

Building Vibrant Research Culture through ETDs: Special Reference from Sri Lanka and Bangladesh

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Abstract

The "Building Vibrant Research Culture through ETDs" initiative aims to enhance research culture in Sri Lanka and Bangladesh by promoting the use of Electronic Theses and Dissertations (ETDs). ETDs offer numerous advantages over traditional print formats, including broader dissemination and improved visibility. This study outlines the initiative's objectives, including promoting ETD adoption, capacity development, establishing institutional repositories, enhancing visibility and accessibility, and encouraging interdisciplinary collaboration. It also discusses the factors influencing ETD usage in these countries. The research employs a systematic approach involving stakeholder engagement, policy development, capacity building, infrastructure development, and awareness and advocacy. The results indicate that ETDs significantly contribute to research output and interdisciplinary collaboration, ultimately supporting national development. This initiative presents a promising pathway to foster vibrant research cultures in Sri Lanka and Bangladesh, leveraging digital scholarship to enhance research visibility and access.

Keywords: Bangladesh, Electronic Theses and Dissertations (ETD), Institutional Repositories, Research Culture, Research Visibility, Sri Lanka

1. Background

“Building Vibrant Research Culture through ETDs” refers to an initiative aimed at fostering a robust research culture by promoting the use of Electronic Theses and Dissertations (ETDs). ETDs are digital versions of research theses and dissertations. ETDs offer several advantages over traditional print formats, such as broader dissemination, improved visibility, and easier access for researchers, policymakers, and the general public. This research study is specifically focused on two countries, i.e., Sri Lanka and Bangladesh. The background of this initiative lies in the growing recognition of the importance of research and innovation in driving social and economic development. In this context, these two countries have recognized the importance of enhancing their research capacities and dissemination of knowledge in order to address national challenges

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and contribute to global knowledge exchange. The initiative involves multiple stakeholders, including universities, research institutions, funding agencies, and the government. These stakeholders collaborate to establish institutional repositories or online platforms where researchers can deposit and access ETDs. This initiative aligns with global trends in open access and digital scholarship, ensuring that the research produced in these two countries has a broader impact and contributes to their country's development goals (Perera & Rahman, 2017).

Electronic Theses and Dissertations (ETDs) significantly contribute to advancing scholarly knowledge in research and development by offering valuable guidance in the creation of well-structured research topics, the formulation of precise problem statements, and the technique for creating comprehensive literature reviews by avoiding plagiarism, methodology of conducting research, the way of data analysis and making recommendations and conclusion. In this context, ETDs can be identified as 'Research Gem' in the scholarly world (Perera, 2015). Thus, it is difficult to think of a future without ETDs in emerging nations. It is now a compulsory element within research repositories at both state-funded academic institutions and private sector professional and educational establishments. Many educational institutions, both public and private, in Sri Lanka and Bangladesh prioritize the development of Electronic Theses and Dissertations (ETDs) and actively encourage their students to utilize this invaluable resource before embarking on their research endeavors.

Keywords: Bangladesh, ETD, Institutional Repository, Research Culture, Research Visibility, Sri Lanka

2. Objectives

The main objective of this study is to promote and build a vibrant research culture through ETDs in Sri Lanka and Bangladesh. The other objectives of this study are:

- ❖ Promoting the adoption of ETDs: Encouraging universities and research institutions to adopt ETD policies and guidelines, making it mandatory for submitting theses and dissertations in electronic format.
- ❖ Capacity development: Offering training and assistance to researchers, librarians, and administrators regarding the technical facets of submitting ETDs, adhering to metadata standards, addressing copyright concerns, and implementing preservation methods.
- ❖ Establishing institutional repositories: Setting up digital repositories at universities and research institutions to collect, preserve, and provide open access to ETDs. These repositories serve as centralized platforms for researchers to deposit their work and for users to discover and access a wide range of research outputs.
- ❖ Enhancing visibility and accessibility: Implementing strategies to improve the discoverability of ETDs by optimizing metadata, integrating repositories with national and international databases, and ensuring long-term preservation and access to digital content.

- ❖ Encouraging interdisciplinary collaboration: Facilitating knowledge exchange and interdisciplinary collaboration by providing a platform where researchers from different disciplines can access and engage with each other's work.

