Indian Institute of Management Libraries web OPACs and Available Search Features: A Checklist based Approach

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Abstract *- This paper is carried out as part of research work on Indian Institute of Management Libraries web OPACs. The data has been collected during 2016-17 academic years, where author used OPAC evaluation parameter checklist as tool for data collection. Which is sixty-seven parameter checklist designed by Ramesh Babu and Obrien. The study is limited to thirteen IIMs in India, who shared login credentials for their respective library web OPACs accessibility. The author himself observed each IIMs web OPAC by searching with various keywords and compared functionality search features into checklist and marked as scores for presence and absence of each parameter. IIM-Trichy secured highest score 47 out of 53, followed by Ahmedabad and IIM-Calcutta 46. And IIM-Rohtak recorded least score 29 followed by IIM-Ranchi-29 and IIM-Raipur 30. The study has also revealed availability of search features in web OPACs from each IIM libraries and discussed about non-customized search features such as 'contentsandcoverageintheOPAC', 'Hypertext links in full bibliographic record display', 'search strategies and search limits' links to electronic sources and external sources' etc. Further it is recommended to all the IIMs to find out their scores and to do the modifications at their library OPACs.*

Keywords: Online catalogue, OPAC, Web-OPAC, IIM Libraries, Evaluation checklist

Introduction

The tremendous change in handling of information systems in library and information centres are taking new shape in presenting themselves. These developments are taking place in accordance with the requirements of responses from the user community and as well change in technology. These new ideas and changing techniques made library professionals restless

and parent institutes revising each other to retain their modern image at information age. An online public access catalogue (OPAC) is a major area in any library management systems that help the user to access machine-readable records for books, audio-visual material, withan indication of their circulation status. And evaluating such individual modules of software is timely important study to customize and to rate the excellence of automation among the libraries.

Review of Literature

Review of related literature is a significant aspect of any research work, which provides information about previous investigations and procedure of previous researches. Hereby author found many works under taken based on renowned checklists.

Babu, Ramesh and O'Brien (2000) have examined six popular web OPAC's of UK academic libraries in remote access by users and interfaces, features and functions based on checklist of 67 criteria's work already published [Cherry,1994 & Dwyer, 1984]. The presence and absence of features in six library systems (Talis, Innopac, and Web catalogue, Voyager, Geoweb and ALEPH) are discussed in detail. Ibrahim, A E (2005) evaluated the passivity of multilingual Arabic scripts in web OPACs of ten Gulf Co-operative Council University Libraries, and prepared evaluation checklist to highlight the challenges facing in exchange of bibliographical records, resources in Arabic script in Web OPAC's. The revised guidelines of OPAC shows available in literature [Cherry and O'Brien] were used with slight change into. The studies sparked to scheme and functions an Arabic version of OPAC upon MARC standards. **Kapoor, Kanta and Goyal, OP (2007)** have done comparative analysis on functionalities of the Five web based OPACs (of Libsys, VTLS, iPortal, NewGenlib, Troodon, and Alice) available in Indian Academic Libraries, by three researchers at GGS Indraprastha University, Delhi, who accepted searches for a number of things counting books searches. It is found that users are unable to customize the display format, searches are usually not graded and absence of federated search option.**Mahmood, Khalid (2008)** studied the features, functions of indigenous web OPACs of Academic, Special and National libraries of Pakistan, the assessment of 16 OPACs is based on a 91-item checklist developed with help of available literature and previous studies conducted in other countries. The paper finds out indigenous Web OPAC are at initial stage of development and only offer basic facilities, they don't offer MARC formats and Z39.50 protocol and only few OPACs can accommodate non-Roman scripts like, Urdu etc. **Luong, Truong Dai and Liew, Chern Li (2009)** have also investigated usability features of 13 libraries Web OPACs in New Zealand are analyzed using a usability review assessment method and uses an altered checklist based on the Cherry and Ibrahim checklist. All the features have been discussed in scores; bibliographic display, text, layout, labels, and user assistance secured high scores. Many new structures that are related with search engines such as word cloud, faceted navigation are not found. **Yang, Sharon Q and Wagner, Kurt (2010)** have examined and compared the characteristics of the open source and proprietary finding tools to find out how much finding tools have completed towards becoming the next generation catalog. The checklist of 12 features was tested against each of 07 open source and 10 proprietary discovery tools to determine if those features were present or absent in those tools. It is revealed that discovery tools have many next generation catalogue features; merged searching and relevancy based on circulation figures are the two areas that both tools are absent. **Madhusudhan, Margam and Aggarwal, Shalini (2011)** have tested various features and components of Web OPACs of six IIT Libraries (IIT Delhi, IIT Madras, IIT Guwahati, and IIT Roorkee) in India. The assessment approach taken was similar that of Luong and Liews study with slight alteration, comprising 122 dichotomous

