REVIEW OF IMPLEMENTATION AND EXPERIENCE OF KOHA, OPEN SOURCE SOFTWARE IN SVKM INSTITUTES

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Open-source software is one of the best solutions for the automation of an academic library; it also provides digital content access to the library user anywhere with an authorised login. In recent days it has been found that many academic and corporate libraries implemented open-source software for their operations. The open-source software is very convenient to adopt and work on it. In 2017 Shri Vile Parle Kelavani Mandal (SVKM) institutes introduced the KOHA: An open-source software for the library. The present study explores the views on KOHA implementation and its performance by the library and information science professionals working in SVKM Institutes located in various parts of India. The study adopted a survey method and employed a well-designed questionnaire tool to collect the data from the targeted audience. *The questionnaire was prepared in Google, and the link was sent to 12 SVKM institutes; most of the respondents are satisfied with the migration from Proprietary software to Open-source software. A total of 24 questionnaires were distributed, out of which 19 questionnaires were received back with duly filled in, with a response rate of 79.17 %.*

KEYWORDS: *Open Source Software, SVKM, Academic Library, Educational institute, KOHA.*

INTRODUCTION

Benjamin Franklin rightly said that *"Change is the only constant in life. Once the ability to adapt to those changes will determine your success in life".* The remarkable development in the area of technology has changed the functions of the library and information system and responsibilities of the working professionals. The emerging trends like the application of machine learning, artificial intelligence, data science, cloud computing, blockchain technology, big data, internet of things, and Radio-frequency identification (RFID) technology are very few examples. Veeranjaneyulu (2018) said the technologies are being applied principally for the large database for the generation of more authentic and accurate information. Wenbor (2018) quoted in his blog as an application of new

technologies in an academic library is an opportunity to collaborate across the globe, enabling libraries in providing improved access to scholarly material and resources to its users.

The open source software is another technology booming in the area of library and information centre to overcome financial crunches in the academic institute. The open source software is free computer software that has source code available to the user. This type of software doesn't require any license to adapt and use.

OPEN SOURCE SOFTWARE

Today libraries are benefited from lot of latest technological tools to provide innovative services by the library also job satisfaction for working professionals. The open source software is one of the latest tool developed in the area of computer science. The open source software is also called as free software. The open source software is used in a variety of areas such as office automation, digital content management, operating system, web design, and information communication. Miller, Voas, & Costello (2010) identified that IBM, Microsoft, Oracle, and State Farm are the pioneers in developing open source technologies. Historically, Richard Stallman started the free software movement, he also called as Free Software Guru (Dineshwori, 2019). In 1984 he founded the Free Software Foundation. Open source software is very useful, because it has experienced communities, transparency, reliability, better security, cost effectiveness, and freedom to modify.

KOHA SOFTWARE

Koha is an open source software designed for library automation. According to Collins English dictionary Koha means '*Gift*' or '*Donation*', it originates from '*Maori*'. The Koha software was designed by Katipo Communications with Horowhenua Library Trust, New Zealand in the year 2000 (Eyler, 2003). It is observed from various studies that Koha is one of the best software for library management which is work on cloud computing. Koha provides web based solutions, tagging, RSS feeds, social sharing, union cataloguing, online recommendations, online invoice, circulation notices, multi library management, zebra indexing, and Z39.50 protocol (Chauhan, 2018). The Koha is written in Perl, and runs on open source operating software Linux, with Apache web server, open source database management system MySQL (Tella, 2017).

SVKM

Shri Vile Parle Kelavani Mandal popularly known as SVKM in Maharashtra. It is a public charitable trust registered under the society's registration act and Bombay public trust act. The Mandal started functioning in 1934. The SVKM has developed a huge educational complex in Mumbai's Vile Parle. Apart from Mumbai, it has spread its wings to other metro cities like Bangalore, Navi Mumbai, Hyderabad, Chandigarh, also in Indore, Dhule, Shirpur, etc. NMIMS is one of the finest educational institutes in India which is established by SVKM. NMIMS is a NAAC accredited multi-disciplinary and multi campus deemed to be university, in Mumbai.

