# ADOPTION OF KOHA FOR ENHANCING THE NEXT GENERATION LIBRARY SERVICES

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**Abstract:** *The present paper comprises the different segments of Koha open source library system (ILS). There is a huge advantage of adopting Koha as ILS for libraries. Some major reasons have been elaborated here. It creates various opportunities for library professionals to reflect and present the library services to the optimum level. Essential factors like resource management, discovery service, add-ons eloquences, great performance of the modules and finally extra features affect the ambience of library services. It has web-based functionalities like online public access catalogue, staff, administrative elements, and self-circulation interfaces built in web2.0 technologies. As it can be said that library services can be taken up to the next level by adopting Koha.*

**Keywords:** *Koha, ILS, Resource Management, Discovery Service, Plug-In, RFID*

**Introduction:**

Information is an important input for all developmental purposes. It has been globally accepted that without information nothing can be done. Any effective activity requires prompt access to the right information. The traditional information retrieval process is quite weary and time-consuming. There is a need for automation. Like other organisation, the library is committed with automation. An integrated library system is simply the computerization of in-house library operations. Integrated library management software packages are commercially and freely available. The concept open source comprises us to use, study, modify and distribute software application. Open source licenses are also called copy left licenses that are zero priced. Right now, Open source software (OSS) limns great opportunities for libraries instead of depending on others that cannot meet the needs properly. From library management to digital repository management, open source software marches and leads the current scenario of the integrated library system. There is plenty of OSS, but Koha is quite cost-effective and connects other library systems in one frame.



**Literature Study:**

Adoption of open source library management software is accelerating the pace. Koha is the first free and open source software. It is in vogue among the users vastly. Koha is more popular in India compared to other software. Many library automation projects in India were done through Koha as its capabilities (V, V., & S, J., 2012). For the development of library automation systems, libraries of Nigeria faced lot of troubles and challenges that include poor ICT infrastructure, funding, ICT skills, and finally the software package. The introduction of Koha is like revolution in Libraries. Libraries are getting the opportunities to implement the open source software instead of spending on other packages (Egunjobi, R.A., 2012). The Central Library of Cochin University of Science and Technology was in 2000. After 11 years, it was shifted to an open source integrated library management systems. Trends of OSS environment triggered to explore OSS for library automation. 'Koha' was selected for the purpose and it was successfully implemented.(S.N., A., P.K., P & C., B. 2014). Information technology plays important role in socio-economic, research and developmental purposes of any country. Library services help the educational activities. There are many open source software for educational activities as well as for the library automation which includes content management system, institutional repository, and learning management (Khode, S., & Chandel, S.S. 2015).

**Koha - The Unconditional Gift:**

Koha is the first open - source integrated library software (ILS) which is being massively used by all kinds of libraries such as public, academics and special libraries even in research work places. The software became popular and has been adopted by the large number of users as per its capabilities and abilities. The powerful Zebra indexing engine was introduced in 2005 along with the Koha 3.0 version. Koha drastically changed ILS market and set a new era in library automation. As per history, Koha was originated in public library system of New Zealand. It is a LAMP (Linux, Apache, MySQL and PHP) based architecture. It is a trailblazer of technology, Web 2.0 tools, authority format, and bibliographic framework, enhanced OPAC, Unicode compatibility, distributed cataloguing through Z39.50 server and OAI/PMH compatibility. Koha has set a global trend on ILS.

### Major Reasons for Adoption of Koha:

ILS is taking the library services and environment to the flourished level. Koha is the pioneer and can be considered as initiator in developing an enhanced as well as modern day resources search-retrieval process. Here, four quadrants that have been purposively imposed in adopting Koha for betterment for library services and users' satisfaction. As Koha is genuinely enterprise-class integrated library software with different efficacies. It includes flexible usability in cloud platforms, more over software as service. It enables users (Librarians and professionals) to manage resource easily. It connects resource discovery tools (portals) such as VuFind and EBSCO Discovery Service (EDS) etc. for next generation online resource search.