queries with 174 features and considered as 11 comprehensive groups. The study shows that almost all the OPACs were lacked federated search, adjunct thesaurus help and spell check facilities.**Yang, Mercun, Tanja and Zumer, Maja (2013)** have described some of the problems and issues faced by the OPACs of six libraries. This aims to establish how libraries have undertaken the mission of developing the next generation catalogue and how they compare to Amazon. An expert study was carried out in January 2008, based on the framework (checklist) from a study undertaken earlier in July 2007 by Mercun. Here six libraries online (COBISS, Ann Arbor District Library, Hennepin County Library, Queens Library, Phoenix Public Library, and World cat) catalogues were compared with Amazon features based on checklist. The traditional catalogue has stayed far behind; the modernised catalogues have taken two different approaches in becoming the 'Next Generation Catalogue'.**Chatterjee, Swarnali and Sarkhel, JK (2016)** have evaluated the five major library management systems and their Web-OPACs. The selected five LMS software's are Koha, Libsys, and Alice for windows, NewGenLib and Virtua. The study focussed on OPACs attributes, properties, search features and functionalities. The study was conducted on the checklist of OPACs features and compared with each other. It is found that Koha is highest score secured LMS among selected software's but more or less NewGenLib and Virtua are also stand next to Koha in case of all the parameters listed for the evaluation. **Sharma, GK (2017)** examined the various features and components of web-based Online Public Access Catalogue in University Libraries at Guwahati City. The four University Libraries (Guwahati University, Krishna Kanta Handiqui State Open University, Assam Don Bosco University, and National Law University & Judicial Academy, Assam) have been offering web-OPAC facility. The study is conducted by viewing and examining the Web-OPACs physically and also using checklist. It is found that National Law University & Judicial Academy has secured highest scores and having all the features in the Web-OPAC mentioned in the checklist.

Initiation of IIMs in India

After free India in 1947, the Planning Commission was responsible to supervise and direct country's growth. India grown rapidly in the 1950's, The IIMs are a community of twenty public, self-governing institutions of Indian management education and research and in late 1950's the commission started to facing problem in appointing competent managers for these public sector enterprises. To solve this problem, in 1959 the planning commission invited the Professor George Robbins from University of California to assist in establishment of an All India Institute of Management Studies. On the basis of his valuable suggestions government of India decided to establish two elite management institutes in Ahmadabad and Kolkata by our first Prime Minister of India. All the IIMs are registered as societies under the Indian Societies Registration Act but individual IIM are free to practice their day to day activities. However, the administration of all IIMs and overall planning of IIMs are monitored by Council of IIM led by ministry of HRD. The Union Cabinet, on 24 January 2017, approved the Indian Institute of Management Bill, 2017 which declares IIMs as Institute of national importance and enables them to grant degrees and further bring many other important changes to the institute, after receiving the presidential assent, the IIM bill has become an Act on 31 December 2017.

Objectives of Study

1. To examine the various features and components of web-based online public access catalogues (OPACs) of IIM libraries in India with the help of a specially designed evaluation checklist.
2. To comparison of how IIM libraries using the same library software are customized their interfaces to make the museful to their users.
3. To introduce a module for OPACs evaluation for Librarians and Software developers.

