University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)   Libraries at University of Nebraska-Lincoln

HEC National Digital Library: Issues and Challenges for Faculty Members in Pakistan

Izhar Muhammad Mr.
Department of Library & Information Science, Khushal Khan Khattak University, Karak,
izharmlis@yahoo.com

Ghalib Khan Dr.
Department of Library & Information Science, Khushal Khan Khattak University, Karak,
ghalibkhan1@yahoo.com

Rida Anmol Miss
Department of Library & Information Science, Khushal Khan Khattak University, Karak,
ahmadktk456@gmail.com

HEC National Digital Library: Issues and Challenges for Faculty Members in Pakistan

Izhar Muhammad, Dr. Ghalib Khan, Rida Anmol

Introduction

The notion of 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). Initial databases were 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, 30 e-databases and 50,000 e-books in different disciplines (http://www.digitallibrary.edu.pk/).To access the NDL, institutions of higher learning must be registered with the HEC. This programme is accessible to approximately 300 institutions in Pakistan both public and private. Resources are accessible to all teachers, researchers, MPhil and PhD students, class officers, and other enrolled members of institutes of higher learning. Similarly, databases are searchable through the HEC DL from several publishers, 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 of the concern universities.

To provide good services in a digital environment, numerous studies have been conducted by Library and Information Science (LIS) experts to find out different issues and barriers that affect the usage of digital libraries. Lack of support from users and guidance on usage of e-resources, insufficient information regarding quality of services, inefficiency in retrieval and storing of information, issues in searching main menus, and archiving of digital information are the major problems that can hamper digital library usage (Mandel and Minimanl, 1997). Similarly, Harter (1997) highlighted that un-qualified librarians and lack of users' education can also have an impact on the use of digital library.

Sharma et al. (2011) states that issues like slow internet speed, problems in the extraction of needed information, and non availability of required material create problem for the users while accessing digital library resources. The studies of Kumar et al. (2011) and Adeniran (2013) reflected same observations. Kumar (2016) investigated that digital resources

are important for teaching, research and training. The study identified limited number of computers; slow internet speed and lack of time as the main problems that users' face while accessing digital resources. Apart from it the study of Tripath, et al. (2016) and Mittal (2018) revealed some problems like users' non-familiarity with digital resources, lack of proper support from library staff can reduce the usage of digital library resources.

In Pakistani scenario Khan, Ahmed & Masrek (2014) investigate that researchers and teachers have recognized the importance of HEC digital library resources in enhancing the quality of research, and education. Similarly, Khan and Ahmed (2013) examined that services and resources of HEC digital library are not only beneficial for scholars but also helpful in promoting research activities in the universities of Pakistan. Rafiq and Ameen (2012) in their study evaluated the use of digitized resources and highlighted the vital role of HEC digital library resources in uplifting the higher education in Pakistan. They found that HEC Digital Library resources have laid down the foundation of research culture in the universities of Pakistan (Khan and Ahmed (2016); Khan et al. (2017)

Universities are centers of research and development. Faculty plays a key role in education. Their responsibilities has becomes more crucial in the rapidly-evolving digital culture taking place in the universities of Pakistan. Since the Government of Pakistan has invested a great amount in HEC digital library, therefore, keeping to fore the above mentioned issues, this study was designed to look into the main issues and challenges faced by the faculty members in the public sector universities of Khyber Pakhtunkhwa-Pakistan.

Research Design

The nature of this study is quantitative where a census based survey method was used to collect data from the target population. The population of the study included all (N=280) faculty members working in the faculties of social science of four public sector universities of District Peshawar-Khyber Pakhtunkhwa. Out of 280, 250 filled in questionnaires were received constituting a response rate of 89.2%. Data was collected through a self constructed, pilot tested and validated questionnaire. The collected data was analyzed and coded with the help of SPSS version 20. Descriptive statistics were used for data analysis and interpretation.

Literature Review

In Pakistan, studies have been conducted to explore issues and challenges regarding the implementation and use of HEC digital library and its resources. Various studies strongly support the role of digital libraries in promoting education and research, particularly in the academic institutions. Experts in the field of LIS have conducted several studies to explore the need and importance of digital libraries in Pakistan. Majority of these studies discovered that digital libraries and online information resources play a vital part in meeting users' academic and research needs effectively. Though, it is essential for the users of digital libraries to have knowledge about these resources and services however, Jaswal (2003) pointed out that Pakistani librarians are lagging behind in expertise, knowledge and skills on the use of IT and digital libraries. Similarly Said (2006) conducted research in Pakistani universities and discovered that the main issues and challenges affecting research performance of users' are limited access to HEC digital library resources, weak ICT facilities and lack of knowledge. She suggested that these issues can be resolved through effective trainings for librarians and users on e-resources and services of HEC digital library.

