

A brief overview of Open Educational Resources accessible in Indian Digital Learning Repositories

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Abstract

This paper provides an overview of the major open educational resource (OER) repositories available in India. The researchers focused on the digital learning repositories maintained by the INFLIBNET Centre, a premier institution under the University Grants Commission of India. The repositories examined include Shodhganga (a repository of Indian theses and dissertations), Shodhgangotri (a repository of research synopses), the INFLIBNET Institutional Repository, INFOPORT (a subject gateway for Indian e-resources), e-PG Pathshala (an e-content project), Swayam Prabha (free educational DTH channels), and Vidya-mitra (an integrated e-content portal). The study highlights the objectives, features, and content of these repositories, which provide free and open access to a wealth of educational materials across diverse disciplines. These repositories play a crucial role in preserving and disseminating India's intellectual output, benefiting both the academic community and the general public. The review of related studies indicates that factors such as perceived ease of use, usefulness, free access, and user attitudes positively influence the adoption of OERs. However, challenges remain, including limited time for resource discovery, lack of awareness about usage and copyright, technological limitations, inadequate organizational support, and quality assurance concerns. The paper underscores the need for further research and awareness-building efforts to maximize the potential of these open educational repositories in India.

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Introduction

Numerous digital resources are now accessible from anywhere in the world. This unrestricted access is often described with the word “open” and is particularly relevant in the context of digital resources. This openness implies that all content must be freely accessible and free of charge. The Internet makes available a huge assortment of open resources that are accessible worldwide. Nevertheless, the scope of this paper is restricted to the investigation of open digital resources that are indigenous to India, with a special emphasis on resources that offer complete freedom of access. As a result of the development of information and communication technology (ICT), people are gradually coming around to the idea of openness in the present day. Numerous open access channels are provided by the Government of India and they are accessible via the internet. Access to these resources is available to everyone, regardless of where they are located or what time it is. Shodhganga, Shodhgangotri, INFLIBNET's Institutional Repository, INFOPORT, e-PG Pathshala, SwayamPrabha and Vidya-mitra, eGyanagar, and NROER. are some of the institutional digital learning repositories that are included in this category. These institutional digital learning repositories give users the chance to view and download content without paying any costs, offering them the freedom to do so without any restrictions. It is essential for librarians to be aware of these organisations that provide open access resources.

Objective of the study

The primary aim of this study is to provide an overview of Indian institutional digital learning repositories maintained by Information and Library Network (INFLIBNET), located at Gujrat in India, hosting open educational resources of different disciplines providing ready reference services for all individuals.

Review of related studies

In this section, an overview of the pertinent literature and studies that have been carried out in the topic is presented. Its purpose is to provide a comprehensive overview of the research that has already been done and to highlight the gaps in knowledge that this study intends to fill. After carrying out an exhaustive investigation of the literature from both domestic and international sources, a number of journal articles and a report have been recognised as being highly significant.

Krishnan (2024) investigates the role of institutional repositories accelerating outputs of research for the promotion of open access and academic collaboration. This research stressed the sustainability of institutional repositories and suggested the improvement of their accessibility by following global standards. Sethi (2024), in his case study, observed the total number of digital repositories in the Registry of Open Access Repositories (ROAR)¹ is 5,603 and in the global Directory of Open Access Repositories (OpenDOAR) is 5,899. Out of these, 137 Indian repositories are present in ROAR and 107 Indian repositories are present in OpenDOAR. Adedoyin and Altinay (2023) discovered that there are significant positive associations between a number of factors and the intention of university students to make use of Open Educational Resources (OER). Accessibility and availability at no cost, perceived ease of use, perceived utility, and attitude are some of the factors that are included in this category. One of the objectives of the study that was carried out by Adil and colleagues (2022) was to investigate the advantages and disadvantages that are associated with the utilisation of Open Educational Resources (OER) in the context of academic institutions, as well as the primary difficulties that arise when making use of them. A systematic review of four significant scholarly databases resulted in the identification of 21

