A STUDY ON CHALLENGES AND OPPORTUNITIES FOR ACADEMIC LIBRARIES IN MIGRATING TO E-RESOURCES

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Abstract

Digitalization of library resources is presently a global phenomenon as well as new way of managing library collection especially in academic libraries. Paper discusses various reasons for Digitalization also shed light on process and selection criteria for digitalization. It also focuses on issues and challenges involved in the process of digitalization in academic libraries such as legal aspects and finances. The present study examines the changing facets of e-resources and current practices with regard to acquisition, Selection, mode of procurement, Promotion, development policy, problems and future plans. It also highlights the methods involved in acquiring e-resources and preservation strategy, also establishes that there are challenges militating against the digitization of academic libraries and concludes with the remarks that although digitization is challenge still information professionals/librarians must meet with the practical skills and the vision to implement it in a controlled and manageable fashion.

Keywords: Selection, Challenges and opportunities of E-resources Development, digitization, academic libraries, information technology,

1.0   INTRODUCTION

Advancement in Technology and birth of Internet created many opportunities and challenges to modern day libraries and brought rapid progress in information handling, storing, organizing and communicating to users. As more libraries move towards providing their services in a digital environment, the improved access to remote library collections is making the use of electronic information resources more realistic and more attractive. The eventual goal of every library is to provide quick and comprehensive link to resources by using best possible tools and techniques available in the present day. The emergence of information and communication technology has repositioned the resources, operations, and services as well as the expectations of users of an academic library. These days the users prefer to browse through the internet for their information needs rather than visiting the library. It is impossible for academic libraries to cope with changing electronic needs of users with traditional collection of print materials. Users' attraction is based on the quality services provided in the library especially in academic libraries where users mainly depend on more specific, instant and user friendly information.

Academic libraries should have proper channel of developing electronic resources along with print materials but these libraries may face numerous challenges while developing and maintaining electronic resources because e-resources differ in several ways from conventional print materials. Conversion of print material into digital format is one of the newest methods of managing information resources where information and communication technology plays an important role in information access by people even from remote places. While converting print material such as books, periodicals, manuscripts etc, libraries come across with many problems to cope with the challenges libraries fully aware of financial capability of the institution, well trained staffs and technologies required to move to digital phase. Institutional resources such as theses, manuscripts, special monographs, research papers, or images are of very high value to academic institutions.

2.0   OBJECTIVES: The objectives of this research study are as follows:

- To reveal existing criteria available in academic libraries for selection of e-resources.
- To highlights strengths and limitations of acquisition of e-resources.
- To discover methods used for training of library staff and users.
- Strategies used for user awareness and access to e-resources.
- To identify different methods of preservation of e-resources.
- Analyze the selection criteria of e-resources.
- To know different types challenges faced and opportunities available to academic libraries to manage e-resources.
- Analyze future technological changes to make way for new technologies.

3.0   WHY E-RESOURCES?

- The dwindling budget for acquisition of library stocks and quest for collaboration, partnerships and resource sharing.
- The ever increasing costs of preserving analogue materials, and so on, are some of the forces that prompted digitization of archives and records.
- Long time preservation, easy and remote access to the users and Information will be accessible to all instead of a group of users. Several users can access the same material the same time without hindrance.
- It also removes the problem of distance, as users do not have to travel to libraries that possess the hard copies of library materials before they can access and use such materials.
- This entails that the digital library would be open at any time for consultation of materials. Materials uploaded on the website are always there for people to consult, except when erased by the website administrator.
- Library materials especially old manuscripts, photo images, theses, and musical recordings etc that are in danger of being lost in the future and which are mostly historical and valuable needs to be preserved for future use.
- To facilitate new forms of access and use. Better and enhanced access to a defined stock of research material.

- Creation of a single point of access to documentation from different institutions concerning a special subject.
- Support for democratic considerations by making public records more widely accessible and better search and retrieval facilities for library types of materials.
- To give the institution opportunities for the development of its technical infrastructure and staff skill capacity.

4.0   SELECTION CRITERIA

Content is the primary selection criteria for e-resources, however, quality, pricing, technical support, and licensing receive additional consideration. Not every resource will meet all of the listed criteria, but the library should select those that have the majority of these characteristics.

4.1   Coverage and Quality the library selects e-resources that, it should add depth and breadth to the existing collection, offer access to full text when available, provide accurate, current, and continuously updated information and should offer significant advantage over comparable print resource.

