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2021

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Mumtaz, Rabia; Shahzad, Khurram; and Ahmad, Shamshad Dr., "Evaluation of Web-Based Contents of 177 University Libraries in Pakistan" (2021). *Library Philosophy and Practice (e-journal)*. 6093.

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Evaluation of Web-Based Contents of 177 University Libraries in Pakistan

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Abstract:

This study aims to investigate the web-based contents of university library websites in Pakistan. The population of the study comprised of 177 HEC recognized public and private sector university library websites in Pakistan. Case study research methodology based on observation was used to evaluate the web-based contents of HEC recognized public and private sector university library websites. A checklist of 138 contents was developed through literature review and by visiting world leading university library websites. Data collection process was completed in month of April 2016. The findings of this study indicate that only 75(42%) universities have their library websites whereas the remaining 102(57%) universities do not have their websites so far. The results of HEC recognized university library websites features and contents clearly show that current situation of HEC recognized university library websites is not good enough. The research further revealed that out of 177 HEC recognized university library websites, the highest scoring universities are Bahria University Islamabad and Islamia University Bahawalpur. Majority of libraries are missing some basic features, but very few university library websites are providing good quality of contents. This study will be helpful in improving quality of university library websites better in contents and services, to meet international standards.

Key Words: Websites Contents, Evaluation of Web Pages, Universities—Pakistan

Introduction and Background to the Study:

In the recent years, the rapid increase in availability of information resources has brought new challenges for the information resources managers (i.e. the librarians). Traditional library management methods are now often considered to be less useful and less practical in order to meet changing needs of users for providing more quick and efficient services the users deserves in this modern era and a need of new approaches of accessing and using library resources are becoming more common in practices across the world (Arshad & Ameen, 2015).

Advances in Information and Communication Technologies (ICTs) have made it possible to bridge this gap between library services and user needs. About few decades back, the function of libraries was limited to collection and preservation of documents. But with the ICT, library services have been revolutionized beyond collection and preservation place. Across the world most libraries in developed countries and comparatively quite a few of them in developing countries have started taking benefits of these technological advances. In the recent years with world wide spread of internet services World Wide Web (WWW) has also made library services more accessible for the users remotely. An example of such electronic services are : e-books, e-journals, e-dictionaries, encyclopedias, dictionaries, directories, yearbooks and so forth (Kehinde & Tella, 2012). This has brought changes to the concept of “time-honoured” and scholarly visits to physical libraries with online access to library resources and services available virtually(Qutab & Mahmood, 2009). Use of electronic resources in academic libraries has also become very common these days. The content richness of such online web-based is directly related to the effort/ subscription to resources provided by third party (Mahalakshmi, 2015).

In academic institutions people quite often observe limitation of resources due to financial constraints with regard to access to third party online contents and their subscriptions. Researchers’ focus on this evaluation study will be based on university libraries and their potential users. For a typical university library, the users are: undergraduate students graduate/ post graduate students, research scholars, and faculty members. As a common practice in traditional libraries, each user was required to have a face-to-face interaction with a library staff in order to meet their requirements whereas web-based libraries users have no such face to face interaction with the staff rather they have to rely mostly on website design for utilizing services of the library. For making effective use of web-based it is necessary to have user friendly interface and better internet speed.

A lot of work is done in the developing countries in these two areas whereas in developing countries like Pakistan university libraries has just started its automation process with the help of Higher Education Commission (HEC) of Pakistan.

Now users of university libraries in Pakistan can access library contents electronically through their websites. The challenge for promoting better visibility for their printed existing resources still require a lot of effort by using more advanced optical character recognizers (OCR) and more advances scanners in order to convert them in electronic forms. To avoid such issues in future now most of the material is produced directly in an electronic form as well as printed form so we have better visible accessible material while using resources online. Examples of such electronic resources are: e-journals, e-books, e-database (full-text and bibliographic), digitized collections, OPAC, virtual information about the library and enabling online feedbacks and requests through their website (Pant, 2015).

It is important to evaluate web contents of university libraries in order to make standard practices which will be more user friendly in utility and activity (Still, 2001).

Statement of Problem

Now-a-days the challenge for university libraries is to provide access to quality contents in electronic form and also giving various value-added electronic services which includes online renewal of books, online searching tools, online reservation of books and online library content loan management across the universities.

In the literature, numbers of studies are reported focusing on assessing the contents of libraries available online across the world usually particular focus on developed countries. Most of these studies on this topic have focused on factors like navigation, access, speed, general library information, collection resources and services, online public access catalogue (OPAC), electronic resources content information and other interactive services.

Researchers have not observed any such study focusing on content evaluation of the university libraries in Pakistan and it is believed that a comprehensive comparative study is needed in context of Pakistan considering such similar factors with particular focus on HEC recognized public and private sector university libraries in Pakistan.

This study will be a significant step in promoting contents of public and private sector university libraries of Pakistan. Another potential benefit of this study will be for the students and researchers for optimal utilization of university libraries contents and services. This study will also

be helpful in improving quality of university library websites better in contents and services, to meet international standards, so the university library websites should attain the aim of information seeking needs of users. The results of the study will be helpful in identification of knowledge about the contents of public and private sector universities of Pakistan. Recommendations of this study will be of great value for the policy-makers.

Literature Review:

Hiong (2000) Studied on content and design of academic library websites in Malaysia. Twelve library websites of public and private institutions of higher learning were selected for evaluation. The results showed that academic libraries of Malaysia have well designed structure and the websites are useful but some of websites have simple and basic features. Brower (2004) investigated academic health of library websites and its navigational elements. These elements included general information about library, library website aid and tools, library services, library resources and navigational metrics through many resources. Still (2001) examined 150 university library websites in four English speaking countries and observed that all websites were giving similar visual display of information but there is some difference in provision of content and services.

Michalec (2006) conducted a content analysis of art library websites and analyzed content, contact details, hours of operations, information about the library collections, the library web page location on the parent organization web site, and a number of clicks required to navigate library information. He also analyzed the availability of search engine links, internet subject resources, local resources, electronic databases, and links to reference assistance along with other basic library-related information contents. Gardner, Juricek, & Xu (2008) Evaluated fifty four largest academic library websites of United States designed especially for faculty. The study explored the content, location, language, and technological features of websites. He further explained that web pages for faculty used clear language technology was good, and links promoted the reality that library is equal partner in teaching and research of the institution.

Qutab & Mahmood (2009) investigated library web sites in Pakistan and their study focused on conducting a survey of 52 website of libraries which includes academic, special, public and national libraries in Pakistan. They prepared a checklist of 77 points for evaluating contents of library websites. They explained that very few University libraries have developed their websites in Pakistan. The study reveals that features and contents of Pakistani library websites are

far less informative and provides very few services to user compared to the services provided by the international libraries in the developed countries and this suggests there is a much more that needs to be done in order to provide better services to end users of the libraries in Pakistan in particular but to the developing countries in general. Another study which evaluated five academic library websites in Bangalore was conducted by Konnur, Rajani, & Madhusudhan in 2010. Their evaluation criteria were based on the accuracy, relevance, organization, structure, presentation, URL maintenance and other features etc. They conclude that most of these library websites require better exploitation of web-based tools as they were very basic with very few features.

