

# Perceptions of LIS Professionals on Open Source Integrated Library System and Adoptability of Koha over LibSys in India

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**To Cite:** Gireesh Kumar, T. K. & Jayapradeep, M. (2015). Perceptions of LIS Professionals on open source integrated library system and adoptability of Koha over LibSys in India. *International Journal of Information Dissemination and Technology*, 5(2), 100-105.

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## ABSTRACT

With democratization of information, networking and social media, free and open software for information sharing are on rise even though commercial software industry thrives. Free and Open Source Software (FOSS) has major role in managing information and knowledge all over the world. There are many FOSS for library automation too. Time has come for LIS professionals to adopt FOSS over the proprietary ones benefiting on various counts, mainly cost effectiveness and the availability of source code. Lack of technical knowledge and skills among library professionals are some of the major hurdles in adopting Open Source Integrated Library System (OSILS). The study analyses the perceptions of LIS professionals on the subject by taking Koha as the representative sample of open source library automation and information management software and LibSys for commercial software. The study traces the priorities and challenges related to switching over to or adopting FOSS in Indian libraries. Suggestions to enhance the rate of adoption of OSILS in Indian libraries are also rendered.

**KeyTerms:** Open Source Software, ILS, Integrated Library System, Library Automation, India

Received on: 06.01.15; Revised on: 30.05.15; Accepted on: 23.06.15



## INTRODUCTION

The word 'open source' is used to a greater extent in the library fraternity, especially over the last two decades. Open source indicates that its source code is made freely available and are edited, modified, customized and distributed without infringing Copy Right. A variety of open source software (OSS) are evolved for library automation across the world. OSS represents an exciting opportunity for libraries rather than forcing a library to depend on products which may not fully meet its needs<sup>1</sup>. Adoption of open source software for library automation is steadily increasing in Indian libraries. Simultaneously, many libraries are yet to realize the advantages of using an OSS for library management. It is an opportunity for LIS professionals to introduce newer and customized services, cost effectively. In order to achieve these, the professionals are to upgrade their proficiencies and competencies in FOSS.

### □ Open Source Integrated Library System (OSILS)

The term 'Integrated Library System (ILS)' is also used synonymously as Automated Library System, Library Automation Software and Library Management System. There are several ILS available in the open source platform. These software offer modules for acquisitions, cataloging, circulation, serials management and OPAC, cost effectively with source code. Open Source Integrated Library System is considered as an economical solution and opportunity for libraries to provide additional service to its patrons. The term 'integrated' refers to a system in which all the library functional modules, such as acquisitions, circulation, cataloging, serial control, budgeting and OPAC (Online Public Access Catalog) are processed against a single master bibliographic database<sup>2</sup>. In India, OSILS is actively gaining momentum among the library community. Source code of open source software is freely accessible for legal use, change,

distribution and customization without involving cost. There are many open source ILS available to the public but an analysis to its suitability, utility, authority and currency in meeting the requirements of LIS shall be proper in the current scenario.

#### □ LIS Software

Open source software are offered for divergent purposes such as integrated library management system, institutional repository, digital library, content management, e-learning etc. Koha, NewGenLib, Evergreen, ABCD, WinISIS (formerly CD/ISIS), Emilda, PMB (PhpMyBibli), WEBLIS etc. are the major open source software for library automation. Koha and NewGenLib are the OSILS that are highly deployed in Indian libraries.

Koha is the first of the full featured OSILS, developed by Katipo Communications for Horowhenua Library Trust in New Zealand and distributed as open source under GNU General Public License. Koha is written in Pearl language and works on Windows, Linux and Unix platforms and can be used as an automation software for both small and big libraries. Koha is a matured and web based integrated library system consisting of modules for acquisition, cataloguing, circulation, serials control, online public access catalogue (OPAC), patron management etc.