¹ Registry of Open Access Repositories (ROAR): <https://roar.eprints.org/>

research papers that were incorporated into the investigation. The difficulties of using OERs identified in the review include a limited amount of time available for resource discovery, a lack of awareness regarding usage and copyright regulations, technological limitations, insufficient organisational support, and concerns regarding quality assurance. Kumar and Babel (2021) provide a comprehensive introduction to eGyankosh², which is a collection of free educational resources that are made available by the prestigious Indira Gandhi National Free University (IGNOU). The primary purpose of their research was to identify the various components and instruments that are utilised within the eGyanKosh platform, investigate the potential applications of these components and instruments, and evaluate the advantages that are associated with their utilisation. Kumar et al. (2021) investigate the challenges and obstacles that social scientists who are affiliated with specific higher education institutions in India face in relation to open educational materials. Kaur and Gothwal (2021) investigated the implementation of e-learning initiatives across all of the higher education institutions in India, with a specific emphasis on elucidating the concept of e-learning. The authors highlighted the utilization and advantages of e-learning in their discussion and referenced ePGPathshala in their study. Sharma (2020) conducted an analysis of the prevailing patterns in online education and the measures implemented by the Indian Government in this domain. The article also examined the diverse initiatives undertaken by the Government of India to support the progress of online education. Bhagat and Raju (2017) have expounded upon the importance of online education in India and provided a comprehensive description of SWAYAM, an online education platform in the country³. At a national conference in Pune in 2017, Sengar, Lohiya, and Rai discussed the Council of Scientific & Industrial Research (CSIR) in a paper titled “CSIR Institutional Digital Repository” (Sengar et al., 2017). In 2013, Björk analysed and tabulated data from a variety of global subject libraries. Following strict criteria, he identified 56 different subject repositories, each with its own generic and technical characteristics (Björk, 2013). In their 2011 publication, Manjunatha K. and K. Thandavamoorthy describe the perspective of researchers at Karnataka University on the deposit of their intellectual output to OARs. This research shows that scholars in the fields of science and technology are more likely than those in the humanities and social sciences to deposit their articles in OARs (Manjunatha & Thandavamoorthy, 2011). Most research on subject repositories is given in the form of a case study of a single institution or company (Adamick & ReznikZellen, 2010), and there is a dearth of such studies overall (Bankier & Perciali, 2008). These reviews focus on online learning repositories both in India and globally, aiming to provide a comprehensive analysis of existing research while identifying gaps in the field. Significant studies have been conducted on online learning repositories in India and abroad; however, there is a notable absence of research from an Indian perspective. Factors such as perceived ease of use, usefulness, free access, and user attitudes have been shown to positively affect university students' intentions to engage with Open Educational Resources (OER). Despite this, there has been no evaluative study specifically addressing OERs. Consequently, the researchers chose to explore this topic.

Methodology

Google searches reveal many Indian institutional digital learning repositories hosting OERs. However, the researchers listed those Indian institutional digital learning repositories which have been maintained by Information and Library network (INFLIBNET), situated at Gujrat in India. After reviewing the website of INFLIBNET Shodhganga, Shodhgangotri, INFLIBNET's Institutional Repository, INFOPORT, e-PG Pathshala, SwayamPrabha and Vidya-mitra have been found out. After browsing the webpages of the aforementioned Indian institutional digital learning repositories, the researchers collected relevant information from those repositories to present a brief overview.

