

Adoption of Koha Open Source Integrated Library System in Indian Libraries: An Analytical Study

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Abstract

Libraries are the great beneficiaries of utilizing open source software and many professionals from library science also have contributed to the development of the software code to make them bug free to manage all the essential house-keeping operations of a library. Open source software is known for its flexibility, reliability, freedom from vendor lock, freedom to access and modify the source code, zero licence fees and also an effective tool to cope with ever-shrinking library budget. Attempt has been made to measure the rationalities of the adoption of Koha Open Source Integrated Library System (OSILS) users and their level of satisfaction with the functional modules and features in Indian libraries. Study also identified the rate of promotional activities carried out by the Koha users to support and promote the use of Koha software in Indian libraries. The result of the study found that majority of the users is highly satisfied with the facilities, features and the community support available with the software. Though Koha software is getting recognized by the governmental and educational organizations the promotion and use of the software needs to be extended widely.

Keyword: OSILS; Open Source Integrated Library System; Open Source Software; OSS; Koha; Library Automation; India.

Introduction

Libraries need to be automated in the networked societies and the commercial systems are always costly. As an alternative to costly commercial automation systems, application of Open Source Integrated Library System (OSILS) is gaining popularity among the Indian library professionals for the last two decades. Availability of the software free of cost along with its source code and the successful implementation of the software in other libraries encourage even government funded libraries to adopt OSILS. Rather than a cost effective solution, OSILS also offered all the features or better features comparable to the closed source (proprietary) alternative. Among the available OSILS some have drastic number of installations within a short time

period with frequent updates. Koha, NewGenLib, Evergreen, ABCD are the major OSILS used in Indian libraries. However, Koha software is found to be more popular and has got highest installation among the Indian libraries. However, usage of Open Source software in South Indian states is higher than other parts of India. Awareness and training programmes on Open Source software are high among LIS professionals in South Indian states (Jasimudeen and et.al 2014).

Koha is the first full featured Integrated Library System in the open source software category. Koha is a web based open source integrated library system distributed under GNU general public licence for automation of libraries at no charge along with its source code, which allows the users to adapt, modify and improve the software. The software was developed in New Zealand by Katipo Communications Ltd under contract with the Horowhenua Library Trust. Koha helps to automate all the housekeeping operations of the library and supports Linux platforms. The ability to handle Indian languages and its wider and active community support has increased the adoption of Koha software among the Indian libraries. Koha is simple, user friendly with attractive modules. Koha is more popular in academic libraries due to its advantages

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like powerful Circulation, Cataloguing, OPAC and other housekeeping features having advanced web2.0 features through which users can participate in knowledge and library resource sharing's, evaluate and suggest the resources. (Mishra, 2015)

Literature Review

Authors had a thorough consultation of online resources on the satisfaction level of users on Koha in Indian libraries. There were no comprehensive literature on the subject from India pertaining to measure the level of satisfaction with its features and advantages. There were few comparative analyses done on Koha software in Indian scenario with other OSILS. Singh and Sanaman in their evaluation study of Koha with NewGenLib software states that Koha has advanced database features and requires very little hardware and the software is easy to install than NewGenLib and also Koha supports more formats and standards than NewGenLib. (Singh and Sanaman, 2011). Bhavsar conducted a survey among the Indian libraries to find out the satisfaction level of Koha users and found satisfactory (Bhavsar, 2011). Another study by Hanumappa and et al in Indian libraries justify that in the OSS ILMs category, Koha stands out with an impressive presence in terms of numbers and satisfaction level of the users and also the software was rated as the most preferred ILMs. (Hanumappa and et. al, 2014). According to Haravu, Koha is better able to be quickly customized to be used in different languages as compared to NewGenLib and allows an item to be transferred to another library configured to be in the network. This is useful and required in public library networks (Haravu, 2008). The author also justified that Koha's presence with support services both in the west and increasingly in developing countries will be a serious challenge to NewGenLib's current position in India and other countries in Asia and the Middle East. Mishra in his personal experience on migration of their legacy software to Koha says web based features of Koha for staff and users helped them in getting uninterrupted services on their Desktop/Laptop without any technical issues and hardware/software requirements round the clock (Mishra, 2015).

It is found from the review of available literature selected by the authors that scholarly literature published on to measure the satisfaction level of Koha users in India is limited.

Objectives of the Study

The main objectives of the study are

- To identify the level of satisfaction of Koha users on its general and advanced features
- To evaluate the level of satisfaction of Koha users with its functional modules
- To identify the activities of Koha users to promote the use of the software in Indian libraries.