Similarly, Vasishta (2013) focused on studying a new trend of publishing electronic journals and their promotions using university library websites. For evaluating availability of such resources, she prepared a comprehensive checklist points to assess web-sites of universities in north India. She also explained in her study that university libraries are in the process of improving their websites but most of them are at the primary stages with very simple and basic features and concludes her study stating that university library websites short of their potential to act as a platform for proper dissemination of electronic journals. Another similar study was conducted by Pareek & Gupta in 2013 where they examined the content analysis of Academic Library Websites in Rajasthan. Their study was based on 52 academic libraries and their websites including Government, deemed self-financed universities and research centers libraries of Rajasthan and for evaluation they used a checklist of 133-items and gives outcome of their study stating that with everyday passing communication between user and the library services is growing with more technological devices coming in use of the end users to access library services virtually either searching a specific book or viewing library contents remotely.

Mahalakshmi (2015) highlighted importance of university library websites in a detailed fashion with its key role of collection and providing services to the end users and their study was conducted using parameters related to the websites of 6 libraries of Universities focusing mainly on factors like navigational speed, strength and weaknesses of the website contents and their presentation though the complete list of checklist is length with 85 evaluating parameters based check list.

Another study was conducted by Agyemang, Boateng, & Dzandu in 2015 where they emphasized on Dialogic communication in libraries of Ghana Universities. They conducted a survey and concluded the study stating that websites of University libraries only provide very basic

information on their static web-pages and navigation between those pages is also poor and require many improvements. In a paper by Pant (2015), an issue of interface design is discussed as a key point for better utilization of university library websites and their study was based on evaluating Central School Library in New Delhi. The authors concludes that for most of the users a website serves as a primary resource for getting the information of their curriculum and/or research needs but still there is much more that needs to be done to achieve expectation of users.

Yang & Henry (2015) described that Librarians assess and collect resources that are of value to students and faculty in order to support research. One type of items collected is open web resources, which are subject specific websites freely accessible by anyone with access to the internet including government, organizational, non-profit websites, in addition to individual open access journal articles that are stored on research/subject guides. This study revealed how Association of Research Libraries (ARL) academic libraries collect and present the valuable open web resources. The observation finds that ARL academic libraries gather links to open web resources, but several do not have a way to make these resources discoverable on the library website. Bhatti, Asghar, & Khan (2015) examined academic library contents and features in Pakistan for this purpose they studied 39 universities by using 37 items checklist. The findings revealed that situation of academic library website are not good enough to satisfy user's needs. Majority of the websites were missing important contents and features, very few websites have found with good quality of contents.

Wilson (2015) evaluated the website content of Alabama academic libraries to examine their services, contents and design. A content analysis was conducted on 24 academic library websites searched through Alabama College's directory website. Findings of this study indicate that academic libraries are offering good services but some of them are missing basic services and accessibility standards. Kaushik (2015) explored services and facilities available on 28 National institute of technology websites (NITs) with the help of a checklist. Results of the study indicate that most of the websites gives basic introductory information and most of the library websites need to improve. Okon, Inyang, & Etim (2015) explored the strategic issues of marketing of web-based information resources and services through library websites in academic libraries of Nigeria. The results of the study highlights that academic library websites were under utilized for marketing of information resources, they further revealed that there should be a national policy of criteria for development of library websites in Nigeria. Yoon & Schultz (2016) studied on research data

management services in United States through content analysis of 185 library websites with four main sections of service, information, education and network. The results of the study on websites reveals that libraries need to advance its services, provide information online, and develop information services. Ganaee & Rafiq (2016) studied on contents and features of academic library websites. A checklist of features and contents were used to collect data from HEC recognized universities of Pakistan. Interview method of data collection was used to collect data from library professionals. Results revealed that Pakistani university library websites have effective features, but features found less frequently are the use of web 2.0 technologies and website aid information. Si & Ranaweera (2016) evaluated web-based library services of university libraries in Sri Lanka. A checklist of 55 items was used to collect data from fifteen government universities of University Grants Commission. Findings of the study indicated that none of the university library website had found all the items in the checklist. They focused that university library websites should more focus on adding new web-based library services to be compatible with changing technology and ever growing demands of the users. Nagesh & Chandrashekara (2016) studied on engineering college libraries in Bangalore city, they analyzed their contents strength and weakness etc. Data was collected with the help of checklist containing 39 items. They described that engineering college library websites should be checked continuously through well establish criteria like web design, accessibility, navigation quality of contents etc.

Research Questions:

Following research questions were formed:

1. What is the criteria for evaluation of university library websites?
2. What are the contents (services& resources) provided by public sector university library websites in Pakistan?
3. What are the contents (services& resources) provided by private sector university library websites in Pakistan?

Research Design and Procedure

Case study method was used to in order to achieve objectives of this study. It is the most common and successful research method used in psychology, social science research including LIS research studies. Case study research methodology based on observation is used to evaluate

the web-based contents of HEC recognized public and private sector university library websites. Descriptive case study is used to describe an intervention or phenomenon and the real life context in which it occurred (Yin, 2003).

HEC recognized public and private sector university library websites are chosen as to achieve the objectives of this research. The population of the study are 177 HEC recognized public and private sector university library websites, in which 103 are public sector universities and remaining 74 are private sector universities. The researchers used case study approach to investigate the contents of HEC recognized public and private sector university library websites.

Direct observation method was used to obtain the data; the information collected was qualitative in nature. Direct observation was based on contents of checklist. Checklist of 138 contents was used in direct observation for collection of data. Information was recorded by the researchers using checklist of yes, no options.

For the purpose of data collection, HEC recognized public and private sector university library websites were visited by the researcher and data was recorded through observation using checklist. Data was collected in the month of February to march from 05-02-2016 to 10-03-2016. Collected data was again rechecked by the researcher in the month of March to April from 20-03-2016 to 10-4-2016 through visiting university library websites again. Due to reliability issue each website was visited twice by the researchers.

After data collection, each of fifteen sections were described. Data collected through observation by the researchers using checklist was analyzed by using simple method of calculation and percentages were calculated to analyze the results of this study.

Data Analysis, Interpretation & Discussions

Currency

Currency and authority of information can be judged by its copyright and updating date. Copyright information of the website was checked and it was found that out of 177 public and private university library websites 64(36%) were providing access to copyright information while 113(63%) were not providing access. Out of 103 public sector universities 43(41%) were providing access to copyright information while 60(58%) were not providing access. Out of 74 private sector universities 21(28%) were providing access to copyright information while 53(71%) were not providing access. It was evaluated that library website is updated frequently and results

showed that out of 177 public and private university library websites 19(10%) were providing access while 158(89%) were not providing access. Out of 103 public sector universities 11(10%) were providing access to the information of website is updated frequently while 92(89%) were not providing access. Out of 74 private sector universities 8(10%) were providing access to the information of website is updated frequently while 66(89%) were not providing access. It was explored that library website information is currently and timely enough to meet the need and it was found that out of 177 public and private university library websites 28(15%) were providing access while 149(84%) were not providing access. Out of 103 public sector universities 18(17%) were providing access to current and enough information while 85(82%) were not providing access. Out of 74 private sector universities 10(13%) were providing access to current and enough information while 64(86%) were not providing access.

It was checked that pages have been updated in past three months and it was found that out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 4(3%) were providing access to the information on pages have been updated in past three months while 99(96%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to the information on pages have been updated in past three months while 72(97%) were not providing access. Revision or updating date of the website was evaluated and results showed that out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 5(4%) were providing access to revision or updating date of the website while 98(95%) were not providing access. Out of 74 private sector universities 1(1%) were providing access revision or updating date of the website while 73(98%) were not providing access.

