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Comparative Study of Users' Satisfaction with Web OPACs of Public and Private Sector University Libraries in Lahore, Pakistan

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Abstract

A web online public access (OPAC) is an online interface of a library that allows users to make transactions online globally. This study aimed to explore the online library services offered by university libraries of Lahore, the level of user's satisfaction with web OPACs and to compare the users' satisfaction with web OPACs public and private sector university libraries in Lahore Punjab. The data was collected on self-developed and self-administrated peer reviewed questionnaire from 16 university library users via survey. The study revealed that both public and private sector university libraries provide basic and advance searching options, different types of search filters and Multifactor services, the t-test results at combined level factor found no significant different ($\text{sig}=.000$) in level of uses' satisfaction with web OPACs of public and private sector university libraries of Lahore Punjab.

Keywords: Web OPACs; Online Public Access catalogue (OPAC); University Library OPACs.

Introduction

Users' satisfaction is a first step that creates users loyalty with product and services. Organizations of all types always try to meet the users' satisfaction with their products and services in order to achieve objectives. A library is one of the non-benefit organization considered whose funds based on users (organizational) satisfaction. Libraries of all types public, special, academic or other but try best by own side to satisfy the users' need. Libraries for this purpose always try to adopt and apply modern technologies such as computer applications to make library operations automated and perform unbendable library operations 7/24 a week. In past times libraries were known as a traditional in terms of their products (books and other documents in printed forms) and services that were restricted to the library opening hours and library existence due to their appearance. Although these old concepts have been vanished with the application of cutting edge technologies and subscription of the products in e-formats and services provision all the times a day and night and on remote distance. Providing access and making library awake all the times, the libraries are establishing their web OPACs. These web OPACs are the forms of online public access catalogues but available and accessible via web link remotely. the web OPAC 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 computer terminal.

Web OPAC features and functions

Web OPACs provide 24/7 information retrieval of library collection remotely that was limited just before the application of web technologies in libraries, initiated providing bibliographical information by different elements such as to locate document with particular author, title, subject ISBN/ISSN with other key-word as possible, expended search options to make broader or narrower by using Boolean operators (and, or, not), allowed the use of truncations while searching information putting Truncation symbols in search (i.e. *left truncation, Right truncation*, truncation in *middle) hos*=hospital, *hospital= 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 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, allow online reservations, online book renewal facility, online book transfer from one account to the account of the patron, regular transaction updates account history about the transactions performed by user, virtual shelves web OPAC allows and allocate virtual space to create his own library by saving bibliographical information of documents into it and retrieve whenever he need, the web OPAC provide access to multi users at the same time and all the facilities without discrimination and multidimensional search, it supply the information that a user is search into the collection whether is available or issued to other user availability check, allows user to share, email, save, cite, or copy document information, provide Links to databases (i.e. HEC digital library etc.), Search assistance while searching information on web OPAC remotely, provision of Library Web OPAC access on mobile devices (e.g. mobile/tabs and other portable devices, global access and many more.

Statement of the problem

Online public access catalogue is an interface for all the activities that are carried out to achieve the goals of libraries (Guha & Saraf, 2005). The web OPAC broaden access to the library offerings through World Wide Web to their users (Zainal & Sa'don, 2013). Library web OPAC is a worthy of significant importance that is a face of all the operations carried out in a library to satisfy the users' need. The present study will present the level of user's satisfaction with web OPACs that may cause more growth and development in the libraries.

Objectives

- To know the current status and services web OPACs offer to users.
- To know the level of users satisfaction with web OPACs of public and private sector university libraries in Lahore.
- To compare the similarity and differences in web OPACs of public and private sector university libraries in Lahore.

Research questions

- What are the services offered to web OPACs users' by public and private sector university libraries in Lahore?
- What is the level of users satisfaction with web OPACs of public and private sector university libraries in Lahore?
- What are the similarities and differences in web OPACs of public and private sector university libraries in Lahore?