Methodology

A preliminary study through distribution of a structured online questionnaire prepared in google docs was conducted to collect data. The target group included in the survey were randomly selected library professionals from Indian libraries using Koha as their integrated library system. Duplicate responses from the same library were eliminated from the analysis based on the level of designation they were holding at the time of response. There were total of 90 responses received from various libraries throughout the country and the analysis was done for 80 responses after eliminating the duplicate and partially filled questionnaire. Among the 80 respondents, 75 (94%) were male and 5(6%) were female respondents.

Limitations of the Study

Present study was conducted only in Indian libraries and focused only on Koha software. The level of satisfaction of the Koha users were measured in terms of general and advanced features and also functional modules only. Multiple responses from the same library were discarded based on the level of position the respondents were holding at that time. The research study looks upon the OSILS from Koha users point of view and the questionnaire is designed to comprehend the awareness and observation OSILS of library professions of India.

Adoption rate of Koha software in Indian Libraries

The availability of source code to customize according to the needs of the library increased the usage of Koha software among the Indian library professionals. However many were thinking that OSS are insecure and don't want to share their data to the public. There were many other issues foreclosed the professionals to adopt open source ILS for their library automation such as lack of technical supports, low development activities, concerns about the existence of the software, difficulties in maintaining and upgrading the software, lack of training programs etc. Other reasons were,

- A shift from the existing commercial software to the new open source application requires adequate time and effort.
- Training is required to learn the changes.
- Integration with the other systems such as RFID devices, Biometrics, Barcoding etc. is another issue.
- Though there is no extra cost for upgrading the software, but sometimes it requires a commercial agency to perform the process.

An attempt has been made to identify the rate of adoption of Koha software among the respondent libraries. The percentage of adoption was 39% in the year range 2009-2011 whereas the installation was increased by 12% in the year of 2012 to 2014. The analysis shows that there was a drastic uplift in the

adoption of Koha software among Indian libraries during the last decade (Figure 1).

Among the respondent libraries 36% were College Libraries, 36% were university libraries, 20% were special and research libraries, 4% were non-Profit libraries and the remaining were corporate (3%) and school libraries (1%). The percentage of adoption indicated by the respondents shows that Koha is more popular among the University and College libraries and also indicates that Koha is suitable for any kind of libraries.

Service Providers on Koha in India

Based on the information available on the Koha Community Site, the following are the service providers in India.

Table 1: Satisfaction level of koha users with its advanced features

S. N.	Service Provider	Address
1.	Informatics (India) Ltd Contact: Amit Gupta/R Sunil Kumar	Work No 194, R V Road P B No 400 Basavanagudi, Bangalore - 560 004, India Work Phone: +91-80-40387777 Work Fax: +91-80-40387600 Work Email: info@informindia.co.in
2.	Eclat Engineering Pvt Ltd Contact: Mr. Harendrasinh Gohil	Other E-212 Titanium City Center Anandnagar Road Ahmedabad 380015 India Work Email: info@eclateng.com
3.	Jivesna Tech Pvt. Ltd Contact: Utsav Rai, Vikrant Malik	Home A/209, Sector-17, Vashundhara, Ghaziabad (U.P.) 201012, India Work Phone: +91-0120-4266526, +91-8860611657 Work Email: utsav@jivesna.com Work Email: info@jivesna.com
4.	Avior Technologies Private Limited Contact: Mr. Abhishek Kumar Shaw	Home Sukantanagar, Secor-IV Salt Lake Kolkata 700098 West Bengal, India Work Phone: +91 8583963471 Work Email: mail@aviortechnologies.com
5.	OpenLX Inc. Contact: Sudhir Gandotra	Home A-72, Shivalik New Delhi 110017 INDIA Work Phone: +91-93124-65666 Work Phone: +91-11-26684440 Home Phone: +91-11-26684441 Work Email: sudhir@openlx.com
6.	Ecole Solutions Pvt Ltd Contact: Mr Venkatesh L S	Home Ecole Solutions Pvt Ltd, Level 3 Brigade Business Suites, Jayanagar 2nd Block, Ashoka Pillar Bangalore 560011 INDIA Work Phone: +91-80-26571555 Cell Phone: +91 9686576695. Work Email: info@ecoleglobal.com
7.	First Ray Consulting Contact: Vikram Zadgaonkar	Work 6 Akshay Sankul Complex Hanuman Nagar Pune Work Phone: +919370228262 Work Email: vikram@firstray.in
8.	Nucsoft OSS Labs Contact: Savitra Sirohi	Work Phone: +91 97400 22664 Work Phone: +91 80 3201 4436 Website: http://www.osslabs.biz/koha
9.	OrisysIndia Consultancy Services	OrisysIndia Consultancy Services TBIC3, Thejaswini Building Technopark, Trivandrum Kerala 695 581, India Tel : +91 8086 800 203 http://orisys.in/