The study of Hussain et al. (2008) examined issues like lack of ICT skills of users; budget issues, failure of power, copyright issue and weak infrastructure which are effecting the growth of digital libraries in Pakistan. The study recommended that capable and skilled human

resources, modern equipment, and orientation programs should be arranged to promote HEC digital library usage in the country.

The study of Ameen and Gorman (2009) found that digital information literacy programs are not properly implemented in the universities of Pakistan. Apart from it, library professionals do not acquaint themselves with the new information technologies that are essentially required for the operations of digital libraries.

The study of Warraich and Tahira (2009) revealed that HEC digital library resources play a significant role in helping researchers and academicians in Pakistan. However, lack of awareness and abilities of not using these resources are the major challenges. The study suggested proper trainings, refresher courses for librarians; marketing strategies for the promotion of HEC digital library resources to overcome these challenges. Other studies of Rafiq and Ameen (2009), Arif and Kanwal (2009), Malik and Mahmood (2009), Rafiq and Ameen (2009) revealed similar results.

Bhatti , Chohan and Asghar (2014) observed that lack of computers, slow internet speed, electricity failure, lack of formal training are the main issues in accessing HEC digital library resources. Hussain and Mahmood (2012) examined different aspects including advantages, disadvantages, issues, needs and requirements of digital libraries and recommended proper trainings and orientation programs for library professionals to enhance the usage of digital libraries in Pakistan.

Other locally conducted studies are Ahmed and Amjad (2014), Khan and Ahmed (2016); Khan et al. (2017), Iqbal et al. (2017), Hussain and Jan (2018) and Muhammad (2020).

Data Analysis and Interpretation

Respondents' Demographic Information

Respondents' Gender

The respondents were asked different questions related to their demographic characteristics i.e. gender, age, qualification, designation and name of university. Table 1 shows that majority 151 (60.4%) of the respondents were male followed by 99 (39.6%) female faculty members.

Table 1: *Frequency Distribution of Respondents' Gender (N=250)*

Gender	Frequency	Percent
Male	151	60.4%
Female	99	39.6%
Total	250	100.0%

Respondents' Age Group

The result of Table 2 indicates that 64, (25.6%) of the respondents were between the age group 22-30 years; a vast majority of 109 (43.6%) were between the age group 31-40, 50 (20.0%) fall in the age group 41-50; and only 27 (10.8%) belonged to the age group of 51-60.

Table 2: *Frequency Distribution of Respondents' Age (N=250)*

S. No.	Age	Frequency	Percent
1.	22-30years	64	25.6%
2.	31-40years	109	43.6%

3.	41-50years	50	20.0%
4.	51-60years	27	10.8%
	Total	250	100.0%

Respondents' Qualification

Table 3 provides the frequency distribution of the qualifications of the respondents. Data analysis demonstrates that majority of the respondents 124 (49.6%) were holding MS/M.Phil' degrees, followed by Ph.D 118 (47.2%) while only 8 (3.2%) faculty members were Masters degree holders.

Table 3: *Frequency Distribution of Respondents' Qualification (N=250)*

Degree	Frequency	Percent
Masters	8	3.2%
MS/M.Phil	124	49.6%
Ph.D	118	47.2%
Total	250	100.0%

Respondents' Designation

The result of Table 4 shows the frequency distribution of faculty members' designations. Data analysis demonstrates that 125 (50.0%) respondents were Lecturers, followed by 72 (28.8%) Assistant Professors, 17 (6.8%) Associate Professors, and 36(14.4%) Professors.

Table 4: *Frequency Distribution of Respondents' Designation (N=250)*

Designation	Frequency	Percent
Lecturers	125	50.0%
Assistant Professors	72	28.8%
Associate Professor	17	6.8%
Professors	36	14.4%
Total	250	100.0%

Universities wise responses

The outcome of the study showed that a huge majority 91, (36.4%) of the respondents belonged to university of Peshawar, 79 (31.6%) participated from the Agriculture university Peshawar, 36 (14.4%) from Shaheed Benazir Woman university Peshawar; and 44 (17.6%) from the Islamia college university Peshawar.

