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Digital Repository Services at Bennett University: A Case Study

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Abstract

Purpose - The purpose of this paper is to promote and share the research output of Bennett University (BU), India through Digital Repository Services (DRSs). It aims at encouraging, assisting and accelerating the research fraternity of the university.

Design/methodology/approach – This paper explains about the initiatives adopted by the LRC at BU for developing DRS using open-space software, Dspace for long-term preservation of intellectual assets and increase the visibility of the institute in global landscape.

Findings – DRS at BU was developed with an aim to preserve and disseminate the intellectual assets of BU, encourage budding talents and increase BU's visibility in global landscape. Despite the constraints at the experimental phase, DRS at BU collected over 707 publications (October 2021) and the number is ever increasing. Though there were some initial glitches before and after the implementation process but keeping a flexible approach, LRC will continue mapping solutions for BU.

Originality/value – This paper briefs the case study of one of the core services' initiation (DRS) including its design, development and implementation at LRC-BU using open-

source software Dspace (Version 5.5). Hence, it can serve as a model for future projects in developing countries.

1.   Introduction

Scholarly output of an institution is one of the most significant indicators of quality education and its ranking. To map a way out from the competitive furore of reducing space, digitalization and ailing budget at disposition for academic libraries, institutional repositories (IRs) are successfully coming up in academic setups [1]. In 2003, Clifford Lynch first coined the word Institutional Repository (IR) and by him, "… *a university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution.*" Understanding the importance of preserving and disseminating this intellectual capital, developed countries have already initiated the implementation of digital repositories at institute level. As per Registry of Open Access Repositories, ranking of top-notch countries with IRs enlist the US with 841 repositories in the first position followed by the UK with 241 and Germany with 242 repositories. India on the contrary still lags with 123 repositories only (as of October 2021). Taking exemplary from the best practices throughout the world, Central LRC at Bennett University (BU)), a Times of India Group established on August 2016 in Greater Noida, India installed its own Digital Repository Service (DRS) using Dspace (version 5.5) and named it DRS@BU. At present, DRS is accessible intranet but in future it would be accessible globally.

2. Purpose of DRS@BU

The objectives of the study include

1) To provide a sustainable solution through Dspace that can facilitate collecting, preserving and disseminating of intellectual assets at BU in one centralized location.

2) To encourage, assist and accelerate the research fraternity of BU in maintaining the growth of intellectual output (qualitatively and quantitatively) as per the standards and regulations set by the national accreditation bodies in India.

3) To promote the intellectual property of BU through DRS@BU.

3. Literature Review

Ripples of digitalization brought about umpteen changes in the way in which academic libraries functions. In an endeavour to do away with the constraints of space and budget, institutional repository (IR) was conceptualised and MIT partnered with HP to devise a software technology that would ensure intellectual assets from sinking into the quicksand of information obsolescence [2]. Open access repository using Dspace was launched on November 2002 and by October 2021, the number of installations throughout the world reached at 4629 (http://roar.eprints.org/view/geoname/).

- University Grants Commission (2005) has made it essential to build Institutional Digital Repository at University level (http://www.ugc.ac.in/new_initiatives/etd_hb.pdf) in India. Under the same, UGC has also made it mandatory that all universities should at least set up theses repository to facilitate e-submission, archiving, maintenance and that these repositories should be accessible at university level.

- Ministry of Human Resource Development of Indian Government has also taken up initiatives through various digital platforms including Shodhganga, Shodhgangotri and National Digital Library. Shodhganga serves to facilitate research scholars worldwide with theses and dissertations and by October 2021, it had 325,209 theses. Shodhgangotri comprises all approved synopses deposited by research scholars and supervisors for registering themselves under the Ph.D programme. The theses are mapped with Shodhganga and full-text are updated accordingly with time.

- Premier academic institutions including IITs, IISC, ISI, etc have created IRs to facilitate their scholars, faculties and students in their research and publication works. Some IRs preserve rare documents and historical records in various forms as in Jayakar Library in the University of Pune that stores around 4,057 rare manuscripts and 2,500 handwritten letters of eminent personalities [3]. Raman Research Institute (RRI) in the same University, stores the scholarship of Sir C.V.

Raman, the founder of RRI. The repository accessible at ([RRI Digital Repository: Home](#)) also curates, preserves and disseminates the ongoing research papers of RRI in electronic format including preprints, post prints of peer reviewed journal publications, conference proceedings, technical reports etc. using a web interface, annual reports, newspaper clippings from Raman Archive, photographs, and audio-video materials of interest to RRI [4].