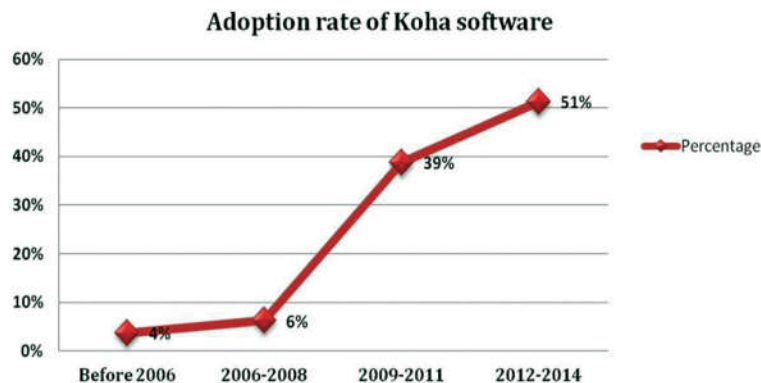


Fig. 1: Rate of Adoption of Koha Software in Indian Libraries

Reasons for Adopting Koha OSILS

An attempt has been made to measure the satisfaction level of the respondents on some of the selected general and advanced features, modules and other external factors involved in the adoption of Koha software.

Satisfaction with the General Features

The general features of the Koha software were categorized under certain selected criteria which were found to be the basics of selection of an open source integrated library system by the literature review. The criteria are as follows;

- Uncertainty in the ownership of proprietary software
- To become part of the consortium
- Concerns about the suppliers of proprietary ILS
- Availability of quality documentations
- Availability of source code

- Easy to install, maintain and modify
- Freedom from vendor Lock-in
- Freedom from maintenance and licensing fee
- Its wider adoption/support/online community
- Its ability to customize to fit the library's needs
- To cut short the costs

Respondents were asked to indicate the reasons why they have chosen Koha as their integrated library system based on the above said criteria and majority and an equal percentage (15%) of the respondents specified that the ability of Koha software to customize to fit the library's needs and to cut short the cost of purchasing proprietary software made them to adopt Koha for their library automation. Koha's wider adoption/support/online community (12%), freedom from maintenance and licensing fee (11%) and freedom from vendor Lock-in (10%) were the other major reasons to adopt. Availability of source code of the software and its simple installation and maintenance options (9%) also equally

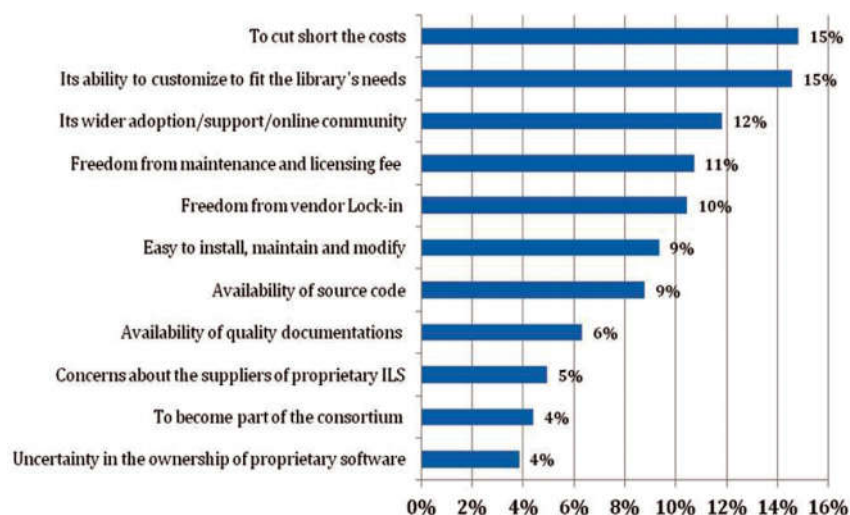


Fig. 2: Satisfaction level of Koha users with its general features

encouraged the respondents to opt for Koha as their library automation software. Availability of quality documentations (6%), Concerns about the suppliers of proprietary ILS (5%), to become part of the consortium (4%), uncertainty in the ownership of proprietary software (4%) are the other reasons observed in the responses (Figure 2).

