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Web OPAC Services and Users' Expectations with Web OPACs of Public and Private Sector University Libraries in Pakistan

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Abstract

This study aimed to investigate the current status online services portfolio of web OPACs and users' expectations with web OPACs of public and private sector university libraries in Lahore, Pakistan. The researcher administrated a self-reported instrument (reviewed by experts and pilot tested with Cronbach's alpha value.86) and collected data from n=425 respondents selected using a stratified convenient sampling technique. This study reported that mostly services offered by web OPACs are satisfying users' expectations. Hence, some of the services need to be improved as per users' opinion. It has also been ascertained that 18 out of 34 university libraries have not yet developed and provided web OPAC services. The results generated illustrate pragmatic insights which can be used as a guide towards users' friendly design and development of web OPACs.

Keywords: Web OPACs; Users' Expectations with web OPACs; Web OPAC Services.

Introduction

Libraries provide access to information regardless its' formats. The information that ubiquitous in their own repositories or they may find from external sources. Libraries have beendeveloping mechanisms like classification schemes, indexes, and other tools for providing

access to information resources. Much like the utilization of other tools to access the information containers, libraries use catalogues to provide access to all that a particular library or libraries hold in them. According to Taylor (2021) "a library catalogue is list of books and other alike material in the holding of a library or a group of libraries and arranged in a systematic order". The above mentioned Taylor's definition highlights three aspects of the catalogue: the library catalogue is a list of documents; it defines holdings of a library; and arranged in a systematic way, to assist the users in library exploration.

Importance of Library Catalogue

According to Dempsey (2006) a library catalogue is undeniable worthy of significant importance. History provides an evidence of its importance such as catalogues found in the debris of thousands of years old libraries that tell the history that catalogues and libraries evolved together as we see today. Important and established facts about catalogue are; one, library catalogue is key tolibrary holdings. The key refers to the lock of a door that may contain anything precious inside the room but invaluable until and unless that is accessed. Secondly, library catalogue is a facility providing tool for library users and library staff also because it is a face of library with whom consulting library users can know how many documents are available on a particular subject and of particular author. Third, the library catalogue is not important just for users, but it is important for library staff also because it assists library staff in the development and control of library collections that what books a library have in stacks by an author or on a subject and what they ought to acquire. Fourth, the library catalogue shows what a library has on a subject and information of an item through which, library users can judge the worth of document with his need.

Online public access catalogue (OPAC)

OPAC is a type of library catalogue from the several which (Chambers, 2013), Defines that the online public access catalogue (OPAC) is a second generation of automated catalogues, which allows users to search dynamically (with terms individually such as title, author, subject heading etc.), with Boolean search options, multiple displays, error and mishap recovery and also provide help from that automated catalogues. Associations, Displays, Associations, and Committee (2005) defines that the OPAC is computer supported library catalogue that is

designed to explore the library collection effectively and efficiently by using computer terminals. An online public access catalogue is an automated catalogue which is connected to a line of local area network (LAN) within the library to share the information. In which information may be organized with author, title, subject and other entry points according to library system, philosophy and practice. Before 1980s, traditional/conventional libraries shared their products and services manually. These products and services were restricted because of their physical existence (Shen, Zheng, Han, & Shen, 2008). Libraries first introduced online public access catalogues (OPACs) that were available locally, through LANs and eventually developed Web OPAC that was new approach to the modernization in the OPAC (Mahmood, 2008). The web OPAC is a gateway to library collection and a way towards consortia of libraries through World Wide Web virtual world connectivity.

Web OPAC

The advent of World Wide Web (www/web) technologies by the mid of 1980s have connected remote entities of geographically distant areas which also resulted the change in library operations. Now the Libraries of all type use World Wide Web (www/web) to share their services beyond the physical existence(Mahmood, 2008). Web OPACs possibly be the third and next generations of OPACs on world wide web network where it provide access to information from anywhere, everywhere and on any device not just on computer terminal.

