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## Make Changes

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## ABSTRACT

*This paper presents an overview of Koha Integrated Library Management Software deployments in Pakistani libraries in general and also discusses the Pakistan Library Association's Koha Implementation Program (PLA's KIP) in detail which is a unique idea for a library association in a developing country context to voluntarily support library automation for library development. The purpose of this study is to measure the impact of this program on librarians' professional and personal life and also to recommend a future technology path for the Pakistan Library Association and also other similar associations working on such initiatives. In this paper qualitative descriptive approach is adopted where data was collected through literature review, semi-structured-open-ended interviews of head librarians of those concerned institutions where Koha-ILS was implemented under the PLA's KIP and the author's personal experience sharing in implementing and teaching the Koha-ILS through this program.*

## INTRODUCTION

The Free and Open Source Software (FOSS) movement is not new for the Pakistani libraries, however, what is the role of a national representative body of librarians in library automation initiatives has always remained a question. (Rehman, Mahmood, & Bhatti, 2012) recommended that the "Pakistan Library Association should realize the importance of free and open-source and solid steps should be taken for the promotion of free and open-source movement".

The Koha Implementation Program (KIP) by the Pakistan Library Association (PLA), Sindh Branch was a step in this direction, for practical development of FOSS movement in Pakistan, especially in the Metropolitan city of Karachi & Sindh province. This program aimed to voluntarily support library automation projects in the Sindh province through "Koha" software implementations, selected by the PLA considering it as 'one of the world-best open-source integrated library systems' (Müller, 2011)

PLA's Koha Implementation Program is a unique idea and initiative which offer free installations of Koha, and the goal of this program was to materialize successful implementation of the Koha-ILS in academic, school, or special libraries by providing the pre and post-implementation consultancy, reliable and approved technical and technological assistance and also administrative and operational training in an effective manner.

The aim of the program was also to empower librarians through library automation with a state-of-the-art FOSS-ILS so that they could better serve their communities and institutions.

## **BACKGROUND**

Pakistan Library Association (PLA) is the representative National Body of the Librarians in Pakistan. It is a registered body under Societies Act XXI of 1960. Its membership is open to all library professionals of the country. The Association has a Headquarter and five branches in four provincial capitals and one in Islamabad in the Federal Capital of Pakistan. The Headquarter of the PLA rotates between Karachi, Lahore, Islamabad, KPK, and Quetta every two years. (Pakistan Library Association, n.d.)

(Khan & Bhatti, 2014) Surveyed with 114 members of the PLA Punjab branch and identified that the major barriers of the Pakistan Library Association in strengthening the librarianship in Pakistan included the automation and digitization of libraries (84, 73.68%). They recommended that PLA leaders and members should play a practical role to overcome such issues.

During the year 2014-15, more or less the same pitiable condition was also observed with all other branches of Pakistan Library Association (PLA) including Sindh. The leadership of PLA Sindh during 2015-16 confronted the same challenges, however, the biggest question was the rising demand by the library professionals was to get support for library automation and technical services as libraries were lacking in-house expertise or had to bear exorbitant charges from for priority library automation products, so much so that most of the libraries even could not purchase the installation support for an open-source library system because of inadequate finances that could hardly cope-up their needs. The PLA Sindh formed its various committees, such as membership, library curriculum, public library, university library, school library, technical services and copyright committee, and library technology committee, etc.

One of the committees of PLA Sindh i.e. "Technical Services and Copyright Committee" initiated training of open-source integrated library systems and MARC21 for its members and then it was offered to all professional librarians of Sindh but still the library automation situation was neglected, most of the university libraries were using LIMS (Library Information Management System) developed by Pak-LAG group on Microsoft Access, WINISIS, LAMP, etc. (Iqbal, 2008) (Rafiq & Ameen, 2010) (Siddique & Mahmood, 2015). Moreover, there was no concept of library software in school or college libraries, mostly, they were using spreadsheets to list their library resources. The committee soon realized that all these software were now outdated and there was a need for a full-featured Integrated Library System (ILS).

## **STATEMENT OF PROBLEM**

In December 2016, Pakistan Library Association's Koha Implementation Program (PLA's KIP) completed its first year with successful twelve Koha implementations in twelve months, to celebrate the success and to create the awareness, Pakistan Library Association, Sindh Branch conducted a country-wide free seminar. PLA awarded certification to those

libraries who had implemented the Koha under PLA's KIP as "Koha Automated Library" and also to the participants of the seminar.

By observing the views of library professionals in the seminar and also on social and professional networking sites, it seems that Koha Implementation Program is one of the highly appreciated initiatives of PLA by the local and international library communities. The real aim of Pakistan Library Association is to empower the library professionals and to enhance their value and status in their respective organizations as information professionals. Therefore, first, this study seeks to study whether the Koha Implementation Program brought about any change or improvement in the professional and personal life of library professionals, to recommend this program as an applied model of voluntary support for library automation. Secondly, what are the recognition and further development path for the Pakistan Library Association to support the library technologies in the future?

