth (28.15%) of them have cited other ETDs. It is suggested to the librarian community from the colleges, universities, and research centers to avail links of the Shodhganga and other ETDs on its websites.

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Abbreviations Used:

ANOVA	:	Analysis of Variance
ETD	:	Electronic Theses and Dissertations
INFLIBNET	:	Information and Library Network Centre, Gandhinagar, India
NDLTD	:	Networked Digital Library of Theses and Dissertations

