Preservation and Digitization of the Intellectual Property of an Institution: A Case Study

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Abstract: Libraries all over the world have always placed emphasis on the preservation of recorded information and this has posed serious challenges to librarians and other information managers. Preservation no doubt, has increasingly continued to take a centre stage in information management and handling particularly with the flood of publications and other recorded information in different formats. The present global information environment fuelled by information and communication technologies has made preservation of information resources, particularly institutional repositories more critical to information professionals than ever before. Research outputs of any institution are considered to play critical roles in the assessment of intellectual and cultural growth of any society particularly in developing countries where knowledge production and dissemination have been considered very low. The preservation and dissemination of these research outputs to a very large extent add to the prestige of the institution. Over the years, the library has accepted the challenge of preservation of cultural heritage of the people it serves. The present information age where revolution in technology is compressing the world into a global village has made preservation of IR much more relevant than ever. The consequence of inability to preserve one's heritage materials will be a loss of identity and influence in the global community.

Keywords: Preservation, Digitization, Institutional Repository, Scholarly Communication

1. Introduction

Institutional repositories, by capturing, preserving, and disseminating a university's collective intellectual capital, serve as meaningful indicators of an institution's academic quality. Under the current system of scholarly communication, much of the intellectual output and value of an institution's intellectual property is diffused through thousands of scholarly journals. While faculty publication in these journals reflects positively on the host university, an institutional repository concentrates the intellectual product created by a university's researchers, making it easier to demonstrate its scientific, social and financial value. Thus, institutional repositories complement existing metrics for gauging institutional productivity and prestige. Where this increased visibility reflects a high quality of scholarship, this demonstration of value can translate into tangible benefits, including the funding from both public and private sources that derives in part from an institution's status and reputation.

As the institution grows older it becomes vital to manage, maintain and protect its intellectual property. At Symbiosis College of Arts & Commerce, Pune, Maharashtra, as we have completed thirty one years of existence, a definitive need was felt to preserve all the data regarding the institute for various purposes like to provide a central archiving facility for the institute's work, dissemination and effective use of information, for promotion of the goodwill for the institute, and to preserve the intellectual property and culture and heritage of the institute. In 2012 our college was awarded with academic autonomy, and now we function as an autonomous college. Induction of autonomy opened up new opportunities for experimentation and innovation with

regards to curriculum, academic delivery and assessment of the students. At the same time it resulted in the increased responsibilities and administrative work for all of us at the college. In short now we are operating as a mini university in itself and therefore it has become important to streamline and plan all our activities. Also at the national level, the higher education sector in India is currently experiencing lot of new trends, regulations and change in policies. Also Since the announcement and implementation of UGC Regulations 2010, research activity and output among the academic institutions is shooting constantly. At the University and also at college level a lot of research activity is being undertaken. Also due to the various accreditations like NAAC and for various other purposes increasing need is felt for the proper documentation, upkeep and maintenance of the research output of an institution. Therefore is an increasing need for the institutional repositories in the academic institutions. In the wake of the autonomy it became altogether more important the organization and documentation of institute's policies, activities and standard operating procedures for our survival and sustainability.

"A Concerted effort to preserve our heritage is a vital link to our cultural, educational, aesthetic, inspirational, and economic legacies – all of the things that quite literally make us who we are" – Steve Berry

2. Purpose and Objectives behind setting up an IR

As stated above with autonomy, periodic reports demanded by various statutory bodies, and to fulfill the norms required by NAAC and other accreditations, there was constant demand for various information related to research output of the institute, individual research work of faculty members, activities conducted by the college, and so on.

After realizing the need for an IR at college levels, Library took the initiative and lead and has undertaken the project to create a central archive which will convert and maintain the available data of the institute in digital format. Under the UGC scheme 'College with Potential for Excellence' (CPE) we sketched out plan and proposal to set up Institutional Repository at Symbiosis College of Arts and Commerce. We then defined the broad outline of the project with its objectives, outcome, expenditure, boundaries clearly mentioned. The major goal of any preservation technique is to hand over the institute's culture, heritage and intellectual products. We narrowed down our focus on a particular type of IR, which will be an archive of the intellectual product created by the faculty, staff, and students of an institution and accessible to end users both within and outside of the institution.