PURPOSE

Recently all SVKM institute libraries are migrated from proprietary software to open source software i.e. KOHA an open source integrated library management software. Today software is functioning properly without any technical issues in all libraries. To analyse the library and information science professionals' attitudes and acceptance towards KOHA software this study has been designed.

SELECTION OF LIBRARIES

The following 12 libraries are considered for the present study. These institutes are

1. Mithibai College, Mumbai
2. NM College of Commerce and Economics, Mumbai
3. Shri Bhagubhai Mafatlal Polytechnic, Mumbai
4. D. J. Sanghvi College of Engineering, Mumbai
5. Pravin Gandhi College of Law, Mumbai
6. NMIMS, Mumbai
7. Mukesh Patel School of Technology Management and Engineering, Mumbai
8. NMIMS, Shirpur
9. NMIMS, Dhule
10. NMIMS, Hyderabad
11. NMIMS, Bangalore
12. J. V. Parekh International School, Mumbai

REVIEW OF LITERATURE

Automation of the library and information system starts with the implementation of powerful library management software. The software should provide maximum facilities for the professionals. Koha is one of the popular open source software for all types of libraries around the world. It is available free of cost. Various authors discussed on Koha and Open source software in their study.

Alam and Mezbah-ul-Islam (2019) study present the analysis of the different factors influences on the adoption of open source integrated library management system in university libraries of Bangladesh. The authors collected data from private as well as public university library professionals. The study adopted fourteen factors to analyse the satisfaction level. Singh and Sanaman (2012) study explores on comparative study on two library management systems open source software i.e. Koha & NewGenLib. Authors evaluate the Koha 3.2.4 and NewGenLib 3.0 in their study. It is found that both the software has its own features and design for the library operations. The study concludes that both the software is almost the same importance in different aspects and the choice is left to working professionals.

Chaputula and Kanyundo (2019) discussed the application of Koha software in educational institutes of Malawi. It is observed that the majority of the libraries are implemented Koha open source software in their library. It is also noticed that the implementation of Koha is very simple and those who have financial crunch, they

need minimal cost to adopt in their libraries. TK and Jayapradeep (2015) study explore the behavior of the working professionals on migration from commercial software Libsys to open source software Koha in libraries. The study recommends that the syllabus on the open source software and open source integrated library management software implementation should be introduced in Library and information science course. This will help acquire more information at the beginning of the professional life.

Chauhan (2018) study discusses the results of the evaluation of the use of Koha Open source software in O. P. Jindal Global University, Global library in Haryana. The study recommends that proper training and education are essential for working professionals for effective use of an integrated library management system in the library. Mondal, Rahamans, and Patra (2017) study express the experience of migration from Libsys to Koha software along with printer and RFID integration in the NIT Rourkela library. Authors expressed that migration to Koha software is easy, and migration from Koha to other software is also very easy in the future.

As we knew that OPAC is the mirror of the library. Kumar Sarma (2016) study explained on a comprehensive evaluation of the OPAC module in Library management system i.e. Evergreen, Koha, NewGenLib, OpenBiblio, and PhpMyBibli open source software. The study concludes that Koha is one of the best open source software for the library management system compared to others. However, Koha: an open-source software, is implemented in various discipline academic libraries across India established by SVKM, and its review is yet to be furnished. Very little or rather no efforts have been undertaken to know the review of software implementation and the experiences of library professionals. Therefore, the present study will be an effort to bridge the gap in migration from proprietary software to Koha open source software and review with experiences of library professionals working in SVKM institutes.

OBJECTIVES OF THE STUDY

The main objective of the present study is to review the implementation and experience of Koha open source software in SVKM institute libraries. The other objectives framed for this study are as follows.

1. To examine the knowledge about open source software of the LIS professionals working in SVKM institutes.
2. To know the differences between open source software and proprietary software.
3. To investigate knowledge about Koha software of the LIS professionals working in SVKM institutes.
4. To assess the level of satisfaction with the Koha software of the LIS professionals working in SVKM institutes
5. To discover problems and challenges encountered while working on Koha by the LIS professionals working in SVKM institutes.