## **LITERATURE REVIEW**

### **Integrated Library System (ILS) and its background?**

An ILS is "an integrated set of applications designed to perform the business and technical functions of a library, including acquisitions, cataloging, circulation, and the provision of public access" (Reitz, 2004). It is like a relational database that's designed on different modules and each module connects with the other module by following some standards and protocols for global uniformity.

The 1960s was the beginning decade of integrated library systems, when Dr. Heman H. Fussler, director of University of Chicago Library submitted a proposal to design a computer-based, bibliographic data system to the National Science Foundation in 1965. Meanwhile, the establishment and initiation of the shared cataloging activity by OCLC in 1967 were, in fact, the preliminary segment of an integrated system and then in 1968 the Library of Congress adopted the MARC II format and started the distribution service. These events were undoubtedly of the greatest effects in the history of integrated library systems. (Goldstein, 1983)

According to Marshall Breeding, integrated library systems or integrated library management systems were introduced as one of the proprietary products that were owned and controlled by a single vendor and libraries remained dependent on that vendor for any development, or solution to any operational or administrative issue, therefore a number of libraries welcomed and implemented the open-source systems to experience the freedom with the same level of satisfaction without any domination of the vendor. (Breeding, 2017)

### **Free and Free Open Source Software**

The concept of free software is originally associated with the openness of source codes to a client to modify the software for republishing or to integrate with other software; however, this concept has changed to "Free and Open-Source Software" (FOSS). Now, free software

resembles freeware that may be freely downloaded, installed, used and shared at no cost to the end-users but source codes are protected by the license agreement. Free and Open Source Software (FOSS) allows users and programmers to edit, modify or reuse the software's source codes. This allows developers to improve the program functionalities by modifying them.

### **Koha – World's first Best FOSS-ILS**

(Müller, 2011) presented an analysis of over 20 open-source integrated library systems by evaluating their licensing, community, and functionalities. His finding shows that Koha consistently received the best results at all stages of the study as it is 100% FOSS-ILS, with a critical mass of interest developers, contributors, and users around the world. Koha representing the 100% ideal score in the maturity of over 800 functions and features.

(Yang & Hofmann, 2010) compared the OPACs of Koha, Evergreen, and Voyager and declared the "Koha's OPAC is more advanced and innovative than Evergreen's or Voyager".

Koha is the world's first free and open-source integrated library system (FOSS-ILS) started on 6th of September 1999 by the Horowhenua Library Trust and Katipo Communication of New Zealand (Koha Library Software Community, 2019) Today, it has become the most widely implemented FOSS-ILS in the world, and mature enough to be functionality comparable and even better, than many priorities products (Breeding, 2017).

Koha is a fully-featured, scalable ILS, support all sizes of libraries from a single to multi-branch with a complete set of integrated modules such as acquisitions, circulation, cataloging, serials management, authorities, flexible reporting, label printing, multi-format notices, offline circulation, etc. Each module is built on library standards and protocols such as MARC 21, UNIMARC, Z39.50, SRU/SW, SIP2, SIP/NCIP, ensuring interoperability between Koha and other systems and technologies, like LDAP functionality and works with RFID and self-checkout stuff, while supporting existing workflows and tools.

Koha is truly a multilingual and translatable ILS with the basic and advanced searching interfaces that can use content from external sources such as Amazon, Google, LibraryThing, Open Library, and Syndetics, while Koha's OPAC, circulation, management, and self-checkout interfaces are responsive for all size of devices using bootstrap framework based on World Wide Web technologies standards, XHTML, CSS, and JavaScript.

Koha is distributed under the Free Software General Public License (GPL) version 3 or later that means all aspects of the product are free and open to use and modifiable. Libraries are free to install and use Koha themselves while there is no license agreement or third-party involvement.

### **Koha Implementation in Pakistan during 2005-2015**

The very first adoption of Koha in Pakistan was started in 2005 as Pakistan Legislative Strengthening Project (PLSP) under the USAID (Abidi, 2015). The PLSP was a national level

project that aimed to automate the four provincial assemblies' libraries (Punjab, Sindh, Baluchistan, and NWFP) with the Koha on Windows (Abidi, 2015). However, the first implementation of Koha was announced in Lahore in 2006 (Rehman, Mahmood, & Bhatti, 2012) and in 2010 there were only 3 libraries out of 61 that were using Koha (Rafiq & Ameen, 2010).

