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HEC Digital Library Resources: Its purpose of Usage and Impact on Teaching and Research Activities in the Universities of Khyber Pakhtunkhwa-Pakistan

Izhar Muhammad, Dr. Ghalib Khan, Rida Anmol

Abstract

The study aimed to evaluate the impact and purpose of using Higher Education Commission (HEC) digital library resources by the faculty members in the universities of Khyber Pakhtunkhwa, Pakistan. The population of study comprised of 280 social science faculty members working in the public sector universities of Khyber Pakhtunkhwa. Census Based survey method was used to solicit both genders' views for this study. A quantitative survey procedure was employed for data collection, obtaining 89.2% response rate. Majority of faculty members who were lecturers participated in survey. The study indicates that both male and female respondents have knowledge about the HEC digital library resources. However, male faculty members used these resources more than female. The faculty members between the age group of 31- 40 years were major users of these resources. Among them MS/Phil faculty members use these resources extensively to fulfill their teaching and research needs. The results of the study showed that majority of the faculty members used HEC digital library resources for the purposes of teaching and research, writing articles, updating their knowledge, improving professional competencies, and guiding research students respectively. Results further showed that these resources have a significant impact on respondents' teaching and research performance. The study suggests that in order to enhance the impact and effectiveness of HEC digital library resources in the public and private sector university of Khyber Pakhtunkhwa, it was suggested to make necessary planning to increase its usage among the faculty members which will increase their research and academic outputs.

Introduction

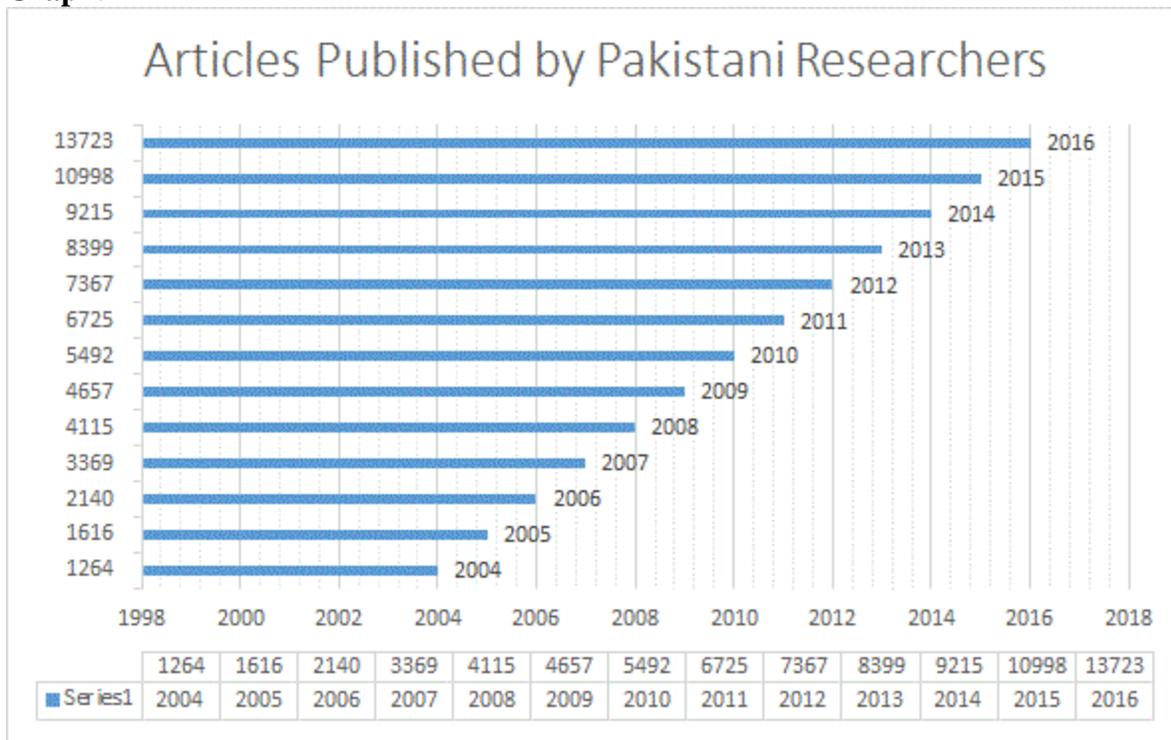
Technological advancement has forced libraries to change from store house to a place of learning and research. The development of information technology has changed the position of university library resources from print to digital. Before the initiation of Information and Communication Technologies (ICT) universities libraries were the sole custodian of printed information resources. Electronic resources have challenged university libraries to adopt the electronic resources to fulfil the needs of their users. Libraries are now using new methods and techniques to acquire, preserve and disseminate information through web-based services.