Literature Review

Sarma (2016) conducted a comparative study on library management systems OPAC features and functions. The study based on hands on practice on locally installed systems and observations. The study found the koha's OPAC more efficient and simple that provides basic search, advance search options, rich site summary, users previous interaction history, links to internal and external sources, and so on. (Liu, 2010) conducted a case study to compare the users search which they prefer whether default search and limit options for searching information on OPAC or customized options that libraries designed to make OPAC look good and attractive. The researcher used web server log analysis to understand. The study concluded that users' of OPACs frequently prefer to use default search options and other navigation keys thus the study unanswered whether user prefer default search options due to they often see them in other search options or reason could be another. (Joint, 2007) discussed whether URLS compatibility with OPACs is useful to increase the role of OPAC as contemporary technologies in US and UK practises. The researcher reviewed existing literature and analysed library use statics easily accessible. The research results exhibits that there are two ways to integrate URL with OPACs the most successful way is to integrate on OPACs rather than place URLs hyperlinks in OPAC.(Kumar & Vohra, 2013) investigated and compared the manner and use of OPAC in Indian Punjab. This was a quantitative research and survey research method uses to collect data from 500 users of three universities on self-developed and designed questionnaire the response rate was 76.8 percent returned. The results of the study displayed that users' of these three universities use OPAC regularly, they face various problems such as lack of knowledge, help on screen, confusion/ complicated use, users prefer title and author for searching documents, users' have low level of satisfaction with OPACs, users' found OPACs as same card catalogue with minor changes.(Yang & Hofmann, 2010) conducted a comparative study to know that which Library information management system provides sufficient services like single point entry, web interface, rich contents, navigation, simple keyword search, users assistance while formulating search, recommendation in search, relevancy in searched information, user contribution, rich site summary in online catalogues. This research study was based on literature review in which researcher identified ten standards to compares that which LIS system was best in online catalogue, the researcher then tries to sought out these ten elements with three integrated library management systems KOHA, evergreen and webvoyage. The research findings shown that none of the system provide centralized/ federated search, all the systems can be customized, among all the system only koha provide rich contents than others, only koha provide navigation options on OPAC, all systems have provision of simple and

advance search options, none of the system has standards regarding search relevancy, only evergreen has real search assistance, none of three systems recommend users, there is provision of users contribution in all three systems but koha's OPAC allow users to tag cloud and font size adjustment.

Use of OPAC

(Fabunmi & Asubiojo, 2013) attempted to investigate to measure the understanding and use obafemi awolowo university library OPAC. The research was conducted on quantitative base and a survey method applied to collect data from 800 respondents. The study highlights that there is 68% presents of OPAC users are aware and high rate of aware students do not use OPAC, only 3.2 % hostiles users us OPAC and 2 % just from homes thus most of users like to search information via manual catalogue. Moreover the study finds factor leading less use of OPAC are irregular power supply, network failure and computer terminals inadequacy etc.(Bansal & Kumar, 2017) conducted a case study on the use of OPAC at Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana. Questionnaire Survey research method is used to collect data. The researcher studied various aspects of OPAC like use of OPAC, satisfaction of user with OPAC. The results reveal by the study that there were very low satisfaction levels among the users regarding use of OPAC. (Hofmann & Yang, 2012) derived results for the use of next generation OPAC and information discovery tools of academic libraries. The researcher collected data by visiting OPACs of 260 academic institutions that offer OPAC across USA and Canada. The researcher concluded that there are only 75 institution included in the study that offer discover tools such as world cat, EBSCO, Primo, VU finds, OCLC etc. but do not provide easy access to them due to OPAC interfaces and most of visited OPACs found traditional. (Villen-Rueda, Senso, & de Moya-Anegón, 2007) investigated the use of OPAC in academic institution. The researcher used computer generated records analysis to seek out results of the study. In this study it is found that users often prefer to search by Title in OPAC and very few attempts to search by subject. It also seen that educational faculties such as professors search dynamically in the OPAC searching fields and searching information via different elements depends on nature of information desired. (Dinet, Favart, & Passerault, 2004) explored the impact and use of Boolean operators in information searching through OPAC. The results of the study sought out by analysing logs of transactions with OPAC. the study disclose that OPAC users do not used Boolean Operators frequently, the Boolean operator are used according to expertise of users during information search due to use of procedural language in them

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 analysing indigenous developed web OPAC. The findings of the study showed that indigenously 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 & 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 show that the library portal is an extension of web OPAC which provide extra features and capabilities in terms of information retrieval.

WEB OPACs

(Ng, Lo, & Tam, 2006) compared the differences that searching information directly from databases was easy, effective and efficient or search via web OPAC is better than direct search. The researcher engaged 30 participants to collect pre-search and post search data. The users attempted on net library, NSWL and NML database to search 30 titles to the other side the users had to search web OPACs for searching these same titles as well. The study revealed that web OPACs are more effective and efficient in retrieving search results than to search information directly on databases, the databases have not same interfaces so the users have to spend more time on them, moreover, the study found that switching over from one database to another was quite difficult so users first prefer to search via web OPAC. (Zainal & Hussin, 2013) studied to develop end users' satisfaction and evaluation measurement model for web OPAC. The researcher used number of literature and conducted a survey method for the evaluation of users' satisfaction. The study found that there were two types of satisfaction related factor in web OPAC. The one was information quality and the other one was system quality. The information quality is determined with contents, formats, accuracy, timeliness, ease of use, training, documentation, and interface. And the system quality is determined by system speed, accessibility, integration with social media, knowledge of system, and searching skills of seeker.