The first Linux based online implementation of Koha began on Aug 2011 and was announced on May 2012 at the International Center for Chemical and Biological Sciences, University of Karachi with a union catalog of five sisters' libraries. The catalog is available online at <http://library.iccs.edu>. However, still, the same poor ratio was reported in 2015 i.e. only 8 libraries out of 110 were using Koha (Rehman, Mahmood, & Bhatti, 2012)

(Rafiq & Ameen, 2010) informed that Pakistani librarians are very much in favor of free software and the majority of their respondent libraries were intended to use Koha, a number of scholars & software users declared "Koha" as the top-ranked open-source ILS (Shafi-Ullah & Qutab, 2012) and it had become the first preference of Pakistani librarians and libraries (Rafiq & Ameen, 2010), this was not only to fulfill the requirements of library system and OPAC but also to integrate with uniform practices around the world. It was felt that only conducting workshops or seminars wasn't enough for the implementation of this greatest innovative resource. This "self-support for open source ILS product is relatively uncommon in the US, where libraries mostly engage with commercial support firms" (Breeding, 2017), however, it is really very difficult in a developing country like Pakistan to hire a commercial firm for the support of open-source ILS, therefore, the Pakistan Library Association, Sindh Branch initiated a Koha Implementation Program as PLA's KIP with the theme "if you are willing to implement the Koha-ILS in your library; the Pakistan library association will voluntarily support the automation process". The idea was coined and lead by the author under the supervision of the former president, and present executive member, PLA Sindh, Dr. Khawaja Mustafa.

(Singh, 2013) discussed the experiences of twenty libraries that had migrated to an open-source ILS as the guidelines or best practices for each stage of the adoption process of an open-source ILS. She further allocated eight categories as stages of migration, such as evaluation of the ILS prior to the implementation, to run it on demo site, prepare the data to migrate on it, staff training, users' testing, going live, and long-term maintenance, while (Rafiq & Ameen, 2009) discussed the keys issues in adopting the open-source software in Pakistani libraries such as social disparity, conceptual confusion, digital divide, lack of technological, financial, and human development. (Owusu-Ansah & Mprah, 2014) have stated the impact of library automation on the job satisfaction of University of Education, Winneba (UEW) library staff. The study answered the level of awareness among library staff of the automated library system, the extent of proficiency of library staff on the automated library system, automation of housekeeping operations, improvement in the output of staff and the automation of library operations resulted in job satisfaction among library staff? Similarly, (Tella & Oladeji, 2017) presented the result of a self-designed questionnaire with a total 50 library staff of Nigeria that the Koha has favorably impacted

on their library services. They also mentioned the reasons for implementing Koha; such as inadequate infrastructure and financial constraints.

However, no literature was available on librarians' professional and personal life worthiness after a free implementation of Koha-ILS by a national association of librarians. Moreover, nothing was found on such a model of library automation, where a national representative association, voluntarily visited the requesting institution to demonstrate the Koha-ILS to their management, IT and library professionals like a priority product vendor, and after their mutual agreement, configured and implemented Koha-ILS along with data migration, interface designing, basic and advanced training and also provided the post-implementation consultancy without any charges to the requesting institution or library.

## THE KOHA IMPLEMENTATION PROGRAM

Commencing in Mid-December 2015, the PLA's KIP was completed with a successful implementation of Koha-ILS in 22 academic and non-academic libraries and information resource centers of Pakistan. (Appendix C).

### Stages involved in Koha Implementation

The Pakistan Library Associations, Sindh branch initially structured the stages of Koha Implementation Program on the past deployment practices of the author (Appendix D) and these stages were further refined through (Singh, 2013) guidelines within the local context of Pakistani libraries and the standard procedures of implementation such as pre-implementation consultancy, installation, configuration, customization, data migration, interface design, live the system, operational & admin training, handover the system, and post-implementation consultancy.

<p><b>1) Pre-implementation consultancy</b></p> <p>a) A detailed demonstration of Koha-ILS b) Overview of Hardware Requirements c) Provision of demo sites for practices</p>	<p><b>2) Installation and configuration</b></p> <p>a) Hardware inspection b) Ubuntu Latest version c) Prerequisites (Apache, MySQL, Perl) d) Web Installer and Onboarding tools e) Basic parameters f) Global system preferences g) Create SQL reports h) Cron Jobs for auto backup, Index rebuild, etc.</p>	<p><b>3) Data Migration and Interface design</b></p> <p>a) Normalization of book data into a spreadsheet b) Converted spreadsheet into MARC21 c) Import and manage MARC records d) Normalization and import of patrons data</p>
<p><b>4) Live the system</b></p> <p>a) Testing b) Live on remote or localhost</p>	<p><b>5) Training and handover the system</b></p> <p>a) 2 sessions for basic operations b) 3 sessions for advanced operations c) 2 sessions for basic administration d) 3 sessions for advanced administration e) Handover sources and credentials to head librarian and IT Manager</p>	<p><b>6) Post-implementation consultancy</b></p> <p>a) As required for 2 months</p>

## **Pre-implementation consultancy**

At the first stage, the Pakistan Library Association Koha team visited the selected institution and tried to educate the management, IT and the library representatives by demonstrating the details and benefits of Koha-ILS including visit of the demo sites so that to have some practical idea of Koha OPAC, staff client, to inform about requirements of hardware, software, internet, etc. needed for the implementation. The Institutions provided pick & drop facility to the PLA team members and also a certificate to the representatives of Pakistan Library Association for holding a Koha session.