Further it was explored that If material is presented in charts/graphs or tables is it clearly stated when it was gathered and results showed that out of 177 public and private university library websites 3(1%)were providing access while 174(98%) were not providing access. Out of 103 public sector universities 2(1%) were providing access to the information of If material is presented in charts/graphs or tables is it clearly stated when it was gathered while 101(98%) were not providing access. Out of 74 private sector universities 1(1%) were providing access to the information ofIf material is presented in charts/graphs or tables is it clearly stated when it was gathered while 73(98%) were not providing access.

Table1.0 Currency of HEC Public and Private Sector University Library Websites

Currency		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	Copyright information.	43(41%)	60(58%)	21(28%)	53(71%)	64(36%)	113(63%)
2.	The website is updated frequently.	11(10%)	92(89%)	8(10%)	66(89%)	19(10%)	158(89%)
3.	The information is current and timely enough to meet the need.	18(17%)	85(82%)	10(13%)	64(86%)	28(15%)	149(84%)
4.	The pages have been updated in past three months.	4(3%)	99(96%)	2(2%)	72(97%)	6(3%)	171(96%)
5.	Is there any indication when the page was last updated/revised (or is there data on the page to indicate when it was uploaded on the web).	5(4%)	98(95%)	1(1%)	73(98%)	6(3%)	171(96%)

6.	If material is presented in charts/graphs or tables is it clearly stated when it was gathered.	2(1%)	101(98%)	1(1%)	73(98%)	3(1%)	174(98%)
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Library General Information

Table 2 gives general information about library introduction, objectives of the library, library rules; working hours of the library, staff information etc. These details almost found on every type of library website. Library introduction was checked and results showed that out of 177 public and private university library websites 61(34%) were providing access while 116(65%) were not providing access. Out of 103 public sector universities 46(44%) were providing access to library introduction while 57(55%) were not providing access. Out of 74 private sector universities 15(20%) were providing access to library introduction while 59(79%) were not providing access. Library collection was evaluated and it was found that out of 177 public and private university library websites 52(29%) were providing access to while 125(70%) were not providing access. Out of 103 public sector universities 39(37%) were providing access to library collection while 64(62%) were not providing access. Out of 74 private sector universities 13(17%) were providing access to library collection while 61(82%) were not providing access. Introduction to library services were checked results showed that out of 177 public and private university library websites 48(27%) were providing access while 129(72%) were not providing access. Out of 103 public sector universities 35(33%) were providing access while 68(66%) were not providing access. Out of 74 private sector universities 13(17%) were providing access while 61(82%) were not providing access.

Introduction to library sources were evaluated and it was found that out of 177 public and private university library websites 53(29%) were providing access while 124(70%) were not providing access. Out of 103 public sector universities 34(33%) were providing access of introduction to library sources while 69(66%) were not providing access. Out of 74 private sector universities 19(25%) were providing access to introduction to library sources while 55(74%) were

not providing access. Hours of operation were checked and it was found that out of 177 public and private university library websites 53(29%) were providing access while 124(70%) were not providing access. Out of 103 public sector universities 34(33%) were providing access to the information about hours of operation while 69(66%) were not providing access. Out of 74 private sector universities 19(25%) were providing access to the information about hours of operation while 55(74%) were not providing access. Mission statement or objectives of library were examined and out of 177 public and private university library websites 43(24%) were providing access while 134(75%) were not providing access. Out of 103 public sector universities 30(29%) were providing access to mission statement or objectives of library while 73(70%) were not providing access. Out of 74 private sector universities 13(17%) were providing access to mission statement or objectives of library while 61(82%) were not providing access.

Library policies and procedures were evaluated and the results showed that out of 177 public and private university library websites 34(19%) were providing access while 143(80%) were not providing access. Out of 103 public sector universities 25(24%) were providing access to library policies and procedures while 78(75%) were not providing access. Out of 74 private sector universities 9(12%) were providing access to library policies and procedures while 65(87%) were not providing access. Mail facility to librarian staff was checked and out of 177 public and private university library websites 13(7%) were providing access while 164(92%) were not providing access. Out of 103 public sector universities 8(7%) were providing access facility of mail facility to librarian staff while 95(92%) were not providing access. Out of 74 private sector universities 5(6%) were providing access mail facility to librarian staff while 69(93%) were not providing access. Information about membership was checked and results showed that out of 177 public and private university library websites 20(11%) were providing access while 157(88%) were not providing access. Out of 103 public sector universities 14(13%) were providing access details of information about membership while 89(86%) were not providing access. Out of 74 private sector universities 6(8%) were providing access details of information about membership while 68(91%) were not providing access. Library departments operations were checked and results showed that out of 177 public and private university library websites 15(8%) were providing access 162(91%) while were not providing access. Out of 103 public sector universities 9(8%) were providing access to library departments operations while 94(91%) were not providing

access. Out of 74 private sector universities 6(8%) were providing access to library departments operations while 68(91%) were not providing access.

Instructions or tutorials about library use were evaluated and results showed that out of 177 public and private university library websites 14(7%) were providing access while 163(92%) were not providing access. Out of 103 public sector universities 7(6%) were providing access of instructions or tutorials about library use while 96(93%) were not providing access. Out of 74 private sector universities 7(9%) were providing access to instructions or tutorials about library use while 67(90%) were not providing access. Staff directory was checked and it was found that out of 177 public and private university library websites 22(12%) were providing access to while 155(87%) were not providing access. Out of 103 public sector universities 15(14%) were providing access to staff directory while 88(85%) were not providing access. Out of 74 private sector universities 7(9%) were providing access to staff directory while 67(90%) were not providing access.

Information about library buildings were evaluated and results showed that out of 177 public and private university library websites 12(6%) were providing access while 165(93%) were not providing access. Out of 103 public sector universities 8(7%) were providing access to information about library buildings while 95(92%) were not providing access. Out of 74 private sector universities 4(5%) were providing access to Information about library buildings while 70(94%) were not providing access. Chat with librarian facility was checked and it was found that out of 177 public and private university library websites 5(2%) were providing access while 172(92%) were not providing access. Out of 103 public sector universities 1(0%) were providing access of chat with librarian facility while 102(99%) were not providing access. Out of 74 private sector universities 4(5%) were providing access of chat with librarian facility while 70(94%) were not providing access. Information about library committee was examined and it was found that out of 177 public and private university library websites 9(5%) were providing access while 168(94%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of information about library committee while 98(95%) were not providing access. Out of 74 private sector universities 4(5%) were providing access of information about library committee while 70(94%) were not providing access.

Library newsletter was checked and results showed that out of 177 public and private university library websites 5(2%) were providing access while 172(97%) were not providing

access. Out of 103 public sector universities 3(2%) were providing access of library newsletter while 100(97%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of library newsletter while 72(97%) were not providing access. Ongoing projects were viewed and it was found that out of 177 public and private university library websites 3(1%) were providing access while 174(98%) were not providing access. Out of 103 public sector universities 2(1%) were providing access of ongoing projects while 101(98%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of ongoing projects while 73(98%) were not providing access.