3. Literature Review

ETDs have become important resources in universities and institutions for their present and future research values and can be treated as the heart of graduate education. Further, it can be considered as the digital counterpart of the traditional thesis and dissertation submissions in physical form to universities or institutions. Electronic Theses and Dissertations (ETDs) are defined by Kirschenbaum (1996) as documents that are submitted, stored, and primarily distributed in an electronic format. ETDs can be categorized into two types, i.e., born digital and converted to digital. This is general phenomenon in Bangladesh and Sri Lanka that old theses are converted to digital by way of scanning the hard copy while with the emergence of ICT, researchers submit their e-copy of theses to the university as a PDF version to add to the repository. However, only the abstract can be electronically accessed due to copyright issues. However, open access full text ETDs can be accessed on the Internet and this facility has been used to build up institutional ETD repositories in few institutions in Sri Lanka and Bangladesh. Rather than the printed theses, ETD repositories provide quick accessibility and visibility and therefore, ETDs are prominent among researchers.

4. Promoting the Adoption of ETDs

ETDs have become mandatory sources of novel information due to various reasons, especially for universities and academic institutions. ETDs add value to the existing knowledge and but most of the time, it remains as university property. A majority of state/public and private sector universities in Bangladesh and Sri Lanka maintain their ETD repositories and only the abstract is accessible via the university website and the full text of the ETDs is not displaying due to copyright laws. Moreover, these two countries do not have a national repository of ETDs yet. However, few leading think tanks and educational institutes maintain ETD repositories for the purpose of serving their research scholars. They have established those ETD repositories through open access (OA) ETDs and connected to their institutional repositories. It makes a significant difference in scholarly lives and immensely helps to build vibrant research culture. Therefore, it has become an important task to build new ETD repositories with full text ETDs and maintain existing ones for the benefit of scholarly community in these countries.

According to the existing literature, it is evident that there are three countries in South Asia namely Shodhganga in India, Digital Archive on Agricultural Thesis and journal in Bangladesh and Pakistan Research Repositories in Pakistan who maintain the active national ETD repositories. Moreover, it is revealed in the Figure 1 that 6% (376302) theses from South Asian ETD repository of the total (6,221,799) uploaded theses to Global ETD repository of NDLTD (Patra & Patra, 2022).

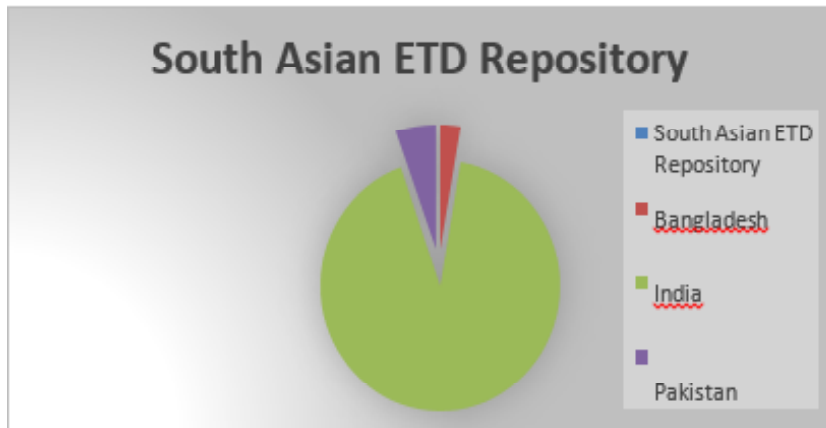


Figure 1: South Asian ETD Repository (Patra & Patra, 2022)

5. Capacity Building

It is important to educate the scholarly community, librarians, and administrators on technical features, metadata values, copyright issues and the way of preservation of ETDs by way of conducting workshops and in house trainings, etc. In academic libraries, ETDs are preserved as PDF file and most of the state/ public universities in Sri Lanka and Bangladesh preserve only the abstract due to copyright issue. At this juncture, meta data values are title, author, year of publication and categories of the theses are bachelor's degree, masters, MPhil, or PhD thesis. However, there are few regional think tanks, educational institutes in Sri Lanka that maintain their full text ETD repositories through open access ETDs. In this context, it is crystal clear that ETD repositories play a significant role among scholarly community in Sri Lanka and ETDs have become a 'Research Gem' for the developing country research scholars where scholars are facing difficulties to access information for their research studies (Perera, 2015). "ETD has a significant impact on thousands of graduate students in many universities in Bangladesh as well as diverse researchers countrywide. Universities have only started to comprehend the importance and flexibility of ETDs recently" (Rahman, 2015).