## **Installation, configuration, and customization**

This is the main stage, where PLA starts implementing the Koha-ILS after the initial inspection of the provided server machine or the cloud. The implementation includes the installation and updating the Ubuntu as Operating System (OS), and then installation of Koha-ILS from Koha community site along with installation and configuration of prerequisites such as Apache, MySQL, and Perl and also the installation of Koha web installer such as language picker, check Perl dependencies, confirm database settings, creating database tables, fill some demo data, selection of MARC21 as MARC flavor, and then redirecting to onboarding tool such as creating a library, a patron category, an admin patron, an item type, a circulation rule, and then login to access the staff interface for the very first time.

After completing the installation, the PLA team visit again on any decided day and take long to configure the basic parameters and global system preferences, excluding the OPAC and staff interfaces. PLA team also builds basic SQL reports along with the configuration of some tools and set up a few Corn jobs for backup, zebra rebuild, etc.

## **Data migration and interface design**

The current version of Koha OPAC theme is based on bootstrap that means it has a responsive interface design for all screen sizes, prior it was CSS and program. However, PLA always prefers bootstrap as a theme and also used the global system preferences of Koha OPAC to customize the theme by adding the header, footer, favicon, right, left navigations and main user block as per the institution website. Besides, at the time of implementation, the PLA team collected the books or non-books data and also the patrons' record on a spreadsheet. Later on, PLA normalized and converted the spreadsheet into the MARC21 (MACHINE Readable Cataloging) format and after the successful implementation; the data was migrated to the Koha-ILS. This stage was optional, if the institution did not have data available then the PLA provided training about how to enter a book or patron record in the system.

## **Live the system**

After the testing, the Pakistan Library Association live the system on remote through a real IP as provided by the Institution. PLA respects the Institutions internal policies to launch the system remotely or locally.

## **Training and handover of the system**

Under the Koha implementation program, the Pakistan library association provided 8 full-day training sessions on basic and advanced operations and administration of the Koha-ILS. The first 2 sessions were for the basic operational training about how to perform circulation, cataloging, copy cataloging, patrons' entry and also editing and deletion of same records. In next 2 sessions, PLA discussed the MARC21, RDA and setting of RDA/fast cataloging frameworks, along with how to create, stage, import, edit and delete the batch file of MARC records and also use of CSV batch file for patron records. The next 2 sessions of administrative training were based on the basic and advanced administration of Koha to work on basic parameters, global system preferences, including the interface designing and also using some tools of label design, building SQL reports, etc. The last 2 sessions were for server related issues such as how to change Koha master and SQL credentials, update version, backup, and restoration, index rebuilding, etc. After this PLA finally handover the system to the head librarian and IT manager of the respective institution, library.

## **Post-implementation consultancy**

The PLA provided two months free consultancy after the training and most of the beneficiary institutes also received a certificate as "Koha Automated Library" from the Pakistan Library Association, Sindh Branch.

## **HOW TO REQUEST**

For the Implementation of Koha-ILS the prospective libraries were asked to send an official request letter (scanned copy) from the head of their institution, and also to get involved the IT department, and to fill the prescribed form, available at <http://bit.ly/plakip> to provide details about their library's requirements, size of collection, patrons' details, present library system and details of available server/hardware.

## **Terms**

1. This program was 100% free of charge to automate any Sindh-based library on Koha-ILS.
2. This program was limited to the implementation, data migration, operational & administrative training of the Koha-ILS. PLA did not provide any type of hardware or hosting service.
3. PLA post-implementation consultancy for the KIP was throughout the two months after the implementation and training sessions.

4. The request must be received from the Institution/Organization Head or Representative with the proper involvement of Library, IT, and Admin teams.
5. PLA will not enter the book or non-book data. However, if the institute/ organization will provide the holdings data on Excel or any relevant format, PLA will convert and stage that data into MARC21 format in the default framework of Koha-ILS.
6. The institution/ organization will provide the transport facility or bear the fuel charges for both sides when a PLA Member will visit them.
7. At the end of the program, the Institution/ organization will issue a Certificate of Recognition to PLA's KIP team and PLA will also acknowledge the library as a Koha Automated Library.

## **RESEARCH DESIGN AND PROCEDURE**

A qualitative descriptive study approach was selected as the research method to better understand the Koha Implementation Program and its impact on librarians' professional and personal life. Primary data collected through a one-on-one, open-ended, in-depth, semi-structured interview of 16 available head librarians of those institutions where Koha was implemented under the PLA's Koha Implementation Program (Appendix B). Interview questions were emailed to all librarians before the interview for their initial preparation and more contextual details (Appendix A). Author's firsthand experience is also used as one of the data sources.