Annual reports statistics of the websites were examined and results showed that out of 177 public and private university library websites 1(0%) were providing access while 176(99%) were not providing access. Out of 103 public sector universities 0(0%) were providing access of annual reports statistics while 103(100%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of annual reports statistics while 73(98%) were not providing access. Libraries directory were checked and it was found that out of 177 public and private university library websites 8(4%) were providing access while 169(95%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of libraries directory while 98(95%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of libraries directory while 71(95%) were not providing access. Affiliated libraries were viewed and it was found that out of 177 public and private university library websites 5(2%) were providing access while 172(97%) were not providing access. Out of 103 public sector universities 3(2%) were providing access of affiliated libraries while 100(97%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of affiliated libraries while 72(97%) were not providing access. Department faculty libraries were checked and it was found that out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 4(3%) were providing access to department faculty libraries while 99(96%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to department faculty libraries while 72(97%) were not providing access.

Other libraries associated with university were checked and it was found that out of 177 public and private university library websites 4(2%) were providing access while 173(97%) were not providing access. Out of 103 public sector universities 2(1%) were providing access of other

libraries associated with university while 101(99%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of other libraries associated with university while 72(97%) were not providing access. News and updates were evaluated and results showed that out of 177 public and private university library websites 9(5%) were providing access while 168(94%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of news and updates while 98(95%) were not providing access. Out of 74 private sector universities 4(5%) were providing access of news and updates while 70(94%) were not providing access. Places of study were examined and it was found that out of 177 public and private university library websites 10(5%) were providing access while 167(94%) were not providing access. Places of study details were evaluated and it was found that out of 103 public sector universities 5(4%) were providing access while 98(95%) were not providing access. Out of 74 private sector universities 5(6%) were providing access while 69(93%) were not providing access details about places of study.

Table 2.0: Library General Information of HEC Public and Private Sector University Library Websites

Rank	Library General Information	Public Total (103)		Private Total (74)		Total (177)	
1.	Library introduction.	46(44%)	57(55%)	15(20%)	59(79%)	61(34%)	116(65%)
2.	Library collection.	39(37%)	64(62%)	13(17%)	61(82%)	52(29%)	125(70%)
3.	Introduction to library services.	35(33%)	68(66%)	13(17%)	61(82%)	48(27%)	129(72%)
4.	Introduction to library sources.	34(33%)	69(66%)	19(25%)	55(74%)	53(29%)	124(70%)
5	Hours of operation.	34(33%)	69(66%)	19(25%)	55(74%)	53(29%)	124(70%)
6.	Library mission statement or	30(29%)	73(70%)	13(17%)	61(82%)	43(24%)	134(75%)

	objectives of library.						
7.	Library policies and procedures.	25(24%)	78(75%)	9(12%)	65(87%)	34(19%)	143(80%)
8.	Mail to facility librarian /staff.	8(7%)	95(92%)	5(6%)	69(93%)	13(7%)	164(92%)
9.	Information about membership.	14(13%)	89(86%)	6(8%)	68(91%)	20(11%)	157(88%)
10.	Library departments operations.	9(8%)	94(91%)	6(8%)	68(91%)	15(8%)	162(91%)
11.	Instruction or tutorial about library use.	7(6%)	96(93%)	7(9%)	67(90%)	14(7%)	163(92%)
12.	Staff directory.	15(14%)	88(85%)	7(9%)	67(90%)	22(12%)	155(87%)
13.	Information about library building.	8(7%)	95(92%)	4(5%)	70(94%)	12(6%)	165(93%)
14.	Chat with librarian.	1(0%)	102(99%)	4(5%)	70(94%)	5(2%)	172(97%)
15.	Information about library committee.	5(4%)	98(95%)	4(5%)	70(94%)	9(5%)	168(94%)
16.	Library Newsletter.	3(2%)	100(97%)	2(2%)	72(97%)	5(2%)	172(97%)
17.	Ongoing projects.	2(1%)	101(98%)	1(1%)	73(98%)	3(1%)	174(98%)

18.	Annual reports/statistics.	0(0%)	103(100%)	1(1%)	73(98%)	1(0%)	176(99%)
19.	Libraries directory.	5(4%)	98(95%)	3(4%)	71(95%)	8(4%)	169(95%)
20.	Affiliated libraries.	3(2%)	100(97%)	2(2%)	72(97%)	5(2%)	172(97%)
21.	Department faculty libraries.	4(3%)	99(96%)	2(2%)	72(97%)	6(3%)	171(96%)
22.	Other libraries associated with university.	2(1%)	101(99%)	2(2%)	72(97%)	4(2%)	173(97%)
23.	News and updates.	5(4%)	98(95%)	4(5%)	70(94%)	9(5%)	168(94%)
24.	Places for study.	5(4%)	98(95%)	5(6%)	69(93%)	10(5%)	167(94%)

Library Resources

Table 3.0 gives information about library resources. OPAC is very easy and quick way to connect with resources of any library, OPAC was checked and results showed that out of 177 public and private university library websites 38(21%) were providing access while 139(78%) were not providing access. Out of 103 public sector universities 26(25%) were providing access of OPAC while 77(74%) were not providing access. Out of 74 private sector universities 12(16%) were providing access of OPAC while 62(83%) were not providing access. Other reference sources and style guides were evaluated and it was found that out of 177 public and private university library websites 14(7%) were providing access while 163(92%) were not providing access. Out of 103 public sector universities 8(7%) were providing access to other reference sources and style guides while 95(92%) were not providing access. Out of 74 private sector universities 6(8%) were providing access to other reference sources and style guides while 68(91%) were not providing access. Library selected internet sources were checked and it was found that out of 177 public and private university library websites 21(11%) were providing access while 156(88%) were not

providing access. Out of 103 public sector universities 12(11%) were providing access to library selected internet sources while 91(88%) were not providing access. Out of 74 private sector universities 9(12%) were providing access to library selected internet source while 65(87%) were not providing access.

Bibliographical databases were evaluated and results showed that out of 177 public and private university library websites 20(11%) were providing access while 157(88%) were not providing access. Out of 103 public sector universities 10(9%) were providing access to bibliographical databases while 93(90%) were not providing access. Out of 74 private sector universities 10(13%) were providing access to bibliographical databases while 64(86%) were not providing access. Link to other libraries online catalogues were observed and it was found that out of 177 public and private university library websites 7(3%) were providing access while 170(96%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of link to other libraries online catalogues while 98(95%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of link to other libraries online catalogues while 72(97%) were not providing access. Newspaper index were checked and it was found that out of 177 public and private university library websites 7(3%) were providing access while 170(96%) were not providing access. Out of 103 public sector universities 6(5%) were providing access to newspaper index while 97(94%) were not providing access. Out of 74 private sector universities 1(1%) were providing access to newspaper index while 73(98%) were not providing access.

Local information (city, campuses) etc. were observed and it was found that out of 177 public and private university library websites 15(8%) were providing access while 162(91%) were not providing access. Out of 103 public sector universities 8(7%) were providing access to local information (city, campuses) etc while 95(92%) were not providing access. Out of 74 private sector universities 7(9%) were providing access to local information (city, campuses) etc while 67(90%) were not providing access. Using library resources off campus were checked and it was found that out of 177 public and private university library websites 22(12%) were providing access while 155(87%) were not providing access. Out of 103 public sector universities 14(13%) were providing access of using library resources off campus while 89(86%) were not providing access. Out of 74 private sector universities 8(10%) were providing access of using library resources off campus while 66(89%) were not providing access.