² eGyankosh: <https://egyankosh.ac.in/>

³ <https://swayam.gov.in/>

Findings

After examining the institutional digital learning repositories maintained by INFLIBNET, the researchers presented these repositories containing open educational resources:

Shodhganga: a reservoir of Indian Theses

The INFLIBNET Centre's digital archive of Indian Electronic Theses and Dissertations (EDTs) is called "Shodhganga". Sanskrit "Shodh" means investigation and finding. The "Ganga" is India's holiest, largest, and longest river. Shodhganga is the INFLIBNET Centre's archive of Indian intellectual output. DSpace, an open-source digital repository software developed by MIT and HP, powers the Shodhganga@INFLIBNET. The DSpace leverages international protocols and interoperability standards. Researchers can deposit their Ph.D. theses on Shodhganga and make them open access to the scholarly community. Researchers can submit ETDs to the repository, which can index, store, distribute, and preserve them. Universities with sufficient network and computing equipment might host ETD repositories where researchers could deposit their theses and dissertations. They can also backup their theses on Shodhganga. In addition to managing the Central ETD Repository (Shodhganga, n.d.), INFLIBNET Centre build a central server to collect metadata from all university ETD repositories to give unified access to theses and dissertations. In this repository, at the time of data collection the researchers observed a total number of 575,950 theses.

Shodhgangotri

Shodh is a Sanskrit term that means "research and discovery." Its origins can be traced back to ancient India. There is a glacier in the Himalayas known as "Gangotri" that is one of the greatest glaciers in the region. It is also the source of the Ganges, which is the most sacred, longest, and largest river in India. Under the program known as "ShodhGangotri," research scholars and research supervisors in universities are being asked to deposit an electronic version of the approved synopsis that was submitted by research scholars to the universities for the purpose of registering themselves for the Ph.D. program. This program has since been expanded to include Minor Research Projects (MRPs) and Emeritus Fellowships, among other things. The repository on the one hand, exposes the patterns and orientations of research that are being undertaken in Indian universities, and on the other hand, it prevents research from being conducted twice. In the future, the full-text theses in "ShodhGanga" will be mapped to the synopsis found in "ShodhGangotri." Once the full-text thesis has been submitted for a synopsis, a link to the full-text thesis will be sent from ShodhGangotri to "ShodhGanga."

The researchers observed a total number of 15,241 synopses in this repository (ShodhGangotri, n.d.).

INFLIBNET's institutional repository

From this institutional repository anyone may access all the proceedings of their annual convention that have been published by the INFLIBNET Centre. In addition, anyone will discover press articles, newsletters, and other resource materials. In this repository, the researchers found 1841 items corresponding to INFLIBNET's annual convention proceedings, 143 items corresponding to INFLIBNET's publications and 19 items from INFLIBNET Press and Media (INFLIBNET's IR, n.d.).

⁴ Shodhganga: A reservoir of Indian theses @ INFLIBNET. <https://shodhganga.inflibnet.ac.in/> (Consulted November 8, 2023).

INFOPORT: INFLIBNET Subject Gateway for Indian Electronic-Resources

Through its INFOPORT, which is a Subject Gateway for Indian Electronic Resources, the INFLIBNET Centre works to ensure that Indian intellectual content is accessible to the general public. Although the Centre makes use of and promotes Intute, a well-known subject gateway that was built by MIMAS in the United Kingdom, (INFOPORT, n.d.) the INFOPORT was conceived and developed to serve as a comprehensive gateway to all of the scholarly content that is produced in India. Through the use of an integrated interface that allows for search, browse, and multiple listing, the gateway makes available the Indian intellectual literature that is dispersed across the Internet. Through an extensive process of testing and review, the INFOPORT compiles a curated collection of online resources of Indian origin that cover a wide range of topics and are accessible to all who use Internet. When it comes to the process of identifying and selecting resources, the Centre is considering working together with librarians and academics working in colleges and universities. Different subject groupings are used to categorise the entirety of the world of knowledge (INFOPORT, n.d.).

e-PG Pathshala

e-PG Pathshala is being carried out by the University Grants Commission (UGC) as part of the Ministry of Human Resource Development's (MHRD) National Mission on Education through Information and Communication Technology (NME-ICT). High-quality, curriculum-based, interactive e-content in seventy subjects across all fields of study, including the social sciences, arts, fine arts and humanities, natural and mathematical sciences, linguistics, and languages, has been developed by subject experts working in Indian universities and other research and development institutes across the country. The content and its quality are the most important aspects of the education system. The primary investigator, paper organisers, content authors, content reviewers, language editors, and multimedia team were all members of the team that was assigned to each individual subject (e-PG Pathshala, n.d.). Anyone can access the OERs available in this repository and it is mainly beneficial for undergraduate and postgraduate students.