Research Methodology

This was a quantitative study, the data was collected on self-developed and administrated (reviewed by experts and pilot tested) questionnaire that contained two parts the one was for demographic information and other was consisting on the statements on satisfaction with web OPACs. A survey was made to collect data from two strata (Public and private sector university libraries of Lahore division of Punjab). The questionnaire then distributed among 30 respondents in each university in Lahore that was total 480 (100%) respondents while total returned responses were 425 (88.54%). The collected data was analysed by using SPSS and interpreted then.

Results and discussion

4.1.1 Type of University

The (table 4.1) shows Type of universities selected for the study. There were 5 (31.25%) that uses web Online public access catalogue from Public sector universities and 11 (68.75%) from private sector participated in the research study.

Table 4. 1 *Type/Sector of Universities (N=16)*

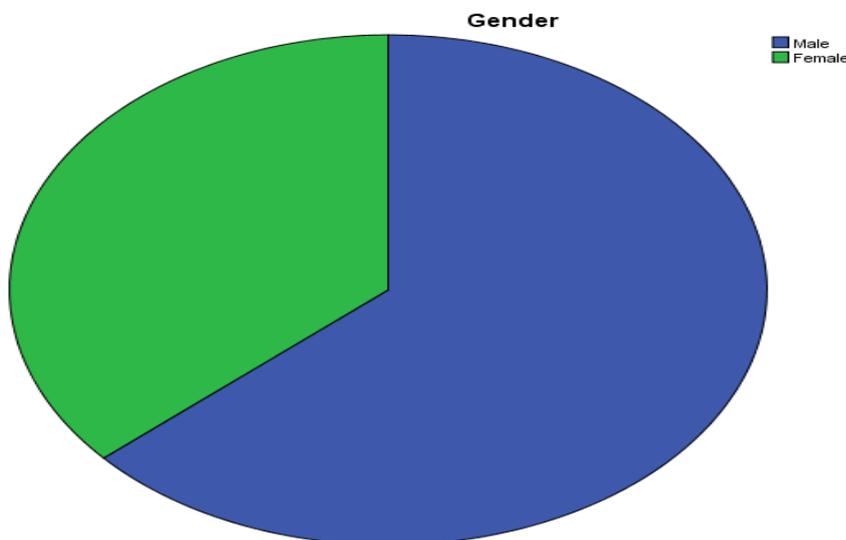
Type/ sector of Universities	Frequency	Percentage
Public	5	31.25
Private	11	68.75
Total	16	100

Gender of Respondents

The (table 4.2) displays gender wise responses collected from both public and private sector university libraries that were total number of 425 (100%) respondents among them 270 (63.5%) were male and 155 (36.5%)6 female respondents participants.

Table 4. 2 *Gender (n=425)*

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



Respondents level of education and employment

This (Table 4.3) shows Respondents' level of education and association with universities. The participants surveyed in the study were 329 (77.4%) undergraduates, 80 (18.8%) were studying in postgraduate programs, 2 (.5%) from faculty members and 13 (3.1%) represented administrative staff of the universities.

Table 4. 3 *Respondents level of education and employment (n=424)*

Respondents level of education and employment	Frequency	Percentage
Undergraduate	329	77.4
Post graduate	80	18.8
Faculty members	2	.5
Administrative staff	13	3.1
Total	424	100

Services offered by your library on web OPAC

Table number 4.4 displays frequency of the responses by web OPAC users on document access points. The table shows that 400 (94.1%) web online public access (OPAC) users had document search facility with Author, 25 (5.9%) users responded that they had no access to documents search 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 273 (64.2%) respondents responded and 142 (33.4%) said no access. 268 (63.1%) web OPAC users responded that there was provision to search documents with other keywords, thus 150 (35.3%) responded said no.

Table 4. 4 Does your library web OPAC provide searching with following access points for finding information?(n=424)

Advance search options/ search strategies

Statement	Frequenc		Percenta		Total
	y	No	Yes	No	
By Author	400	25	94.1	5.9	425
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

Table 4.5 findings that 266 (62.6%) web OPAC users are provided advance search 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, 309 (72.7%) web OPAC users answered that they had word proximity assistance while searching information online and 108 (25.4%) responded no.

Table 4. 5 Does your library web OPAC provide you advance search options/ search strategies

Statement	Frequency		Percentage	
	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 filter/ search limits

Table 4.6 exhibits search filters and search limits. The frequency shows in this table that 349 (82.1%) web OPAC users have 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 limit the documents with their language such as with Urdu, Punjabi, and with other languages, 123 (29.1%) responded no, 293 (68.9%) participants responded that they do have provision to limit the search with CD, DVD, Book serials and other forms.