## **DATA ANALYSIS AND DISCUSSION**

Interviews were recorded in MP3 format and transcribed through the Transcriber 1.5.1<sup>1</sup>, a free software package for computer-based transcription of audio recordings. The process of anonymizing data was used to preserve the privacy, however, full transcripts were self-checked by the author and also checked with each interviewee to ensure the accuracy of the transcript, afterward these transcripts were uploaded to RQDA, a free (open source) qualitative data analysis software embedded in the R programming language to help researchers better manage, analyze, and display their qualitative data. RQDA analysis of the interview documents, and provided the coding and selection of experts, furthermore, the author carefully created a content analysis and codes to categories the data into different categories as per the underlying themes.

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<sup>1</sup> Transcriber 1.5.1 provides a user-friendly graphical user interface for segmenting long-duration recordings, transcribing them, and labeling speeches turns, topic changes and acoustic conditions.

## RESULTS AND DISCUSSION

Responses from all head librarians are classified into six broad and twenty subcategories concerning the changes, they received after the Koha-ILS implementation by Pakistan Library Association, Sindh Branch.

### Appreciation

Among the participant interviewees, the impact of Koha implementation program was one hundred percent in this category (Table 1). All 16 head librarians and their team members were appreciated verbally by their supervisors and senior leadership, 7 head librarians received an acknowledgment or appreciation letter from their organizations, 2 received a special incentive in their annual salary with the opportunity to lead an additional department and 3 were promoted on higher grades while all 16 scored the higher percentage in their annual appraisals of that particular year when Koha was implemented.

**Table 1 Appreciation after the Koha Implementation**

Verbal appreciation	16
Written appreciation	7
- Acknowledgment Letter	2
- Appreciation Letter	4
- Certificate of Recognition	1
Special incentive in salary or promotion	3
- Special incentive in salary	2
- Promotion on higher grades	3
- Empowering the authorities	2
A high score in annual appraisal	16

Some sample selections from the interviews

*"It was so amazing that my director appreciated and congratulated me & my team members with clapping in general body meeting in front of all departments' heads. This makes me a proud librarian and this is a rare example in my institution".*

*"Well! If you don't ask me any share, let me inform you that I have received 1+1 bonus and outstanding rating in my annual appraisal".*

*"Oh yes! That year was the best, my annual increment was double than the last year and thanks to PLA for your generous help".*

*"Of course, I have received a lots of verbal appreciation and also an appreciation certificate from the head of the institution and our management is too happy. They increase my salary, I mean my grade is been updated with good remarks in annual appraisal that actually not to be shared, please don't write my name".*

*"In the beginning, I can say no, but as time passed and you complete the program, then they, I mean, the management realized that this is an important thing and yes, I received an appreciation certificate and a gift from our principal. As far as annual appraisal, you can say PLA's Koha impact on that".*

*"After this implementation, I received a letter of appreciation from the rector and he assigned me to take charge of registrar as an additional duty, of course, it's difficult but empowered me a lot, spark me to speak up in front of rector and BOT".*

### **Positive Organizational Behavior**

Positive Organizational Behavior (POB) is still undeveloped to the library profession (Baker, 2015) and same has also been observed in Pakistan, the usual mindset of any organization is disappointing to a librarian because they are not generating revenue or a library is not a profit-making institution. The respondents were asked what positive change they have received in their organizational behavior after the Koha implementation program. All 16 respondents experienced that their leadership behavior is more acknowledging, caring and gentle after the Koha implementation program, the most common reason being able to saved institutional budget on system implementation and to present the library on modern lines. They also feel that their jobs are more secure, relaxed and easy and they have acquired more mutual respect, interdepartmental adaptability, and cooperative environment. All head librarians realized that the Koha implementation program strengthened positive relationships with their subordinates because they are thankful for being more productive and skillful. 3 head librarians also felt that their team members are more obedient, reliable and responsible. Hence, the Koha Implementation Program brought about positive change to organizational behavior.

**Table 2 Positive Organizational Behavior after the Koha Implementation Program**

Strengthened positive relationships with subordinates	16
- Thankful to be more productive and skillful	16
- Dutiful, trustworthy, responsible	03
Betterment in interdepartmental relationships	16
- Respect, cooperation, adaptability	16
Positive change in leadership behavior	16
- Acknowledging, Caring, Gentle	16
- Sheltered, secure, relax, peaceful	16

Some sample selections from the interviews

*"After the Koha implementation, once my administrator called me and said you are such an intelligent librarian, who joined us with Pakistan Library Association and saved our millions on library systems, we highly appreciate your loyalty & dedication, so the relationship with management is getting more strong even my retirement is too close but they want me to continue, similarly my subordinates are also very dutiful".*

*“The management, subordinates, and everyone is very much supportive especially, the subordinates are very much thankful to me. While other departments are also close to us and you know management is too kind”.*

*“They are very good and supportive and after Koha implementation, I realized they are more positive and the environment is getting more relaxed with... peace of mind. Subordinates are also enjoying working”.*

*“I feel my job is secure now as our principal regards me, the management and IT might also think that I did something special because they know the cost of system implementation”.*