Vidya-mitra

Under the Ministry of Human Resource Development's (MHRD) National Mission on Education through Information and Communication Technology (NME-ICT), Vidya-mitra serves as an online learning gateway for all their e-content projects. It allows users to conveniently access the available material, such as audio/video learning material, textual material, or multimedia-enriched materials, through a single interface thanks to the portal's provision of functionalities to search and browse all hosted information. In addition, this portal includes features such as faceted search, utilisation statistics, access based on projects (Vidya-mitra, n.d.).

Swayam Prabha

SWAYAM PRABHA comprises 40 Direct-to-Home (DTH) channels dedicated to the continuous broadcasting of high-quality educational programs, utilising the GSAT-15 satellite. Daily, at least four hours of new information are made available and thereafter replayed five times throughout the day, enabling students to select a convenient viewing time. The channels are transmitted from Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N), Gandhinagar. The materials are supplied by some notable organisations like Indian Institute of Technology (IITs), University Grants Commission-Consortium for Educational Communication (UGC-CEC), and Indira Gandhi National Open University (IGNOU). The Information and Library Network (INFLIBNET) Centre administers the web site, where over 120,600 items are available (Swayam Prabha, n.d.).

Conclusions

All the previously mentioned online learning repositories are easily available to anyone with an Internet connection, and the open educational resources they offer can be accessed at any time and from any location globally. Consequently, these digital learning repositories provide unfettered access to such resources. The online learning repositories described provide significant open educational resources that benefit both the academic community and the broader public. Individuals who frequent the library can engage with an extensive collection of informational resources, encompassing publicly available books, reports, photographs, and reference materials like dictionaries, biographies, and encyclopaedias. Library personnel are urged to take advantage of the free resources accessible on various online platforms to enhance their continuous learning. It is essential to note that some materials within online learning repositories require registration for access, which stands in opposition to the ideal of unrestricted availability. A deficiency in knowledge, a lack of managerial support, unfamiliarity, and a restricted understanding among the general populace are acknowledged as elements that contribute to the limited appeal of these internet platforms. A number of online learning repositories exhibit deficiencies in their search functionalities for multilingual papers, and certain repositories fail to offer users a platform to submit feedback to the appropriate authorities. Digital learning repositories enhance the standing of library services. Ultimately, one could argue that these internet platforms hold significant value and provide enlightenment, as they facilitate library experts in delivering timely reference assistance with diminished effort.

References

- Adamick, J., & Reznik-Zellen, R. (2010). Trends in large-scale subject repositories. *D-Lib magazine*, 16(11/12), 3. doi:10.1045/november2010-adamick
- Adedoyin, O. B., & Altinay, F. (2023). Open educational resources: Evaluation of students' intention to use and motivation to create. *British Journal of Educational Technology*, 54(6), 1790-1813. doi:10.1111/bjet.13313
- Adil, H. M., Ali, S., Sultan, M., Ashiq, M., & Rafiq, M. (2022). Open education resources' benefits and challenges in the academic world: a systematic review. *Global Knowledge, Memory and Communication* 73(3), 274-291. doi:10.1108/GKMC-02-2022-0049
- Bankier, J. G., & Perciali, I. (2008). The institutional repository rediscovered: what can a university do for open access publishing? *Serials review*, 34(1), 21-26. doi: 10.1016/j.serrev.2007.12.003
- Bhagat, S., & Roshan, R. (2017). SWAYAM: Study Webs of Active-Learning For Young Aspiring Minds Making A Digital India. *International Journal of Advance Engineering and Research Development*, 4(9), 96-103. <https://www.ijaerd.org/index.php/IJAERD/article/view/5023>
- Björk, B. C. (2014). Open access subject repositories: An overview. *Journal of the Association for Information Science and Technology*, 65(4), 698-706. doi:10.1002/asi.23021
- e-pgpathshala*. (n.d.). Retrieved March 21, 2024, from <https://epgp.inflibnet.ac.in/>
- INFOPORT*. (n.d.). Retrieved March 21, 2024, from <https://infoport.inflibnet.ac.in/> from the original on 28 November 2022 <https://web.archive.org/web/20221128185530/https://infoport.inflibnet.ac.in/>.