Table 4. 6 *Does your library web OPAC allow you to filter search/ limit the search results*

Statement	Frequency		Percentage	
	Yes	No	Yes	No
Year of publication for example (edition 2012, 3 rd 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

Table number 4.7 revealed users responses on multifactor services that are provided through the web OPAC 354(83.3%) respondent response they have the facility of online browsing, 69(16.2%) respondent said no. 283(66.6%) respondent response they have facility to transfer their books online and 142(33.4%) respondent response they have no such facility. 330(77.65%) respondent response they update their profile information and 93(21.9%) respondent response no regarding the profile update. 333(78.4%) respondents response they have facility to check his/ her account history online whereas 88(20.7%) respondents

response no.344(80.9%) respondents response are yes regarding the online availability of documents and 79(18.6%) respondent response are no. Regarding the facility of on line document reservation 319(75.1%) respondent response they avail that facility and 101(23.8%) respondents response no regarding this. 315(74.1%) respondent response that they have facility to renew book online while 110(25.9%) respondents response they have no facility of online renewal. 311(73.2%) respondents response are in yes regarding the provision of new arrival updates through online communication and 112(26.4%) respondents response are in no. 262(59.3%) respondent response they have facility to create their own library on virtual space/ Cloud space and 165(38.8%) respondents response they have no provision of such facility. 327(76.9%) respondents response they share, save and copy the bibliographical information of documents and 91(21.4%) respondent said no. 327(76.9%) respondents response they have facility of HEC digital library and other databases while91(21.4%) respondent response are no regarding the availability of Databases. Regarding the availability of web OPAC on mobile devices like phone, tabs and other portable devices 272(64.0%) respondents response are in yes an 128(30.1%) respondent says they have no facility to use web OPAC on their mobile devices.

Table 4. 7 *Does your library web OPAC provide you following (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	272	128	64.0	30.1

phone/tabs and other portable devices)

T-test results

Level of users' satisfaction with web OPAC services

The table 4.11 shows independent sample T-test results. The results of T-test revealed that there was no significant difference in the level of both public and private sector universities users' (Sig=.128) with regards the access points for searching information remotely and (Sig=.001) advance search options/search strategies on web OPAC. Moreover the results shown that there was (Sig=.001-) significance difference in level of users satisfaction for filter search/limit the search results. the T-test results also showed there was no(Sig=.004) significant difference in the opinion for Multifactor services thus the results for relevancy of information retrieval highlights that there was (Sig=.003) significant difference between the web OPAC of public and private sector universities in Lahore.

The T-test combined factor results (Sig=.000) revealed that there was no significant difference in the level of users' satisfaction with web OPAC of public and private sector universities libraries in Lahore.

Table 4. 8 *Level of users' satisfaction with web OPAC services the T-test results*

Sr#	Statements	Public sector university (n=5)		Private sector university (n=11)		Sig. (2-tailed)
		Mean	SD	Mean	SD	
1	Access points for searching information remotely in web OPAC are sufficient	3.69	.914	3.93	1.975	.182
2	Advance search options/ search strategies on web OPAC	3.42	.866	3.74	.905	.001
3	Filter search/ limit the search results option in web OPAC?	3.40	.970	3.73	.865	.001-
4	Multifactor web OPAC services (mentioned in 1.4)	3.27	.940	3.57	.945	.004
5	Relevance of retrieved information results to query I put on web OPAC	3.40	.996	3.71	.925	.003-
6	Level of users satisfaction with web OPAC services	3.4468	.69693	3.7327	.78098	.000

Scale : 5 = Highly satisfied, 4 = Satisfied, 3 = Neutral, 2 Dissatisfied, 1 = Highly dissatisfied

Discussions and Conclusion

The findings of the study shows that users' of both public and private sector universities are provided same online search facilities such as access points to search documents with author, title, subject, ISSN/ISBN, and other keywords, searching strategies, search filters/Limits, multifactor services. The T-test results shows that there was no significant difference in web OPACS of both public and private sector and no significant difference (sig=.000) at combined factor level in the users' satisfaction with web OPACs of public and private sector university libraries in Lahore thus at the individual (item level) in some statements the significant difference have been seen such as in (sig=.001)filter search/limit the search results options and (sig=.003) relevancy of retrieved information results to users query on web OPACs.

Recommendations

Libraries of both sectors should conduct training and orientation sessions to make the users aware of services and to enhance information searching skills and knowledge of users about OPAC.

Information filters should be clear, self-explanatory and supplemented with help/ instructions

There should be uniformity in all the web OPACs so the users can interact them easily.

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