

THE IMPACT OF ETDs IN RESEARCH OPENNESS: A STUDY ON LIS RESEARCHER IN INDIA

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Abstract: *This paper evaluates the participation of Indian universities and their initiatives towards the open access of research; in particular the availability of Ph.D. Research output in the form of ETDs (electronic/digital repository of theses). Considering this into context, the present paper attempts to study the impact of ETDs and review the various facet of benefits associated with the openness of the research to worldwide scholarly communities. The present study covers ten years of Ph.D. thesis data i.e. 2001 to 2010, which were awarded from various Indian universities in the field of library information science (LIS) and made available in open access through various institutional and national ETDs based digital repository of the country. These data were then checked with Google Scholar to identify the citations received. Also, estimation is made about the ETDs when they have received a citation (before or after) the sources become open access.*

Keyword: ETDs, LIS, Research Output, Digital Repository, Open Access, Citation

INTRODUCTION

It is evident that Doctoral research (Ph.D.) has always played an important role in academic research. It produces value addition to education that enhances and promotes the research capabilities. As of now, it is found that with the help of open access, the web publishing media has considerably increased and strengthened the process of scholarly communication of academic research. The web has produced a wide range of applications including publications, archives, refers, reuse, and redefines the process of optimization of access to scholarly information. In view of this, to produce good research practices and increase the scope of scholarship today almost all academia of education worldwide are actively support and promote open access in their countries. Many of them have already mandated regulation for opening up the research content to get access worldwide. As it has been studied and reported that open access produces more accessibility and increase citation than the ones which are behind pay-walls. For research openness across the globe, many universities and research organizations have tried their presence for adopting electronic and online web systems for organizing, submitting, archiving, display and dissemination of their e-thesis (so called ETDs). Today, many of them mandated the e-submission of TDs (theses) system, followed by archive into web-accessible digital repositories to preserve that content for use and re-use. As of dated 16th August 2016, out of 3182 repositories being registered in Open DOAR, there are 1775 ETDs

repositories available across the globe; and 292 (e-thesis) repositories are being registered in Open (ROAR) so far. In this similar context to date, India has 691 universities including 45 central universities, 323 state universities, 200 private universities, and 123 deemed universities with affiliation to UGC (University Grant Commission). The UGC an apex body, function as a statutory body of the Government of India through an Act of Parliament that helps in coordinating, determining and maintaining the standard of university education in India. Since its establishment in November 1956, it has been playing a vital role in promoting continuous growth in research in India; in particular Ph.D. research across various universities in India. At recent past to open access to the research, UGC has framed up some new regulations; such as, Submission of Metadata and Full text of thesis in electronic formats, (regulation, 2005); Minimum Standards and Procedure for the award of MPhil/ Ph.D. degree, (Regulation 2009) and Creation of National Database of electronic thesis and dissertations (ETDs). For the above said work, UGC has planned a project proposal that helps for creating ETDs national database and creation and submission of ETDs into it. The above work has been assigned to Information and Library Network (INFLIBNET) center which is an autonomous inter-university center of the UGC of India. The ETDs repository created and maintained by INFLIBNET center is popularly known as Shodhganga (the reservoir of knowledge). This repository acts as a platform for researchers of all Indian universities to deposit their Ph.D. theses and make it available for the scholarly

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community in open access. To date, there are 280 universities that have signed MOU (Memorandum of Understanding) for agreeing to deposit their e-thesis into Shodhganga e-repository. Out of them, 261 universities already been started contributing into it. The Shodhganga repository is Dspace enabled (which is open source compliance based software) and has the capability to captures, stores, indexes, disseminates electronic theses submitted by the researchers to the Indian universities. The repository has a collection of 43,000+ theses which can be globally accessed in open access mode now. Other than this initiative of creating open access national level database many other institutional and regional level ETDs initiatives are also made throughout the countryside. Many of them are indexed and listed in open ROAR and DOAR repository.