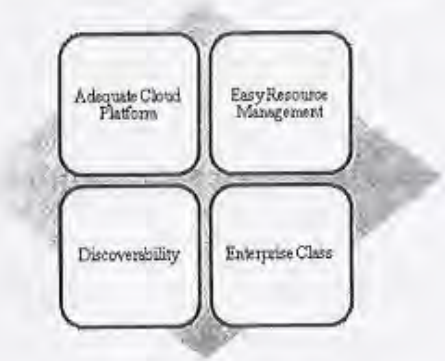



Fig 1: Matrix view of adoption

### Koha - Cloud Hosting:

Cloud hosting allocates virtual services. It is replacing the local hosting set-up as because of high-cost set-up, not adequate reliability, limited accessibility and many more. Cloud hosting of Koha is more reliable, secure, and scalable etc. The network server can be used from different data centres in different locations. Koha cloud hosting is far better than using a single physical server for virtual resource management and services. In the cloud, the resource is obtainable in real time without any constraints, it means seamless accessibility. The advantages of Koha cloud host are the facile expansion, accessible from any kind of web-browser over internet service, regular updating, remote access, easy mode of a back-up solution of the bibliographic data. Earlier, the library system was based on local hosting; now the dimension has been shifted to a cloud platform for faster use.



### Comprehensive Resource Management:

ILS indulges acquisitions, processing, storage and dissemination of quality services. To meet the users' demand, there is a need of comprehensive resource management model or process in library. The application of ILS takes the creditability for well-organized information system.

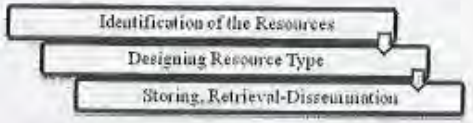



Fig 2: Resource Management

Comprehensive resource management improves library services and reduces high costs etc. Now-a-days, there is a massive variation of resources and earlier library house keeping software packages were not able to manage whole library resources that include Audio-Video, Serials, e-resources etc. Koha is more feasible than other ILSs to integrate all type of resources included e-resources subscribed by a library with physical resources. Resources are fragmented into different categories where each and every item is framed for management. As a result, it has become very easy for professionals to manage. Serials, AV materials, Online resources are also combined in the same framework.

| Code | Description | |
|---|---|---|
| | Default framework | Actions |
| ACQ | Acquisitions | Actions |
| AR | Models | Actions |
| ART | Articles | Actions |
| BKS | Books, Booklets, Workbooks | Actions |
| CF | CD-ROMs, DVD-ROMs, General Online Resources | Actions |
| FA | Fast Add Framework | Actions |
| IR | Binders | Actions |
| KT | Kits | Actions |
| RARE | Rare Books | Actions |
| SER | Serials | Actions |
| SR | Audio Cassettes, CDs | Actions |
| VR | DVDs, VHS | Actions |

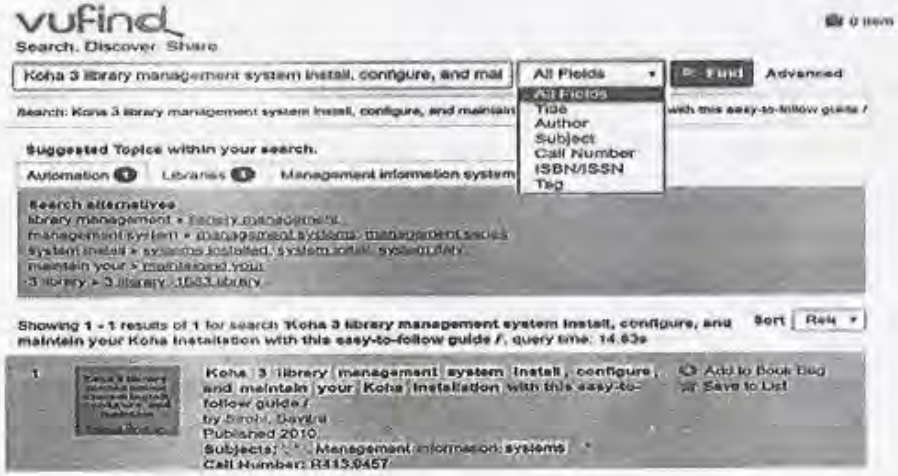
Pic 1: Bibliographic Framework in Koha

Resource management also includes other information like statistical wizards (Acquisition, Circulation, Holds, Patrons, and Cash register etc.),

maintenance, and interlibrary loans etc.The best part of Koha is that all data can be obtained through a structured window.