Web OPAC features and functions

Libraries across the world with the application of ICTs, expand their services through web technologies. They establish 24/7 information retrieval of library collection remotely that was limited just before the application of web technologies in libraries, providing bibliographical information by different elements such as to locate document with particular author, title, subject ISBN/ISSN with other possible keyword, expanded search options to make broader or narrower by using Boolean operators (and, or, not)(Mahmood, 2008). This development has further allowed the use of truncations while searching information, putting truncation symbols in search (i.e. *left truncation, Right truncation*, truncation in *middle). Examples of such truncations are hos*=hospital, *pitality= hospitality etc., range search (i.e. = from 200 to 1000), word proximity (nearest Time, Relation, synonym etc., allows user to filter the search by year of publication for

example (edition 2012, Chicago edition etc.), by language e.g. Urdu, Punjabi, or other oriental language. Form of appearance is another parameter, e.g. CD, DVD, serials or other form, browsing facilities by document cover, pages and so on, new arrival updates that means all about the new collection that a library acquire. Allowing online reservations, online book renewal facility, online book transfer from one account to other account of the patron, regular transaction updates, account history about the transactions performed by a particular user, creating virtual shelves are some of the ways that web OPAC facilitates its users. Allocating him virtual space to create his own library by saving bibliographical information of documents into it and retrieving whenever he/she needs are a few more options. The web OPAC provides access to multi users and multidimensional searching at the same time and all the facilities, without discrimination. It also supplies the information about the item that a user is searching into the collection whether is available in the library or issued to other user at the run time(Mahmood, 2008). It allows users to share, email, save, cite, or copy document's information, provide links of databases (i.e. HEC digital library etc.). Search assistance while searching information on web OPAC remotely is another facility. Provision and compatibility of library web OPACs with mobile devices (e.g. cell phones, tabs and other portable devices and gadgets, global access and many more are the recent developments. This is the reasonthat the applications of these modern technologies in the libraries have caused drastic change in the expectations of library users in term of library products and services (Ozel & Çakmak, 2010).

Expectations

Begum and Nissa (2003) defined that expectation of library users is a hope of easy access that they get to library resources. Cardozo (1965) explained that customer satisfactions with product leads customer to repeated action of purchasing and consuming and it enhances the acceptance of other products and service consumptions in line. Moreover, he explained that the service provider's knowledge of customer expectations is an important factor to limit the customer efforts like mental, physical, financial and increasing the level of customer satisfaction.

Statement of the problem

The web OPAC broadens access to the library offerings through World Wide Web to their users (Zainal & Sa'don, 2013). The web OPAC for library is worthy of significant

importance but the assessment of user expectations is prime mover for the positive and better growth of library services. Web OPAC and allied services in libraries have become an important area of study and development in the field of library and information sciences.There is remarkable number of studies that have been conducted worldwide. In Pakistan, no study on web OPACs from the users' expectations perspective had been conducted so far. Hence, it was a neglected area and depicted an intellectual gap. There are 34 public and private sector university libraries in Lahore, 16 of them have been providing web OPAC services. This study was planned to provide a blueprint of the current status of services and perceived level of expectations of users'. It will result into filling the intellectual gap and providing some food of thought for the libraries to find grey areas and improve their services.

Objectives of the study

1. To find out current status and online services portfolio of web OPACs in the university libraries of Lahore.
2. To identify users' expectations from the web OPACs of private and public sector university libraries of Lahore.
3. To compare and find out differences in expectations of users' with web OPACs of private and public sector university libraries of Lahore

Research Questions

1. What is currents status and online services portfolio of web OPAC services in libraries of the universities of Lahore?
2. What are the users' expectations from the web OPACs of private and public sector university libraries of Lahore?
3. Is there any difference in the users' expectations with web OPACs of private and public sector university libraries of Lahore?

Review of Literature

Online Public Access catalogue (OPAC)

Ndumbaro (2018) investigated the use of library online public access catalogue (OPAC), to see causes behind success and failure in search results. The researcher used log analysis

method to assess the usefulness of library OPAC. The results of the study revealed that author, subject, and title of the documents were preferred areas to retrieve information. Moreover, the study added reasons behind failure in the search results, mainly misspelled entered query, searching inappropriate field, users' lack of knowledge and syntax also effect unsuccessful results.

Wu, Liang, and Bi (2018) conducted a study to understand the cross device OPAC searches characteristics and query reformulation patterns during device transformation. The approach used in the research study was six months' log quantitative analysis in university library to evaluate the richness of vocabulary, use of specific terminologies in searching, query reformulation and query divergence. The study finds that PC-PC transition is significant in device transition, time break of device and web search transition is different, rapid transition found on web thus short device transition occurs in daytime and number of users prefer to search same field.

Papadakis, Stefanidakis, and Tzali (2008) studied user centered and proficient navigation procedure OPAC based on semantic subject headings. The approach used in this study is AJAX technology and web programming language. Study revealed that graphical user interface (GUI) shows hierarchy in subject headings that attract users and helps them in formulating queries moreover study identify that multiple paths for information extracting enable researchers to meet their needs efficiently and ideally.