Digital libraries are information retrieval systems in which collections are stored in digital formats and easily accessed through networked computers. The basic idea of digital library is to provide universal access to digitized information across the globe. Digital resources usually consist of e-books, e-journals, online databases, institutional repository, websites, e-images, e-news, e-thesis and e-dissertation, CD-ROMs, DVD etc. Bekele (2002) & Dorner (2004) indicated a positive impact of digital library on professional education, teaching, information distribution, and research related activities. Similarly, Kortelainen (2004) discovered that researchers and teachers mostly use these resources for the purpose of research works.

Since its inception in 2002, HEC has been endorsing universities to perform a key role in socio-economic development, knowledge capital, and technology in order to join Pakistan in the ranks of advanced countries in promoting learning activities and research innovation, developing leadership, good governance and management and working with universities to build economies and communities.

In 2004 when digital library program was initiated, HEC started upgrading laboratories and ICT facilities, expended research support, and offered worldwide scholarly resources such as Pakistan Education and Research Network (PERN) and access to e-databases and e-journals (Rahman, 2013). Free access to HEC digital library resources is provided to all public sector universities and degree-awarding institutes. Apart from it partial access is also offered to the non-public sector universities and some teaching and research organizations (Mirza & Mahmood, 2012). The study of Warraich and Kanwal (2010) mentions that the HEC digital library resources are composed of 30 e-databases, more than 20,000 e- journals, and over 45,000 books. Recently, over 75,000 e-resources have been made available to fulfill the academic and research requirements of users by providing access to high-quality and scholarly literature (HEC, 2021). Thus faculty and researchers have deemed essential the role of HEC digital library resources in supporting education and research innovation in the universities of Pakistan (Khan & Ahmed, 2013). The study of Bhatti (2008) and Hayat (2011) observed that in the last few years HEC digital library has placed a good impact on research progress in the universities of Khyber Pakhtunkhwa, Pakistan. Over all a good impact has been recorded by HEC digital library on the research productivity in Pakistan. According to current statistic research articles published by Pakistani researcher have raised to 13723 in 2016 which were 1264 in 2004.

Graph:



Source: <http://www.digitallibrary.edu.pk/>

The present study is an attempt to examine the impact and purpose of using HEC digital library resources by the faulty members in public sector universities of Khyber Pakhtunkhwa-Pakistan.

Literature Review

Numerous studies have been conducted to investigate the HEC digital library resources, its impact and purposes of usage by different individuals and groups of individuals based on their subject interest, environment, occupation and geographical location. Some of the studies are reported as follow;

Purpose of using the HEC Digital Library by faculty members

Digital library resources have become indispensable for research scholars and teaching faculty in accelerating their research and academic tasks (Feng et al., 2005). The study of Malik and Mahmood (2009) that the resources of HEC digital library are used by faculty members for the purpose of fulfilling their various research and academic needs. Similarly in another study Ansari and Zuberi (2010) observed that faculty members use the electronic resources of HEC digital library for the purpose of completing their various academic assignments. Al-Saleh's (2004) findings are similarly to the findings of the above studies.

Mirza and Mahmood (2012) conducted a research study and found that HEC digital library resources are used by faculty for the purpose of increasing proficiency, quality and efficiency of research scholars. It confirms the outcomes of the study of Kumar (2016) that majority of the faculty members 82.42% use e-journals for the purpose of academic work and improving their proficiency and efficiency of research work.