4.2   Access libraries has to provide access through the library's website, offer authentication by IP address, not passwords, satisfy compatibility requirements of the library's proxy server, ensure confidentiality and privacy for library users, and attempt to comply with international standards.

4.3   User-Friendliness display a clear layout and design provide web pages that are intuitive, allow the option to print, save, and email results and articles, provide tools to refine searches and retrieve relevant results, offer on-screen help and tutorials.

4.4   Pricing funds from the materials budget can sustain the cost for the foreseeable future, cost of the number of simultaneous users is appropriate to the projected use of the resource, purchase does not require a print subscription, and cost includes permanent rights to the information even if the subscription is cancelled.

4.5   Technical Support the library prefers to purchase e-resources from vendors that provide efficient and timely customer service and technical support, evaluate and upgrade platforms to reflect the changing environment of the Internet, make usage statistics readily available, and provide bibliographic records or other metadata.

4.6   Licensing in selecting e-resources, the library prefers those resources with license agreements that mandate few or reasonable restrictions on the number of users or points of access, permit all library users, including members of the public, use of the resource, permit fair use, offer provisions for printing, sharing, and downloading, allow interlibrary loan, exempt the library from liability for unauthorized use of resource as long as the library notifies users of restrictions, provide termination rights that are agreeable to each party.

5.0   PROCESS OF DIGITIZATION OF LIBRARY RESOURCES

Academic libraries must consider certain factors when digitization projects are to be embarked on in developing countries such as India and these include the following stages:

5.1.   Policy and Approval It acts as blue print statement, top management should enact a policy on the project that policy will act as a reference material and guide for implementing project. The policy should contain goals and objectives of the project, there needs to be specific focus on some of the aspects like type of user access to collection, type of materials they are interested in and benefits of the materials to users and institutions. It may be helpful to contact other institutions that have digitized similar collections and learn from their successes and failures.

The policy should be approved by appropriate authorities before project for digitization is implemented. For instance, a university library may need the approval of the university management and other funding agencies before any digitization project can be embarked upon.

5.2.   Planning, Budgeting and Monitoring The most important and essential to set up for any project is planning. It should consist of planning committee that will draw the plan and budget for the digitization exercise. . At the regional or national level, effective planning for digitization can bring together all types of libraries, museum, academic/professional societies, historical societies and archives to take advantage of the exercise.

Budgets for digitization projects should include the following categories: Salaries, wages and benefits, Staff training, Equipment and supplies, Services, contracts and legal fees, overhead and indirect costs, Maintenance, licenses, and communications.

Next aspect is monitoring in every stage of project implementation special importance should be given to even to small aspects. People who are monitoring the projects should have proper knowledge of each and every stage of the project. Another aspect of monitoring project, the source of fund and the amount available for the project should also be taken into consideration

5.3.   Technology Acquisition Project plan should define the appropriate technology needs to be acquired, technology here refers to all the equipment/hardware and software that are needed.

5.4.   Staff Sensitization it is a common thing for people to resist change, just for the fear of the unknown. The library staff may fear that the success of the project may affect their jobs adversely. All these categories of people have their genuine reasons to resist. It is the responsibility of the library management to educate them and allay their fears.

5.5.   Legal/Copyright digitalization of archival materials should be based on a clear understanding of copyright law and rights of ownership. Physical ownership does not mean that an institution owns the rights to reproduce it. One of the most important selection criteria for digitization will be the copyright status of the original materials. Will

it be possible to obtain permission to digitize? After digitization, will the institution be able to protect the digital assets by managing the rights to their use?

5.6. Selection and Verifications careful selection of specific item to be digitized will employ such standard to library such as value, significance to the overall collections, user demand and interest, availability and fragility of the original. According to UNESCO, IFLA, and ICA that digitization projects should be user driven or based on high demand for access. Next thing to ascertain is to verify digital copies which are already exist, this avoids duplication. In addition, if the copyright permission to digitize resources was not in the public domain (i.e. if it was for internal use only) or the institution concerned wish to embark on a wider area network such as the Internet or World Wide Web, there is a need to re digitize the materials.

5.8. Metadata provides information about digital objects that enables users to find, manage and use digital objects. It is an historic record and the totality of information about the object. Good metadata is a key component of developing digital archives that are usable and useful for long term. Metadata helps to identify the work, creator of the work, migrated or reformatted it, and other descriptive information; it provides unique identifying information about the organization's files, and databases that have detailed information about the digital contents.