**Discovery Service:**

Discovery service is one of the most important and momentous part in next generation library services. It provides most unified online public access catalogue. Libraries are merging their repositories and databases to discovery tool. It helps in advancing the search, in social shares. Discovery tools like VuFind or EBSCO Discovery can be merged with Koha. VuFind is under GPL open source license. It clearly means that it's free and can be modified as per needs. There is an ILS driver of Koha for connecting the holdings. Items can be apprehended through VuFind by importing MARC data from Koha.




Pic 2: VuFind Discovery Service

Professionals and technicians use the ILS driver for indexing the data with the help of documentation available in the VuFind (https://vufind.org/wiki/indexing:koha) website. General features which include different application programming interfaces like direct citation (APA, MLA, and other formats), web syndication, faceted search, export data or record to reference management tools (Bib Tex, End Note etc.), social sharing through mail or social networks, and listing of favourite ones are mostly important. Emphatically, these are more than general OPAC and the discoverability level of the resources is the prime phenomenon.



**Interfacing Radio Frequency Identification(RFID) Technology with Koha:**

In libraries, the use of barcode labels in the books is common when a library is automated. But innovation and advanced technologies are rising drastically, things are changing, dimensions are moving towards the next advanced level. Now, it is being said that RFID is outstripping barcoding technology. Few obstacles are there in barcoding technology. The readability of barcode depends on barcode reader and the problems like low contrast, quite zone violation, and distortion etc. of barcode arise. Use of RFID in libraries makes a huge impact on security and circulation system. Libraries are adopting this technology not only for shelf check-out-in purposes but also for security measurement and other significant housekeeping operations. From Koha's perspectives, the functions (Check In-Out) are the same but using this technology in the intranet pages of Koha through simple initiation protocol is quite ostentatious. A protocol like Koha-RFIDhub communications manages check-ins and check-outs. Now it's widely spread technology and in collaboration with Koha, it is becoming a robust agenda in libraries.

**ich Plug-ins:**

A plug-in or plugin (also known as the add-in, addin, add-on, or add on) is nothing but oftware stuff which adds some specific elements to an existing program and it nables customization. Koha provides a rich number of plug-ins. As it follows;

| Name | Description | Author |
|---|---|---|
| arrousel | Generates a carrousel from available lists | Mehdi Hamidi |
| ch Search | This plugin searches your system for a list of terms | Nick Clemens |
| verflow gin | Convert a report into a coverflow style widget! | Kyle M Hall |
| duplication el Plugin | This plugin is a helper plugin for deduplication of records within a catalog | Nick Clemens |
| ect - Brodart | Extract Enhanced plugin customized for Brodart | Kyle M Hall |
| e delete ord | Deletes a bibliographic record in Koha, even if it cannot be viewed. | Kyle M Hall |
| Whitelist | This plugin allows for managing a whitelist of IPs | Kyle M Hall |
| ple her-Sync gin | This plugin implements every available feature of the plugin system and is meant to be documentation and a starting point for writing your own plugins! | Kyle M Hall |
| el Maker | An alternative label creator for Koha powered by HTML and CSS | Kyle M Hall |
| oose OPAC e plugin | Install the Caboose OPAC theme ( design by Michael Cabos ) | Kyle M Hall |
| adrial OPAC e plugin | Install the Galadriel OPAC theme ( design by Michael Cabos ) | Kyle M Hall |
| on Emailer | This plugin takes a Koha patrons file and sends an email to the patrons found in the file | Kyle M Hall |
| on Overdue tices | Generate and print overdue notices for patrons. | Kyle M Hall |
| ort+ | This plugin adds some enhancements to the reports from Koha. Notably the ability to enter a list of data as a parameter. | Nick Clemens |
| A Librarian | This plugin implements the AskALibrarian / reader feedback via OPAC feature | Indranil Das Gupta |

Pic 3: Plug-ins in Koha

ere is a variety of add-ons that can play an effective role in managing and providing ctive service to the patrons. Batch search, IP whitelist (it enables to create trusted

IP address and control over IP addresses.), Ask a Librarian, Inter Library Loan, Discovery APIs, are such examples of plug-ins that gives extra services.