LibSys is commercial integrated multi-user library management software developed by M/s LibSys Corporation, New Delhi using 'C' programming language which works on UNIX/LINUX, Windows Professional 98, and Windows NT operating systems. LibSys is the most highly rated, having 37 software features and supports the house keeping operations of a library such as acquisition, circulation, cataloguing, serial control, OPAC etc.<sup>3</sup>

#### □ Recent Trends in India

Government of Kerala has integrated Koha as its official software for computerization of libraries under Government control. A project to popularize Koha has been initiated by the Directorate of Technical Education. Pondicherry University has adopted Koha in the course curriculum of Master of Library and Information Sciences (MLISc) in the year 2008. In the same year, the ILS software NewGenLib was declared open source software under GNU General Public License (GPL) by Verus Solutions Pvt. Ltd, first of its kind developed in India and has joined the open source community. ABCD (Automation of Libraries and Information Centers) is another forthcoming OSILS from ISIS family of UNESCO deployed in 2008.

National Library Automation and Resource Sharing Network (N-LARN), which is funded and supported by the Ministry of Human Resources Development, Government of India under its National Mission for Education through ICT (NMEICT) train LIS professionals on Koha. NMEICT provides supports in automating libraries that are with inadequate infrastructure and functionalities. National Institute of Science Communication and Information Resources (NISCAIR), New Delhi conducts short term training programs on OSILS. Information and Library Network (INFLIBNET) Centre, Gandhinagar, and Delhi Library Network (DELNET), New Delhi provide training on various open source software in library automation, institutional repository, digital library, content management, etc.

Kerala Librarians Association (KLA) and its local chapters conduct workshops and training programs on Koha frequently in order to familiarize the librarians with its adoption and installation. Social network media such as OSILS software forum, Koha online community and blogs facilitate the professionals to interact and share the experiences, unifying the global efforts in perfecting Koha to further heights.

#### LITERATURE REVIEW

Studies on the perceptions of the professionals on the adaptability and acceptability of Open Source Library Software over the commercial software are few. Amollo practically evaluated the feasibility of adaptation of open source ILS for libraries in Kenya and found that 52 percentage of the respondents agreed that OSS are good choice for libraries to adopt, regardless of what systems are installed in their libraries. The study further notes that 67% of the respondents are either worked with or familiar with Koha<sup>4</sup>.

Library automation and the use of open source software are relevant for achieving optimal library effectiveness at a minimal cost<sup>5</sup>. Open Source Software serve as a cost effective solution for libraries and caters flexibility to customize the software according to their local requirements. Commercial products often stress on advancement and updation of visible features, basically on the quality of mostly used features for getting marketing advantages<sup>6</sup>.

Adoption of open source library management system is restricted in India by the lack of awareness and knowledge in open source technology among library professionals<sup>7</sup>. Satpathy and Maharana suggest cooperative and participatory organizational system, positive attitude of authorities and LIS professionals, and proper training provision for LIS professionals for the widespread use of OSS in libraries<sup>8</sup>.

Husain and Ansari evaluated the features of cataloguing modules of three ILS packages in India namely, Alice for Windows, LibSys and Virtua using check list method and rated LibSys as the software that provided maximum functionalities in its cataloguing module among the selected three<sup>9</sup>. Balaji Babu and Krishnamurthy opined that Koha is widely known for its features, such as supporting Indic scripts, multilingual collections, Unicode, tagging, and creation of lists suitable for Indian libraries<sup>10</sup>.

Although many institutional libraries started espousing OSILS for automation and integrated services, majority of the libraries in India are still continuing with proprietary software which consume major portion of their budget. There are many advantages that make libraries to experiment with OSILS. The present study traces it through a comparative study of KOHA, the most used OSILS and LibSys, the most used proprietary software for ILS.

#### NEED

Selection of suitable automation software according to the local requirement of the library is a crucial task, especially when the availability of open and commercial software is large. Integrated Library System acts as a mediator connecting the library users and the librarians in automated systems. Therefore, selection and adoption of Integrated Library System has become important in

the process of technology implementation in libraries. As Open Source Software has made inroads into the library activities and information management, the situation necessitates that the professionals be guided by balanced views on OSILS vis-à-vis Commercial ILS for implementation.