6. Establishing Institutional Repositories

ETD repositories of these two countries are part of their institutional repositories that are provided in Table 1 and 2. ETD repositories immensely help research and development by way of providing innovative research concepts. Eventually, it saves precious time of scholarly community (Perera, 2015). "The practice of TDs collection in Public University Libraries (PULs) in Bangladesh did not start voluntarily and has not even been made mandatory by every university for students and researchers. The situation in Private Universities is much better than public universities. Soon after establishment, most of the private universities started library automation works. In line with this advancement, they took several initiatives for the development of libraries and the application of modern tools and techniques. In 2009, the Government

started funding the universities for overall development. In total life span of HEQEP from 2009 to 2015, 17 PUs have got the project through 1st Round AIF to 3rd Round AIF financial grant from the Government” (Rahman, 2015).

Table 1: Institutional Repositories in Bangladesh

(Source: OpenDOAR, Accessed on 13/08/2023)

Name of the Repository	Type	Software	Country
BPATC Institutional Repository	Institutional	DSpace	Bangladesh
BRAC University Institutional Repository	Institutional	DSpace	Bangladesh
Daffodil International University Institutional Digital Repository	Institutional	DSpace	Bangladesh
Dhaka University Institutional Repository	Institutional	DSpace	Bangladesh
E-Library on Disaster Management	Institutional	DSpace	Bangladesh
EWU Digital Library	Institutional	Greenstone	Bangladesh
EWU Institutional Repository	Institutional	DSpace	Bangladesh
Eastern University Digital Library	Institutional	Greenstone	Bangladesh
Eastern University Institutional Repository	Institutional	DSpace	Bangladesh
IUB Library Digital Repository	Institutional	DSpace	Bangladesh
IUT Institutional Repository	Institutional	DSpace	Bangladesh
KUET Institutional Repository	Institutional	DSpace	Bangladesh
Knowledge Repository	Disciplinary	DSpace	Bangladesh
Repository of the Chittagong Veterinary and Animal Sciences University	Institutional	DSpace	Bangladesh
SAUL Archive	Institutional	DSpace	Bangladesh

Table 2: Institutional Repositories in Sri Lanka

(Source: OpenDOAR, Accessed on 13/08/2023)

Name of the Repository	Type	Software	Country
Digital Repository, The Open University of Sri Lanka	Institutional	DSpace	Sri Lanka
IR Southeastern University of Sri Lanka	Institutional	DSpace	Sri Lanka
National Science Foundation of Sri Lanka, Digital Repository	Institutional	DSpace	Sri Lanka