Pic 4: Plug-ins addition

Plug-ins as per requirement can be added or uploaded with the existing. As earlier sa that professional and technicians can configure whatever they need in their syste plug-in is no exception. They can develop plug-ins with the help of wiki suppo (https://wiki.koha-community.org/wiki/Koha_plugins ).

**Eminent Functionality of the Modules:**

Koha modules include Administration, Cataloguing, Circulation, Serials, Acquisitio Patrons, etc. The activities of the modules are quite blooming and different fr other library management software. Acquisition provides flexible set-ups of curren exchanges, active-inactive budgeting, expanding funding system, account of EAN EDIs etc. These parameters are exceptionally inexorable. Cataloguing is one of t most prominent parts which subsumes MARC mapping, prolific authority framewo which helps in betterment in cataloguing, and z39.50 /SRU search points. Patron circulation both works simultaneously for measuring circulation data. Patron mod enables library technicians and professionals to define elevated patron profiles w different attributes; on the other hand, circulation module anticipates w structured circulation policies (loan period, overdue fines cap, transaction, and ot privileges). Serial management in Koha is more malleable because of spontane management of subscription, claims, filtering of expiration, frequencies of periodicals etc. Course reserve management isanother protuberant feature avail in KohaILS. It sets the course or term of any institution which is based on differ curriculum (Departmentalisation, course name, students). Additional tools calendar, news, csv profiles generator, quote of the day editor performs well.

**Conclusion:**

Library services in the present circumstances are fully based on integration



software packages. The software packages are two types, one is commercial and another is open source software. In the field of library, commercial software require huge amount of price. As a result libraries are not able to acquire the commercial software. The lofty advantage of OSS is the opportunity for library professionals and technicians to collaborate with the software development and the developers. PMB, New GenLib, Open Biblio, and Php My Library etc. are such examples of OSS. But Koha is anomalously differing from others with it's modules, functionalities, components, support system etc. Application of Koha is happening in the Indian libraries rapidly. In the above, some discussions were made to reflect the clear reasons behind the adoption of Koha as ILS.

**References:**


1. About. (n.d.). Retrieved February 5, 2019, from https://koha-community.org/about/
2. Indexing:koha [VuFind Documentation]. (2019). Retrieved from https://vufind.org/wiki/indexing:koha#how_to_index_koha_with_vufind
3. Khode, Subhash, and Sunil Singh Chandel. "Adoption of Open Source Software in India."

   *DESIDOC Journal of Library & Information Technology*, vol. 35, no. 1, 2015, pp. 30-40., doi:10.14429/djlit.35.1.7897.
4. Koha. (n.d.). Retrieved February 6, 2019, from https://intranet.bywatersolutions.com/cgi-bin/koha/plugins/plugins-home.pl
5. List of free and open-source software packages. (2019, February 06). Retrieved February 8, 2019, from https://en.wikipedia.org/wiki/List_of_free_and_open-source_software_packages#Integrated_Library_Management_Software
6. Makori, E.O., & Osebe, N. M. (2016). Koha enterprise resource planning system and its potential impact on information management organizations. *Library Hi Tech News*,*33*(4), 17-23. doi:10.1108/lhtn-01-2016-0005
7. S., Archana, et al. "Catalogue Interfaces of Integrated Library Management Systems (ILMS): Experiences in a Proprietary and Open Source Software." *DESIDOC Journal of Library & amp; Information Technology*, vol. 34, no. 1, 2014, pp. 16-22., doi:10.14429/djlit.34.5491.
8. V, V., & S, J. (2012). Adoption and user perceptions of Koha library management system in India. *ALIS*,*54*(4). Retrieved February 5, 2019, from http://nopr.niscair.res.in/bitstream/123456789/15700/4/ALIS 59(4) 223-230.pdf
9. VuFind. (n.d.). Retrieved February 8, 2019, from https://vufind.org/vufind/
10. Yang, Sharon Q., and Melissa A. Hofmann. "The Next Generation Library Catalog: A Comparative Study of the OPACs of Koha, Evergreen, and Voyager."*Information Technology and Libraries*, vol. 29, no. 3, 2010, p. 141, doi:10.6017/ital.v29i3.3139.