## OBJECTIVES

- To identify the factors for adoption and the major challenges in adoption of OSILS in Indian libraries.
- To survey the opinion of the professionals on features and characteristics of open source as well as commercial ILS.
- To formulate suggestions for enhancing implementation of OSILS in Indian libraries

## METHODOLOGY

Two major ILS software forming open source and commercial category viz. Koha and LibSys respectively have been taken up for the study. Koha, the popular and widely used OSILS is taken as the sample to measure the perceptions of the professionals about OS. LibSys, the mostly used ILS is the sample for the commercial software. Online survey in Google was conducted to collect data for the study. Questionnaire was prepared in Google and the URL

link of the survey was randomly sent together with a request letter for the participation to the libraries of universities, educational institutions and special or research libraries via e-mail. The respondents are selected among the professionals who use LibSys and Koha integrated library systems for automation. Total of 65 responses received from each Koha and LibSys software users, majority belonging to universities, colleges and research libraries. Analyzed data are graphically represented in the study

### Adoption of OSILS in Indian Libraries

It is found that 96% of the respondents are aware of OSILS and 85% of respondents support adoption of OSILS in libraries. The reasons for supporting are financial benefits (15%), Openness to customize (14%), Collaborative networking and the contributions from user community (13%), Freedom from maintenance and licensing fee (11%) and Vendor Lock-in (10%). Availability of source code and its easiness in installation and maintenance are equally (9%) represented by the respondents along with their concerns about the suppliers of proprietary ILS and availability of quality documentations (5%). Few respondents adopted OSILS to become part of the consortium (4%) and its uncertainty due to merges and outside ownership of proprietary software. (Fig. 1)