Scope of Study

This research paper intended to assess the Web-OPACs of IIMs in India those are twenty in numbers situated in different states. The researcher selected the all the twenty IIMs in India, and verified with their websites and contacted with professional colleagues those who are working there. Further researcher sent a request letter to all the twenty IIMs library heads for seeking prior permission to use their institute OPACs, Many institutes replied positively and shared the guest login credentials to the researcher for limited time period. This initial effort given the clear status about how many libraries are providing the Web-OPAC service and it is found that around seven IIMs were not yet introduced the OPAC facility in their campus due to those were new establishments (IIM-Amritsar, IIM-Bodhgaya, IIM-Nagpur, IIM-Visakhapatnam, IIM-Jammu, IIM-Sambalpur, and IIM-Sirmaur) but there automation works were under progress.

Methodology

The Cherry's assessment parameter checklist was previously acquainted and commonly believed by library and information science professionals. But, it is not free from limitation whereas, Babu and O'Brien (2000) have advanced the earlier several parameter checklists made their own with high appropriate to the interface of OPAC's. In the present study researcher chosen to adopt Babu and O'Brien's checklist for appraise the search features and services of thirteenIIMs Web-OPACs. The keyword search queries searched and which task was performed at each library OPAC's by the author himself and the results analysis has been done with symbols such as √ and x. The symbol '√' indicates that parameter is available and 'x' indicates absence of that parameter. Finally, total scores are calculated and presented in the tables.

Data Analysis and Interpretation

As already stated that author had undertaken the checklist module of evaluation method to assess the existed Web-OPACs of thirteen IIMs during 2015-16 and 2016-17 academic years. ThisO'Brien's and Babu's checklist divided into 15 main divisions comprises 67 parameters the results are presented in the below mentioned tables.

Table-1: Status of IIMs library management systems

Sl. No	Institute Names	Long forms	LMS Used
01	IIMB	IIM-Bangalore	VTLS Virtua 3.1hf
02	IIMK	IIM-Kozhikode	KOHA3.22
03	IIMT	IIM-Trichy	Libsys
04	IIMA	IIM-Ahmedabad	KOHA17.11
05	IIMI	IIM-Indore	VTLS Virtua11352
06	IIMR	IIM-Raipur	KOHA
07	IIMC	IIM-Calcutta	VTLS Virtua11352
08	IIMR	IIM-Rohtak	KOHA
09	IIMU	IIM-Udaipur	KOHA3.22
10	IIML	IIM-Lucknow	Libsys
11	IIMS	IIM-Shillong	VTLS Virtua 3.1hf
12	IIMR	IIM-Ranchi	KOHA
13	IIMK	IIM-Kashipur	Libsys

Table-2: General features

Institutes	Login required	Customi zation	Has time out feature, if desired	Facility for updating or Adopting later versions	Explains the contents and coverage in the OPAC	Provides log off instructi on, if desired	Total Scores
IIMB	√	√	√	√	X	√	05
IIMK	√	√	√	√	X	√	05
IIMT	√	√	√	√	√	√	06
IIMA	√	√	√	√	√	√	06
IIMI	√	√	√	√	X	√	05
IIMR	√	√	√	√	X	X	04
IIMC	√	√	√	√	√	√	06
IIMR	√	√	√	√	X	X	04
IIMU	√	√	√	√	X	√	05
IIML	√	√	√	√	X	X	04
IIMS	√	√	√	√	X	√	05
IIMR	√	√	√	√	X	X	04
IIMK	√	√	√	√	X	X	04

It is clear from the above table that OPACs of IIM-Bangalore, IIM-Trichy, IIM-Indore, IIM-Calcutta, IIM-Udaipur, IIM-Shillong and IIM-Kashipur don't 'explain content and coverages of a reading materials', and also don't provide 'instructions log off facility'., but remaining features are present at all the IIMs. These IIMs are using VTLS Virtua, Libsys, and Koha softwares where there is provision to customize the as per the requirements.

