Users' perception towards WEBOPAC: a comparative study of agricultural university libraries of Punjab, Haryana and Himachal state

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Users' perception towards WEBOPAC: a comparative study of agricultural university libraries of Punjab, Haryana and Himachal state

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Abstract: WEB catalogue of any library can be accessed online (WEBOPAC) to search and find any document. It is the basic library tool which is used in information searching. So it is very essential for any library to provide correct and updated information about the holdings of library. Quality of online catalogue depends upon the kind of information available and the way information is accessed. Usability of library services depends upon the information as well as system quality of the library. It is therefore important to measure user's satisfaction for its continuous usage.The present study attempted to measure the user's perception towards WEBOPAC usability in university libraries of Punjab Agricultural University, Ludhiana (PAU), Haryana Agricultural University, Hisar(HAU) and Himachal PradeshKrishiVishavidyalay, Palampur (HPKV). Survey research methodwas usedto conduct the study and stratified sampling technique was adopted to collect research data from the respondents comprising of Teachers, Research Scholars & Postgraduate students of selected university libraries. The study was based on end user satisfaction model. Questionnaire as research instrument was used to collect data from 267 respondents from each university thus total sample size came out to be 801 users. User satisfaction about Information quality and System quality of WEBOPAC was measured on five point likert scale from 1 to 5 from Highly Dissatisfied toHighly Satisfied. Datawas tabulated and analyzed using SPSS software using Descriptive statistics such as Mean, Standard Deviation etc. Chi-square and ANOVA test statistics was used to test the hypothesis. The study found significant difference with regard to frequency of using WEBOPAC among the users of agricultural libraries. Overall users of PAU were found to be more satisfied with WEBOPAC functionality as compared to the users of HAU and HPKV.The study will help to reveal the weaknesses in online catalogue services which will help the library community in improving the online catalogue services of their libraries. Similar studies can also be conducted taking into account other factors like perceived ease of use and perceived usefulness to measure user perception which has been excluded in the present study. Further gender based and subject category wise study analysis can also be carried out.
Keywords :WEBOPAC, WEBOPAC usability, User Perception, Online Public Access Catalogue, Agricultural Libraries , User Satisfaction

1. Introduction: Academic library main focus is to promote the awareness and use of library resources which can be possible through the use of online catalogue. Library catalogue is the basic searching tool for accessing resources of any library. With the technological developments forms and formats of today's library catalogue has changed. Traditional card catalogue has transformed into online public access catalogue which are accessible through computers. An OPAC is an online database which points to all the library

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resources available in any institution. It is a library catalogue on the World Wide Web or Internet.Developments in networking technologies and internet has made possible to access the catalogue of any library any time anywhere which is Web Online Public Access Catalogue (WEBOPAC). User's satisfaction is linked with the kind of information and services user is getting from the library.Usability has been considered to be of critical importance in achieving user satisfaction. In other words it should be easy to learn and able to support user interactions. It is usercenteredand can provide collaborative and interactive services for utilization of information content. User now want quick access to information therefore academic libraries bytaking the technological advantage should also adopt just-in-time access to resources rather than just- in-case access strategy. Academic library issues are focused mainly on usage of its collection and services meant for the end users and WEBOPAC hasalways been the most suitable tool to retrieve the library collection by the end users. Apart from bibliographic information links to various full text electronic documents, publisher's site and othercommercial resourcesis also becoming regular feature of WEBOPAC so that user can find the required information at single point. Other advantages include provision of status of library materials lost, issued or on order; accessible all time anywhere; ability to send document reservation and reprint requests etc. (Zainal ,Hussin & Sa'don, 2013)

The traditional concept of library has changed with the emergence of digital libraries and the digital library services are becoming integral part of today's libraries. Predominantly online catalogues, online databases, online books and virtual reference sources etc. are vital part of digital library services which are reliable and easy to access. Digital library being the complex system can be viewed as an institution, as information system, as new technologies, as collection or as a new service which can be evaluated differently (Furh et al, 2006). WEBOPAC as new digital library services encourage co-operation to save and share investments in research resources and helps in promoting efficient delivery of information economically around the world.It can be demonstrated as remote retrieval, interactive information discovery and retrieval system. The most critical challenge faced by academic libraries is to provide end users with right kind of resources to meet their information needs effectively. There are many approaches for evaluating digital library system. Evaluation of any information system should cover aspects like performance in terms of efficiency and effectiveness (Sarcevic & Covi, 2000). . Methodsused in the past to measure and evaluate WEBOPAC include system performance measurement and end user satisfaction. Some studies are checklist based and some are survey based.