Sarma (2016) illustrated comparison of facilities provided by different integrated library management software versions and OPAC modules. The researcher reviewed previous studies and he self-practiced. The study concludes that OPACs of all the software provides similar facilities like log-in, books search, profile/transaction information, documents reservation and hold facility, book suggestion and comment box etc.

World Wide Web Online Public Access Catalogue (Web OPAC)

Mahmood (2008) assessed that indigenously developed web OPAC of academic, special and national libraries of Pakistan in terms of facilities offered by these web OPACs. The functions and facilities such as: Links to resources, links to full text, help availability for searching, modern search methods in OPAC etc. the research were examined. The researcher

used mix method and collected data by making survey from 16 libraries on checklist of 91 items and the results of study were drawn by analyzing indigenous developed web OPAC. The findings of the study showed that indigenous developed web OPACs provided very basic services than the web OPACs of other countries. The OPACs provide convenient search methods, very poor search limits, and strategies, access points, combined search options, did not provide MARC support, no bibliographic sorting, no transaction report, not supported Z39.50, lack of guidance for user on OPACs, navigation options not as of browsers, labels, layouts, and general points were also found not well developed.

Khurshid and Ahmed (2007) explored the differences between OPAC and Library portals to improve users' access to the wide range of library holdings. He assesses the existing literature on Web OPAC. The extracted results of the study showthat the library portal is an extension of web OPAC which provide extra features and capabilities in terms of information retrieval.

Web OPAC features

Babu and Tamizhchelvan (2003) studied different features and functions of web OPAC and explained that web OPAC is a second generation OPAC, consisting all the traditional feature and some additional new feature such as external links to sources, accessible via internet, 24/7 accessibility to resource, graphical user interface, is capable to provide users access to all the electronic resources.

Madhusudhan and Aggarwal (2011) investigated various features and components of web OPAC and reported in their paper. The features and components include broad categories for search, search filters and strategies, access points, bibliographic displays, output/services/ facilities, external links, user assistance, page layout, labels, text display, session filters and general features of web based OPAC. Quantitative approach was used with a checklist dichotomous questions used to evaluate six Indian IT institutes' web based OPAC. The study showed web page layout got 93.1 percent average score, 90% general features categories, and filtered category could secured 40.47% score. The results shows only 50% percent web OPACs crossed above 50% score and almost all the web OPAC found lack assistive in spell check, adjunct thesaurus and federated search.

Web OPAC functions

Kapoor and Goyal (2007) conducted a comparative study on the web OPACs functionality of five academic libraries. The research used web OPAC software analysis method. The study shows that most of OPACs provided basic search features like search by title, author, subject and other key terms. The study reveals that all the web OPACs have logon passwords facilities, there is no similarity in web OPACs' search interfaces. The search of the OPAC could not be ranked and the OPACs search did not provide abstracts of the documents so that user could judge the usefulness of the item.

Oshiro and Kaji (1997) conducted a study on web and telnet OPAC in Japanese libraries for their user interfaces and functions. The study was quantitative in nature and survey method was used to collect data from 136 libraries. The study results showed that Web OPACs were increasing speedy searching, but, problems were also found in their interfaces and functions.

Web OPAC services

Mulla and Chandrashekara (2009) discussed in his study on web OPAC facilities, different services offered purpose and utilization of web OPAC by user to suggest measures in web OPAC effectiveness. Survey method is used to collect data on questionnaire from 1716 faculty, students and researchers. The findings of the study reveals that web OPAC is a useful tool for information locating remotely, users of web OPAC need web OPAC orientation for the use of library web OPAC to overcome difficulties while retrieving documents it is required to examine the utilization and satisfaction of user from web OPAC.

Web OPAC search

Jan, Ganaie, and Khazer (2017) studied web OPAC by putting 33 economics related terms to retrieve and discovered recall and precision capability of library web OPACs. In research methodology the researcher used three stages to analyzed web OPACs. In the first step she used e-publications available in libraries, secondly she chose five universities that offered economics courses and in the third step, the web OPACs werechecked to retrieve information. The results show that 20 searches were same and recall retrieval rate of information was lower than precision rate.