Table-3: Type of searches

Institutes	Simple, complex oradvanced	Keyword/ author/ subject heading/ class number/ISBN/ ISSN	Phrase And Boolean searching	Truncation Search such as (- * %$)	P word adjacency & word proximity operators (closeness)	Hypertext links in full bibliographic record display	Total Scores
IIMB	√	√	√	√	√	√	06
IIMK	√	√	√	√	√	√	06
IIMT	√	√	√	X	√	√	05

IIMA	√	√	√	√	√	√	06
IIMI	√	√	√	√	√	√	06
IIMR	√	√	√	√	√	X	05
IIMC	√	√	√	√	√	√	06
IIMR	√	√	√	√	√	X	05
IIMU	√	√	√	√	√	√	06
IIML	√	√	√	X	√	√	05
IIMS	√	√	√	X	√	X	04
IIMR	√	X	√	√	√	X	04
IIMK	√	√	√	X	X	X	03

Table-3 depicts that IIM-Ranchi has no conventional search accesses which would save search time, In case of IIM-Trichy, IIM-Lucknow, IIM-Shillong and IIM-Kashipur there is no truncation search facility. IIM-Raipur, IIM-Rohtak, IIM-Shillong, IIM-Ranchi and IIM-Kashipur have not provided the hypertext links for bibliographical records it helps user to navigate their search process. Wherever Koha and VTLS Virtua are used these search types are customized, majorly and we couldn't find in Libsys.

Table-4: Access points

Institutes	Author name/Title/Keyword/Subject heading/Keyword in title or subject	Combined search; author, title author, keyword	Class Number ISBN/ISSN Series/Barcode Number	Provides Name & Subject authority control	Supports cross references	Provision for copy location	Total Scores
IIMB	√	√	√	√	√	√	06
IIMK	√	√	√	√	√	√	06
IIMT	√	√	√	√	X	X	04
IIMA	√	√	√	√	√	√	06
IIMI	√	√	√	√	√	√	06
IIMR	√	X	X	X	X	X	01
IIMC	√	√	√	√	√	√	06
IIMR	√	X	X	X	X	X	01
IIMU	√	√	√	√	√	√	06
IIML	√	√	√	X	X	X	03
IIMS	√	√	√	√	X	X	04
IIMR	√	√	X	X	X	X	02
IIMK	√	√	√	√	X	X	04

The above table shows that IIM-Trichy, IIM-Shillong and IIM-Kashipur don't support cross references and location of copies, IIM-Raipur, IIM-Rohtak and IIM-Ranchi OPACs access point is very weak there is no support for many provisions of access points. And IIM-Lucknow covered fifty percent of features, remaining all IIMs customized all the access points as per the checklist.

Table-5: Search strategies, search limits or search refinements

Institutes	Search Strategies			Search Limits or Search Refinements			Total Scores
	Displays search strategy	Provides examples under each type of search	Option forsearch history	Comprehensive search limits i.e.year, place.	Facilityforsorting records	Ranksoutputby relevance	
IIMB	X	X	√	√	√	√	04
IIMK	X	X	√	X	√	√	03
IIMT	√	√	√	√	√	√	06
IIMA	X	X	√	√	√	√	04
IIMI	X	X	√	√	√	√	04
IIMR	X	X	X	√	X	X	01
IIMC	X	X	√	√	√	√	04
IIMR	X	X	X	X	X	X	00
IIMU	X	X	√	X	√	√	03
IIML	√	√	√	√	√	√	06
IIMS	X	X	X	√	√	√	03
IIMR	X	X	X	√	√	√	03
IIMK	√	X	√	√	√	√	04

The table-5 shows that search strategy and search refinement features are not customized in many IIMs, only two IIMs are adopted these important provisions on their respective web OPACs such as IIM-Trichy, IIM-Lucknow where Libsys library management system is used. This set of features help the searcher to retrieve the relevant results quickly and promptly.