Amjad, Ahmed, and Naeem (2013) examined that majority of researchers (61%) in the Islamia university of Bahawalpur use electronic resources of HEC digital library on regular basis for research and other purposes. Borrego et al. (2007) study produced similar results that most of younger researchers use e- journals for research purposes, because they are more familiar with new information technologies.

Bashir, Mahmood and Shafique (2016) found that mostly faculty members access the resources of HEC digital library for the purpose of educational and research related activities. The results of the study of Tahir et al. (2010) yield similar findings the most of the faculty member were interested in the use of e-resources and e-databases for research and teaching purposes. Furthermore, they found that the use of e-resources like e-journals, digital books, and e-databases had a great impact on their information seeking behavior.

Recently Muhammad, Khan and Anmol (2021) conducted a study; the outcome showed that faculty members use HEC digital library resource for various teaching and research purposes.

Impact of HEC Digital Library resources on the teaching and research activities of faculty members

Warrach and Ameen (2008) explored that e-resources of digital library have a great impact on users. HEC digital library provides relevant and high-quality information and saves time of the users. Borgman et al (2005) is of the opinion that the resources of digital library support both research and teaching needs of faculty and had a tremendous impact on their research activities.

Hussain et al. (2008) examined the views of LIS professionals regarding usage of e-resources in Pakistan. Findings showed that resources of HEC digital library have a significant impact in achieving academia and research works of users. The results of the study were

similar to Said (2006) which showed that librarians played a significant role in disseminating HEC digital library resources. Libraries and researchers in Pakistan were benefiting from digital library resources and services.

Warraich and Tahira (2009) investigated that HEC digital library resources have a positive impact on the performance of researchers and academicians in Pakistan. Rafiq and Ameen (2012) evaluated a study on HEC digital library resources and highlighted that it had a great impact on the uplifting of higher education in Pakistan. Furthermore the study showed that the usage of these resources had a good impact on research culture in Pakistan. The results of the study of Arif and Kanwal (2009) have a similar finding that HEC digital library resources play an important role in fulfilling the users' research needs in Pakistan.

Khan, Ahmed & Masrek (2014) investigated that researchers and teachers have recognized the importance of HEC digital library resources which had an impact on enhancing the quality of research and education in the universities of Pakistan. It verifies Dorner (2004) study findings that digital library had put a significant impact on teaching and research development. The outcomes of the study also showed that day by day the usage of digital library resources is increasing and has brought high interest in conducting research.

Khan et al. (2017) observed that researchers and teachers have realized the important role of HEC digital library resources which had a great impact in uplifting research culture in the universities of Pakistan. Results of the study were similar to Jan and Sheikh (2011) that automated and digital library have had a positive impact in providing desired information to end-users in Pakistan.

In a recently conducted study Muhammad, Khan and Anmol (2021) indicated that HEC digital library resources had a great impact on faculty various academic and research activities in Pakistan.

Research Methodology

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. Data was collected through a self-constructed, pilot tested and validated questionnaire. Out of 280, 250 filled in questionnaires were received constituting a response rate of 89.2%. The collected data was analyzed and coded with the help of SPSS version 20. Descriptive statistics were used for data analysis and interpretation.

Table No.1 (faculty of social sciences in District Peshawar)

S.#	Name of the University	Faculty of Social Science	No of Departments	No of Social Science Faculty Members
1.	University of Peshawar	Yes	13	102
2.	The University of Agriculture Peshawar	Yes	08	87
3.	Islamia College University Peshawar	Yes	07	51
4.	Shaheed Benazir Bhutto Women University Peshawar	Yes	06	40
5.	Khyber Medical University Peshawar	No	-	-
6.	University of Engineering Technology Peshawar	No	-	-
Total	6	4	34	280

Research Objectives

- To examine the purpose of using HEC digital library resources by the faculty members
- To study the impact of HEC digital library resources on the teaching and research activities of faculty members

Research Questions

- What is the purpose of using the HEC Digital Library by faculty members?
- What is the impact of HEC Digital Library resources on the teaching and research activities of faculty members?