*“Laughter! Since last six months after this implementation whenever I or any of my staff go to the DG office or any senior officer they never forget to congratulate us on Koha and also ask us about the progress this means that this is something that's very special. I feel more vigor now and my juniors are working even more enthusiastically”.*

*“Since the day you visited the first time for Koha demonstration, our VC is taking care of library, he visits here and ask about different matters and that's a good change I think.*

*“When I showed the PLA's certificate that you awarded us as Koha Automated Library, our academic director become too happy and asked me to frame and hang at the main entrance of library. I feel the behavior has changed and it's too good to work in an acknowledging environment”.*

*“My team members are more productive and compliant, my team is very happy to have the Koha-ILS from PLA and they always appreciate me that this is your biggest achievement and I am happy too because my team is more skilled on Koha system as compared to Excel Spreadsheet. As far as internal relations with other departments, different departments call us “Koha walay” means Koha people and I really enjoy this because this shows that they are appreciating our efforts and our image building is much stronger now. They all are MaShaAllah (by divine grace) very cooperative, and respectful. And as I said the relationships with seniors is more acknowledging, they now value us as professionals, who saved money, you wouldn't believe, what rate, we had received and that you did free. I think we are more secure now”.*

## **Better Library Services**

“Delivering satisfying products and services for library customers is an art in itself” (IFLA, 2006, p. ix). A library is to provide academic or intellectual services to its community, all systems, processes, and functions are for library patrons and any change directly or indirectly reflect the librarian too. To know the impact of Koha implementation program on library services that also encouraged the librarian working style, we have asked below mentioned questions to all 16 librarians, 9 responded that the use of resources has increased as resources are more visible through OPAC while 7 replied that the use of resources are already high however resources and processes both are more organized after the KIP that has actually improved the patrons library experiences, 13 respondents also

think that their patrons get ease in their library usage practices, 10 received appreciative feedback and comments from their patrons and that feedback boost their confidence to perform more enthusiastically.

**Table 3 Library Services after the Koha Implementation Program**

- Rise in resources usability	9
- Improvement in patrons experiences	16
- Appreciative change in patrons approach	10

Some sample selections from the interviews

*“Yap! the behavior of our teaching staff is much better with library staff after the Koha installation, handling difficult people is getting easy... we feel respect, in-fact great change in the faculty attitude”.*

*“Yes, this has eased-up our processes and now certainly, our resources are more organized and useable, a good number of faculty members are happy and they also appreciated us”.*

*“Our patrons' approach has almost changed, now they come to us first instead of last and we say Vow! This is what because of easy accessibility of resources through the Koha OPAC which also has risen resources' usability and we are happy for that”.*

*“Some students are not getting familiar but this is the best thing as most of students and faculty members' comments”.*

*“All 3 categories are 100% applicable with me. Rise in resources usability, yes, improvement in patrons experience, yes and appreciative change in patrons approach, I will say yes”.*

### **Media Coverage and Acknowledgment**

“Media is everywhere you are, all types of media are available 24/7 on one small device that you can use wherever you are, whenever you want” (Biagi, 2012, p. 3). “Libraries are involved in services marketing instead of product marketing based on the Internet” (Broadening the concept of LIS marketing). In Pakistan the demand of internet is rapidly increasing, there are 69 million people, who have access to high-speed internet while 161 million are cell phone subscribers (PTA, 2019). Similarly the demand of online services and digital content is high therefore librarians are more focused to fulfill these requirements and they use different media to announce and market it and to attract patrons (Rafiq & Ameen, 2012) where the media coverage and acknowledgment is something like the great reward today.

All 16 head librarians received different types of media coverage and acknowledgments, a majority of 12 librarians used social media sites (Facebook, WhatsApp, Instagram, Yahoo groups, etc.) and received excellent feedback from their friends and general public. 6 parent organizations announced the Koha implementation on their official website with librarians' names, while 8 parent organizations announced the same without librarians'

names. No library used print or electronic media because of budget issues, while 4 librarians also received coverage in students' assignments and projects.

**Table 4 Media Coverage and Acknowledgment after the Koha Implementation Program**

- On official media of organization (website and newsletter)	14
- Social and professional networking sites and blogs	12
- Press, Radio, TV, etc.	0
- Patrons acknowledgment	4

Some sample selections from the interviews

*"Our executive director immediately approved the publication of Koha implementation news in our newsletter and also on our website, I felt proud that I and my team were on institution media, I also received a huge number of likes and comments on my Facebook account".*

*"We got coverage on social media like Facebook and Instagram but unfortunately, we can't market the implementation in a newspaper or on electronic media like TV. Well! There is no trend to announce such news on TV".*

*"One of our students covered the new library system, I mean Koha as his project and he especially acknowledged us in his project report, I feel that is an honor".*

*"Yes we are at the prominent place in our school website and received a huge appreciation on social media but no TV channel cover us... I think this act isn't worthy for them".*

*"Well, we are also famous on print and electronic media, laughter! our library is prominent in the city and time to time, we come in print and electronic media. The Koha is prominent on our website and our news is published in our newsletter, and as you said we are famous on social media. We got media coverage from all aspect. Alhamdulillah"*

### **Personal Development**

A system deployment itself is a training program not only for systems specialists but also for clients and it brings the best hands-on learning opportunities from beginning to expert level.

