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Re-Engineering Library and Information Services: A Case Study of NSDRC/ IMU Library

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Abstract

This paper presents a report on the transition from old system to new and improving the library collection, services and ambience by adopting new technologies and converting the library to a modern information centre with the objective of putting the end users in contact with the information needed by them, whether it is on paper or stored digitally.

Keywords: Information Services, Integrated Software, Library Automation, Re-Engineering

1. Introduction

Libraries are service organisations. Their value is measured in terms of quality of services rendered. It is a transition phase for libraries as they need to cope with issues such as the Internet, Web publishing, Electronic publishing, growing number of publications, increase in the cost of publications, budget constraints, etc that necessitate libraries to devise means for bringing changes in housekeeping and services. Are libraries in India really prepared for the change? A fine tuning of the operations and activities of libraries and their information services is the need of the hour.

2. What is Re-Engineering?

Systematic starting over and reinventing the way a firm or a business process gets its work done. Michael Hammer and James Champy define Reengineering as "Fundamental rethinking and radical redesign of business process to achieve dramatic improvements in critical measure of performance such as cost, service and speed"[1]. A library is usually an organisation within an organisation. All management principles applicable to an organisation can be successfully applied to a library. In a re-engineering process, first the resources need to be generated. Second, the operations have to be stabilized and third, when the operations become familiar the focus shifts to the customers. The systems can be improved and refined on the basis of the feedback from the users. Re-engineering requires hard work, sincerity, and timely action, and most importantly, an in depth knowledge of operations, activities and services.

3. The Saga of NSDRC Library (TIC)

Library transformation demands an effort from the three chiefs of the organisation, viz., the Head of the Organisation, the Finance Officer and the Chief Information Officer/ Librarian. The Library of the National Ship Design and Research Organisation, Visakhapatnam, was established in 1991 and subsumed with Indian Maritime University, Visakhapatnam Campus, on 1st April 2009. The Library aims to develop a comprehensive collection of documents that is useful for the ship designers, faculty, students and research scholars in their education and research activities in the University or even outside. The major objective of the library is to acquire useful information sources – process, organize and to make them available to the users. The library of NSDRC was called "TIC –Technical Information Cell". The reengineering of NSDRC library was taken up in 2002 and will be examined under the following headings:

- Physical Arrangement and Ambience;
- Technology Application;
- New Systems and Services;

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- Collection Development;
- Implementation of New Policies; and
- Infrastructure and facilities.

3.1 Physical Arrangement

Though the library was practising a special classification code, the book racks were filled with books without any order. Books were arranged as per the classification number on racks with proper rack guides. Reports were by report type, labelled by fixing spine tags and arranged by Project Number / report number.

The back issues of nearly 70 Journals from 1990 were sorted as per the title, volume number, issue number and year, sent for half leather binding. Each bound volume around 800 were assigned new accession number and arranged them title-wise.

A database was created to input the bibliographical details of these special collections. As they were important collection a special Godrej Compactor – a space saver with a lock system was procured to arrange collections such as Project Reports, Ship Drawings, back issues of journals (Bound Volumes), Standards etc., (materials that were not issued out) were arranged in it.

3.1.1 Ambience

Library should create an atmosphere for anybody to sit and study for long hours. And this can be achieved only by improving the ambience. We achieved it by procuring new set of tables and chairs, new and latest display boards, New Additions Display stand, Book racks, Journal display stands colourful flower stands, Models of ships, step stools etc.

3.2 Technology Application

3.2.1 Library Application Software

Library was using software developed in-house with limited features. The first and foremost activity carried out was Data Validation. The existing 20000 bibliographical records 20,000 were cleaned, duplicate records were deleted and records were also corrected. A new software was developed incorporating all essential modules and features.

3.2.2 Implementation of Barcode at TIC of NSDRC

The advantage of implementing Barcode was explained to the Head of the Institution. A proposal for barcode was put up and barcoding was completed by 30/09/2004. In the process, some of the discrepancies that existed got sorted out.

Once all documents were ready with barcodes, the following activities were taken up:

- Started issues and returns of library material by scanning the bar code (from October 2004); and
- Conducted Stock verification in December 2004. Stock verification is a herculiean task for library staff, generally it takes a few weeks to few months to carry out the reconciliation work, but with the introduction of barcode system, the task became simple and also it consumed less time. The missing books list too could be generated.