Satisfaction with the Functional Modules

Koha offers modules to perform the basic functions such as acquisitions, circulation, cataloguing, serials management and the other functions such as OPAC, Patrons details, system administration, stock verification etc. The respondents were asked to rate their level of satisfaction with the major functional modules of the software they dealt in the degree of Excellent, Very good, good, fair, poor and never experienced.

It is ascertained from the responses of the Koha users that they were satisfied with the modules available with the software. Online Public Access Catalogue (OPAC) is the excellent module represented by majority of the respondents (54%) followed by Circulation (48%) and Cataloguing (46%) modules. 41% of the responses indicated that the Patrons details module is excellent in Koha. However 43% of the respondents indicated that the system administration module available in Koha is Very Good, compared to the same degree on Patrons Details module (39%) Cataloguing module (36%), Acquisition module (35%) and Circulation module (34%). There is a higher percentage of respondents agreed that they have never experienced the Stock Verification module (21%) and Serials Management module (18%) available in Koha software. However over all response of the Koha adopters agreed that they are highly satisfied with the modules available (Figure 3).

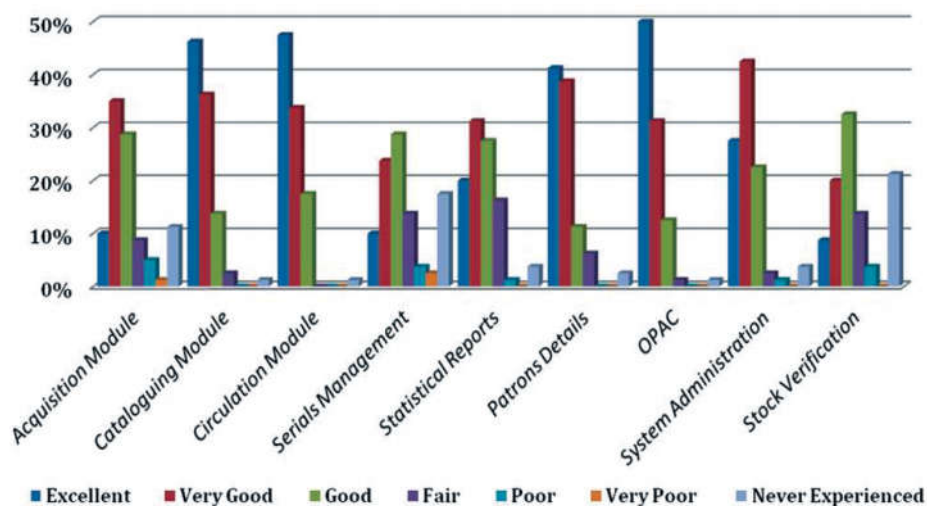


Fig. 3: Satisfaction level of Koha users with its functional modules

Satisfaction with the Advanced Features

Apart from the basic functions and features of the software, users were asked to rate their level of satisfaction with the selected advanced features such as installation of the software, maintenance of database and backups, features and functionalities of modules, customizations and integrations, housekeeping operations, report generations, technical and community supports, availability of documentation, responses of the users, upgrades and enhancements, design and coordination of statistical reports and managing print and electronic resources.

Respondents were asked to indicate their level of satisfaction with Koha software with a set of activities

to determine the efficiency of the software. When prompted majority of the respondents (46%) marked as Very Good for the efficiency of the Koha software in having the features and functionalities of all the modules. Comparatively a higher percentage (39%) of respondents were agreed that the upgrades and enhancements features of Koha was 'very good' Respondents were equally (36%) marked as very good for the features such as installation, database maintenance and backups, user's response and the module for managing electronic resources options available in Koha software. However the overall response of the Koha users on all the advanced features of Koha software was highly satisfactory (Table 2).

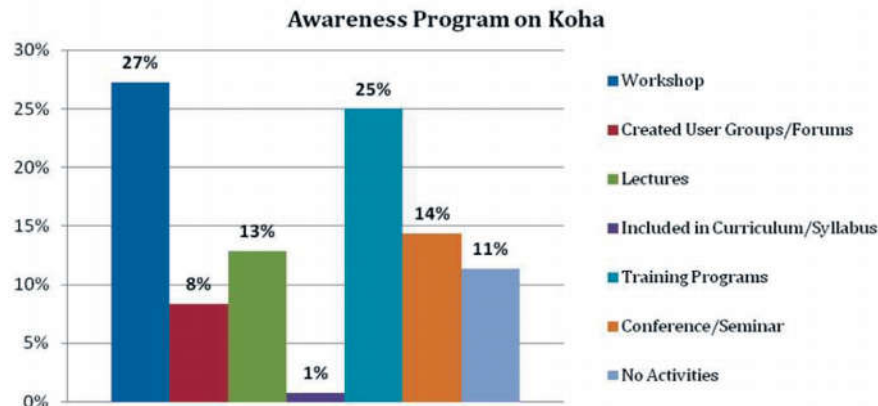
Table 2: Satisfaction level of koha users with its advanced features