Data Analysis

Respondents' Gender

The respondents were asked different questions related to their demographic characteristics including gender, age, qualification, designation and name of university which has been reported in Table 1 to 5.

Table 1 shows that majority 151(60.4%) of the respondents were male followed by 99(39.6%) female faculty members.

Table 1: 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: 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 PhD 118(47.2%) while only 8(3.2%) faculty members were Master's degree holders.

Table 3: Respondents' Qualification (N=250)

Degree	Frequency	Percent
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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: 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

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: University wise responses:

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

Purpose of Using HEC Digital Library Resources by Faculty Members

Respondents were asked to give their opinions about the purposes of using HEC digital library resources. Descriptive statistics in Table 6 shows that most of the respondents indicated that they most frequently use the resources of HEC digital library for the purpose of "research", "teaching", "M.Phil/Ph.D" and "writing research papers" (Mean value = 4.55,4.50,4.49, and 4.26 respectively). The results of the study were similar to Sharma et al. (2011) research study that the most of the respondents (77.54%) perceive and use e-resources for academic and research works. Similarly the study of Bashir et al. (2016) also showed that majority respondents (66%) access the HEC digital library resources for performing teaching and research related activities.

It was found that respondents were frequently using these resources for the purpose of; improving professional competencies, updating their knowledge, and guiding research students (Mean value of = 4.13, 4.10 and 4.06). It verifies Dilek-Kayaoglu (2008) study results that the majority 67% of scholars in Istanbul University used e-journals for research

related activities and improving their professional competencies, while 49% used these resources for updating their knowledge.

It was further found that these resources were occasionally used by respondents for the purpose to accomplish project works, further readings on their topic of interests, and to browse the table of contents (Mean value = 3.63, 3.57, and 3.26 respectively). These results also confirmed Cherry and Duff (2002) research outcomes that digital library assists the scholars in accomplishing their thesis and dissertations, search table of contents and to improve course materials.

Table 6: Respondents' responses regarding the Purpose of Using HEC Digital Library Resources by faculty members (N=250)

S. No.	Purpose	Mean	S.D
1.	For Research purpose	4.55	.566
2.	For Teaching Purpose	4.50	.517
3.	For doing M.Phil and Ph.D	4.49	.729
4.	For writing research papers	4.26	.449
5.	For improving professional competencies	4.13	.530
6.	For developing up-to-date knowledge	4.10	.587
7.	For Guiding researcher students	4.06	.535
8.	For doing of project work (s)	3.63	.914
9.	For further readings on topic of interests	3.57	.605
10.	For browsing table of contents of journals/books	3.26	.745

Impact of HEC Digital Library Resources on Teaching and Research of the Faculty Members

The researcher also assessed the impact of HEC digital library resources on respondents' teaching and research. For this purpose, a 5 point Likert scale was used with available options ranging from strongly agree (5) to strongly disagree (1).

Table 7 illustrates the mean value of respondents who agreed with the statements: "I get required information quickly from HEC digital library", "enables me to improve my expertise and quality of research work(s)". (Mean scores = 4.4 and 4.38) The outcomes of this study confirm Smith (2003) findings that e-resources have a major effect on academic activities of the respondents. However results of this study contradicted with Lyn (2007) research that electronic resources have less influence on toxicology related information.

Furthermore, it also notifies them about "current/up-to-date information", "improved their knowledge and professional competence", "helps them in developing up-to-date knowledge". (Mean scores = 4.34, 4.17, and 4.16). The results of this study verify Rapp et al. (2003) outcomes that electronic resources of digital library have huge influence on formation and availability of information.

It was noted that these resources "give access to wider range of information and distant publications", "save time and less effort is required for searching required material", "saves

from troublesome browsing of print material”, and “gives fast access to unlimited resources”. (Mean scores = 4.13, 4.00, 3.72, and 3.63), it confirms Dorner (2004) findings in which he examined that the usage of electronic resources have steadily raised which have been increasing a major influence on both teaching as well as research outputs. Similarly this study has similar findings with Voorbij and Ongering (2006) and Al-Saleh (2004) which examined the effects of e-resources on users research and found that their research output has increased because of digital resources.