3.2.3 Library Automation Software

In the year 2007 the in-house built software of library crashed, creating a lot of disturbance in the working of the library. It was suggested that the integrated library management software 'LIBSYS' be procured. The same was procured and installed and the data was migrated to Libsys 4.0. Another software LS Digital was also procured for management of e-resources. The Online Public Access Catalogue (OPAC) can be accessed on LAN/ Intranet through "IMU Portal" and on Internet through our website www.imu.edu.in

In 2009, the Manager/ Library had discussions with the Chief Manager and the Chief Operating officer of NSDRC and decided to digitise the following library materials:

- 2400 papers from Article collection; and
- 1100 Ship Drawings.

A Works Committee was constituted to find out the agencies for outsourcing the digitisation work. As per the existing procedures the work was outsourced to a local agency, with a clause that the work has to be carried out within the premises of the institute and that the materials cannot be taken out. A team of specialised persons, with computers, document scanners, drawing scanners and other peripherals was set up by the service provider and the work was completed within three months. They submitted the OCR converted files in an external hard disk to library. These files were later uploaded to the library database through LS Digital software – e-resource management software by LIBSYS. About 2400 papers were digitized. The scanned Articles/ images were saved in JPEG format and the images were cleaned using Adobe Photoshop 7.0 and then converted into PDF files. Parallelly 1110 drawings of different sizes like A0, A1, A2, A3were digitized and the same process that was adopted for papers was adopted for drawings also. The size of each drawing after the above process (Table 1):

Table 1. Drawing size after Digitization

Size	A0	A1	A2	A3
JPEG	5MB to 25MB	4MB to 20MB	3MB to 15MB	1MB to 8MB
PDF	4MB to 23MB	3MB to 18MB	3MB to 15MB	1MB to 5MB

After digitization of articles, the pdf files were uploaded to article database in Libsys software, through LS Digital software to facilitate browsing the full text from Web OPAC.

4. National Ship Design and Research Centre - NSDRC becomes Indian Maritime University (IMU)

The Indian Maritime University was established through an Act of Parliament (Act 22) on 12th November 2008 as a Central University, with its headquarters at Chennai and regional campuses at Chennai, Mumbai, Kolkatta and Visakhapatnam. The NSDRC became IMU Visakhapatnam Campus in 2008 and from 2009 August academic activities started with the School of Naval Architecture & Ocean Engineering (NA&OE) and School of Maritime Design and Research (SMDR).

4.1 Issues and Returns are through RFID

Radio Frequency Identification (RFID) was Implemented in 2012. RFID system encodes the circulation status on the RFID tag. The circulation database containing details of all students, faculty and employees was further updated with their passport size photo and digital signature through webcam and digital signature pad. Each member is issued with an RFID smart card for the purpose of borrowing documents from library.

5. Application of Web 2.0/ Lib 2.0 Technology

With Library 2.0, library services are constantly updated and re-evaluated to best serve library users to encourage collaborative two-way social interactions between library staff and library users. Library 2.0 also attempts to harness the library user in the design and implementation of library services by encouraging feedback and participation. The social media 'Facebook' is used to reach out to students, by creating Facebook account for library. Announcements of seminars, conferences, scholarships, latest news regarding library related matters etc. are posted regularly. Mobile Technology is also used to reach the young students for sending reminders and other information.