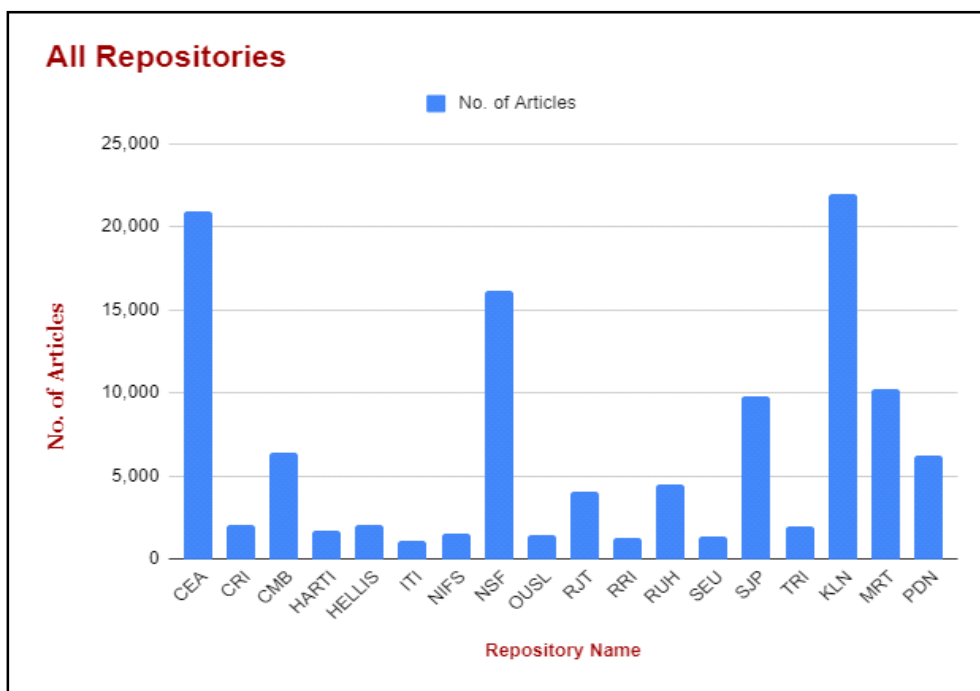


Figure 2: Institutional Repositories in Sri Lanka

“CEA : Central Environmental Authority Repository, CRI : Coconut Research Institute Repository, CMB : Colombo University e-Repository, HARTI : Hector Kobbekaduwa Agrarian Research and Training Institute Repository, HELLIS : HELLIS Digital Repository, Sri Lanka Index Medicus, IESL : , The Institution of Engineers Sri Lanka, ITI : Industrial Technology Institute Repository, NIFS : National Institute of Fundamental Studies Repository(NIFS), NSF : National Science Foundation of Sri Lanka, National e-Repository, OUSL : Open University of Sri Lanka Digital Archive, RJT : Rajarata University Repository, RRI : Rubber Research Institute Repository, RUH : Ruhuna University Digital e-Repository, SEU : South Eastern University, SJP : Sri Jayawardanapura University Scholar Bank, TRI : Tea Research Institute Repository, MRT : University of Moratuwa Digital Library PDN : University of Peradeniya Digital Library” (Wickramasinghe, 2018).

7. Factors that influence the Usage of ETDs in Sri Lanka/Bangladesh

There can be many factors that inclined to use ETDs in a professional and academic affairs institute, and it can be due to teaching faculty or research supervisors’ encouragement. If the faculty/thesis supervisors are familiar with the ETDs, they encourage their undergrads and postgrads to use the ETD repository and come back with new ideas to develop their thesis title and other major components of the thesis. Moreover, new academic scholars can learn and improve their academic writing skills by using ETDs and incorporate such skills to develop their novel research theses. Further, they can improve their critical thinking pattern to come up with new knowledge to conduct their novel research to find out the existing gaps in the society and how to eliminate such gaps and to conduct future research for new knowledge. In this way, ETD repositories

have become an indispensable component and can be treated as an asset to academic organizations. Annual evaluations of ETD repositories are needed to prove the importance of the repository to the scholarly community and to the nation in general.

8. Enhancing Visibility and Accessibility

There is a necessity for the establishment of ETD repositories within academic institutions and universities to raise awareness among undergraduates, postgraduates, and the broader scholarly community regarding the utilization of these ETD repositories. Moreover, online facilities are provided for easy access of ETDs without any geographical barrier and time. Further, ETDs on novel research should be added to the repository on a regular basis and new additions should be informed accordingly. And it is important to maintain reliability and comprehensiveness of the ETDs to attract more scholars.

In Sri Lanka, few think tanks and educational institutes have taken initiation establish ETD repositories as open access publications. In this context, those institutions preserve global and local full text ETDs as PDF versions and can be accessed through their institutional repositories. For this purpose, they maintain knowledge portals and regularly update their ETD repository. Moreover, those repositories are opened to their library members and publicity is given to make use of the repository through workshops, conferences, e-flyers, and institutional websites. In Bangladesh, many public/government and private university libraries have not adequately fulfilled the criteria for electronically preserving theses and dissertations. The lack of substantial research and field-based educational endeavors has led to substantial gaps in the creation of electronic content. In most instances, existing Electronic Theses and Dissertations (ETDs) are managed using open-source library software, but without adhering to a minimum standard and policy for content maintenance. Most of the time, contents are preserved in the platforms on IR hosting ETDs in which DSpace is used as the core software. Important initiatives have been taken by the Government as well as Private Universities for improving the situation for the creation and preservation of intellectual property for the potential researchers of the country (Rahman, 2015).

9. Encouraging Interdisciplinary Collaboration

ETD repositories facilitate the exchange of knowledge among scholarly communities in local and global ways without any geographical barriers. Scholars from different disciplines can access and engage with each other's work. Thus, it is encouraged to implement ETD repositories institutional and national way as there is no national focal point to access and preserve ETDs in Sri Lanka. Digital Archives on Agricultural Theses and Journals of Bangladesh (DAATJ) has been established to foster interdisciplinary collaboration and research in November 2012. According to the DAATJ (2022) website, the possible benefits of DAATJ are -

- ❖ national digitization aim of the current government will be benefited;
- ❖ the future researchers will be able to review past studies quickly in an easiest way by visiting websites;