Table 5: *Frequency Distribution university wise responses:*

Name of university	Frequency	Percent
University of Peshawar	91	36.4%
The Agriculture University Peshawar	79	31.6%
Shaheed Benazir Bhutoo Woman University Peshawar	36	14.4%
Islamia College University Peshawar	44	17.6%
Total	250	100.0%

Accessibility of HEC Digital Library within the University Premises

The accessibility or non accessibility of HEC Digital Library on campus and off campus has a great impact on the overall academic environment of universities. HEC digital library has a great benefit for teachers, researchers, and for other research communities in Pakistan. HEC digital library also play a great role in university ranking which is based on the research production of an institution. Therefore its continuous access to the users community can not only benefit them in their academic endures but for the institutions as well.

Data in Table 6 reflected that a vast majority (57 %) of faculty members complained about the non availability of HEC digital library outside the university premises. One hundred and seven faculty members indicated that access to HEC digital library is available to them. During the course of this study the principle investigator observed that the surveyed universities provide accommodation facilities to their teaching community either in staff hostels or family accommodation in the form of flat or house. Those who complained about the HEC digital library accessibility issues might be those faculty members who reside outside the premises of universities.

HEC Digital Library Users' Friendliness

The friendliness of the interface of HEC digital library has a correlation with its usability. If the interface is users' friendly then users' can easily extract their required information. However, lack of ICT skills on the part of the users can also be a reason of less usability of HEC digital library resources. A specific question regarding the HEC digital library user friendliness was asked from the respondents. Most of them responded in positive however, 43% had a different opinion and they mentioned that HEC digital library is not user friendly. The reason could be their lack of ICT skills or other such reasons which would hamper the use HEC digital library effectively. Apart from it at serial no 3 faculty members also indicated that there is lack of computers for the faculties to access HEC digital library. Lack of such facilities might have made them complainants in this respect.

The Electricity Factor in accessing HEC Digital Library

Uninterrupted power supply is a pre requisite for accessing HEC digital library. Most of the universities arranged electricity backup programs in the form of Uninterrupted Power Supply (UPS) or generator. Pakistan is a developing country with continuous power shortage issues. Though universities have been provided with dedicated electricity power supply lines, however under worst circumstances expensive alternatives can hardly be arranged to meet users' needs. Data show that 75% faculty members indicated the power outage which create problem for them to operate their computers for accessing HEC digital library.

Lack of time for searching HEC Digital Library

The analyses of the response rate show that 103 faculty members mentioned that they had little time to access HEC digital library for their required needs. These finding has a resemblance with the study of Khan and Bhatti (2020) where they observed that in Pakistan senior faculty members are preoccupied in teaching and administrative schedules. This creates them time issue to participate and spare time for other activities.

Low speed/ slow speed of internet connectivity decreases my access to HEC Digital Library

Developing countries have limited bandwidth, which causes low/slow speed of connectivity that affects the quality and quantity of respondents' research work. HEC provides shared bandwidth via Pakistan Telecommunication Limited (PTCL), which is not enough to access the resources of HEC digital library. Poor connectivity is a big challenge for accessing and downloading information especially large files from HEC digital library (Wairach and Tahira,

2009). Data from table 6 serial no 6 showed that majority (72%) of the faculty members had problems of low/slow speed of connectivity to access HEC digital library resources.

Technical Support and Security

Security for digital information is a demanding challenge. 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 (Wairach and Tahira, 2009). Data showed that 82% of the faculty members face issues due to technical support and security in accessing the resources of HEC digital library

Awareness to Use HEC Digital Library

Many studies have found that lack of awareness is associated with lower use of electronic collections (Said, 2006; Warraich, 2007). Hussain (2006) explored the perception of LIS professionals regarding digital libraries. He found the low IT literacy in Pakistan is a barrier to the use of digital libraries. Sadique (2005) found that lack of awareness about Information Resource Center (IRC) and low digital literacy were the main causes of lower use of electronic resources of HEC digital library. 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). Data in table 6 serial no 8 showed that half of the faculty members (50%) were of the view that lack of awareness is also an issue in using the resources of HEC digital library.

User Education about HEC Digital Library

User's education to modern library services is another challenge. The role of departmental librarian is crucial. Hands-on exercises are helpful in introducing new faculty members 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 faculty members to improve their IT literacy. Data shows that (51%) faculty members were of the opinion that for better and useful accessing of the resources of HEC digital library user education is mandatory.