2. WEBOPAC &Agricultural Libraries: Agricultural libraries are providing automated library services to their users through the use of open source library management software KOHA. WEBOPAC interface of KOHA library management software allow the users to search and retrieve documents along with facilities like online reservation, document status,New arrival etc. (Ansari & Amita, 2008). It also allows to access resources remotely and multi search facility as shown in figure 1
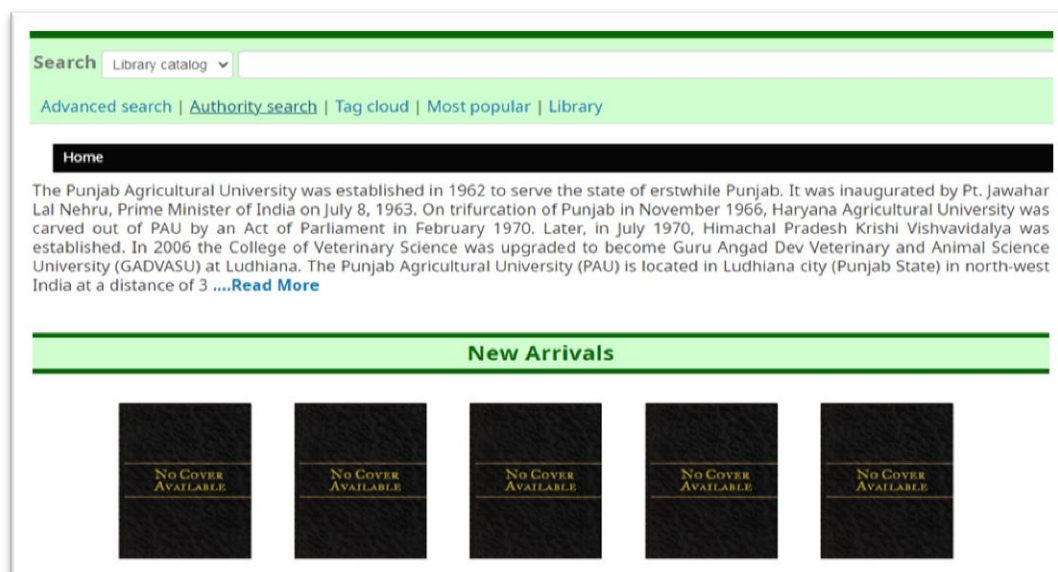
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Figure 1: WEBOPAC interface

3. Review of literature: WEBOPAC is a living example of evolving technologies and shows how libraries are adapting to the changing ecosystem. Evolving technologies have significant impact on the working of library which has greatly influenced the way user is accessing the information. Users now want to access information at their place with one click of the button. Libraries sole aim is to provide services to the users and in the customer centric environment libraries have evolved themselves into a system which can serve the users at their place. With the available networking and remote access technologies not only the bibliographic information but full text access to the content is also accessible. Library automation activities should be concentrated on design and development of customer suited electronic catalogue. Hiremath and Kumar (2018) evaluated WEBOPAC of Indian Institute of Management by measuring the user's satisfaction using check list. User satisfaction was found to be good and pointed out problems like lack of search based knowledge, training and poor database index. Venkatesha, and Sarasvathy (2018) opined for regular conduct of orientation programs particularly in the use of online catalogue in their study about automation of university libraries of Karnataka and Tamil Nadu. Kaladhar, Naick and Rao (2017) in their study about awareness and use of digital resources and services amongst students of technological university at Kakinada found WEBOPAC to be most frequently used service. Perceived ease of use and perceived usefulness was found to significant predictor in student satisfaction with use of web based services (Arif, Ameen&Rafiq, 2017). Kumar and Mahajan (2015) conducted study of usage of OPAC in public libraries of Chandigarh which revealed that there is lack of computer skills and awareness on the part of users which is due to lack of orientation as well cooperation from the library staff. The study recommended for proper regular conduct of proper orientation programs for its effective usage by the users. Sriram and Rajev (2014) also pointed out that services and facilities have greater impact on user satisfaction and user will continue to use these services if found it beneficial. MaidulIslam and Zabed Ahmed (2011) conducted an assessment study of student's perception towards ease of use with OPAC by measuring their satisfaction level at Dhaka University. The study used Mann- Whitney and Kruskal-Wallis test for analysing the data. The study found that user centric design and usability testing can ensure usability. Devendra and Nikam (2012) also conducted satisfaction study of law students at Law university, Karnataka and found that not all the users were not fully satisfied with