LITERATURE REVIEW

Lists of related literature have been reviewed by the author to reckon the purpose of the current study. All the discussed papers have a common statement and opinion about the open access to ETDs. Through their paper, Fox, EA et al. (2006) viewed that ETDs available in open access are downloaded and use thousands of times more than the print version of thesis. Schopfel, J et al. (2015) highlights key aspects of e-thesis publishing system under OA (open access) and suggested institutional policy framework is needed to resolve the various issue of ETDs to get access in an open access mode in France and Germany. It is seen from the paper of Ferreras-Fernnndez, T. et al. (2013) that open access ETDs has more citation counts and impact than the ETDs which are of subscription or password protection mode. Wang et al. (2015) have highlights open access (OA) vs. non-open access (NOA) papers and evaluated how OA papers are got more citations impact and attention across all academia of scholarly communication over non-open access based papers. They have observed through their study that OA articles are sustained and steady downloaded for a longer period of time as against NOA articles. Ahmed, Alreyaee, and Rahman (2014) focused on the growth and development of open access ETDs repositories in Asia. They have discussed various parameters involved in ETDs, through which research scholar can able to get the benefit and expand his/her research scope in their respective field of studies. Sheeja, N. K. (2012) discussed the potentiality of open access e-theses repositories in India and acknowledged the need of open access ETDs for the knowledge growth and development. Goodfellow, L. M. (2009), in his paper put an assessment on worldwide ETDs repositories and provide elaborate information on the worldwide initiative of open access ETDs repositories. There are many similar studies, which have highlighted and discussed the importance of open access ETDs and their impacts on information societies for the growth of Knowledge, Learning, and Research.

OBJECTIVE OF THE STUDY

- To find and highlight research output of Library Information Science research of various Indian universities as reflected through ETDs; and
- To evaluate the participation of Indian universities and their initiatives towards the open access of research.

METHODOLOGY

For this study, the author primarily collected data of Ph.D. (doctorate) theses of library information Science (LIS) awarded during 2001 to 2010 from various universities of India. Considered each Ph.D. scholar (author) as a primary indicator, the data then was arranged for evaluations accordingly. Furthermore, for each scholar or (author) a brief profile was made, and all the respective data of e-thesis were checked and retrieved with their citations details from Google Scholar. These data are examining further to open the possibilities of various studies that help us to make an assessment to quantify the impact of ETDs in research openness.

RESEARCH OUTPUT OF THE INDIAN UNIVERSITIES AS REFLECTED THROUGH VARIOUS E-THESIS REPOSITORY OF INDIA

With the help of above methodology mentioned, the collected data has been analyzed for assessing the various aspect of the current study. As shown in the table below, there are 954 (Nine hundred fifty-four) LIS Ph.D. theses, which got rewarded during 2001 to 2010 from 80 Indian universities. Out of this, 225 numbers of theses have been accessed online via various open access digital repositories of India and rest 729 theses yet to get access online. Also, Table 1 depicted the year wise distribution of ETDs and their percentage of availability year wise. From the below-mentioned information, it is assumed that there is no consistency of ETDs publication to open access by all Indian universities so far. The reason is many, the national database of ETDs was set up and operational in 2010's and all universities are yet to submit their thesis into it. Also, the problem like lack of ICTs infrastructure for digitization of old thesis and submission of e-thesis are yet to be done at the individual institutional level, and also no uniform policy have been made among all universities in early 2000's. But gradually it is getting pace and each university try to collaborate and finding solutions to it, with the help of UGC policy guideline (2005 & 2009) and the creation of Shodhganga project many universities are signed MOU with INFLIBNET to upload their theses into it. The Indian government has also

given financial assistance to all the universities of India for implementation of e-thesis openness across countries. As calculated, a total of 225 ETDS were available in the field of LIS as against 954 Ph.D. produced, which is of 23% of all total, and shown to be very less in number. So, it becomes

the urgent need for academic communities to look upon this issue and participate in making their institutional research contents to be open for all to increase the value and ranks of the institutions via research openness.

Table 1: LIS Ph.D. Research Output with ETDS Available in Indian Universities

LIS. Ph.D. Awarded Year	Total Number of Theses awarded	Total number of ETDS available in online	Total nos. thesis not available in online	E-Thesis (%) available in online
2001	65	24	41	36.9
2002	90	21	69	23.3
2003	81	15	66	18.5
2004	75	28	47	37.3
2005	92	24	68	26
2006	79	19	60	24
2007	109	20	89	18.3
2008	111	23	88	20.7
2009	101	23	78	22.7
2010	151	28	123	18.5
Total	954	225	729	23.5

CITATIONS RECEIVED BY ETDS: A STUDY

With the help of Google Scholar, the collected 225 ETDS have been checked and retrieved the citation data of each e-thesis. As shown in Table 2, there are 77 ETDS who got citations after their availability in web both in open access (OA) and non-OA platform via various ETDS repository. Remaining 148 ETDS does not receive any citation yet, although they are available online. The overall percentage becomes 34% as against total ETDS available online. The observation through the available statistics is that although

the 225 theses are available in e-thesis format, but 148 of them are not received any citations yet. It is because the majority of them are in non-open access or access through subscription, which interrupt or delay of the accessibility of full-text research contents for use and re-use. It was seen that many of the e-theses full-text had uploaded into Shodhganga national database after 2010 only. Also, usually four to five year of time periods is needed to exercise the receiving of a good number of citations for any paper available to online. It has been observed from Table 2 that approximately 50% of ETDS have been published online after 2006 and maximum citations received in the year 2004 and 2005 respectively.