Users' Expectations with OPAC

Atılgan, Özel, and Çakmak (2014)ascertained the users' expectations and application compatibility with OPAC. The study used mix method of research and collected data using online questionnaire survey and focus groups of n=179 respondents. The study reported that users expect summary, abstracts, table of contents, image coverage, contents retrieval overview form OPAC. Moreover, the finding suggests according to users that OPAC links to other sources, related materials, and to web pages on OPAC, edition information, translation support, spelling algorithm is useful. Tag cloud and tagging, comments app, personalized collection, useful although, rating app, circulation statistics, RSS feedback and email, related and circulated documents information, are also partial useful for users. Further the study reveals that users expects more information in short time, effective determination for locating right materials, and more effective use of materials.

Research Methodology and Procedures

This quantitative study adopted survey research method and administrated self-reported instrument (reviewed by experts and pilot tested Cronbach's alpha value .86) for data collection which split into two parts. The part one was containing demographical information whereas the second part of the instrument was consisted on objectives related statements. The data was collected from n=30 participants (determined by using Krejcie and Morgan (1970) equation) selected conveniently from two stratums (N=16 Public and private sector university libraries of Lahore, Punjab) situated in their natural settings (Mahama et al., 2022). Total of n=480 (100%) questionnaires distributed which resulted n=425 (88.54%) returned complete usable responses. Afterwards the collected data was analyzed by using SPSS 21stand interpreted then.

Results and discussions

Type of University

The data (table 1.) shows the types of universities selected for the study. There were 5 (31.25%) that use web OPAC from Public sector universities and 11 (68.75%) from private sector that were selected in the research study.

Table 1.

Type/Sector of Universities (n=16)

Type/ sector of Universities	Frequency	Percentage
Public	5	31.25
Private	11	68.75
Total	16	100

Gender of Respondents

The collected data (table 2.) displays gender of respondents from both public and private sector university libraries.There were total 425 respondents, 270 (63.5%) were male and 155 (36.5%) female respondents participated in this study.

Table 2.

Gender (n=425)

Gender	Frequency	Percentage
Male	270	63.5
Female	155	36.5
Total	425	100

Services offered by libraries on web OPAC

Access points on web OPAC

The results show (as mentioned in table number 3.) frequency of the responses by web OPAC users on document access points. The table shows that 399 (94.1%) web OPAC users were aware and used document search facility with Author, 25 (5.9%) users responded that they had not accessed to documents by author, 401 (95.0%) respondents responded that there was search provision with title on web OPAC, while 21 (4.9%)participants responded no, 382 (89.9%) participants responded that there was search provision with subject and 38 (8.9%) respondents said no, there was documents search facility with ISBN/ISSN known by 273 (64.2%) respondents and 142 (33.4%) said no such access point was there. It was found that 268 (63.1%) web OPAC users responded that there was provision to search documents with other

keywords, whereas, 150 (35.3%) respondents had no idea of such an access point through web OPAC of their library.

Table 3.

Libraries web OPAC access points for finding information (n=424)

	Frequency		Percentage		
Statement	Yes	No	Yes	No	Total
By Author	399	25	94.1	5.9	424
By Title	401	21	95.0	4.9	422
By Subject	382	38	89.9	8.9	420
By ISBN/ISSN	273	142	64.2	33.4	415
By other keywords	268	150	63.1	35.3	418

Advance search options/ search strategies

The data shown in Table 4. depicts that that 266 (62.6%) web OPAC users are aware of and have used advance search and Boolean operator options AND, OR, NOT for searching information online, 150 (35.3%) users responded no, 241(56.7%) responses came with Yes in searching information online with Truncation symbols while 172 (40.5%) users responded with no, 313 (73.6%) respondents said that they had provision to use range search option and 103 (24.2%) participants responded no. it was further discovered that 309 (72.7%) web OPAC users answered that they had used word proximity assistance while searching information online and 108 (25.4%) responded no.

Table 4.

Web OPAC advance search options

	Frequency		Percentage	
Statement	Yes	No	Yes	No

Statement	Yes	No	Yes	No
Boolean Operators/ Logic (And, OR, Not) [example: Hospital AND, OR, NOT patient.	266	150	62.6	35.3
Truncation symbols in search (i.e. *left truncation, Right truncation*, truncation, middle* truncation) hos*=hospital, hospital*= hospitality etc	241	172	56.7	40.5
Range search (i.e. = from 200 to 1000)	313	103	73.6	24.2
Word proximity (nearest Time, Relation, synonym etc.)	309	108	72.7	25.4

Search filters/ Search limits

As mentioned in table 5.data exhibits search filters and search limits. The frequency shows in this table that 349 (82.1%) web OPAC users have familiarity with options to limit the search while searching documents by edition, 71 (16.7%) users answered with no, 299 (70.4%) respondents said yes for the provision of limiting the documents with their language such as resources in Urdu, Punjabi, and other languages, 123 (29.1%) responded no. It has been revealed that 293 (68.9%) participants responded that they do have provision to limit the search with CD, DVD, Book serials and other forms of material, while 29.9% didn't have.