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OPAC.Nordin, Kasim and Baharuddin (2012) assessed users' satisfaction toward database usage and found information quality; system quality and service quality to be the strong predictor of user satisfaction. Masrek and Gaskin (2016) assessed users' satisfaction with web digital library at University Teknologi, Malaysia. The study pointed out factors like information quality, system quality, service quality, perceived usefulness, perceived ease of use and cognitive absorption to be the significant predictor of user's satisfaction with web digital library. In similar vein Zainaland Hussin (2013) also affirmed in their study that information quality and system quality considerably affect WEBOPAC user satisfaction. The literature vividly reveals that information quality, system quality along with ease of use and perceived usefulness greatly impact the user satisfaction. The present study aims to evaluate information quality and system quality but has not taken into account impact of factors like perceived ease of use, perceived usefulness and cognitive absorption on satisfaction. The study is assessing user's satisfaction towards information quality and system quality by implying WEBOPAC end user satisfaction model which uses both end user computing satisfaction criteria and library science satisfaction criteria (Zainal&Hussin, 2013).

4. Statement of Problem: The main motive of any academic library is usage of its collection which in turn depends upon provision of right kind of resources to the user. The most critical challenge faced by academic libraries is to fully satisfy the information requirements of their users in the changing environment. So it is imperative to know the user perception towards library resources and services for its continuous usage which is the only return on investment for libraries. WEBOPAC interface should be pleasing, accessible and require minimum user's effort for its continued usage. Agriculture sector contribute significantly towards nation's development therefore it is essential to evaluate the resources and services of agricultural libraries by measuring the satisfaction level of user. The present study has been undertaken to evaluate the effectiveness of WEBOPAC by measuring user satisfactiontowards it in agricultural libraries of Punjab, Haryana and Himachal.

5. Conceptual framework of the study: The present study has adapted WEBOPAC end user satisfaction model (Zainal and Hussin, 2013). The proposed model as in Figure 1 combines end user computing satisfaction and library science satisfaction criteria. The instrument assess the information system covering factors like information content, accuracy, format, ease of use and timeliness. The constructs are divided into information quality and system quality.

(a) Information Quality: It consists of

    (i)   Content : Precise and meets the information needs
    (ii)   Accuracy: Information is accurate
    (iii)   Format : Easy to understand
    (iv)   Timeliness : Up-to-date information
    (v)   Ease of use: user friendliness and easy to use