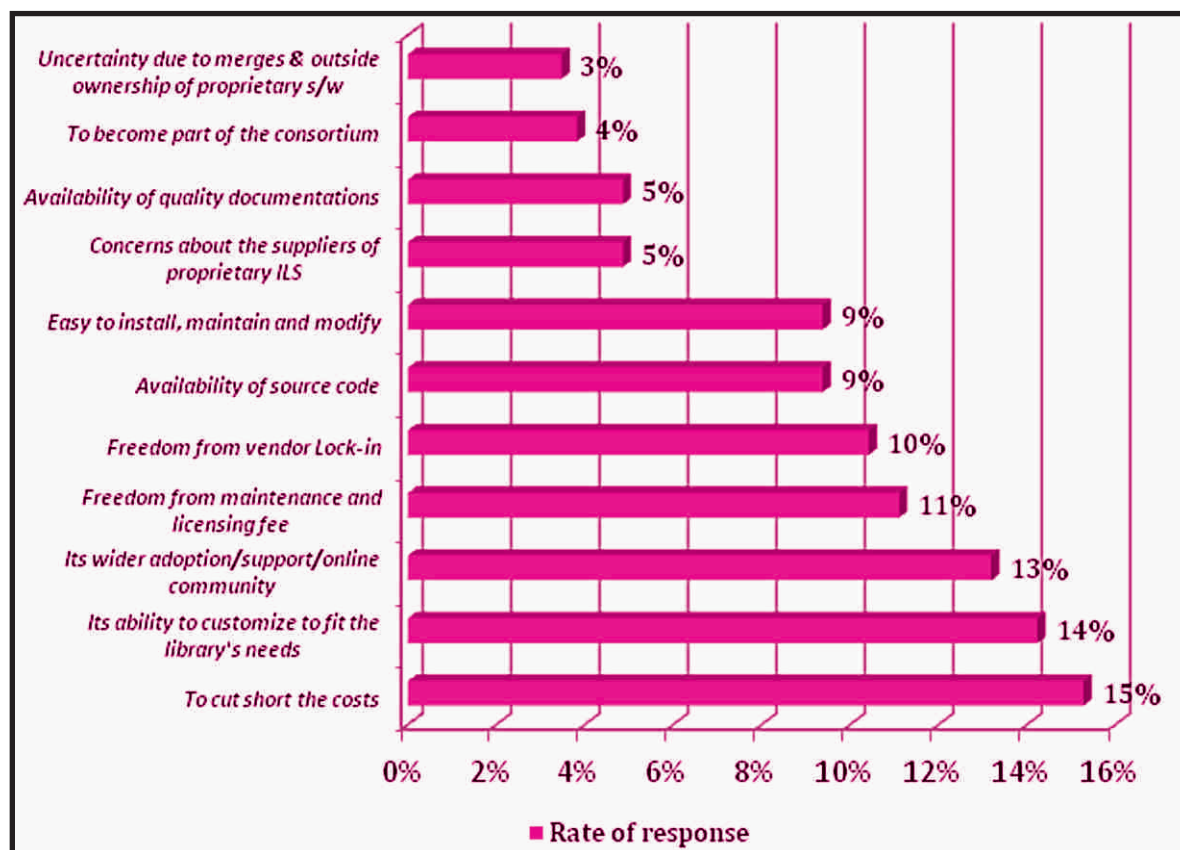


Fig.1: Factors for Adopting OSILS

### Challenges in Adopting OSILS

Survey to measure the perceptions in adopting OSILS in Indian libraries reveals that 16.82% of the respondents expressed lack of sufficient technical knowledge to install and maintain the OSILS as the major challenge in adopting OSILS, the other one being shortage of skilled manpower to install and maintain the software (12.9%). The other challenges, are lack of sufficient technical expertise to support FOSS activities (11.69%), lack of promotional activities (9.97%), lack of organization policies (8.10%), lack of vendor support

(6.52%), issues of data security (6.05%), lack of high quality documentation (5.68%), lack of software security (4.99%), lack of major functional features and modules (4.73%) reliability and longevity (4.51%) and availability of commercial software in the market (4.4%). It is found that OSILS has adequate community support and only 3.67 % has responded with lack of community support. (Table 1)

Table 1: Challenges in Adopting OSILS

Issues	Koha (%)	LibSys (%)	Mean (%)
Lack of technical knowledge required to install & maintain	18.68	14.96	16.82
Shortage of skilled staff to install & maintain	14.65	11.14	12.90
Lack of technical support	11.36	12.02	11.69
Lack of promotional activities	11.72	8.21	9.97
Organizational policies	9.16	7.04	8.10
Lack of vendor support	6.59	6.45	6.52
Issues of data security	4.76	7.33	6.05
Lack of high quality documentation	5.49	5.87	5.68
Issues of software security	4.40	5.57	4.99
Lack of major functional features & modules	4.76	4.69	4.73
Issue of reliability/longevity	2.56	6.45	4.51
Availability of commercial software	2.93	5.87	4.40
Lack of community support	2.93	4.40	3.67

□ Perceptions on General Features and Characteristics

The general features and characteristics of Library Management Software were evaluated on eight major criteria viz. Features and Functionalities (FF), Maintenance and Backups (MB), Customization and Integrations (CI), Documentation (DM), Vendor Support (VS), House Keeping and Report Generation (HR), Managing Print Resources and (MP) and Managing Electronic Resources (ME). These are tested and the results are diagrammatically presented in Fig. 2.