In Koha implementation program, PLA provided four layers of training and consultancy. Pre-implementation consultancy is to demonstrate the foundations and also provide them the demo site links to have some working idea on staff client and OPAC. During the deployment, PLA trained the librarians by installing and configuring the operating system and prerequisites and then they learned about the operational and administrative skills and after the deployment two months as post-implementation consultancy including the bugs handling, version update, system backup, etc.

We added questions to know librarians' expertise level after the Koha implementation program, 7 librarians informed that they have moderate level of expertise in Koha administrative works such as setting libraries, patron categories, item types, fine rules, budgeting, mapping bibliographic frameworks, staging and managing MARC batch files, batch import and deletion patrons data and images, handling reports, HTML, CSS, JS, etc. however, they used IT support for server related tasks, whereas 3 librarians have complete access to Koha server and they can do everything like a system administrator such as rebuilding zebra, backup and version update, while 6 librarians stated that they need some more training on Koha administrative skills however they are able to handle their issues through Koha community and PLA. On operational skills, 13 responded that they can perform all its operations like an expert including circulation, cataloging, fine collection, holds, searching, etc. and 7 respondents had a good understanding of MARC21, Z39.50, Linux, and other externals support.

When we asked, how was your experience to take-up and complete the Koha project in your organization? All 16 head librarians responded that they have improved project management skills, including dealing with senior management, IT and their team members.

**Table 5 Personal Development after the Koha Implementation Program**

Administrative skills	10
- Need more training	6
- Moderate level of expertise	7
- Advanced	3
Operational skills	16
- Need more training	0
- Moderate level of expertise	3
- Advanced	13
Koha related skills	14
Project management skills	16

#### Sample selections from the interviews

*“Hmmm. Yes, now, I am good in Koha operational skills like I can perform circulation, cataloging, and rest of the things, while young librarians of my team have expertise in operational and administrative skills of Koha along with MARC and Linux, commands as far as project management is concerned, Koha project was one of my challenging assignments but I learned a lot, for instance, managing staff on new adventure was the toughest part but all went well”.*

*“I have learned a lot and too good, not good as you are, but too good in handling different Koha admin and tools options and also in global system preferences. I can work on OPAC interface design, batch uploading of MARC and patron records and also their images. You can say I am at a moderate level. I have enjoyed the project and it was too easy with PLA”.*

*“First, I got to know how we can present things in before our management and how we can train our juniors and I am good in Koha operational and administrative skills but I believe Koha is a giant as far as I am exploring, it's getting deeper, thanks to PLA for introducing me to this great system”.*

*“I was poor in using technology but now I can operate Koha and can search and can also do books circulation chores. I can catalog books easily through copy cataloging of Z39.50.*

*“Furrukh, I am really very thankful to you for your kind support taught me like a student and now I am an expert Koha librarian, who can work on catalog, patron's entry, circulation, tools, even administration and also the MARC. I also feel that this is the biggest achievement of my life before retirement, Thank you”.*

*“I and my assistant have improved all skill sets related to Koha, MARC and to work on Linux. I can operate and administrate Koha very well and also am good in using MARC, HTML, CSS, etc”.*

## **Self-Satisfaction**

When an employee serves above conform zone that is always a cause of self-satisfaction and inner pride. All the respondents head librarians had similar feelings of self-pleasure that they did something special or out of the blue for the betterment of their organizations, colleagues, and patrons. 12 respondents also quoted different ratings they had received for Koha implementation and also enjoyed the feeling that they had saved the big expense of their organizational budgets

**Table 6 Self-Satisfaction after the Koha Implementation Program**

To save organization budget	12
To provide a learning opportunity for colleagues	16
To provide a better system for patrons/parent organization	16

### *Sample selections from the interviews*

*“Very much Furrukh bhai from all aspects, I have saved the organization's budget and provided a learning option and most of all provided a better system to my organization and patrons”.*

*“My institution also realized that I have saved their money and provide them a good system and my staff is also appreciating my efforts too, I am very happy”.*

*“After the Koha implementation in the school, I consider that I have returned beyond what I am expected of, this program not only provided us a good system but also the best option to enhance our learning”.*

*“You ask me about self-satisfaction, yes, I have gained a peace of mind because I did the best in my field for my parent organization and library users and of course saved the money too”.*

*“I am 100% satisfied that I have provided something the very best and saved a lot of organization’s money. I gave a small gift of kindness to this organization with PLA and I am happy”.*

## **Recommendations**

We had asked for suggestions and to recommend this program as an applied model of library automation and to improve the general weakened areas of Pakistan library association such as information literacy programs, membership, building a library culture through available technology. The most frequent suggestions are divided into the following categories (Table 6).

