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HEC National Digital Library: Challenges and Opportunities for LIS Professionals in Pakistan

Nosheen Fatima Wairrach
University of the Punjab, mswarraich@yahoo.com

Muzammil Tahira
University of the Punjab, mufals@yahoo.com

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Nosheen Fatima Warraich
Librarian, Serial Section
Punjab University Libraries
PhD student
LIS Department
University of the Punjab
Lahore, Pakistan

Muzammil Tahira
Librarian, Education Department
Punjab University Libraries
MPhil student
LIS Department
University of the Punjab
Lahore, Pakistan

Introduction

The notion of a digital library is not new in developed countries, but the HEC National Digital Library Programme is a unique example of a national-level electronic library from the developing world. Pakistan's University Grant Commission (UGC) was reshaped as the Higher Education Commission (HEC) in September 2002 (Higher Education Commission of Pakistan, n. d.). This is not a cosmetic change: HEC has become the primary agency that regulates higher education in Pakistan. Its main purpose is to make the universities of Pakistan world-class centers of education, research, and development. HEC National Digital Library (NDL) Programme is a fundamental initiative aimed at achieving excellence in higher education.

HEC started this programme in February, 2004, with subscriptions to eight databases, with the assistance of the UK's International Network for the Availability of Scientific Publications (INASP), in association with the execution of their Programme for the Enhancement of Research Information (PERI) (Punjab University Library, n.d).

The databases are mostly focused on science and technology, and include peer reviewed journals and abstracting services. Other resources include subject and multidisciplinary databases, resources in social sciences and humanities, e-books that use the McGraw-Hill platform, Oxford University Press and Taylor and Francis journals and reference works, and open-access e-books and journals. The HEC has acquired e-resources using a consortium. Since 2004, thirty databases have become available, and users have access to more than 24,000 e-journals and 45,000 e-books in different disciplines (Higher Education Commission of Pakistan, n.d.)

HEC organizers held promotional activities with the help of Punjab University Library (PUL) staff and departments. Some workshops were held and pamphlets distributed to create awareness and promote the coming digital library from 2002 to 2004. Since then, the library web page has been the main source for information about development and ongoing activities.

Accessibility of Journals and E-books

To access the NDL, institutions of higher learning must be registered with the HEC. This programme is accessible by approximately 250 institutions. PUL is also the member of HEC- NDL programme and provides access to more than 75 percent of peer reviewed scientific journals available all over the world. It can be accessed in departments and libraries of three campuses (Quaid-e-Azam, Allama Iqbal, and Gujranwala) through IP registration.

Journals are accessible to all teachers, researchers, MPhil and PhD students, class officers, and other enrolled members of PUL. Users receive username and passwords (required in some databases) from the serial section of the PUL.

Databases are searchable through ELIN (Electronic Library Information Navigator). ELIN integrates data from several publishers, databases, and e-print open archives. The interface allows users to search documents from multiple sources using a single user-friendly interface. The databases provide different searching options with slight variations in searching techniques. Guidelines for how to search for e-contents are also provided on its web page (Punjab University Library, n. d.).

Research Design

Universities are centres of research and development. Librarians have key role to play, and their responsibility becomes more crucial in the rapidly-evolving digital culture in universities. The Government of Pakistan has invested a great deal in NDL. This study addresses the challenges faced by LIS professionals and opportunities provided by the HEC- NDL programme.

Interviews with working librarians (n=7) and the researchers' personal experiences and observations are supplemented with results and advice from the literature. The "diagnostic-cum-prescriptive approach" is used to study the existing situation and make conclusions.

The interviews were conducted with the chief librarian of PUL, the person in charge of the PUL Internet lab, two librarians working in the serial section, and three working in the circulation and reference section. Participants are working librarian who have direct interaction with all categories of PUL users.

Challenges

Below are challenges faced by library professionals in the use of NDL and in spreading awareness of it.

Table 1. Challenges Mentioned by Participants (n=7)

Challenges	Frequency
Need of more trained staff to help users.	7
Lack of formal orientation programme	6
Electricity failure	5
Improve the use of e-collection	4
Preservation of sources	3
Technical support and security	3
Digital collection is substitute to library	3

Lack of ICT Training

Frequent advancement in ICT makes the task of training staff more challenging. Local LIS researchers have frequently mentioned the need to improve staff ICT skills and expertise (Mahmood, 1998; Rehman, 1992; Zakar, 2000; Ameen, 2006; Warraich, 2008). Haider (2004) asserts that most library leaders lack the ability to be innovative, creative, imaginative, and visionary, in addition to lacking ICT and communication skills. The need for trained librarians is reflected by Iqbal (May 16, 2008).