Table 3.0: Library Resources of HEC Public and Private Sector University Library Websites

Library Resources		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	OPAC	26(25%)	77(74%)	12(16%)	62(83%)	38(21%)	139(78%)
2.	Other reference sources and style guides.	8(7%)	95(92%)	6(8%)	68(91%)	14(7%)	163(92%)
3.	Library selected internet sources.	12(11%)	91(88%)	9(12%)	65(87%)	21(11%)	156(88%)
4.	Bibliographical databases.	10(9%)	93(90%)	10(13%)	64(86%)	20(11%)	157(88%)
5.	Link to other libraries online catalogues.	5(4%)	98(95%)	2(2%)	72(97%)	7(3%)	170(96%)
6.	Newspaper index.	6(5%)	97(94%)	1(1%)	73(98%)	7(3%)	170(96%)
7.	Local information (city, campuses)etc.	8(7%)	95(92%)	7(9%)	67(90%)	15(8%)	162(91%)
8.	Using library resources off campus.	14(13%)	89(86%)	8(10%)	66(89%)	22(12%)	155(87%)

Library Collection

Library collection is very important for any library. Books printed/electronic were observed that out of 177 public and private university library websites 43(22%) were providing access while 134(75%) were not providing access. Out of 103 public sector universities 30(29%)

were providing access of library collection while 73(70%) were not providing access. Out of 74 private sector universities 13(17%) were providing access of library collection while 61(82%) were not providing access. Newspapers Journals, magazines were checked and results showed that out of 177 public and private university library websites 34(19%) were providing access while 143(80%) were not providing access. Out of 103 public sector universities 22(21%) were providing access of newspapers Journals, magazines while 81(78%) were not providing access. Out of 74 private sector universities 12(16%) were providing access of newspapers Journals, magazines while 62(83%) were not providing access.

CDS, DVDS, ROMS were examined and it was found that out of 177 public and private university library websites 29(16%) were providing access while 148(83%) were not providing access. Out of 103 public sector universities 19(18%) were providing access of CDS, DVDS, ROMS while 84(81%) were not providing access. Out of 74 private sector universities 10(13%) were providing access of CDS, DVDS, ROMS while 64(86%) were not providing access. Audio video material were checked and out of 177 public and private university library websites 27(15%) were providing access while 150(84%) were not providing access. Out of 103 public sector universities 18(17%) were providing access of audio video material while 85(82%) were not providing access. Out of 74 private sector universities 9(12%) were providing access of audio video material while 65(87%) were not providing access.

Theses Dissertations were evaluated and out of 177 public and private university library websites 13(7%) were providing access while 164(92%) were not providing access. Out of 103 public sector universities 7(6%) were providing access of theses Dissertations while 96(93%) were not providing access. Out of 74 private sector universities 6(8%) were providing access of theses Dissertations while 68(91%) were not providing access. Project reports were checked and it was found that out of 177 public and private university library websites 7(3%) were providing access while 170(96%) were not providing access. Out of 103 public sector universities 5(4%) were providing access to project reports while 98(95%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to project reports while 72(97%) were not providing access.

Manuscripts were checked and out of 177 public and private university library websites 7(3%) were providing access while 170(96%) were not providing access. Out of 103 public sector universities 4(3%) were providing access of manuscripts while 99(96%) were not providing

access. Out of 74 private sector universities 3(4%) were providing access of manuscripts while 71(95%) were not providing access. Maps were evaluated and it was found that out of 177 public and private university library websites 4(2%) were providing access while 173(97%) were not providing access. Out of 103 public sector universities 3(2%) were providing access of maps while 100(97%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of maps while 73(99%) were not providing access. Microfilms were examined and out of 177 public and private university library websites 7(3%) were providing access while 170(96%) were not providing access. Out of 103 public sector universities 3(2%) were providing access of microfilms while 100(97%) were not providing access. Out of 74 private sector universities 4(5%) were providing access of microfilms while 70(94%) were not providing access. Link to other libraries online catalogues were checked and out of 177 public and private university library websites 8(4%) were providing access while 169(95%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of other libraries online catalogues while 98(95%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of other libraries online catalogues while 71(95%) were not providing access.

Table4.0: Library Collection of HEC Public and Private Sector University Library Websites

Library Collection		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	Books printed/electronic.	30(29%)	73(70%)	13(17%)	61(82%)	43(22%)	134(75%)
2.	Newspapers Journals, magazines.	22(21%)	81(78%)	12(16%)	62(83%)	34(19%)	143(80%)
3.	CDS, DVDS, ROMS	19(18%)	84(81%)	10(13%)	64(86%)	29(16%)	148(83%)
4.	Audio video material.	18(17%)	85(82%)	9(12%)	65(87%)	27(15%)	150(84%)

5.	Theses Dissertations.	7(6%)	96(93%)	6(8%)	68(91%)	13(7%)	164(92%)
6.	Project reports	5(4%)	98(95%)	2(2%)	72(97%)	7(3%)	170(96%)
7.	Manuscripts	4(3%)	99(96%)	3(4%)	71(95%)	7(3%)	170(96%)
8.	Maps	3(2%)	100(97%)	1(1%)	73(99%)	4(2%)	173(97%)
9.	Microfilms	3(2%)	100(97%)	4(5%)	70(94%)	7(3%)	170(96%)
10.	Link to other libraries online catalogues.	5(4%)	98(95%)	3(4%)	71(95%)	8(4%)	169(95%)

Information on E-Resources

Electronic resources are the key element of any library these days. HEC databases were checked and it was found that out of 177 public and private university library websites 60(33%) were providing access while 117(66%) were not providing access. Out of 103 public sector universities 42(40%) were providing access while 61(59%) were not providing access. Out of 74 private sector universities 18(24%) were providing access while 56(75%) were not providing access. Other databases details were evaluated and out of 177 public and private university library websites 21(11%) were providing access while 156(88%) were not providing access. Out of 103 public sector universities 9(8%) were providing access while 94(91%) were not providing access. Out of 74 private sector universities 12(16%) were providing access while 62(83%) were not providing access.

Link to E-Journals were examined and results showed that out of 177 public and private university library websites 22(12%) were providing access while 155(87%) were not providing access. Out of 103 public sector universities 10(9%) were providing access of link to E-Journal while 93(90%) were not providing access. Out of 74 private sector universities 12(16%) were providing access of link to E-Journal while 62(83%) were not providing access. Link to E-books were checked and out of 177 public and private university library websites 20(11%) were providing access while 157(88%) were not providing access. Out of 103 public sector universities

8(7%) were providing access of Link to E-books while 95(92%) were not providing access. Out of 74 private sector universities 12(16%) were providing access of link to E-books while 62(83%) were not providing access. Professional journals literature were evaluated and out of 177 public and private university library websites 22(12%) were providing access while 155(87%) were not providing access. Out of 103 public sector universities 11(10%) were providing access to professional journals literature while 92(89%) were not providing access. Out of 74 private sector universities 11(14%) were providing access to professional journals literature while 63(85%) were not providing access.

Reference tool list were examined and out of 177 public and private university library websites 15(8%) were providing access while 162(91%) were not providing access. Out of 103 public sector universities 7(6%) were providing access of reference tool list while 96(93%) were not providing access. Out of 74 private sector universities 8(10%) were providing access of reference tool list while 66(89%) were not providing access. Online exhibitions were observed and results showed that out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 3(2%) were providing access to online exhibitions while 100(97%) were not providing access. Out of 74 private sector universities 3(4%) were providing access to online exhibitions while 71(95%) were not providing access.