### **Library Technology**

All head librarians recommended that PLA, Sindh must continue the Koha Implementation Program to promote the library automation and technology and also all PLA branches and other associations must need to follow the PLA's KIP as an applied model of library automation. 9 librarians also recommended a similar program for an institutional repository. 2 head librarians recommended that PLA must provide a 24/7 learning platform on library technologies such as a YouTube channel, Moodle, Blog, etc.

### **Information Literacy Programs**

Pakistan Library Association organize free or nominal cost workshops, certificate courses, diploma programs on different topics of library technologies such as Koha operational and administrative skills, or a 6-12 months diploma program on Koha, DSpace, and library technologies, and also some current topics like RFID, Z39.50, RDA, MARC21, CSS, HTML, etc.

### **Online Membership**

All interviewees strongly recommended that PLA should be strengthened with membership. PLA must use easy and paperless process through some web-based database and membership cards also to be issued. All respondents also demanded that members' directory must also be updated regularly. 4 librarians also suggested that PLA Sindh membership must be mandatory in library science schools of Karachi and Sindh. However, 2 librarians think that PLA may issue a uniform membership instead of provincial.

### **Informative Society**

All head librarians of the research sample persuasively recommended that PLA and other associations must do advocacy campaigns and drives on social and digital media to make Pakistan an Informative Society by influencing the government to build more public libraries and also to improve status of school, academic and special libraries. PLA can also attract other NGOs to promote the reading culture as no society can survive without a library. This will empower the library professionals in society and also improve their financial status. Since qualified

librarians in the public sector are designated in basic pay scale 17 but most of the public and private universities are paying less remuneration and benefits to the librarians, especially young professionals are in pitiable condition, although after a Masters degree in library and information science they are not even earning the minimum wages and their jobs many times are insecure.

**Table 6 Suggestions for future development paths**

Library Technology	16
- Continue PLA's KIP as an applied model of library automation	16
- Start alike program for Institutional Repository	09
- Start 24/7 learning on library technology such as a YouTube, Moodle, Blog	02
Information Literacy Programs	16
- Koha operational and administrative skills	04
- Diploma program on Koha and DSpace and library technologies	07
- least or undiscussed topics like RFID, Z39.50, RDA, MARC21, CSS, HTML, etc.	06
Online Membership	16
- easy and paperless process	16
- Use a web-based database and membership cards must also be issued	16
- Members' directory must also be updated regularly	16
- PLA membership must be uniform in all provinces of Pakistan.	02
- PLA membership must be mandatory in library science schools	04
Struggle to develop library culture	16
- Influence government to build more public	16
- Upgrade librarians status	16
- Attract NGOs and media to promote reading culture	06

#### Sample selections from the interviews

*"Hmmm. Certainly yes, please do not stop this program, this is the best way of serving the library community or I would say for to the survival of the profession. Additionally, you can add DSpace as an Institutional Repository implementation program. Your membership process is very difficult and there is no directory available, you can add Google form or any other service for online membership and the only way to upgrade library culture is to build more libraries by the involvement of the government".*

*"I don't need to recommend PLA KIP as a model of automation, people are already following you, I have seen, a lot of young library individuals and few other associations are now on your footsteps, they are now offering Koha, SLiMs free of cost in 2019 that you had started in 2015. Of course, I'll recommend PLA's KIP as a model of library automation, please keep continue this and I would say please start some diploma program on Koha and other library technology as we are senior librarians and we need more. I have few more suggestions that you have to focus on PLA membership, do start something online and easy membership, your website also need an update and so on".*

*“Let me tell you a truth, I don’t like PLA because PLA is not actually representing the librarians in the country as required but this program is simply the best”.*

*“Why only workshops or seminars to educate librarians, there are lots of alternatives, PLA can start a YouTube channel to educate 24/7”.*

*“Furrukh, first of all, PLA needs to be strong enough that no other associations or groups may earn money from poor librarians, you know, we are the poorest community of this country and we have to pay in thousands to even learn the MARC structure. PLA may organize free trainings and also discuss the new emerging topics like RFID, I don’t think so that anyone of us learn about it. And I unquestionably recommend your program to a standard program of library automation that must need to follow”.*

*“Why not the Pakistan library association may start a one-year diploma program on Koha like a university is offering in Punjab. We are ready to pay any fee because this is the emerging need of the time”.*

*“PLA and other associations must be focused to ask the government to build more libraries and you can do this through online campaigning on Facebook”.*

## **CONCLUSION**

The Koha implementation program is one of the best-appreciated library automation program introduced by the Pakistan Library Association, Sindh Branch. This program voluntarily provided quality support on library automation and also helped in the image building of library professionals. Participating librarians wished that this program should continue and other associations may also follow the PLA footprints. It is also recommended that Pakistan library association should use the technologies of the time to initiate online learning and membership and to seek the government through advocacy to build more libraries in the country.

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