6.0   CHALLENGES

The dealing of digital assets brings new challenges to the academic libraries while implementing complex hardware and software, digitization of library resources poses a great deal of challenge to the major stakeholders, that is, the library management, employees and library users. Despite everything that digitization can accomplish, there are some good reasons librarians and archivists in developing countries may regret embarking on such project. Not everything in the collection is worthy of digitizing because the idea of an entire archives or library being digitized is a long way process. Successful digital project are the result of careful planning and evaluation of collections and the digitization of only those items that will provide the greatest benefits to the users. Below are some of impediments to digitization project for librarians in the electronic environment.

6.1 Legal Aspects this is related to copyright. A major challenge for digital libraries is complying with copyright, intellectual property rights and related issues like plagiarism. This is an aspect where librarians and researchers need to take precaution. There is an increasing unease among members of the library community that copyright changes will adversely affect the ability of libraries to provide digital collections and services. In fact, copyright could end up preventing libraries from providing open access to the digital information they collect. Questions of copyright must be managed so that digital information can be created and distributed throughout digital libraries in a manner that is equitable for both in information producers and information customers. Copyright could become an insurmountable barrier to the development of digital collections.

6.2 Changing Nature new version and update to available Software and Hardware, this creates greater pressure on institutions because preservation of digital archival

collections centers on the interim mechanism for storing the digital information, migrating to new form and providing long term access. One of the greatest issues facing the longevity of digital collections is not only the storage media deterioration, but the problem of rapidly changing storage devices.

6.3   Funding digital projects are expensive. Digitization of archival/library automation requires enormous funding due to frequent hardware and software upgrades, and increasing cost of subscription to electronic databases. Apart from training of archivists in digitization and preservation of electronic format creates a herculean problem. A well funded digitization project assures new and improved services and sustainability of the project.

6.4   Technical Expertise and Technophobia due to inadequate skills in information technology many traditional librarians and archivists are conservatives and have phobia for computers. Because of generation gaps between the new and old professionals, computers are perceived as a threat to their status as experts. Thus, they find it difficult to cope or measure up with the requirements of the electronic/digital age, and are at the same time 'too reluctant to jettison the old practices for new one.

Inadequate technical expertise is prevalent in many developing countries. There is shortage of personnel/human capital. Few librarians with computer science qualifications (computer engineers) work in archives and libraries, hence the consequent frequent break down of ICT facilities and disruption of services in digitized libraries and archives.

6.5   Inadequate Technology infrastructures frequent power outage constitute serious bottleneck to digitization. This has the effects in damaging digital equipment and where there is generating set the cost of running them is prohibitive.

6.6   Technological Obsolescence digital archives should be transcribed every ten to twenty years to ensure that they will not become technologically obsolete. The continuous changes in computer hardware and software cause technological obsolescence which is a threat to digitization and digital preservation. It causes the loss of the means to access to information in digital form. Technological obsolescence is caused by continuous upgrade of operating system, programming language application and storage media.

6.7   Refreshing enables digital files to be transferred periodically to new physical storage media in order to refresh the materials and keep it from physical decay and obsolescence of the medium, or the materials will be inaccessible. Loss of format is a troubling issue because as information is transferred from programme to programme, information is lost when analogue material is digitized, and information may also be lost as digital resources are refreshed or migrated to modern computing environments.

6.8   Emulation the objective of emulation is for older data-sets to run on contemporary computers. Emulation may be similar to migration, but focuses on the applications software rather than on the files containing the data. It seeks to develop new tools that will create conditions under which the original data were created. This can be done by mimicking early operating systems and software applications.

6.9   Migration is the process of periodically moving files from one encoded environment/ format to another and updating the information to one that is consistent with more recent computer environment. Examples include moving information from Word Perfect to Microsoft Word95, and then to Microsoft Word97, migrating data-sets from Dbase to MYSq1 or word processed files from Window 2000 to 2007, and so on.

6.10   Deterioration of digital media is responsible for the disappearance of, or inaccessibility of digital information in the long run. This is because media deteriorates or decays within few years after digitization. Another challenge is that digital media get lost during disaster or virus attacks. The reason why re-digitization is inevitable is the likelihood that electronic resources created in previous years using older technologies may not be accessible or compatible with the new technologies.