Table-6: Display and entry structure

Institutes	Display Features			Entry Structure			Total Scores
	Brief biblio graphic displays or both	Display levels (customizable display screens)	Limiting the number for the display of records	Support for MARC formats	Library-structured entry format	Both MARC formats &library structured format	
IIMB	√	√	√	√	√	√	06
IIMK	√	√	X	√	√	√	05
IIMT	√	√	X	√	√	√	05
IIMA	√	√	X	√	√	√	05
IIMI	√	√	√	√	√	√	06
IIMR	√	√	√	√	√	√	06
IIMC	√	√	√	√	√	√	06
IIMR	√	√	√	√	√	√	06
IIMU	√	√	X	√	√	√	05
IIML	√	√	X	√	√	√	05
IIMS	√	√	√	√	√	√	06
IIMR	√	√	√	X	X	X	03
IIMK	√	√	X	√	√	√	05

The above table narrates about display format and data entry structure in the web OPAC; both the provisions are made available at IIM-Indore, IIM-Raipur, IIM-Calcutta, IIM-Rohtak and IIM-Shillong. It is observed that absence of 'Limiting the number for the display of records' facility among six IIMs, which is required for limiting results number wise. In IIM-

Ranchi all three provisions related to entry structure needs to customize at their Koha software.

Table-7: Output features and external links

Institutes	Output Features			External links			Total Scores
	Exporting/ download Ding	Transmission of retrieved records through e-mail	Provision for storing retrieved records	Links to electronic sources	Supports Z39.50	Links to external sources	
IIMB	√	√	√	X	√	X	04
IIMK	√	√	√	√	√	√	06
IIMT	√	√	√	√	√	X	05
IIMA	√	√	√	√	√	√	06
IIMI	√	√	√	X	√	X	04
IIMR	√	√	√	X	X	X	03
IIMC	√	√	√	X	√	X	04
IIMR	√	√	√	X	X	X	03
IIMU	√	√	√	√	√	√	06
IIML	√	√	√	√	√	X	05
IIMS	√	√	√	X	√	X	04
IIMR	X	X	X	√	√	√	03
IIMK	√	√	√	X	√	X	04

The above table explains about OPAC output results and external links from the web OPACs; IIM-Ahmadabad and IIM-Udaipur attained all the facilities as per the checklist in their respective library OPACs. IIM-Ranchi not at all covered output provision; IIM-Raipur and IIM-Rohtak don't have any extremal links. IIM-Trichy and IIM-Lucknow also covered many provisions except links to external sources.

Table-8: Other services and linguistic capabilities

Institutes	Other Services or Facilities			Linguistic capabilities		Total Scores
	Interface with the circulation system	ILL, renewal reservations etc.	Online mailboxes for user comments or suggestions	Facility to accommodate multilingual libraries, if desired	Accommodate non-Roman scripts, if desired	
IIMB	√	√	X	√	√	04
IIMK	X	X	√	√	√	03
IIMT	X	√	√	√	√	04
IIMA	√	√	√	√	√	05
IIMI	√	√	X	√	√	04
IIMR	X	X	X	√	√	02
IIMC	√	√	X	√	√	04
IIMR	X	X	X	√	√	02
IIMU	X	X	√	X	X	01
IIML	X	√	√	√	√	04
IIMS	√	√	X	X	X	02
IIMR	X	X	X	X	X	00
IIMK	X	√	√	√	√	04

From the above table it is clear that absence of other services and linguistic capabilities are highlighted only IIM-Ahmadabad library OPAC has covered all the features form both the

parameters. IIM-Trichy and IIM-Lucknow and IIM-Raipur also covered all the facilities except integrating with circulation system. The remaining IIMs configured half of the provisions; at IIM-Ranchi any of these features are not found. These two sections would help the users various expectations about the web OPAC.

Table-9: User assistance and layout

Institutes	**User Assistance**			**Layout**			Total Scores
	Ccontextual help messages	Procedural learning/ Training	Requires little intervention by the staff	Simple layout	Instructions on the screen are simple, clear and inviting	Use of less technical jargon and code	
IIMB	X	X	√	√	√	√	04
IIMK	X	X	X	√	X	√	02
IIMT	√	√	√	√	√	√	06
IIMA	X	X	X	√	√	√	03
IIMI	X	X	√	√	X	√	03
IIMR	X	X	√	√	X	√	03
IIMC	X	X	√	√	√	√	04
IIMR	X	X	√	√	X	√	03
IIMU	X	X	X	√	X	√	02
IIML	√	√	√	√	√	√	06
IIMS	X	X	√	√	√	√	04
IIMR	X	X	√	√	√	√	04
IIMK	X	X	√	√	√	√	04