- Without the mention of Electronic Theses or Dissertations (ETDs) that were initiated in the late 1990s with an aim to nurture, promote and sustain the creative and intellectual assets of an organization, mention of digital repositories would be incomplete. ETD repositories now exist at both international and national level among which Networked Digital Library of Theses and Dissertations (NDLTD), Confederation of Open Access Repositories (COAR), Canadian Association of Research Libraries (CARL) and European initiative of Digital Access to Research Theses (DART) are few among the international initiatives. National initiatives mentioned in several studies including an IR at Central Library of National Institute of Technology Rourkela (NITR) [5], development of digital library as in Cochin University of Science and Technology (CUSAT) [6] or LRC-DRS as in Jaypee Institute of Technology (JIIT) [1] also should be considered in this regard.

4. Bennett University

Established in 2016 and affiliated under (UP Act No. 24 of 2016) certified by the Government of UP Vide No. 1402 (2)/LXXIX-V-I-16-1 (Ka), BU offers courses in Media Studies, Legal Studies, Management, Engineering and Applied Sciences. The faculty members, research scholars, staffs and students produce huge amount of intellectual assets that are stored in the LRC of BU.

Digital Repository Services

Research support services is one of the initiatives undertaken by the LRC and providing DRS services is one among them. While selecting Dspace, from a myriad of digital library software packages available in market today, in terms of affordability (including annual maintenance and updating costs), software customisation and modification, online support and digital library model that use proprietary software in India, Dspace was identified as the most widely chosen with over 2000 installations worldwide and the number is ever increasing (Jose, 2007). Dspace

is also recommended by many authors as the most appropriate system for a university environment [6].

However, a few points have to be taken into consideration for the successful implementation of institutional repositories (IRs) in an organization / institute.

Selection

Selection in terms of hardware / software is pertinent for long-term sustainability of any repository. This selection process should consider standard parameters including customisation, network configuration, standards for database management and so on besides a user-friendly interface. Hardware selection should be based in terms of competency and efficiency that could manage speed, storage and sustainability with a highly standard server capacity and efficient bandwidth.

Content

Another important criterion is content as it is one of the most significant determiners representing the prestige of an institute. Here, at BU content is organized hierarchically into two major communities – Schools and Departments. The communities are further subdivided into authors, issue date, titles and subjects. Librarian in collaboration with the researchers and departments manage to populate new data collections. A tutorial and a virtual interface had also been created for easy archival and assistance to the researchers.

Security

Dspace comes along with its own built-in authentication / authorization system but can integrate existing authentication systems. The authentication / authorization criterion allows only authorised people to access the full texts and the administrators can terminate any authorization in case of foul game. As IRs of the LRC would serve to represent the prestige of the university, initially, full texts would not be accessible and only abstract would be available in public domain in future.

Training

New versions of Dspace is continually developed and for the proper utilization of the benefits and upgradation, regular training of the administrators is a must. Besides, scanning of metadata, user management and resolving bugs also plays an important role.

Copyright

Central LRC followed standard license agreement though customisation is in the process. Any copyright issues would be borne by the authors. Urkund is used for plague detection.

To host its IR, BU installed Dspace 5.5 open-source software (https://duraspace.org/dspace/) developed by the MIT library and HP Lab and named it DRS. The interface of the IR provides easy self-archiving for BU faculty and accessible at http://10.9.18.234:8081/jspui/ once the registration process is over at DRS@BU.