Online seminars were checked and it was found that out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 2(1%) were providing access to online seminars while 101(98%) were not providing access. Out of 74 private sector universities 4(5%) were providing access to online seminars while 70(94%) were not providing access. Link to search engines were examined and out of 177 public and private university library websites 4(2%) were providing access while 173(97%) were not providing access. Out of 103 public sector universities were 2(1%) providing access of link to search engines while 101(98%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of link to search engines while 72(97%) were not providing access.

Table 5.0: Information on E-Resources of HEC Public and Private Sector University Library

		<i>Websites</i>					
Information on E-Resources		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	HEC databases.	42(40%)	61(59%)	18(24%)	56(75%)	60(33%)	117(66%)
2.	Other databases.	9(8%)	94(91%)	12(16%)	62(83%)	21(11%)	156(88%)
3.	Link to E-Journals.	10(9%)	93(90%)	12(16%)	62(83%)	22(12%)	155(87%)
4.	Link to E-books.	8(7%)	95(92%)	12(16%)	62(83%)	20(11%)	157(88%)
5.	Professional journals literature.	11(10%)	92(89%)	11(14%)	63(85%)	22(12%)	155(87%)
6.	Reference tool list.	7(6%)	96(93%)	8(10%)	66(89%)	15(8%)	162(91%)
7.	Online exhibitions.	3(2%)	100(97%)	3(4%)	71(95%)	6(3%)	171(96%)
8.	Online seminars.	2(1%)	101(98%)	4(5%)	70(94%)	6(3%)	171(96%)
9.	Link to search engines.	2(1%)	101(98%)	2(2%)	72(97%)	4(2%)	173(97%)

Library Services & Technical Services

Library services are the services provided by the library to its users. It is evident from table 4.10 that internet access services were evaluated and out of 177 public and private university

library websites 23(12%) were providing access while 154(87%) were not providing access. Out of 103 public sector universities 17(16%) were providing access of internet access services while 86(83%) were not providing access. Out of 74 private sector universities 6(8%) were providing access of internet access services while 68(91%) were not providing access. Print, copy, scan facility was checked and it was found that out of 177 public and private university library websites 25(14%) were providing access while 152(85%) were not providing access. Out of 103 public sector universities 21(11%) were providing access of print, copy, scan facility while 82(79%) were not providing access. Out of 74 private sector universities 4(5%) were providing access of print, copy, scan facility while 70(94%) were not providing access.

Reference services were examined and it was found that out of 177 public and private university library websites 35(19%) were providing access while 142(80%) were not providing access. Out of 103 public sector universities 26(14%) were providing access to reference services while 77(74%) were not providing access. Out of 74 private sector universities 9(12%) were providing access to reference services while 65(87%) were not providing access. Issue returns (browsing self-check in/out) was checked and it was found that out of 177 public and private university library websites 0(0%) were providing access while 177(100%) were not providing access. Out of 103 public sector universities 0(0%) were providing access of issue returns (browsing self-check in/out) while 103(100%) were not providing access. Out of 74 private sector universities 0(0%) were providing access of issue returns (browsing self-check in/out) while 74(100%) were not providing access.

Bibliographical services were checked and results showed that out of 177 public and private university library websites 17(9%) were providing access while 160(90%) were not providing access. Out of 103 public sector universities 14(7%) were providing access to bibliographical services while 89(86%) were not providing access. Out of 74 private sector universities 3(4%) were providing access to bibliographical services while 71(95%) were not providing access. Inter library loan service was evaluated and it was found that out of 177 public and private university library websites 19(10%) were providing access while 158(89%) were not providing access. Out of 103 public sector universities 15(8%) were providing access to Inter library loan while 88(49%) were not providing access. Out of 74 private sector universities 4(5%) were providing access to Inter library loan while 70(94%) were not providing access.

Reprography services were examined and it was found that out of 177 public and private university library websites 14(7%) were providing access while 163(92%) were not providing access. Out of 103 public sector universities 12(6%) were providing access to reprography services while 91(51%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to reprography services while 72(97%) were not providing access. Reservation of document service was checked and it was found that out of 177 public and private university library websites were 13(7%) providing access while 164(92%) were not providing access. Out of 103 public sector universities 10(9%) were providing access of reservation of document while 93(90%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of reservation of document while 71(95%) were not providing access. Indexing services were explored and results showed that out of 177 public and private university library websites 10(5%) were providing access while 167(94%) were not providing access. Out of 103 public sector universities 7(6%) were providing access of indexing services while 96(93%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of indexing services while 71(95%) were not providing access. Document delivery service was checked and out of 177 public and private university library websites 14(7%) were providing access while 163(94%) were not providing access. Out of 103 public sector universities 10(9%) were providing access of document delivery service while 93(90%) were not providing access. Out of 74 private sector universities 4(5%) were providing access of document delivery service while 70(94%) were not providing access.

Table 6.0: Library Services & Technical Services of HEC Public and Private Sector University

Library Websites

Library services & technical services		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	Internet access services.	17(16%)	86(83%)	6(8%)	68(91%)	23(12%)	154(87%)
2.	Print, copy, scan.	21(11%)	82(79%)	4(5%)	70(94%)	25(14%)	152(85%)
3.	Reference services.	26(14%)	77(74%)	9(12%)	65(87%)	35(19%)	142(80%)
4.	Issue returns (browsing self check in/out).	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)
5.	Bibliographical services.	14(7%)	89(86%)	3(4%)	71(95%)	17(9%)	160(90%)
6.	Inter library loan.	15(8%)	88(49%)	4(5%)	70(94%)	19(10%)	158(89%)
7.	Reprography services.	12(6%)	91(51%)	2(2%)	72(97%)	14(7%)	163(92%)
8.	Reservation of document.	10(9%)	93(90%)	3(4%)	71(95%)	13(7%)	164(92%)
9.	Indexing services.	7(6%)	96(93%)	3(4%)	71(95%)	10(5%)	167(94%)
10.	Document delivery service.	10(9%)	93(90%)	4(5%)	70(94%)	14(7%)	163(94%)

Information on Different Library Sections

Library is consisted on different sections, these sections include Computer section, Periodical book/volume section, circulation section, acquisition section, technical section etc. Computer section information was checked and it was found that out of 177 public and private university library websites 21(11%) were providing access while 156 (88%) were not providing access. Out of 103 public sector universities 15(14%) were providing access of computer section information while 88(85%) were not providing access. Out of 74 private sector universities 6(8%) were providing access of computer section information while 68(91%) were not providing access. Periodical book/volume section was evaluated and results showed that out of 177 public and private university library websites 17(9%) were providing access while 160(90%) were not providing access. Out of 103 public sector universities 14(13%) were providing access to the information of periodical book/volume section while 89(86%) were not providing access. Out of 74 private sector universities 3(4%) were providing access to the information of periodical book/volume section while 71(95%) were not providing access.

Circulation section was examined and results revealed that out of 177 public and private university library websites 25(14%) were providing access while 152(85%) were not providing access. Out of 103 public sector universities 20(19%) were providing access to circulation section details while 83(80%) were not providing access. Out of 74 private sector universities 5(6%) were providing access to circulation section details while 69(93%) were not providing access. Acquisition section was checked and out of 177 public and private university library websites 14(7%) were providing access while 163(92%) were not providing access. Out of 103 public sector universities 11(10%) were providing access to acquisition section information while 92(89%) were not providing access. Out of 74 private sector universities 3(4%) were providing access to acquisition section information while 71(95%) were not providing access. Technical section details were examined and out of 177 public and private university library websites 13(7%) were providing access while 164(92%) were not providing access. Out of 103 public sector universities 10(9%) were providing access of technical section details while 93(90%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of technical section details while 71(95%) were not providing access.