Table 2: LIS ETDS with Citation Received Available via E-thesis Repository

LIS. Ph.D. Awarded Year	Total number of ETDS available online	Number of ETDS which received citations	Number of theses which did not receive citations	ETDS Avg. (%) who received citation	ETDS Avg. (%) who did not receive any citation yet
2001	24	7	17	29.16	70.83
2002	21	8	13	38.09	61.90
2003	15	3	12	20	80
2004	28	14	14	50	50
2005	24	11	13	45.83	54.16
2006	19	6	13	31.57	68.42
2007	20	7	13	35	65
2008	23	5	18	21.73	78.26
2009	23	7	16	30.43	69.56
2010	28	9	19	32.14	67.85
Total	225	77	148	34.22	65.77

As depicted in Table 3, following are the list of e-theses with citations received. It is seen from the below listing that University of Calicut e-thesis got the highest number of citation; followed by University of Lucknow, Mysore, Kerala, and Pune. Nearly 29 universities do have in the

citations list and rest 51 universities do not receive any citation yet. The average citations against total ETDs become 0.7, which is considered to be very poor as per institutional ranking and impact concern.

Table 3: List of Universities with E-theses and Citations

Sl. No.	Name of University/Institute which Awarded LIS Ph.D. during 2001-2010	Number of e-theses available in online mode	Total Citations received	Average citation per ETDs
	Aligarh Muslim University	5	0	0
	Allahabad Agricultural Institute	0	0	0
	Andhra University	21	2	0.09
	Anna University, Chennai	0	0	0
	Annamalai University	6	2	0.33
	Awadhesh Pratap Singh Vishwavidyalaya	0	0	0
	B. N. M University	0	0	0
	Babasaheb Bhimrao Ambedkar University, Lucknow	0	0	0
	Banaras Hindu University	0	0	0
	Bangalore University	2	2	1
	Berhampur University	0	0	0
	Bharathidasan University	1	5	5
	Bhavnagar University	1	0	0
	Birla Institute of Technology, Mesra, Ranchi	0	0	0
	Bundelkhand University, Jhansi	16	1	0.06
	Cochin University of Science & Technology	0	0	0
	Dr. B R Ambedkar University, Agra	1	2	2
	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	2	3	1.5
	Dr. Hari Singh Gour Vishwavidyalaya, Sagar	0	0	0
	Dr. Bhim Rao Ambedkar University, Andhra Pradesh	0	0	0
	Gauhati University	9	2	0.22
	Gulbarga University	2	3	1.5
	Guru Ghasidas University	10	0	0
	Guru Nanak Dev University, Amritsar	3	0	0
	Hemchandracharya North Gujarat University	1	2	2
	Hemwati Nandan Bahuguna Garhwal University	0	0	0
	Indira Gandhi National Open University (IGNOU)	0	0	0
	Jadavpur University	6	5	0.83
	Jiwaji University	4	2	0.5
	karnatak open university	0	0	0
	Karnatak University	4	5	1.25
	Kurukshetra University	0	0	0
	Kuvempu University, Shimoga	3	0	0
	Madhya Pradesh Bhoj (Open) University	0	0	0
	Madurai Kamaraj University	0	0	0