Table 5.

Search filtering / limiting the search results

	Frequency		Percentage	
Statement	**Yes**	**No**	**Yes**	**No**
Year of publication for example (edition 2012, 3rd edition etc.)	349	71	82.1	16.7
Language e.g., Urdu, Punjabi, or other languages	299	123	70.4	29.1

Form of appearance e.g., CD, DVD, book, serials or other form	293	127	68.9	29.9

Multifactor services on web OPAC

The collected data from respondents revealed (as shown in table number 6.) that users responses on multifactor services that are provided through the web OPAC, 354(83.3%) respondents responded that they were aware of the facility of online browsing, 69(16.2%) respondents said no. 283(66.6%) respondentssaid that they had facility to transfer their books online and 142(33.4%) respondents mentioned that they had no such facility. Further, it was found that 330(77.65%) respondentsmentioned that they had used facility to update their profile information and 93(21.9%) respondents responded no regarding the profile update. Data shows that 333(78.4%) respondents had facility to check their account history online whereas 88(20.7%) respondents said no. it has been ascertained that 344(80.9%) respondents said yes they were aware regarding the getting know online availability of documents and 79(18.6%) respondents said no. Regarding the facility of online document reservation, 319(75.1%) respondents responded that they availed that facility and 101(23.8%) respondents said no regarding this. Further, 315(74.1%) respondents mentioned that they had facility to renew already checked out book online, while 110(25.9%) respondents said they had no facility of online renewal. Data shows that 311(73.2%) respondents responseswere in yes regarding the provision of new arrival updates through online communication and 112(26.4%) respondents response was in no. Results also show that according to 262(59.3%) respondents' response they had facility to create their own library on virtual space/ Cloud space and 165(38.8%) respondents response was that they had no provision of such facility. It has been discovered by 327(76.9%) respondents' response that they used to share, save and copy the bibliographical information of documents and 91(21.4%) respondent said no. it was revealed by data that 327(76.9%) respondents had used facility of HEC digital library and other databases, while 91(21.4%) respondents response was no regarding the availability of these databases. Regarding the availability of web OPAC on mobile devices like phone, tabs and other portable devices, 272(64.0%) respondents' response was in yes and 128(30.1%) respondentssaid they had no facility to use web OPAC on their mobile devices.

Table 6.

OPAC multifactor services (n=424)

Statement	Frequency		Percentage	
	Yes	**No**	**Yes**	**No**
Online browsing facility?	354	69	83.3	16.2
Online book transfer facility?	283	142	66.6	33.4
Updating your profile information?	330	93	77.6	21.9
Checking your account history online?	333	88	78.4	20.7
Online document availability check?	344	79	80.9	18.6
Online document reservation/ hold on?	319	101	75.1	23.8
Online book renewal?	315	110	74.1	25.9
Provide new arrivals update through online communication, e.g., email?	311	112	73.2	26.4
Virtual space/cloud storage to create your own online library?	262	165	59.3	38.8
Allow you to share, email, save, cite, or copy document information	327	91	76.9	21.4
Links to databases (i.e. HEC digital library etc.)	327	91	76.9	21.4
Search assistance while searching information on web OPAC	298	111	70.1	26.1
Library web OPAC access/compatibility with mobile devices (e.g. mobile phone/tabs and other portable devices)	272	128	64.0	30.1

Level of Users' Expectations

The collected data from respondents revealed level of users' expectation (as shown in table 7.) with mean and standard deviation. The mean (mean=3.68) finds that users' have high

expectations regarding the free text search rather than selected access points/fields such as author, title, subject etc. (mean=3.51) where 5 is highest level of expectations. Data also indicates slightly high level of expectations of users for "Provision for option of Filtering search by item type, form/ Limit the search Result in web OPAC" and "Multifactor web OPAC services" with web OPACs, both with a mean score of 3.57.

Table 7.