(b) System quality : It includes

    (i)   System processing speed: Time elapse from activity starts to result displayed
    (ii)   Accessibility : Accessibility of library material
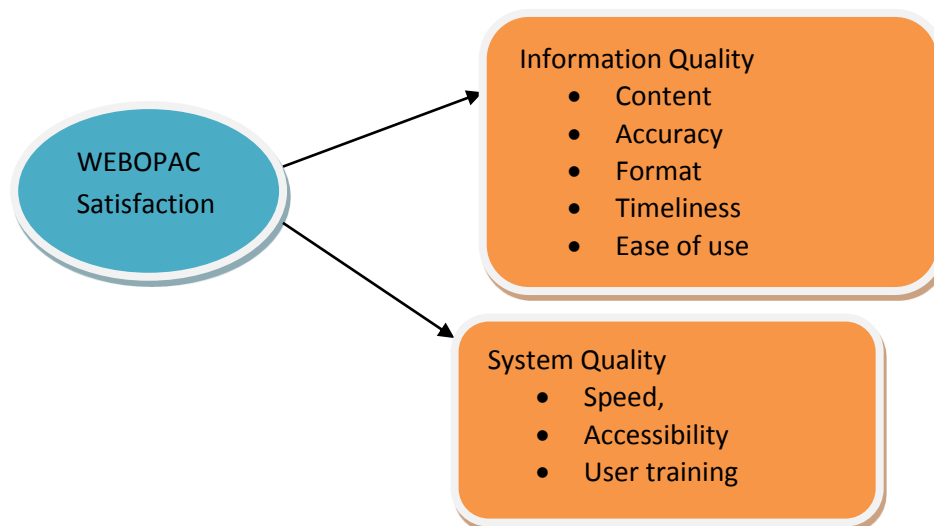   (iii)   User training: Web OPAC usage and Searching skill support

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Figure 2 : WEBOPAC end user satisfaction model (Zainal and Hussin, 2013)

6. **Objectives of the study:** The study aims to achieve following objectives

(1) To Know the frequency of visit of WEBOPAC by the users of agricultural libraries
(2) To find the mean difference in satisfaction level among users of different agricultural libraries with information quality dimension of WEBOPAC
(3) To find the mean difference in satisfaction level among users of different agricultural libraries with system quality dimension of WEBOPAC

7. **Hypotheses of the study:** The following hypotheses have been proposed to fulfill the objectives of study

(1) There is no difference in the frequency of accessing WEBOPAC among the users of agricultural libraries
(2) There is no difference in the satisfaction level among the users of different agricultural libraries with information quality of WEBOPAC
(3) There is no difference in the satisfaction level among the users of different agricultural libraries with system quality of WEBOPAC

8. **Research Methodology:**Survey research methodology has been used in the present research wherein instrument used for collecting research data is questionnaire. Stratified sample technique has been used and 267 users from each university comprising of teachers, researchers and postgraduate students were selected randomly for the study thus total sample size comes out to be 801 users. The questionnaire is based on the WEBOPAC satisfaction instrument containing statements for measuringInformation quality and System quality by assessing the user perception towards it. For each statement user perception has been measured on five point scale from 1 to 5 as 1 for "Highly dissatisfied" , 2 for Dissatisfied, 3 for "Neutral 4= Satisfied 5 for "Highly Satisfied" . Data has tabulated and analyzed using SPSS software. Descriptive and Inferential statistics have been used to interpret the results. Mean, Standard deviation, Chi-square, and ANOVA test statistics have been used to analyze and interpretation of data

9. **Scope and Limitation of study :** The present study is limited to teachers, research

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scholars and postgraduate students of three state agricultural universities one each from Punjab, Haryana and Himachal Pradesh. Further the factors like perceived ease of use and perceived usefulness on satisfaction has not been considered.

10. Data analysis and Interpretations: Data with regard to frequency of using WEBOPAC by the users different agricultural libraries has been tabulated and analyzed using chi-square test as in table

10.1 Frequency of using WEBOPAC: Libraries are providing access to the

online resources of library through its webpage. User can search for the availability of any document through online catalogue. Various other features like status of document, reservation of document, current arrivals information etcis also available to the user through online catalogue. Users access online resources through library webpage in addition to print resources to fulfil their information needs. So it is essential to know how frequently catalogue of the library is being accessed by the users. Data related to use of WEBOPAC by the users of different agricultural libraries is presented as under