Sl. No.	Name of University/Institute which Awarded LIS Ph.D. during 2001-2010	Number of e-theses available in online mode	Total Citations received	Average citation per ETDs
	Maharaja Sayajirao University of Baroda	1	0	0
	Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Satna	0	0	0
	Makhanlal Chaturvedi National University of Journalism and Communication	0	0	0
	Mangalayatan University	0	0	0
	Mangalore University	0	0	0
	Manipur University	5	0	0
	Mizoram University	1	0	0
	Mohan Lal Sukhadia University, Udaipur	0	0	0
	Nagpur University	0	0	0
	North East Hill University, Shillong	5	1	0.2
	North Gujarat University	2	4	2
	Osmania University	0	0	0
	Pandit Ravishankar Shukla University	2	0	0
	Panjab University, Chandigarh	7	3	0.42
	Pt Sundarlal Sharma Open University	0	0	0
	Punjabi University, Patiala	2	3	1.5
	Rabindra Bharati University	0	0	0
	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur	19	5	0.26
	Sambalpur University	0	0	0
	Sant Gadge Baba Amravati University	9	3	0.33
	Sardar Patel University	1	0	0
	Saurashtra University	0	0	0
	Shivaji University, Kolhapur	0	0	0
	Shreemati Nathibai Damodar Thackersey Women's University	1	0	0
	Sri Krishnadevaraya University	4	0	0
	Sri Venkatswara University, Tirupati	5	0	0
	Swami Ramanand Teerth Marathwada University	0	0	0
	Tilka Manjhi Bhagalpur University	1	3	3
	University of Burdwan	7	1	0.14
	University of Calcutta	0	0	0
	University of Calicut	4	34	8.5
	University of Delhi	2	0	0
	University of Jammu	0	0	0
	University of Kashmir	1	0	0
	University of Kerala	6	12	2
	University of Lucknow	2	20	10
	University of Madras	10	4	0.4
	University of Mumbai	0	0	0
	University of Mysore	13	17	1.3
	University of Pune	14	7	0.5

Sl. No.	Name of University/Institute which Awarded LIS Ph.D. during 2001-2010	Number of e-theses available in online mode	Total Citations received	Average citation per ETDs
	University of Rajasthan, Jaipur	1	4	4
	Utkal University	0	0	0
	Vardhaman Mahaveer Open University	0	0	0
	Vidyasagar University	2	1	0.5
	Vikram University	1	0	0
Total		225	158	0.7

Table 4 shows the percentage of ETDs with citations received before and after the ETDs become open access. As per the available statistics, all 77 ETDs received all total of 158 citations so far till date August 2016. Among those 158 citations; 39 citations are being received via non-OA mode, while 119 citations are received after the research contents

become access openly via open access mode. Also, it has been observed that 75% of ETDs got citation after it become available in open access platform and a maximum of those citations are received during 2010 to 2016. Also, from the above table 2, we have found that majority of ETDs, which got citations, are awarded during 2004 and 2005.

Table 4: Percentage of Citations Received Available in Open Access Mode

Citation Year	total citations received by 77 ETDs	ETDs Citation (%) at non-OA mode	ETDs Citation (%) in open access mode
2001 – 2016	39	24.68	75.31
	119		
Total	158		

FINDING OF THE STUDY

Following are the key finding of the above-discussed study:

The 10 year of LIS Ph.D. (research) data, as shown in table-1 give the overall picture of e-thesis availability to scholarly communities.

As shown in table-1, it is easily assessed that majority number of theses (nearly 76%) are yet to upload in Shodhganga national ETDs repository to get access to the world.

The rest 23% of LIS Ph.D. which was available online via both open / non-open access platform have been analyzed further to quantify the impact of ETDs in research. It has been observed that 34% of all total ETDs got cited and 66% did not receive any citation yet.

Also, it has been observed that e-thesis (ETDs), which full-text contents are available got more citation in compare to who are behind a paywall. Nearly 75% ETDs have been cited via open access mode.

DISCUSSION

From the findings of this study; it is evident that lot more to be done at an individual institutional level for getting access to ETDs. As mentioned, the government of India

has already framed up policies and guidance for creation and disseminations of ETDs based research to scholarly communities via open access. Therefore, each university must initiate concerted efforts to make ensure that all policies are implemented and followed to solve the barrier of inaccessibility of ETDs based research output to world communities. Also, it is found that ETDs citations rate is less in comparison to journal articles and books. It is because the majority of the theses are not available in electronic format and the non-availability of e-thesis online as well. It is also observed that researchers are experienced from long days with the habit to read and cite articles of journals and books as against ETDs. It is because many ETDs are not available in open access platform and so also researcher may rely on the peer journals for the findings reported by thesis, they have not used to with ETDs yet, although there is a high demand for it, which was being discussed in many of the reviewed literature.

CONCLUSION

Although the sample size of the present study is confined to Ph.D. research output about the subject library and information science of Indian universities; and it is quite small in the collection as against the social sciences subjects, but it has presented the statistics in the right direction about

the ETDs openness across Indian universities that prompts us to think and rethink about the various aspect of it. It is suggested that all universities must deposit their ETDs in Shodhganga repository and should follow and implement policies of open access to ETDs. Also, they should make ensure to participate in the process of creation, organization, and dissemination of ETDs contents for openness to unlock their research for the enhancement of knowledge, learning, and research development.

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