There is lack of such expertise in working librarians. All participants viewed it as a major challenge. Establishing a digital library without refreshing the information technology and information retrieval skills of library professionals is a difficult task. A breed of experts and continuous training programmes to handle and operate the latest technology in libraries is a dire need.

Lack of Awareness

Many studies have found that a lack of awareness is associated with lower use of electronic collections (Ibrahim 2004; Said, 2006; Warraich, 2007; Bashir, 2008). Hussain (2006) explores the perception of LIS professionals regarding digital libraries. He found the low IT literacy rate in Pakistan to be a barrier to digital libraries (pp. 50-56). Sadique (2005) found that lack of awareness about Information Resource Center (IRC) in PUL and low digital literacy were the main causes of lower use of electronic services. In a similar vein, a low level of understanding and awareness of available sources and services by the science and technology teachers of Punjab University limit the use of information systems (Muzammil, 2008).

User Orientation

Orienting users to modern library services is another challenge. Mahmood, (2003), Ameen, (2006) and Rehman, (2008) warn LIS schools that they must produce graduates who are up to the demands of the changing and challenging information market place. A study by Naz (2007) depicts significantly lower use of OPACs due to lack of orientation by librarians and low level of IT information literacy among students. Bashir (2008) asserts that training needs attention from university authorities and HEC for better service in libraries.

Bandwidth and Infrastructure

Developing countries may have limited bandwidth available. Universities were faced with purchasing dedicated bandwidth, but HEC provides shared bandwidth via Pakistan Telecommunication Limited (PTCL). Poor connectivity has been a big challenge for accessing and downloading information especially large files.

Tahira (2006) mentions that besides poor and interrupted power supply, the lack of backup sources for primary information systems are commonly issues at Punjab University campuses. Full use of available bandwidth is also a challenge for library professionals and IT personnel there. Often only a limited number of users can search at any one time. The recent emergency steps taken by Water and Power supply Association of Pakistan to meet the crises of deficiency of electricity make the situation even more serious.

Improve the Use of Electronic Resources

HEC databases are great source of electronic access for Pakistani universities, and are very costly. Overall use statistics show relatively more use by public universities users than private. The use statistics compiled for 2005 show that the cost per article is less than $2.30, and the cost is borne by the HEC (Said, 2006, p.20).

Universities whose use of e-resources is low have their subscriptions automatically canceled by the NDL programme. Use statistics justify the subscriptions and their effective use. Increasing the use of the databases is essential for maintaining institutional access and requesting subscriptions to more sources. Increased use of resources is the result of user awareness and orientation. Creating awareness and increased use is important for increased research productivity.

Preservation

Due to financial problems and poor infrastructure, it is a concern that digital libraries may lack their current resources in the future. Ameen (2005) and Haider (2004) anticipate the future of digital collections and state that subscriptions to online resources often provide only access rather than ownership. The library may be emptyhanded after the subscription ends.

Technical Support and Security

Security for digital information is a demanding challenge for librarians. Piracy, virus inversions, and parallel satellite networking stress are some of the problems for which solutions are needed. Information technology skills and applications are changing and developing quickly. To endure, digital libraries need the latest technology and more technical staff or experts for this purpose.

New Field of Research

This is new field of research for library and information professionals and researchers. User satisfaction, perception, use, and usability studies regarding digital library sources will be helpful for improving this programme.

Myths about Digital Collections

It is a challenge to combat the myths about electronic resources and libraries. Library users think that the web is a substitute for the library and that there is no need of librarians in the digital environment. In fact, the librarian is a mediator between the huge sea of information and its users, and the need for a trained mediator is more apparent than ever. Ameen (2005) rightly points out that library patrons have confusion. These confusions include the belief that the web is the equivalent of a library and feelings of fear and anxiety.

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Marketing of Library Databases in Competitive Environments

Inadequate marketing is a significant factor in the low use or awareness of electronic resources. Mostly librarians have no background in marketing and public relations. Ameen (2005) describes marketing of LIS in Pakistan as being in its infancy with LIS marketing being taught only at three universities in Pakistan.