Searching Techniques in Accessing HEC Digital Library

Faculty members can now get informal online education regarding trends in various fields on their desktops. They may improve their ability of searching techniques 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. The study results showed that (66%) faculty members had problems with searching techniques. Results reveals that faculty members had lack of knowledge about HEC digital library resources and its advanced search features that's why they spent more time in searching relevant information.

Information over loaded

The present study shows that many of the faculty members retrieve too much information that put them in dilemma to use which information and to avoid which one. On the other hand, some faculty members are of the view that their required information are scattered in too many resources or databases which delay them in finding the relevant information for their teaching and research needs. Table 6 serial no 11 showed (69%) a vast

number of faculty members are of the opinion that the

Archival Issues and Access to Frequently Used Journals

   A number of faculty members complained that they face problems while accessing archival issues and some important journals. Access to HEC digital library is provided to the public and private sector universities by HEC through a centrally subscribed material. Subscriptions to online resources provide only access and not the ownership (Ameen and Rafiq, 2009).The libraries remain empty handed after the subscription in over (Haider, 2007; Khan, Jan and Jan, 2019). Under such circumstances faculty might face problem of accessing archival and frequently used journals.

   Table 6

Frequency distribution of issue and challenges for faculty members (N-250)

S. No.	Issues and Challenges	Yes	No
1.	HEC Digital Library is accessible only in the university (ies) not out side the university	107 (43%)	143 (57%)
2.	HEC Digital Library is not user-friendly	142 (57%)	108 (43%)
3.	I face problems due to lack of inadequate computer	115 (46%)	135 (54%)
4.	I face electricity failure problems in accessing HEC Digital Library	188 (75%)	62 (25%)
5.	I have lack of time for searching HEC Digital Library	103 (41%)	147 (59%)
6.	Low speed/ slow speed of internet connectivity decreases my access to HEC Digital Library	181 (72%)	69 (28%)
7.	Lack of technical support and security	206 (82%)	44 (18%)
8.	Lack of awareness that how to use HEC Digital Library	126 (50%)	124 (50%)
9.	Lack of User education about HEC Digital Library resources	128 (51%)	122 (49%)
10.	I do not know about the searching techniques in accessing HEC Digital Library	85 (34%)	165 (66%)
11.	Information over loaded (too much information) in HEC Digital Library	77 (31%)	173 (69%)
12.	HEC Digital Library have no access to archival issues	24 (10%)	226 (90%)
13.	HEC Digital Library have not provided access to frequently used Journals	40 (16%)	210 (84%)

References

Adeniran, P. (2013). Usage of electronic resources by undergraduates at the Redeemers University, Nigeria. *International Journal of Library and Information Science, 5*(10), 319-324.

Ahmed, S., & Amjad, A. (2014). Evaluation of researchers' satisfaction with electronic resources in two universities of Pakistan. *Library Hi Tech News, 31*(7), 20-25.

Ameen, K., & Gorman, G. (2009). Information and digital literacy: a stumbling block to development? A Pakistan perspective. *Library Management, 30*(1/2), 99-112.

Ameen, K., & Rafiq, M. (2009). Development of digital libraries in Paksitan. In Yen Len Theng, Schubert Foo and Ding Goh and J.C. Na (eds) *Handbooks on research on digital libraries: design, development and impact* (pp.482-491): Singapore: IGI Global.

Arif, M., & Kanwal, S. (2009). Acceptance of digital library among female students and effects of limited access of digital library on their performance in research work: A case of International Islamic University. *The International Information & Library Review,*

41(3), 122-128.

Bhatti, R., Chohan, T. M., & Asghar, M. B. (2014). HEC Digital library and higher education: Trends and opportunities for faculty members at the Islamia University of Bahawalpur, South Punjab, Pakistan. *Library philosophy and practice*, 01.

Haider, S. J. (2007). Education for collection management in Pakistan. *Collection Management, 31*(4), 95-107. doi: 10.1300/J105v31n04_07

Harter, S. P. (1997). Scholarly communication and the digital library: problems and issues. *Journal of digital information, 1*(1).

Hussain, A. (2006). Perception of LIS professionals regarding digital libraries. M. A.

Hussain, A., & Jan, S. U. (2018). User perception on Electronic resources and services in National Defense University Library Islamabad, Pakistan. *Pakistan Library & Information Science Journal, 49*(3).

Hussain, A., & Mahmood, K. (2012). Digital Libraries: Perception of LIS Professionals in Pakistan: LAMBERT Academic Publishing, Saarbrücken.

Hussain, A., Mahmood, K., & Shafique, F. (2008). Perceptions of LIS professionals about digital libraries in Pakistan. *The Electronic Journal of Academic and Special Librarianship, 9*(1).