In addition to some of the respondents reported that “HEC digital library regularly informs them about updated contents/ resources”, “Automatically saves links, highlights bookmark and notes for storing” (Mean scores = 3.25, and 2.94 respectively).

Table 7: Respondents’ responses about the impact of HEC digital library resources on teaching and research of the Faculty Members (N=250)

S. No.	Impact of HEC Digital Library Resources	Mean	S.D
1.	I get required information quickly from HEC Digital Library	4.48	.508
2.	HEC Digital Library enables me to improve my expertise and quality of research work (s)	4.38	.511
3.	HEC Digital Library give me access to current/up-to-date information	4.34	.531
4.	HEC Digital Library saves me from troublesome browsing of print material	3.72	.905
5.	HEC Digital Library give me access to wider range of information and distant publications	4.13	.566
6.	HEC Digital Library improved my knowledge and professional competence	4.17	.584
7.	HEC Digital Library helps me for developing up-to-date knowledge	4.16	.531
8.	HEC Digital Library save my time and less effort is required for searching my required material	4.00	.640
9.	HEC Digital Library gives fast access to unlimited resources	3.63	.941
10.	HEC Digital Library informs me about regular updating of content/ resources	3.25	.707
11.	Automatically saves links, highlights bookmark and notes for storing	2.94	.784

Findings and Conclusion

The study's findings indicate that the e-resources of “HEC digital library” were regularly used by respondents for the purpose of teaching and research, doing M.Phil/Ph.D, and to write research papers. Furthermore, most of them used these resources for performing various tasks like to improve professional competencies, develop and update knowledge, guide research students, accomplish project work(s), read about topics of interest, and to browse table of contents of journals and books.

The study discovered that HEC digital library resources have a significant impact on teaching and research performance of faculty members of Khyber Pakhtunkhwa. Findings of this study also showed that faculty members use the e-resources of HEC digital library for getting quick access, improving their expertise and quality of research work. It also notifies them about current and up-to-dated information, which enhance their knowledge, and professional competencies. Furthermore, it was also noted that these resources help the respondents in developing up to date knowledge, that offers them access to very huge amount of information which enhances the quantity of their publications and research production. In addition to, most of them reported that these resources save their time and less effort is required for searching the required material, due to which the respondents are free from troublesome browsing of printed materials.

Recommendations

Based on the findings of the study, the following recommendations are made;

- HEC authority must promote marketing of the usefulness of resources of “HEC digital library” through mass media, or through arranging different kinds of seminars, conferences and workshops for faculty members, academicians as well as for research scholars in Pakistan.
- The study proposed that restraints on international reputed e-books and e-journals should be lifted so that users are assisted in their search for any information. Furthermore, research and development eligibility criteria for different universities should be reviewed for maximum use of the HEC digital library resources, and a uniform policy should be applied to provide equal access to all institutions in Pakistan.
- To develop users attentiveness in the resources of “HEC digital library”, university administrators must search for various other means to update its respondents about up-to-date and fresh resources on a regular basis, such as broadcasting it on website of the university, newspapers, prospectus of university, and on main notice boards of the departments.
- The library professionals, experts, associations and LIS schools must play their role to further promote HEC digital library resources and services in Pakistan.
- The study also proposes that e-mail alerts services concerning to the new issue of e-journals and articles should be sent to faculty members related to their field of study.
- In order to increase the usage of the resources of HEC digital library among the research scholars, it is proposed that the teaching faculties should give more assignments on various topics as to compel them to explore these resources for research needs.
- The university administration should establish a close cooperation between faculty members/teaching staff and librarians in order to know their information needs and also the means of how to fulfill their needs.
- The faculty members should participate in the orientation and training programs hosted by university on HEC digital library resources. This will facilitate them to properly search and utilize these resources more effectively.

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