Book bank section information on the websites of the libraries were evaluated and out of 177 public and private university library websites 18(10%) were providing access while 159(89%)

were not providing access. Out of 103 public sector universities 15(14%) were providing access to book bank section information while 88(85%) were not providing access. Out of 74 private sector universities 3(4%) were providing access to book bank section information while 71(95%) were not providing access. Stack section information was observed and results showed that and out of 177 public and private university library websites 11(6%) were providing access while 166(93%) were not providing access. Out of 103 public sector universities 9(8%) were providing access to stack section information while 94(91%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to stack section information while 72(97%) were not providing access. Photocopy section facility information on the library websites were explored and results showed that out of 177 public and private university library websites 15(8%) were providing access while 162(91%) were not providing access. Out of 103 public sector universities 12(11%) were providing access of Photocopy section facility information while 91(88%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of Photocopy section facility information while 71(95%) were not providing access.

Documentation section information was checked and it was found that out of 177 public and private university library websites 9(5%) were providing access while 168(94%) were not providing access. Out of 103 public sector universities 7(6%) were providing access to documentation section information while 96(93%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to documentation section information while 72(97%) were not providing access.

**Table 7.0: Information on Different Library Sections of HEC Public and Private Sector
University Library Websites**

Information on Different Library Sections		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	Computer section.	15(14%)	88(85%)	6(8%)	68(91%)	21(11%)	156(88%)
2.	Periodical book/volume section.	14(13%)	89(86%)	3(4%)	71(95%)	17(9%)	160(90%)
3.	Circulation section.	20(19%)	83(80%)	5(6%)	69(93%)	25(14%)	152(85%)
4.	Acquisition section.	11(10%)	92(89%)	3(4%)	71(95%)	14(7%)	163(92%)
5.	Technical section.	10(9%)	93(90%)	3(4%)	71(95%)	13(7%)	164(92%)
6.	Book bank section.	15(14%)	88(85%)	3(4%)	71(95%)	18(10%)	159(89%)
7.	Stack section.	9(8%)	94(91%)	2(2%)	72(97%)	11(6%)	166(93%)
8.	Photocopy section.	12(11%)	91(88%)	3(4%)	71(95%)	15(8%)	162(91%)
9.	Documentation section.	7(6%)	96(93%)	2(2%)	72(97%)	9(5%)	168(94%)

Value-Added Services

Value-added services are not a part of library services but they consider very important because of their demand and functionality. Job vacancies were checked on library websites and it

was found that out of 177 public and private university library websites 3(1%) were providing access while 174(98%) were not providing access. Out of 103 public sector universities 2(1%) were providing access of Job vacancies while 101(98%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of Job vacancies while 73(98%) were not providing access. Image gallery of library were observed and out of 177 public and private university library websites 8(4%) were providing access while 169(95%) were not providing access. Out of 103 public sector universities 6(5%) were providing access to image gallery of library while 97(94%) were not providing access. Out of 74 private sector universities 2(2%) were providing access to image gallery of library while 72(97%) were not providing access.

User guidelines were evaluated and results showed that out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 4(3%) were providing access of user guidelines while 99(96%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of user guidelines while 72(97%) were not providing access.

Register for updates were examined and out of 177 public and private university library websites 2(1%) were providing access while 175(98%) were not providing access. Out of 103 public sector universities 2(1%) were providing access of register for updates while 101(98%) were not providing access. Out of 74 private sector universities 0(0%) were providing access of register for updates while 74(100%) were not providing access. Library account login were explored and it was found that out of 177 public and private university library websites 9(5%) were providing access while 168(94%) were not providing access. Out of 103 public sector universities 6(5%) were providing access of library account login while 97(94%) were not providing access. Out of 74 private sector universities 3(4%) were providing access of library account login while 71(95%) were not providing access.

Chronology of librarians were and out of 177 public and private university library websites 12(6%) were providing access while 165(93%) were not providing access. Out of 103 public sector universities 9(8%) were providing access to chronology of librarians while 94(91%) were not providing access. Out of 74 private sector universities 3(4%) were providing access to chronology of librarians while 71(95%) were not providing access. Virtual help desk were checked and results showed that out of 177 public and private university library websites 1(0%) were providing access while 173(97%) were not providing access. Out of 103 public sector universities 1(0%) were

providing access to virtual help desk while 102(99%) were not providing access. Out of 74 private sector universities 0(0%) were providing access to virtual help desk while 74(100%) were not providing access.

Library events calendar were evaluated and it was found that out of 177 public and private university library websites 1(0%) were providing access while 176(99%) were not providing access. Out of 103 public sector universities 0(0%) were providing access of library events calendar while 103(100%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of library events calendar while 73(98%) were not providing access. Online tutorials were checked and out of 177 public and private university library websites 2(1%) were providing access while 175(98%) were not providing access. Out of 103 public sector universities 2(1%) were providing access of online tutorials while 101(98%) were not providing access. Out of 74 private sector universities 0(0%) were providing access of online tutorials while 74(100%) were not providing access. Library committee information was explored and out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of library committee while 98(95%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of library committee while 73(98%) were not providing access.

New-arrival section was evaluated and out of 177 public and private university library websites 6(3%) were providing access while 171(96%) were not providing access. Out of 103 public sector universities 5(4%) were providing access of new-arrival section while 98(95%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of new-arrival section while 73(98%) were not providing access. Library archive was checked and it was found that out of 177 public and private university library websites 9(5%) were providing access while 168(94%) were not providing access. Out of 103 public sector universities 7(6%) were providing access of library archive while 96(93%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of library archive while 72(97%) were not providing access.

Book vendors links were checked and results showed that out of 177 public and private university library websites 0(0%) were providing access while 177(100%) were not providing access. Out of 103 public sector universities 0(0%) were providing access of book vendors links while 103(100%) were not providing access. Out of 74 private sector universities 0(0%) were

providing access of book vendors links while 74(100%) were not providing access. Union catalogue was explored and out of 177 public and private university library websites 4(2%) were providing access while 173(97%) were not providing access. Out of 103 public sector universities 4(6%) were providing access to union catalogue while 99(96%) were not providing access. Out of 74 private sector universities 0(0%) were providing access to union catalogue while 74(100%) were not providing access. Wireless access service was checked and out of 177 public and private university library websites 3(1%) were providing access while 174(98%) were not providing access. Out of 103 public sector universities 2(1%) were providing access of wireless access service while 101(98%) were not providing access. Out of 74 private sector universities 1(1%) were providing access of wireless access service while 73(98%) were not providing access.

Purchase request facility was explored and it was found that out of 177 public and private university library websites 3(1%) were providing access while 174(98%) were not providing access. Out of 103 public sector universities 3(2%) were providing access to purchase request facility while 100(56%) were not providing access. Out of 74 private sector universities 0(0%) were providing access to purchase request facility while 74(100%) were not providing access. Services for persons with disabilities were evaluated and out of 177 public and private university library websites 0(0%) were providing access while 177(100%) were not providing access. Out of 103 public sector universities 0(0%) were providing access to services for persons with disabilities while 103(100%) were not providing access. Out of 74 private sector universities 0(0%) were providing access to services for persons with disabilities while 74(100%) were not providing access.