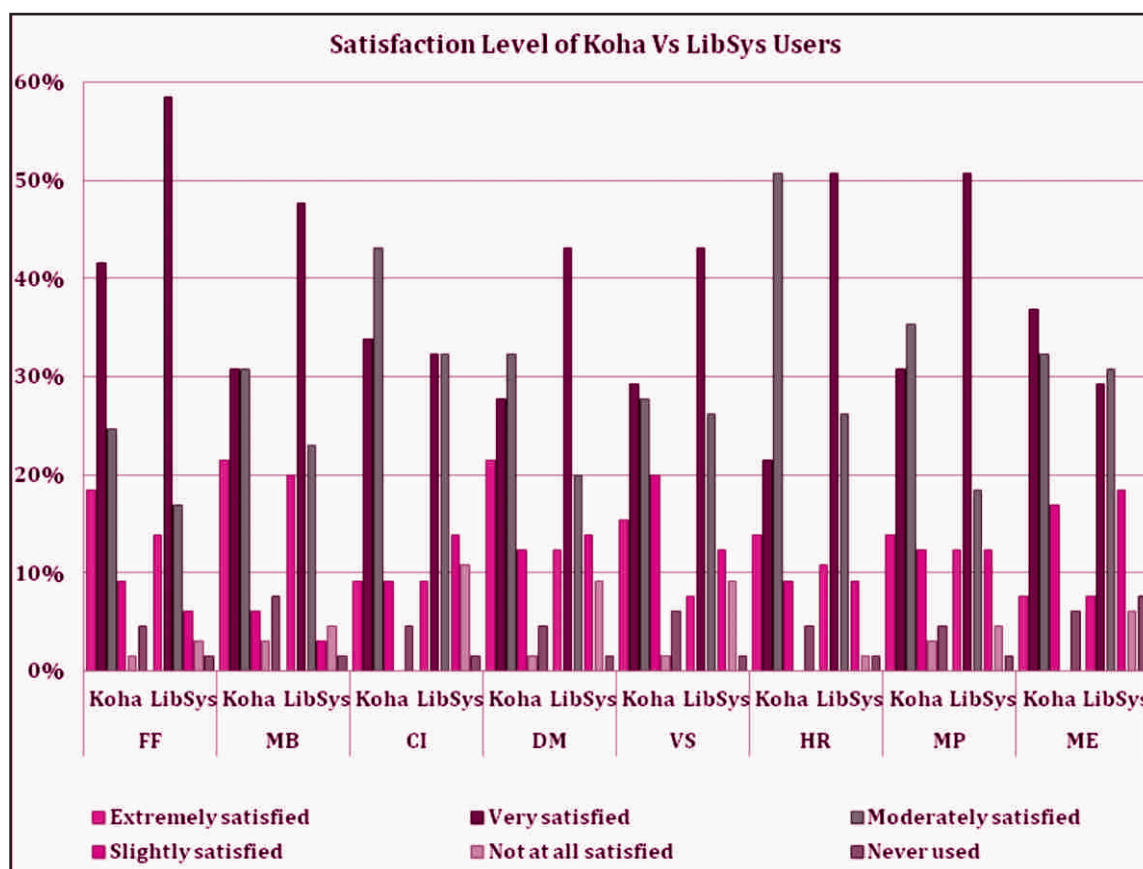


Fig.2: Satisfaction Level of Koha vs LibSys Users

Analyzing the response data, it was found that majority of the LibSys users were "very satisfied" with all the criteria put to test to meet all the routine activities with a higher level of satisfaction (58.46%) with the "Features and Functionalities" of the software. A prominent and

an equal number of responses from the categories of 'House Keeping and Report Generation' and 'Managing Print Resources' (50.77%) 'Documentation' and 'Vendor Support' (43.08%) remarked that the availability of these options in the software were very satisfactory. 21.54% of respondents pointed out that they were extremely satisfied with the 'Maintenance and Backups' facility option of Koha software against the response rate of 20% of LibSys software. There was higher percentage of respondents with 'slightly satisfied' with the option for 'Managing Electronic Resources' (18.46%) and 'Customization and Integrations' (13.85%) in the software. The options available for Customization, Integration, Documentation and Managing Electronic Resources in LibSys software were not satisfactory, in general to the respondents.