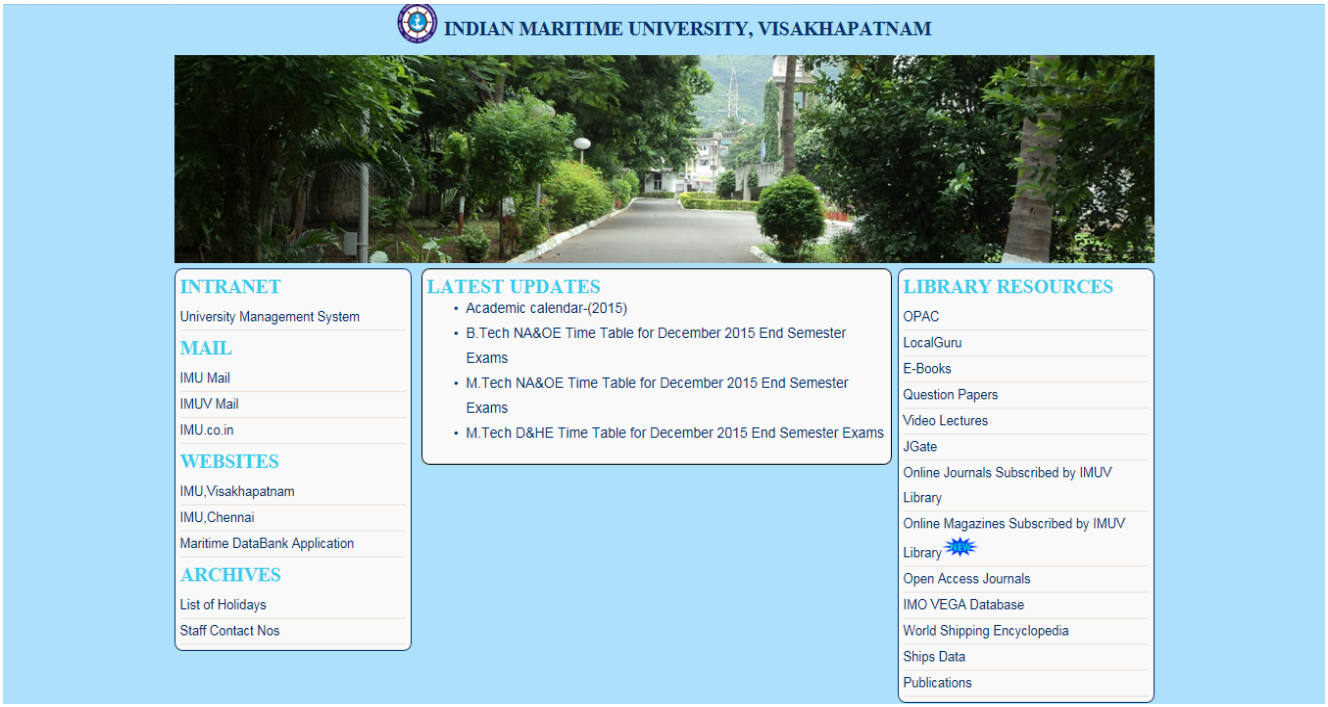

Figure 1. Library resources on Intranet portal.

The Figure 1 shows Library webpage has links to the resources of the library like OPAC search, Question Papers of all previous years of both B.Tech and M.Tech, Video lectures on Engineering topics, free e-books, free online Journals with hyperlinks, J-Gate (JET–Journal gateway for Engineering and Technology) and links to other subscribed Online Journals and Magazines.

The latest service introduced is the Selective Dissemination of Information (SDI) to HODs. All subscribed online journals are browsed for relevant articles the selected article title is copied and pasted on a simple word file and hyperlink provided to its full text. This file is circulated to all HODs once every fortnight via email. This service is a replacement to earlier routing of hard copy of the journals.

6. Collection Development

The library collection consists of 6200 Books, Text Books and Reference Books, 1100 Ship Drawings, reprints, 200 Project Reports, 848 standards comprising BIS, JIS, BS, ASME, ASTM, OCIMF, 740 Reports published by other organisations, 200 Annual Reports, 23 Online Journals/ Online Magazines 1013 bound volumes (back issues of selected journals), 625 CD Roms, 4000 equipment catalogues, 5000 E-resources, and CD database. The library database consists of bibliographical details of all of the above plus bibliographical details of 23300 articles with keywords selected from subscribed print journals. Also, library has:

- Subscribed to online resources like World Shipping Encyclopedia database, NTIS database, IMO Vega Database Online Journals / Online Magazines and J-Gate;
- Local Guru – A Repository of video lectures;
- E-books collection – Free e-books downloaded from Internet; and
- Publications of faculty and students.

7. Conclusion

Re-engineering of a library requires resources in terms of time, money and human resources. Above all, it requires proper planning, dedication and commitment of library staff.

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