7.0   OPPORTUNITIES

Libraries shall have to continue their dual convenience of use collection development policies in hybrid statistics of use environment in which printed and electronic resources are to be integrated to meet diverse needs of communities they are expected to serve. Libraries shall have to change and adapt to the new environment keeping the future needs of users in view.

7.1   Suitable model it is important to consider the range of purchase, pricing models available and determine which one meets the needs of the library in terms of access and archival and value for money. Every library today has to add e-resources along with printed material which requires knowledge of pricing policies and models of different publishers as well as scope, coverage and usefulness of data resource so that right choice is made in selection of e-resources.

7.2   Consortia strategies such as consortia licensing which has been in use for a number of years can be best option. This strategy is to cancel paper subscriptions to titles where libraries currently receive the title in both paper and electronic format. Next strategy is to cancel Journals used infrequently and purchase ankles on demand. Then permanent resources archiving and preserved for future generations.

7.3   E-Resource Management System (ERMS) there are now several vendors providing more or less integrated ERMS services. The most dominant vendors of these systems are Ex Libris, Innovative Interfaces Inc., and Serials Solutions. There are also community-developed projects such as Colorado Alliance's Gold Rush systems as well as open source systems, such as HERMES at Johns Hopkins University.

7.4   Local content in addition, there are likely dozens (or more) homegrown systems that librarians are using to address complex management details. Even without a formal system in place, however, nearly every library is dealing in its own way with the acquisition, license, title, integration, and usage data information that accompany digital content.

7.5   Budget Balance one of the key jobs of the library is delivering access to electronic resources. As the library increases its investments in electronic information—usually at

the expense of print materials—it's vital to provide convenient ways for users to find the information they need within those resources.

7.6   Online Catalogue provides one means for accessing electronic resources. Through title searching and subject headings, users can find any electronic document the library subscribes to and go to that document through the link provided.

7.7   Common OPAC for all sources compilation OPAC can give an idea to other libraries to know resources available in each other libraries, based on that, libraries can decide worthy of a document.

7.8   Local Software providing computer generated services, usage, log and download statistics, compliance to terms and conditions of publishers, subscription expiry and renewal, migration of data from library software to Libraries can develop their own software to provide solutions for management of these e-resources in the absence of commercially available software.

7.9   Associations digital Library Foundation (DLE) and NISO have taken initiative to towards management of e-resources with the participation of professionals, individual libraries, vendors and consortia groups, etc. It has been organizing several seminars/meets and forming various groups/committees for the purpose of waking out solutions for the management of e-resources. Its steering group developed and submitted a proposal to the Digital Library Federation with its primary goal to foster the rapid development of systems and tools for managing electronic resources — whether by individual libraries, consortia, or vendors, and specifically to:

- Describe the functions and architectures needed for systems to effectively manage large collection of licensed electronic resources.
- Establish lists of appropriate supporting data elements and common definitions.
- Write and publish experimental XMI. Schemas/DTDs for local testing.
- Identify and promote appropriate best practices where ever possible, identify and promote appropriate standards to support data interchange to work out solutions to the problems.

8.0   CONCLUSION

Now days it is a basic requirement for any academic libraries to develop e-resource. It is proved from above study that academic libraries should consider various tools and techniques while selecting an e-resource. Selection based on staff recommendation and subject relevance can make an impact on library collection development. Libraries can use different methods and techniques to acquire e-resource depending on their needs and user community to be served. However a consortium is the most common method used to acquire e-resources. One of the most difficult aspects of digital curatorial management is the blurring of customary boundaries the academic libraries provide in house training to the library staff to update their skills. Librarians must develop professional skills and abilities with application of right technology so that e-resources are managed well for effective accessibility and use by majority of users globally.

E-resources have also come with many advantages giving solutions to many professional problems like solution to space problem, providing remote access, use of e-resources is increasing leaps and bound as shown by many user surveys. Technology has been behind the evolution and development of e-resources, and the same technology may be able to provide better solutions and more opportunities to have complete bibliographical control over world literature which is impossible in case of printed resources. More cooperation and interaction are required among library professionals, publishers, vendors/aggregators, users and software engineers to discuss common issues to waive at common goal of mutual interests to promote more production, use of these resources with their improved, maintenance and management to the maximum benefit of the users.

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