Table 2: Satisfaction Level of Koha Vs LibSys Users

Criteria	FF		MB		CI		DM		VS		HR		MP		ME	
	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)	Koha (%)	LibSys (%)
<b>Extremely satisfied</b>	18.46	13.85	21.54	20	9.23	9.23	21.54	12.31	15.38	7.69	13.85	10.77	13.85	12.31	7.69	7.69
<b>Very satisfied</b>	41.54	58.46	30.77	47.69	33.85	32.31	27.69	43.08	29.23	43.08	21.54	50.77	30.77	50.77	36.92	29.23
<b>Moderately satisfied</b>	24.62	16.92	30.77	23.08	43.08	32.31	32.31	20.00	27.69	26.15	50.77	26.15	35.38	18.46	32.31	30.77
<b>Slightly satisfied</b>	9.23	6.15	6.15	3.08	9.23	13.85	12.31	13.85	20	12.31	9.23	9.23	12.31	12.31	16.92	18.46
<b>Not at all satisfied</b>	1.54	3.08	3.08	4.62	0	10.77	1.54	9.23	1.54	9.23	0	1.54	3.08	4.62	0	6.15
<b>Never used</b>	4.62	1.54	7.69	1.54	4.62	1.54	4.62	1.54	6.15	1.54	4.62	1.54	4.62	1.54	6.15	7.69

It was found that most of the Koha respondents were either 'extremely satisfied' or 'moderately satisfied' with most of the criteria put to test in comparison with the LibSys users. A certain percentage of respondents indicated that they never tested certain options available in Koha as well as LibSys, and that could be the reason for the similarity index of both software.

## FINDINGS

The study revealed that 65% of responses either adopted Koha or are planning to adopt it in near future. The main reasons for this switch over are its advantageous features viz. cost effectiveness, software control, developments, ease of use, ability for customization, and community support from all over the world. Some of the LibSys users opined that demand from users, language integrity, budgetary difficulties and the pressure from the management/government make them to switch over to Koha.

There is significant amount of cost involved in terms of time and effort to choose, implement, customize, updating and maintaining the software, both proprietary as well as FOSS. There are additional costs involved for purchase of server and hardware to update, to maintain, to install, to configure, to customize and for training. Though LIS professionals are oriented, insufficient technical support and inadequate training and opportunities are the main barriers in adoption and introduction of OSILS in Indian libraries.

## RECOMMENDATIONS

Competencies in implementing, maintaining and servicing OSS and OSILS are to be acquired by LIS Professionals. If these aspects are inducted in the LIS Course curriculum at UG and PG levels, the professionals shall be enabled to acquaint with these at the beginning of their profession. The policy makers should recommend the usage of OSILS at least in Government organization as the same did in Department of Technical

Education, Kerala. To improve the quality of OSILS according to the individual requirements, there should be technical supports from the experts, however most of the experts are charging for this purpose. LIS professional experts of OSILS themselves should organize promotional activities for the benefit of the new entrants in library profession. Partnering with user libraries helps to develop standardization in customizations. Accessibility of tutorials and step by step demonstration of the installation and modification in any languages may enhance the adoption of OSILS. OSILS requires much better and widely available documentation to suit needs of all type of Library professionals and users as well.

## CONCLUSION

Open Source Integrated Library System (OSILS) are the easy option for introducing and managing newer information services. Though library professionals are interested to adopt them for their libraries, lack of technical support and effective training for the customization and maintenance of the software prevent them from adoption, introduction, expansion and maintenance. As OSILS requires strong technical knowledge to maintain the server and the systems, support of technical expertise is required for successful implementation and management. OSILS shall enhance access to information and knowledge, collaborative research, innovations and communication at inter and intra institutions and shall also enable to meet the demands of the present and future generations for barrier-free information. Koha has a strong support of professionals through forums and community to know the development of the software.

Progresses made in the field on OSILS in India are mainly based on the personal interests and efforts of the library professionals. In general, Open Source Integrated Library Systems are unfamiliar to majority of the professional and they continue to depend on proprietary software for library automation, information

management and related issues. Concerted efforts, intervention, orientation and path finding tools are to be implemented for the spread of OSILS and OSILS based information services in the Library and Information sector.

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