Table 1: Frequency of accessing WEBOPACamong universities

	PAU	HAU	HPKV	Total	Chi-squre value	p-value
Daily	21(7.8%)	32(12%)	38(14.2%)	91(11.3%)		
Once a week	75(27.9%)	73(27.3%)	59(22.1%)	207(25.8%)		
Twice a week	73(27.1%)	109(40.8%)	70(26.2%)	252(31.4%)	36.7	0.00**
Once in fortnight	47(17.5%)	30(11.2%)	41(15.4%)	118(14.7%)		
Rarely	51(19.7%)	23(8.6%)	59(22.1%)	133(16.8%)		
Total	267(100%)	267(100%)	267(100%)	801(100%)		

**Significant at 0.01 level

There is significant difference with regard to frequency of accessing WEBOPAC among the users of different agricultural libraries under study as the p value found to be < 0.05. So the null hypothesis that there is no difference in frequency of accessing WEBOPAC is not accepted.It is clear from table 1 that majority of library users access the online catalogue once or twice a week followed by Fortnightly access. Few of the users say around 11.3 % daily access the online catalogue to meet their information requirements. It is startling to note that few of the users rarely access online catalogue which is matter of concern for the library authorities. Library authorities should try to find out the problems for rare or little use of online catalogue by some of the users and find ways for increased usage of library resources.

10.2 WEBOPAC attributes and User satisfaction: With the use of information communication technologies user can now access the library resources at his/her place by just click of the button. Library catalogues have become more interactive capable of providing

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full text access to electronic documents integrated with it. Further print document status and as well as document reservation can also be possible through it. Users can also get updates about new arrivals adding to the library through catalogue screen. So it is necessary to assess user's perception towards WEBOPAC functionality taking into account information quality as well as system quality in order to improve the service quality of library. Total eight statements six under information quality and two under system quality have been assessed on five point scale 1 to 5 ; 1 for "Highly dissatisfied", 2 for "Dissatisfied", 3 for "Neutral", 4 for "Satisfied" and 5 for " Highly Satisfied" to know users' perception towards WEBOPAC among different agricultural libraries. One way ANOVA was used to find significant difference for information quality and system quality of WEBOPAC among users' of different agricultural libraries. Data has been tabulated and analyzed as in table

Table 2 : Users' perception towards WEBOPAC functionalities among universities

	OPAC/WEBOPAC	PAU		HAU		HPKV		F-value	p-value
		Mean	SD	Mean	SD	Mean	SD		
Information Quality									
1.	Easy to use and understand	4.00	0.86	4.07	0.68	3.89	0.95	3.09	0.05
2.	Show location of the item	4.03	0.76	4.03	0.61	3.98	0.89	0.37	0.69
3.	Information displayed is clear	4.07	0.83	4.12	0.63	3.98	0.92	1.94	0.14
4.	Accuracy of information about material available in the library	4.01	0.82	4.15	0.68	3.94	0.88	4.90	0.00**
5.	Provide status information for items available on shelf or Check-out	4.00	0.87	3.94	0.78	4.02	0.89	0.55	0.58
6.	Allow to reserve items online	3.76	0.89	3.32	1.12	3.64	1.02	13.40	0.00**
System Quality									
1.	Searching quickly & time saving	3.95	0.89	3.83	0.77	3.94	0.93	1.55	0.21
2.	Remotely accessible	4.03	0.88	3.87	0.75	3.89	0.97	2.62	0.07
	Overall	31.87	4.77	31.33	4.05	31.28	5.67	1.18	0.31

**Significant at 0.05 level

It is clear from table 2 that there is difference in perception of user with regard to WEBOPAC functionalities. Overall highest mean value of 31.87 was observed for various features of WEBOPAC by PAU users followed by 31.33 of HAU and 31.28 for HPKV. Users of PAU library were found to be satisfied with most of the items under Information quality dimension as the mean value for all the items was found to be ≥ 4.00 except for the variable 'Reservation of item online' where it is less than 4.00. PAU library users were found to be more satisfied with remote access feature of OPAC as compared to quick search feature under system quality dimension. Out of the eight items HAU library users are found to be satisfied with four items under Information Quality dimension as the mean value was found to be ≥ 4.00 except for variable 'Status of items' and 'Reservation of document where the mean value come out to be < 4.00 but more than 3.00. Under system quality dimension of WEBOPAC, HAU users were less satisfied with searching as well as remote access feature .On the other hand users of HPKVwere found to be less satisfied for all the items .as mean value found to be < 4.00 except for 'Status of information for library items' under Information quality where it was found to be > 4. Significant mean difference was observed for item 'Accuracy of information and Reservation of items' under Information quality dimension as p value was found to be < 0.05 whereas no significant difference was observed for the other items under it. Under system quality dimension for items like accessibility &