3. Objectives

- To preserve materials pertaining to the institution's history and of the activities for the use of posterity through digitizing.
- To Capture, store, process and disseminate information in digital form
- To Facilitate for networking and resource sharing
- Maximizing users' satisfaction by providing multiple and easy access
- Foundation of new value added library service
- To protect originality of the document, reduce the handling and use of fragile or heavily used original material
- To create a central archive of heavily demanded information/documents which will enable faster access and will help improving services offered by library

- To Create and maintain secure back system or mechanism

4. Phase wise Project Management

Stages of digitization:

Pre-digitization: scope, selection and preservation, conservation, challenges, metadata, scheduling, budgeting

Digitization: equipment, digital objects, actual digitizing process through scanning, conversion

Post-digitization: quality assurance, user access, networking, sustainability, institutional repositories, updating, perpetuality, maintenance and upkeep, back up

Pre-digitization

Once decided to preserve and digitize the collection various documents types were identified.
The first kind of the documents which are of the born digital form, of which there is no printed counterpart. The second type is those which are available in both digital and printed form.
The third kind which are essentially in the printed form

Selection of the material to be digitized

With the discussions and deliberations with the stakeholders of the institute we finalized the following material for the conversion and to be included in a repository

- Publications by College (Prospectus, Magazine, Annual Reports, Books, Research Journal, Films, Conference Proceedings, Souvenirs)
- Photographs of various events
- Audio-Video Recordings of various events, lectures, seminars conducted by institute
- Reports submitted to various statutory bodies
- Relevant Circulars, GRs (Government Resolutions), Laws and Regulations laid by UGC, Pune University, Government, and other legislative bodies concerning education sector
- Syllabus of the various courses offered under the autonomy
- Question papers of the exams conducted under autonomy

Hardware Requirement

As per our collection and the document types we planned for procuring the following hardware unit

Microcomputer (Processor – Pentium 4 or higher, Memory - minimum 1 GB, Hard drive – minimum 160 GB, Monitor- 17 inch or larger, Video card- minimum 128 MB Video card
Optical drive- CD-RW and/or DVD-R optical drive)
Scanner: HP Scanjet Flatbed scanner is like a photocopier, where a lamp moves slowly across the face of the
original, and the reflected light is focused through a series of mirrors and lens onto the recording medium. Here the recording medium is compact light sensor, either a Charged Coupling Device (CCD) or Contact Image Sensor (CIS), each of which is composed of hundreds or thousands of elements. When light strikes each element, the intensity of the light is assigned a number. The

numeric reading of light intensity and element position are recorded in sequence into a file, which forms the digital version of the original.

Software Requirement

The following software programmes are required to create digital publication:
HTML editor, XML editor, Text editor, Image editor, Scanning software, OCR software, FTP software, Page layout and design software, PDF software

Manpower requirement
Manpower requirement is an important consideration as there are no special staff members appointed or assigned for the project. The present staff members of the library and student assistants shouldered the responsibility of the scanning and other operations with required training

Budgeting

As our college already posses compatible infrastructure to initiate the above project, budgeting was not a big issue. Budget provisions were considered for acquiring additional hardware and software and other equipments

5. Digitization

Actual digitization process consist of Scanning /Conversion in desired formats such as PDF, HTML, TIFF, JPEG, MPEG, DVD, PNG, MP4, VAV, ASCII, SGML, XML, Postscripts and other international formats in desired resolution from 120 pixels to 6000 pixels as per requirements for use such as printing, internet, and preservation. Further workflow planned is Conversion (Image quality and formats, Resolution, Compression), Quality Control, Options for Storage (Bothe short term and long term), Collection Management (Organization of Images, Naming of images, Description of Images, Use of Metadata, Data Mgt. , Document encoding)

5.1. Post-digitization

Post digitization process is to store captured/converted documents/data in available media such as CD/DVD, CD/DVD Mirror servers, Zip or tap drives, servers, internet considering the volume of data, Quality Control, Organization of the digitized material, indexing, key wording, meta data creation, Delivery Mechanism, retrieval and access control, identification of a digital archiving system, Protection, backup and preservation. For the retrieval and access open source software were considered such as Dspace, Greenstone

Also lastly preservation of original materials after scanning is important in their original formats to extend their shelf life. The enid result of a digitization project is a digital surrogate of the original. It is important to take proper care of the original material. Although we will have a digital copy, it is still vital to protect historical documents from deterioration by using archival quality material and optimum environmental conditions for storage.

Conclusion

"Let us save what remains: not by vaults and locks which fence them from the public eye and use in consigning them to the waste of time, but by such a multiplication of copies, as shall place them beyond the reach of accident."   Thomas Jefferson

Digitization of cultural heritage materials is changing the ways in which collections are used and accessed. All can be safely used by a wider audience in digital form. Research and interrogative tools for digitized source materials can also make digital surrogates more amenable to certain types of interpretation, such as full-text searching and indexing, as well as comparison of materials for multiple sources. Institutional repository is the answer to the challenge of spreading the knowledge by means of providing scholarly research output of an institution adhering to philosophy of open access. Repositories also helps to intensify the impact of an institution as well as collaborator by giving wider publicity to the scholarly work carried out along with other advantages. Institutional repositories can be easily established by analyzing the requirement along with systematic approach as discussed. Institutional repositories offer a strategic response both to the opportunities of the digital networked environment and the systemic problems in the today's scholarly communication system.. This response can be applied immediately, reaping both short-term and on-going benefits for universities and their faculty and advancing the transformation of scholarly communication over the long term.

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