5. Homepage of DRS@BU

Institutional Repositories (IRs) typically represents a tangible embodiment and intellectual output of an institution. For the success of IRs, rather than considering IRs as a distinct entity, it should be recast as a part of an overall scholarly landscape [7]. Faculty members / authors send their publications to the LRC for uploading. They can also self-archive their publications using a web interface, but all the submissions must undergo 'Admin Check' before final submission and all admin rights are reserved by the LRC. DRS@BU aims to evolve as a major source of reference of publications for the entire academic fraternity at BU in future. Figure 1 provides a screen shot of department-wise communities and sub-communities in which the Dspace is organized.
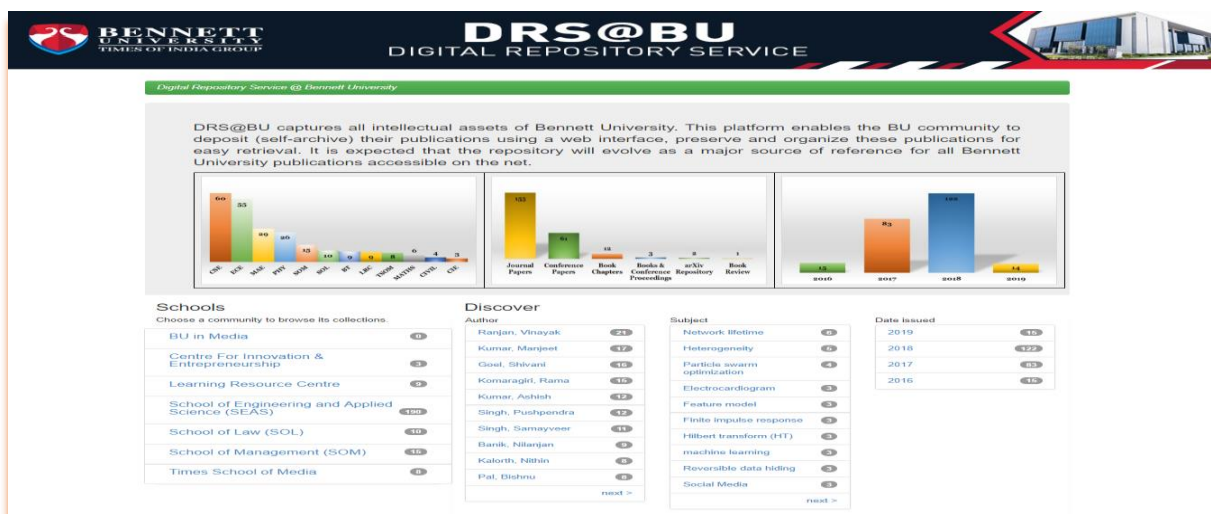

Figure 1. Homepage of DRS@BU

5. DRS@BU: Issues and Challenges

Pre- and post-implementation process of the DRS had to overcome initial hurdles. Below is enlisted some of the problems/challenges/issues that an institution may face pre- or post-implementation of IR in an academic landscape.

- Evaluation and analysis of software/hardware
- Content organization and retrieval or content policy

- Administration and workflow
- Creation of metadata
- Acceptance/approval from the authority

A brief policy on self-archiving was designed taking a cue from Sherpa/Romeo (http://www.sherpa.ac.uk/romeo.php). In an academic institute like BU, where interdisciplinary research activities are conducted, content were tactfully divided into different into two major communities – Schools and Departments. The communities were further subdivided into authors, issue date, titles and subjects that can be uploaded using a web interface, preserved and organized for easy retrieval. Even though the LRC holds the final rights for accepting or refusing a final submission, proper submission guidelines and tutorials to aid authors were stored in the website. A document-wise and sub-community wise collection in DRS@BU as captured on April 2020 is given in Table 1. It is expected that the DRS will evolve as a major source of reference for all BU publications accessible on the internet in future.

Table 1. Document-wise collection in DRS@BU (Pls check)

S.no.	Type of Publication	No. of Papers
1	Journal Papers	423
2	Conference Papers	203
3	Book Chapters	39
4	Book & Conference Proceedings	4
5	Papers in arXiv Repository	3
6	Book Review	1
7	Magazine Article	1
Total		

Installation of Dspace is a mini-scale step towards promoting the scholarly communication of an institution and preventing acquired information from getting lost. However, regular inspection/analysis and upgradation is preferred for the benefit of any organization.

7. Findings and Suggestions

As information hubs, IRs have proved to be a vital source of obtaining and disseminating information, be it in the form of collecting and curating research outputs, promoting them or increasing content at the same time.

Following are the suggestions offered for the digital repository development in an academic landscape, which can be equally applicable to any IR:

- Enhancing the self-archiving for increased upload of publications
- Promotion and marketing of IR
- Assessment methods to measure success of repository
- DRS@BU Apps. Development

8. Conclusion

To keep pace with the digital natives and serve the waiting patrons of information effectively, role of libraries and library experts have come a long way. Embracing the potential of technology, and shifting towards digitalisation, BU also took a creative approach by implementing Dspace in the LRC. Even though the initiative of IR implementation brings incredible benefits to an organization, it has to overcome complexities in order to flourish in developing countries and keeping a flexible approach is ideal.

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