Iqbal, M. J., Akhtar, N., & Muhammad, S. (2017). Scholars Perceptions about HEC Library Resources and Services: A Survey of User's Satisfaction. *Pakistan Library & Information Science Journal, 48*(2).

Jaswal, B. A. (2003). Developing Digital Libraries. *Pakistan Library Bulletin, 34*(1), 1-11.

Khan & Bhatti (2020). Collection development and management in the university libraries of Pakistan: A survey of users' satisfaction. International information and library review. Doi: 10.1080/10572317.2020.1830739

Khan, A., & Ahmed, S. (2013). The impact of digital library resources on scholarly communication: challenges and opportunities for university libraries in Pakistan. *Library Hi Tech News, 30*(8), 12-29.

Khan, A., & Ahmed, S. (2016). The Impact of Digital Library Resources' Usage on Research Productivity: A Study Among Engineering Students in Pakistan. *Pakistan Journal of Information Management & Libraries (PJIM&L), 17*, 174-183.

Khan, A., Ahmed, S., & Masrek, M. N. (2014). Scholars' satisfaction with digital library collection and gaps in the provision of effective information resources and services: A Pakistani perspective. *Journal of Electronic Resources Librarianship, 26*(4), 250-267.

Khan, A., Ahmed, S., Khan, A., & Khan, G. (2017). The impact of digital library resources usage on engineering research productivity: an empirical evidences from Pakistan. *Collection Building, 36*(2), 37-44.

Khan, Jan & Jan (2019). Impact of HEC Digital Library on Collection Management in University Libraries of Pakistan. Journal of Information Management and Library Studies. 2(1). Pp. 1-6

Kumar, G. R. (2016). Awareness and use of digital library resources by faculty members of engineering college libraries in Warangal District, Telangana: A study. *Pearl: A Journal of Library and Information Science, 11*(4), 303-311.

Kumar, S., Roy, P., & Satija, M. (2011). Database searching in central university libraries in India. *Database, 6*, 1-2011.

Malik, A., & Mahmood, K. (2009). Web search behavior of university students: a case study at University of the Punjab. *Webology, 6*(2).

Mandel, C., & Minimanl, D. (1997). The Colombia Digital Library Retrieved August 23, 2020, from World Wide Web http//:www.columbia edu.dlc

Mittal, A. (2018). User Behavior towards Digital Resources in Mohinder Singh Randhawa Library: A Study. *Journal of Advancements in Library Sciences, 4*(2), 7-13.

Muhammad, I. (2020). Satisfaction of Faculty Members with Higher Education Commission Digital Library in the Universities of Khyber Pakhtun Khwa, . Unpublished M.Phil thesis, Khushal Khan Khattak University,Karak, Khyber Pakhtun Khwa. Pakistan.

Muzammil, T. (2008). Information needs and seeking behaviour of science and technology Punjab: An appraisal. Unpublished master's thesis, University of the Punjab, Lahore. Punjab: An appraisal. Unpublished master's thesis, University of the Punjab, Lahore.

Rafiq, M., & Ameen, K. (2009). Information seeking behavior and user satisfaction of university instructors: A case study. *Library philosophy and practice, 2009*, 1-12.

Rafiq, M., & Ameen, K. (2009). Information seeking behavior and user satisfaction of university instructors: A case study. *Library philosophy and practice, 2009*, 1-12.

Rafiq, M., & Ameen, K. (2012). Use of digital media and demand for digitized contents in higher education sector of Pakistan. *The International Information & Library Review, 44*(3), 116-122.

Sadique, A. (2006). Status of the services of the information resource center, University of the

Said, A. (2006). *Accessing electronic information: A study of Pakistan's digital library*: INASP.

Sharma, C., Singh, L., & Sharma, R. (2011). Usage and acceptability of e-resources in National Dairy Research Institute (NDRI) and National Bureau of animal genetic resources (NBAGR), India. *The Electronic Library, 29*(6), 803-816.

Tripathi, B., Sonkar, S. K., & Rajbanshi, V. J. (2016). Use and Impact of E-Resources among Research Scholars: A Comparative Study of Agriculture and Technology Universities in Uttar Pradesh. *International Journal of Library & Information Science (IJLIS), 5*(2), 108-1108.

Warraich, N. F., & Tahira, M. (2009). HEC national digital library: challenges and opportunities for LIS professionals in Pakistan. *Library philosophy and practice, 2009*, 1-10.