- ❖ they will be able to know about all the past agricultural theses and journals of Bangladesh, as a result duplication/manipulation of research will be controlled;
- ❖ the supervisors of the Master of Science MS and PhD advisors will have the capability to prevent their students from plagiarizing or altering with previous theses.
- ❖ This initiative will enhance the knowledge of students, educators, and prospective researchers, enabling them to explore fresh research concepts and issues.
- ❖ results of Master of Science (MS) and Doctoral research will be disseminated worldwide;
- ❖ institutional and academic quality of the universities as well as agricultural research organizations of Bangladesh will be improved;
- ❖ reviewing cost of past studies for researchers will be drastically reduced as they will get all the previous information from websites in a systemic way;
- ❖ the proposed digital archive will be a milestone for other universities to prepare such type of digital archive that will be ultimately helpful to the national development related to research activities (DAATJ, 2022).

10. Methods

The methodology for building a vibrant research culture through ETDs in Sri Lanka and Bangladesh involve a systematic approach that engages multiple stakeholders and implements various strategies: stakeholder engagement, policy development, training and capacity building, infrastructure development, awareness and advocacy, collaboration, and networking, monitoring and evaluation. Both qualitative and quantitative research methodologies were employed in conjunction with a comprehensive review of pertinent literature. These articles commence by providing an overview of Electronic Theses and Dissertations (ETDs) within the context of open access platforms in developing countries, elucidating the various elements necessary for accomplishing the research objectives.

10.1 Data Collection

For this study, theoretical and documented information was gathered from primary and secondary sources, including books, academic journals, periodicals, newspapers, conference materials, official documents, unpublished sources, and various websites associated with institutions and organizations in Sri Lanka and Bangladesh.

10.2 Data Analysis

The literature was systematically reviewed, and the findings were extracted and presented in the form of charts and tables. Following data processing and analysis, each table and figure was provided with appropriate real-world context and interpretation to explain the numerical results.

10.3 Selection of Sample

During selection of the sample the different criteria were taken into consideration viewing the challenges facing Sri Lanka and Bangladesh. Informal interviews were also conducted with the senior professionals to gather information on the current situation and identify expert solutions to the problems.

11. Development of a Common Platform and Data Sharing Model

By following the common platform and data sharing model, these two countries gradually build a vibrant research culture through ETDS. The systematic approach ensures that necessary infrastructure, policies, and capacity are in place to support the adoption and utilization of ETDS, thereby fostering a conducive environment for research and innovation.

12. Results

The study revealed that ETDS play a great role in all dimensions to foster research culture which support directly to increase research output. The adoption of ETDS leads to a significant increase in the number of research outputs from Sri Lankan and Bangladesh universities and research institutions. By making research theses and dissertations available in digital repositories, the visibility and impact of Sri Lankan and Bangladesh research are amplified. The availability of ETDS in digital repositories facilitates interdisciplinary collaboration. Researchers from different disciplines can access each other's work, leading to cross-disciplinary collaborations and the potential for innovative research projects that address complex societal challenges. The digital nature of ETDS allows for easier dissemination of research findings, leading to increased peer review and constructive feedback. The initiative leads to the development and implementation of research policies and guidelines at the institutional level. The availability of ETDS in digital repositories can contribute to knowledge sharing and national development in both countries.

13. Conclusion

Fostering a dynamic research environment through Electronic Theses and Dissertations (ETDS) in Sri Lanka and Bangladesh is a complex undertaking that demands collaboration and unified actions involving universities, research organizations, funding bodies, and the respective governments of these nations. By advocating for the utilization of ETDS, Sri Lanka and Bangladesh can substitute a research ecosystem that encourages innovation, interdisciplinary collaboration, and knowledge dissemination. The initiative aims to enhance research visibility, improve access to scholarly work, and contribute to national development in these two countries through evidence-based decision-making. By implementing recommendations such as continuous capacity building, strengthening collaboration, improving repository infrastructure, supporting open access initiatives, ensuring long-term preservation, and monitoring progress, Sri Lanka and Bangladesh can establish a sustainable research culture that leverages the benefits of digital scholarship. It is important to recognize that building a vibrant research culture through ETDS is an ongoing process that requires continuous support, adaptation to evolving technologies, and engagement with stakeholders. With sustained

efforts and commitment, these two countries can establish themselves as a hub for research excellence and contribute significantly to the global knowledge landscape.

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