Giving gifts and donations to library facility was observed and it was found that out of 177 public and private university library websites 1(0%) were providing access while 176(99%) were not providing access. Out of 103 public sector universities 1(1%) were providing access of giving gifts and donations to library while 102(99%) were not providing access. Out of 74 private sector universities 0(0%) were providing access of giving gifts and donations to library while 74(100%) were not providing access.

Table 8.0: Value-Added Services of HEC Public and Private Sector University Library

Websites

Value-Added Services		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	Job vacancies.	2(1%)	101(98%)	1(1%)	73(98%)	3(1%)	174(98%)
2.	Image gallery of library.	6(5%)	97(94%)	2(2%)	72(97%)	8(4%)	169(95%)
3.	User guidelines.	4(3%)	99(96%)	2(2%)	72(97%)	6(3%)	171(96%)
4.	Register for updates.	2(1%)	101(98%)	0(0%)	74(100%)	2(1%)	175(98%)
5.	Library account login.	6(5%)	97(94%)	3(4%)	71(95%)	9(5%)	168(94%)
6.	Chronology of librarians.	9(8%)	94(91%)	3(4%)	71(95%)	12(6%)	165(93%)
7.	Virtual help desk.	1(0%)	102(99%)	0(0%)	74(100%)	1(0%)	176(99%)
8.	Library events calendar.	0(0%)	103(100%)	1(1%)	73(98%)	1(0%)	176(99%)

9.	Online tutorials.	2(1%)	101(98%)	0(0%)	74(100%)	2(1%)	172(97%)
10.	Library committee.	5(4%)	98(95%)	1(1%)	73(98%)	6(3%)	171(96%)
11.	New-arrival section.	5(4%)	98(95%)	1(1%)	73(98%)	6(3%)	171(96%)
12.	Library archive.	7(6%)	96(93%)	2(2%)	72(97%)	9(5%)	168(94%)
13.	Book vendors links.	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)
14.	Union catalogue.	4(6%)	99(96%)	0(0%)	74(100%)	4(2%)	173(97%)
15.	Wireless access.	2(1%)	101(98%)	1(1%)	73(98%)	3(1%)	174(98%)
16.	Purchase request.	3(2%)	100(56%)	0(0%)	74(100%)	3(1%)	174(98%)
17.	Services for persons with disabilities.	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)
18.	Giving gifts and donations to library.	1(1%)	102(99%)	0(0%)	74(100%)	1(0%)	176(99%)

Research Support

Universities nowadays are considered as research institutions so the university libraries are providing research services in order to support research. It was checked that Research guides, topic guides, course guides, research data management, services were checked on HEC university library websites and it was found that out of 177 HEC university library websites none of the university is providing these services and results are 0(0%).citation software were explored and it

was found that out of 177 HEC public and private university library websites 1(0%) were providing access and 176(99%) were not providing access. Out of 103 public sector universities 0(0%) were providing access while 103(100%) were not providing access. Out of 74 private sector universities 1(1%) were providing access while 73(98%) were not providing access.

Further it was evaluated that Plagiarism awareness for researchers, more research support option, Room reservation for research and out of 177 public and private university library websites 1(0%) were providing access while 176(99%) were not providing access. Out of 103 public sector universities 1(0%) were providing access while 102(99%) were not providing access. Out of 74 private sector universities 0(0%) were providing access while 73(98%) were not providing access. Research repository of the libraries were checked on their websites and it was found that out of 177 public and private university library websites 5(2%) were providing access while 172(97%) were not providing access. Out of 103 public sector universities 3(2%) were providing access of Research repository while 100(97%) were not providing access. Out of 74 private sector universities 2(2%) were providing access of Research repository while 72(97%) were not providing access.

Table 9.0: Research Support of HEC Public and Private Sector University Library Websites

Research Support		Public Total (103)		Private Total (74)		Total (177)	
Rank	Items	Providing access	Not Providing access	Providing access	Not Providing access	Providing access	Not Providing access
1.	Research guides.	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)
2.	Topic guides.	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)
3.	Course guides.	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)
4.	Research data management.	0(0%)	103(100%)	0(0%)	74(100%)	0(0%)	177(100%)

5.	Citation softwares.	0(0%)	103(100%)	1(1%)	73(98%)	1(0%)	176(99%)
6.	Plagiarism awareness for researchers.	1(0%)	102(99%)	0(0%)	73(98%)	1(0%)	176(99%)
7.	More research support options.	1(0%)	102(99%)	0(0%)	73(98%)	1(0%)	176(99%)
8.	Room reservation for research.	1(0%)	102(99%)	0(0%)	73(98%)	1(0%)	176(99%)
9.	Research repository (if any).	3(2%)	100(97%)	2(2%)	72(97%)	5(2%)	172(97%)

Conclusion

The findings of this study indicate that HEC have very small number of university library websites. The results of HEC recognized university library websites features and contents clearly show that current situation of HEC recognized university library websites is not good enough. From total of 177 HEC recognized public and private sector university library websites only 75 universities have their library websites. The Universities which give their library websites give link of library on homepage of university website, while some links were just limited to introduction note about library only.

The research further revealed that out of total 177 HEC recognized university library websites, the highest scoring universities are Bahria University Islamabad and Islamia University Bahawalpur. Both are leading with the contents of 106 items out of 138. LUMS (Lahore University of Management Sciences) stands second with 104 items and Forman Christian College Lahore comes up third with 91 items. On the other hand, low scoring HEC recognized university library websites are: Sadiq College Women University Bahawalpur which contains 3 items of the

checklist. Lahore Leads University, Lahore contains 7 items Zia-ud-Din University, Karachi and Baha-ud-din Zakariya University Multan contains 8 items each only.

These university websites were equipped with contents of accessibility; speed; navigation; currency; library information; e-resources and library collection information. These universities are not using web 2.0 tools and research support services which is being used internationally. Research repository link was found on Bahria University Islamabad but it is malfunctioned and expired, The Islamia University Bahawalpur gives empty links. Both universities above mentioned have user friendly and very easy to use programs. However, It is evident from the discussion that public sector university libraries are providing more contents on the websites than private sector university libraries.

LUMS is providing good quality of contents in private sector universities but other private sector universities are not up to the mark. Research support services and web 2.0 tools will be appreciable if it is provided by Pakistani university library websites, but lamentably these contents are not even found in high scoring institutes; Islamia University Bahawalpur gives two items blogs and facebook contents in web 2.0 tools but does not give any research support contents. Similar is the case with Bahria University Islamabad and LUMS, Lahore. Majority of libraries are missing some basic features, but very few university library websites are providing good quality of contents. A small number of university library websites which are 46% cannot satisfy the need of users.

Recommendations

On the basis of findings, following recommendations are furnished:

1. HEC should make mandatory for every university to host a library website.
2. HEC should create criteria of contents in forms of services and resources for every university to add on its library website.
3. Workshop and seminars should be conducted for library professionals to develop and design library websites.
4. Designing of library website and its contents should be compulsory in library information science curriculum.
5. Library website designing and developing rules and guidelines should be prepared by HEC for its affiliated universities.

6. Use of web 2.0 tools and research support services should be tailored to university library websites.
7. Web 2.0 tools should be linked with university library websites.
8. Research support services should be provided by university libraries and must be added by libraries on their websites.
9. Website contents should be updated regularly.
10. Libraries should market their services and resources on web for optimal user to maximize the use of libraries.

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