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quick searching of information and remote access to library resources no significance difference was observed as p value found to be p>.05 at 0.05 level of significance. Table 2 represents highest mean value 4.15 by HAU for the 'Accuracy of information about material available in library' followed by mean value of 4.01 of PAU and 3.94 for HPKV library. Similarly with regard to online reservation of library item highest mean value 3.76 was found for PAU followed by 3.64 of HPKV and 3.32 of HAU library. Since there is difference in satisfaction level with regard to some items among the users of different agricultural libraries so null hypothesis that there is no difference in satisfaction level with information quality and service quality is not accepted.

11. Findings

It is important to note that none of the library under study has been able to achieve the highest level of satisfaction with any of the item listed under Information quality and System quality dimension of WEBOPAC. Overall highest mean value ofuser satisfaction towards all the items under WEBOPAC utility was obtained for the users of PAU library.However with regard to facility like item reservation and quick information searching users werefound to have average level of satisfaction for which library authorities should pay more attention and look into problems being faced by the users. HAU users were found to be satisfied with some of the items under information quality whereas for other items like status of item, item reservation, quick searching & time saving as well as for the remote access feature average level of satisfaction was found. HPU library mangers should ensure quick updating of online catalogue to satisfy information needs of the users. Further HPU users were found to be less satisfied with item reservation, quick searching feature as well as remote access facility to of the library. HPKV library users were found to have average level of satisfaction with all the factors under information quality and system quality except for the status of item which was satisfactory. HPKV users are found to be satisfied only with library item status features of the WEBOPAC. For WEBOPAC efficacy it is essential for every library to make the user aware about the new features and functionalities for which proper training should be provided to the user.

12. Recommendations :

- All agricultural libraries should strive hard to achieve highest level of user satisfaction by improving the information and system quality component of WEBOPAC.

- PAU library users were found to be less satisfied with item reservation features for which there is need to look into the problem encountered while doing online reservation which should be resolved. Training and guidance should be provided to the users. Further users were finding some difficulty in quick searching and time saving variables which can be sought through user education and training programs of the library. These findings are in tune with earlier studies (Venkatesha, and Sarasvathy , 2018; Kumar and Mahajan, 2015)

- HAU users showed little less satisfaction for Item status information, item reservation, quick searching and remote access feature so there is urgent need for quick and regular updating of the library records by the library staff so that user may get the quick information without any waste of time. Further there is also need for more user education and training programs to acquaint the user for various searching techniques for quick retrieval of information. To improve the system quality library

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authorities should make efforts to provide easy remote access to the library resources for its continued usage which are in line with earlier studies (Nordin, Kasim and Baharuddin ,2012)

- HPKV users were found to be least satisfied with WEBOPAC facilities as compared to other two agricultural libraries under study. So HPKV library authority needs to pay more attention towards all the items in order to achieve more user satisfaction. There is strong need for quick updating of the library records (Zainal and Hussin, 2013; Masrek and Gaskin, 2016) along with need for more training programs for the usersto facilitate quick searching, easy retrieval as well reservation of library items (Venkatesha, and Sarasvathy , 2018; Kumar and Mahajan, 2015). Further remote access facility also needs to be improved for attaining higher level of user satisfaction.

13. Conclusion: WEBOPAC of today's library not only provide information about availability of library documents but can also provide full text access to electronic documents. Various functionalities like status of document as well as document reservation can be done through it. Information as well as system quality of any information system greatly influences the users' satisfaction. Library staff play major role for proper maintenance of WEBOPAC and its use. User education and training program must be organized by every library for optimum use of library resources and library should provide correct and updated information in the catalogue as it is the first point of contact in search of any information.

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