- INFLIBNET IR*. (n.d.). Retrieved November 8, 2024, from <https://ir.inflibnet.ac.in/>
- INFLIBNET*. (n.d.). Retrieved November 8, 2024, from <https://www.inflibnet.ac.in/>
- Kanjilal, U., & Kaul, P. (2016). The journey of SWAYAM: India MOOCs initiative. *Proceedings from the Pan-Commonwealth Forum 8 (PCF8)*. <http://hdl.handle.net/11599/2592>
- Kaur, S., & Gothwal, P. (2021). E-Learning in India: Some dynamic initiatives in higher education. *ACADEMICIA: An International Multidisciplinary Research Journal*, 11(4), 1-10. doi:10.5958/2249-7137.2021.01027.2
- Krishnan, R. (2024). A Global Examination of Institutional Repositories in Library and Information Science. *International Research Journal of Library and Information Sciences*, 1(1), 06-10. Retrieved from <https://ainjournals.com/index.php/irjlis/article/view/51>
- Kumar, S., & Babel, P. (2021). An evaluative study of egyptankosh (Institutional repository) of Indira Gandhi National Open University (IGNOU). *Journal of Library and Information Communication Technology*, 10(1), 1-6. doi:10.5958/2456-9399.2021.00001.8
- Manjunatha, K., & Thandavamoorthy, K. (2011). A study on researchers' attitude towards depositing in institutional repositories of universities in Karnataka (India). *International Journal of Library and Information Science*, 3(6), 107-115. Retrieved from <https://academicjournals.org/journal/IJLIS/article-abstract/F6316FE3067>
- Sengar, K. P. S., Lohiya, R. K., & Rai, V. (2017). CSIR Knowledgebase: An assessment of CSIR Institutional Digital Repositories of India. In National Conference on Library Innovations for Excellence, Pune (India).
- Sethi, N. (2024). A Case Study of Digital Repositories of India in the Directory of Open Access Repository (OpenDOAR) and Registry of Open Access Repositories (ROAR). In J. Hasan, S. Kumar, S. Panda, A. H. Mir, K. N. Khan, & G. Samdani (Eds.). *Academic Libraries. Sustaining Excellence Through Innovation & Technology*. Synergy Books India. Retrieved from https://www.academia.edu/download/113830442/Academic_Libraries_Sustaining_Excellence_Through_Innovation_Technology_Full_Edited_Volume_.pdf
- Sharma, A. (2020). A Study of Trends Relating To Online Education Initiatives by Indian Government. *Vidhyayana-An International Multidisciplinary Peer-Reviewed E-Journal*, 6(3). <https://www.vidhyayanaejournal.org/index.php/journal/article/view/319>
- Shodhgangotri. (n.d.). Retrieved November 8, 2024, from <https://shodhgangotri.inflibnet.ac.in/>
- Swayam prabha / free educational dth channels*. (n.d.). Retrieved November 8, 2024, from <https://www.swayamprabha.gov.in/>
- Vidya-mitra, integrated e-content portal*. (n.d.). Retrieved March 21, 2024, from <https://vidyamidra.inflibnet.ac.in/>