Intellectual Property Rights and Related Issues

A major challenge for digital libraries is complying with copyright, intellectual property rights and related issues like plagiarism. This is new and challenging field for LIS professionals and researchers. Working librarians, LIS academics, and researchers can play an important role in exploring such issues and their solutions. Creation of effective practices will be beneficial for library users, publishers, and authors.

Interview participants also indicated problems such as the need for more humanities and language resources, remote access to databases, special passwords for MPhil and PhD supervisors and researchers, and FAQs about this program on the PUL website.

Opportunities

It is a common saying that challenges are also opportunities. There are definitely opportunities for librarians at PUL and elsewhere.

Learning and Improvement of ICT Skills

Library professional can now get informal online education regarding about trends in librarianship on their desktops. They may improve their ability to retrieve information and serve users. Self learning regarding the use as well as understanding of new tools, acquisition of e-resources, and efficiency of retrieving information, dissemination, leadership qualities, and better use of human and financial resources can help meet digital library challenges.

Digital library services can play an increasing role in practical and specific tasks in teaching, learning, and research.

Marketing Strategies

Said (2006) points out that HEC allocated 7 percent of the NDL budget to marketing and promotion of e-resources and 12 percent for training researchers. This is great opportunity for LIS professionals to learn about marketing, develop marketing plans for better promotion, develop a marketing strategy to justify subscriptions to more databases or continuing existing sources, and learn about methods for internal and external communication. Marketing research, strategic analysis, and user segmentation can help librarians know their customers and develop a user-centered approach. Customer- centered services could enhance the use of electronic databases using marketing and promotion. Because of the market demand for more orientation, the LIS Department of the University of the Punjab conducted a workshop on this topic for working librarians. Such continuing education activities can help working professionals.

Improve the Image of Library

Punjab University librarians have a positive attitude towards the NDL. They are providing better services because of these digital sources. This programme not only improves the image of library but also the image of library professionals.

Awareness of Use of E-Resources and Researchers' Orientation

Library orientation can take place at the time of new enrollment, which is the practice at PUL. The role of departmental librarian is crucial. Hands-on exercises are helpful in introducing new students to electronic resources and services. Promotional material should also be distributed among all types of users. Said (2006) mentions that 8,850 faculty members and students were trained at the various seminars across the country from 2003-2006. The short courses and workshops conducted by HEC for library professionals can be a great opportunity for librarians to improve their IT literacy.

Design of Library Web Page

The library web page is used to promote library services and especially to provide access to e-resource links through ELIN. The library web page is an effective tool and should also be used to provide tips to researchers on search strategies and effective use of resources. LIS professionals have the opportunity to learn web page design and develop other ICT skills to help users.

More Demand for Competent Librarians

The present information environment provides opportunities for competent LIS professionals. Ameen emphasizes the need for librarians in the digital environment (2005). The position of librarian is more justified and the need to define new roles is realized with collections of both print and electronic resources.

Better Reference Service

The document delivery service of HEC provides that any material not available through the digital library can be ordered through the British Library document delivery service. The cost of articles ordered is borne by HEC. The general policy allows for two articles per individual per month from any institution. LIS professionals have a wonderful opportunity to provide the better reference service to the research community and improve the image of the library. Librarians in developing countries have never had access to this kind of service free of cost.

Technological Job Opportunities

Said states that "the budget allocation for the DL programme has doubled after each financial year and the total amount for 2005/6 is Pak Rs. 200,000,000 (approximately US $3,278,688) and 5 percent of the budget is allocated for technical support" (2006, p.17). Librarians can share in this allocation if they gain technical expertise.

Establishing Collaborative Programme

The NDL offers opportunities for collaboration among universities. An effective collaborative programme may develop at a regional and then national level. This collaboration can be very effective because of the country-wide accessibility and availability of digital sources. Collaboration and sharing of sources and services is now more feasible and practical. It is easier to share sources and services and this will enhance emerging kinds of collaboration.

Backup Sources

Downloading of all sources is not possible, unless CD-ROM subscriptions to these e-journals have been maintained along with the online subscriptions. Imaging all available sources on the main server could be a solution to this problem. This opportunity is the key to the challenge of preservation.

Conclusion

The NDL is a great benefit for teachers, researchers, and the R&D community in Pakistan. We need to continue our journey on this revolutionary and evolutionary path toward a future learning environment. We should not wait for other entities to create solutions for our problems. Low information literacy rate among librarians and users, lack of awareness about e-resources, and inadequate promotional activities are the major challenges faced by LIS professionals. We must meet the challenges and avail ourselves of the learning and technological opportunities.

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