Level of users' expectations

Statement	Mean	Std. Deviation
Free text search rather than selected access points/fields such Author, Title, Subject etc.	3.68	1.243
Assistance in use of advance search options/ search strategies	3.51	1.177
Provision for option of Filtering search by item type, form/ Limit the search Result in web OPAC	3.57	1.139
Multifactor web OPAC services	3.57	1.219

(5= highest expectation, 1= No expectation? (n=424)

Users' level of expectations from Web OPACs

Results extracted from data collected from the field (as also mentioned in Table 8) indicate through application of t-test on level of user expectationsfrom web OPAC of public and private sector university libraries that there was significant difference in the level users expectation with web OPAC regarding free text search rather than selected access points/fields suchas Author, Title, Subject et., where significance level was (Sig=.421).It was revealed by running t-test that there was significant difference at (Sig= .141) in "assistance in use of advance search options/ search strategies" between both of samples. The third factor, i.e., "m*ultifactor web OPAC services"* also had no significant difference (Sig= .167).

There was significant difference in following one factor only, i.e., "*provision for option of filtering search by item type, form/ limiting the search result*" (Sig= .002-) in web OPACs of public and private universities.

Interestingly, independent sample t-test results for combined factors revealed that there was significant difference (Sig=.026) in expectations of users with web OPAC of public and private sector university libraries of Lahore.

Table 8.

Users' level of expectations: A comparison of Public and Private Sector Universities

Sr#	Statements	Public sector universities (n=5)		Private sector universities (n=11)		t-test Sig (2-tailed)
		Mean	SD	Mean	SD	
1	Free text search rather than selected access points/fields such Author, Title, Subject etc.	3.61	1.257	3.71	1.237	.421
2	Assistance in use of advance search options/ search strategies	3.38	1.197	3.57	1.166	.141
3	Provision for option of Filtering search by item type, form/ Limit the search Result in web OPAC?	3.31	1.163	3.69	1.112	.002-
4	Multifactor web OPAC services	3.36	1.224	3.54	1.215	.167
5	Users level expectation with level of expectations	3.4200	.88410	3.6293	.86640	.026-

Scale 1-5: (1 = No expectation; 5 = Highest expectation)

Findings

RQ1.What is currents status and online services portfolio of web OPAC services in libraries of the universities of Lahore?

The study found that 16 out of 34 universities have developed web OPAC for their libraries and providing remote searching facility to their users. The findings of the study reveal that most of web OPACs of public and private sector universities were good at current status in terms of services they offered to users. Almost all the famous services related to OPAC are being offered by these libraries.

The study found that majority of web OPAC users had provision to search the library holdings by followings keywords by author, title, subject, ISBN/ISSN and other keywords. The study shows that there was also provision of advance search options, search strategies like Boolean operators/logics, truncation symbols in search, range search options, and proximity provision in searching through OPAC. The search filter/ search limits in areas like year of publication, language and form of material, alongside multifactor services like online browsing facility, online book transfer facility, profile updating facility, users' account history check facility, online document availability check, online document reservation/hold on facility, online book renewal facility, new arrival updates, provision of virtual space to users, allowing users to save, cite, share and copy bibliographical information are the features of web OPACs. It was also revealed by data that web OPACs have compatibility with different portable devices.

RQ2. What are the users' expectations from the web OPACs of private and public sector university libraries of Lahore?

The study revealed that majority of users expect to have more facilitation in all the areas like free searching rather than search via selected access points (Control search), to have assistance in the use of advance search options/ search strategies, more provisions to limit the search by form of appearance on web OPACs, and multifactor services.

RQ3. Is there any difference in the users' expectations with web OPACs of private and public sector university libraries of Lahore?

The independent sample t-test was applied to check the differences (if any) in the users' expectations with web OPACs of public and private sector university libraries. As far expectations concerned, there was not any significant difference found between both of the samples.

Conclusion, Implementations and Limitations

Considering the findings of the study, it can be concluded that both public and private sector university libraries are providing services in a better way. These services mostly satisfy users' expectations. Thussome of the services need to be improved as per users' opinion. It has also been ascertained that 18 out of 34 university libraries have not yet developed and providing web OPAC services. Whereas, the web OPACs service providing university libraries need to considers their web OPACs users' friendliness design and management as users have expectations for further developments and more ease of service in their web OPACs.

The current research study used participants' self-reported data therefore the honesty in response incumbent on respondents and employed stratified convenient sampling technique due to unavailability of web-OPACs users' list that may arise generalizability issue.

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