Actions	Excellent	Very Good	Good	Fair	Poor	Never Experienced
Installation	24%	36%	25%	8%	0%	8%
Database Maintenance and Backups	20%	36%	30%	6%	3%	5%
Features and Functionalities of Modules	16%	46%	24%	10%	1%	3%
Customizations and Integrations	10%	34%	43%	10%	1%	3%
House Keeping and Report Generation	16%	25%	43%	11%	3%	3%
Technical / Community Support	16%	30%	25%	20%	4%	5%
Documentation	24%	30%	29%	14%	1%	3%
User's Response	14%	36%	35%	11%	1%	3%
Upgrades and Enhancements	15%	39%	26%	14%	1%	5%
Design and Coordination of Statistical Reports	14%	25%	41%	14%	3%	4%
Managing Print Resources	16%	31%	35%	13%	3%	3%
Managing Electronic Resources	10%	36%	34%	16%	0%	4%

Activities to Promote the use of Koha Software

There is an increasing awareness and uptake of Koha software among the library fraternity in India. Users of Koha software were asked to indicate their effort made to promote the use software in libraries. Majority of the respondents (27%) were pointed that they had conducted workshops where as 25% of them had organised training programs on the software.

Some respondents (14%) were organised conferences and seminars where as some were (13%) given lectures on Koha software as a promotional measure. Few among the respondents (8%) were created user groups and forums to promote the software; however 11% of the respondents were agreed that they had not made any contribution to promote the use of Koha software (Figure 4).

**Fig. 4:** Mode of promotional activities on koha

Involvement of Government Organizations

Government of Kerala has declared Koha software to be a recognized OSILS which is considered for the automation of all government libraries in Kerala. Institute of Human Resource Development has already adopted Koha for their libraries in educational institutions. Libraries like Delhi Public Library, Central University of Kerala, Assam University, Silchar, Central University of Gujarat, Gandhinagar, Baba Bhimrao Ambedkar University Lucknow, IISER Bhopal have implemented Koha for the wider access of their

OPAC. The Kerala State Library Council (KSLC) is embarking on a programme of computerizing its affiliated public libraries. In 2008, Pondicherry University has adopted Koha in the course curriculum of Master of Library and Information Sciences (MLISc).

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.

Other Reasons

Support from the commercial vendors and other private support agents with low-cost installation and maintenance, support from the ever growing user community to solve the software related problems. Availability of frequent seminars, conferences, workshops, training programs etc. in National and international levels encourage the adoption of Koha software. Some of the common reasons given below are also responsible to choose Koha.

- a. Maintenance cost is very low
- b. High capacity hardware is not required
- c. It works with Linux OS which is available open source
- d. Every six month, new version is released with some more new features
- e. It is very easy to use even a non-professional can also handle the software with ease.
- f. All modules required for housekeeping operation are available
- g. It is compliant to International Standard such as MARC21, MARCXML, z39.50, SRU/W, OAI-PMH and many more.
- h. It supports multi user and multi security level
- i. It supports Server-Client technology which allows to access the interface from different system
- j. It supports customizable search and federate search as well
- k. Free from dependence on vendor lock-ins
- l. Supported by a community of highly motivated individuals

Conclusion

Interest in adoption of Koha open source integrate library system in Indian libraries is growing exponentially. Many organizations in India are seriously considering the adoption of or migration to Open Source Integrated Library System (OSILS) for their Libraries with the result of getting inspired by the fellow libraries that have successfully using it. The very concept of Open Source software encourages library professionals. Chances of detecting and fixing the bugs is comparatively high in open source software than commercial as the source code is open to all and circulated among many professionals. In the same sense OSS are more secure and stable than commercial ones. Koha is found to be the largely used

OSILS in Indian libraries as the community participation and collaboration is very crucial in the development of open source software, which makes them bug free. The level of satisfaction of the respondents with the features and modules of Koha software evidenced the increasing number of adoption in Indian libraries.

It is examined from the study that majority of the libraries in India selected Koha as their OSILS to reduce the cost of purchasing proprietary software and its high customization possibilities according to the individual library needs. Indian library professionals expressed positive attitude on adoption of Koha and is very popular and highly supported automation software by various libraries throughout India. Koha has a strong support of professionals through forums and community to know the development and get updated with the software.

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