The table-9 discusses about users assistance from OPAC end while accessing and its layout appearance on the screen. All the IIMs have created the simple layout with the less technical jargons. IIM-Trichy and IIM-Lucknow only have configured all the features of both sections; remaining IIMs have given more importance to layout section as compare to user assistance. It is found that IIM-Udaipur not at all configured any of the features from the checklist.

Table-10: Physical features and other features

Institutes	Physical Features				Other Features		Total Scores
	Frames & Non-framesversion	Both framesand non-framesversions	High & Low graphic version	Both high and low graphic versions	Drop-down menus	Shadow catalogue, if desired	
IIMB	√	√	√	√	√	√	06
IIMK	√	√	√	√	√	√	06
IIMT	√	√	√	√	√	√	06
IIMA	√	√	√	√	√	√	06
IIMI	√	√	√	X	√	√	05
IIMR	√	√	√	X	√	√	05
IIMC	√	√	√	√	√	√	06
IIMR	√	√	√	X	√	√	05
IIMU	√	√	√	√	√	√	06
IIML	√	√	√	√	√	√	06
IIMS	√	√	√	√	√	√	06
IIMR	√	√	√	√	√	√	06
IIMK	√	√	√	√	√	√	06

In the table-10 it is expressed about OPACs physical and other features, which are related to screen presentation features. Majority of IIMs have covered all the features as per the Obrien's checklist except IIM-Indore, IIM-Raipur, and IIM-Rohtak have left out the 'Bothhighand lowgraphic versions' facility, whereas managing with medium graphic version. These two sections help the users to access in graphic user interface.

Findings from the Study

The author analysed the each IIMs web OPAC search features through Obrien's checklist and other facilities exist among them. The major and important findings have been listed below based on the above tables.

- It is found that absence of parameter 'contentsandcoverageintheOPAC' at ten IIMs except IIM-Trichy, IIM-Ahmadabad and IIM-Calcutta. And 'no logoffinstruction on OPAC'at IIM-Raipur, Rohtak, Ranchi, Lucknow and Kashipur.
- In case of 'Hypertext links in full bibliographic record display' facility around five IIMs have not done customization at their OPACs.
- Around five access point features are absent at IIM-Raipur and IIM-Rohtak such as combinedsearch, Class No, ISBN, ISSN, Series/Barcode Number, Name & Subject authority control etc.
- It is also observed that related to search strategies and search limits are absent in all the OPACs of selected IIMs, except IIM-Lucknow which is using Libsys and customized both the facilities.
- In case of display features six IIMs have not introduced the 'Limiting the number for the display of records' as per requirements. And Entry structure features such as Support for MARC, Library structured entry format also not at introduced in IIM-Ranchi where Koha has been using.
- Seven IIM OPACs have not provided the links to electronic sources and nine IIM OPACs haven't facilitated the links to external sources.
- IIM-Trichy, IIM-Lucknow have provided greater user assistance facility and remaining IIMs maintained the simple layout only, but lacking with the user assistance materials or tutorials.
- IIM-Indore, Raipur and IIM-Rohtak don't have 'Bothhighand lowgraphic versions' in the physical appearance of web OPACs.

Conclusion

The online catalogue has transformed the routine work of library professionals in the libraries, shifted to patron centric. Whereas availability status of a material, charging & discharging status, renewal, reservation of a book have become the basic functions of the automated library as well as users. Web OPACs are the face of library, where all the resources can be stored and accessed from anywhere. In turn responsibilities of library professionals increased to build the single point access to their valuable and important resources of the parent institute. Obviously there is healthy competition among institutes especially among IIMs and IITs and NITs. Now time is to sharpen the existed ICT based services along with day by day changing technology to reach the expectations of user community. That is the reason this kind of small investigations, case studies and observations can make big change in the information retrieval system.

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