METHODOLOGY

The present study adopted the descriptive survey method with the help of a well-designed online questionnaire for the data collection from the LIS professionals working in SVKM institutes

across India. The questionnaire has five sections i.e., Knowledge about Open source software, Open source software Vs Proprietary software, Knowledge about Koha software, Satisfaction with Koha software, Problems, and challenges encountered while working on Koha.

DATA ANALYSIS AND INTERPRETATION

The data is collected from the working professionals from all SVKM institutes in India. The questionnaire tool is used to collect the data and used Excel tables for analysing the collected data.

Knowledge about open source software

Before analysing the Koha performance in the SVKM library, it is very important to know the knowledge about open source software in library management. A question was asked to the professionals on open source software. The table-1 shows the response for the knowledge about Open source software (OSS).

Table 1: Knowledge about Open Source Software

Sl. No.	Factors	No. of respondents			
		Yes	No	Can't Say	Total
1	Do you think OSS is very helpful for library management?	19 (100.00)	0 (0.00)	0 (0.00)	19 (100.00)
2	OSS reduces the technological glitches in the library.	12 (63.15)	2 (10.52)	5 (26.30)	19 (100.00)
3	OSS minimize expenditure in the library on automation.	16 (84.16)	0 (0.00)	3 (15.78)	19 (100.00)
4	Additional training is required to handle OSS in the library.	17 (89.42)	0 (0.00)	2 (10.52)	19 (100.00)
5	OSS saves the time of the LIS professionals.	17 (89.42)	0 (0.00)	2 (10.52)	19 (100.00)
6	OSS is user friendly.	18 (94.68)	0 (0.00)	1 (5.26)	19 (100.00)

(Figures in brackets indicate percentage)

It is observed from the table-1 that the majority of the respondents are well versed with the open source software. 19 (100.00%) of respondents believe that open source software is very helpful for the library management, 12 (63.15%) of respondents felt that open source software reduces the technological glitches in the library, 16 (84.16%) respondents said open source software needs very less expenditure for automation of the library, 17 (89.42%) of respondents required additional training to work on the open source software in the library also save the time, and 18 (94.68%) of respondents observed that open sources software is user friendly. It is also observed from the data analysis that 5 (26.30%) of respondents are neutral on technological glitches on the usage of open source software in the library. The study indicates that

the majority of the respondents are rapidly using open-source software in library operations. It is also learned that most of the library professionals are providing suggestions to the software developer to improve further.

Open source software Vs proprietary software

After gaining knowledge about open source software, it is very important to know the differences between open source software and proprietary (commercial) software (PS). The table-2 shows the statements to differentiate the open source software and proprietary software.

Table 2: Open source software Vs Proprietary Software

Sl. No.	Factors	No. of respondents			
		Agree	Disagree	Don't Know	Total
1	Do you think there is a huge difference between OSS and PS?	15 (78.90)	3 (15.78)	1 (5.26)	19 (100.00)
2	OSS developed and tested by unskilled groups, whereas PS owned and developed by skilled professionals or organization.	2 (10.52)	14 (73.64)	3 (15.78)	19 (100.00)
3	OSS is insecure (modified by anyone), whereas PS is secured (fixed by developer only)	5 (26.30)	12 (63.12)	2 (10.52)	19 (100.00)
4	OSS encourages innovation (freedom to change), in PS limited scope for innovation (restrictions)	17 (89.42)	0 (0.00)	2 (10.52)	19 (100.00)
5	For PS we get better customer support compared to OSS	5 (26.30)	11 (57.86)	3 (15.78)	19 (100.00)

(Figures in brackets indicate percentage)

The table 2 shows that the majority of the respondents i.e. 15 (67.90%) agree for the statement 'There is a huge difference between OSS and PS' followed by only 3 (15.78%) disagree for the statement. 14 (73.64%) respondents disagree for the statement 'OSS developed and tested by unskilled groups, whereas PS owned and developed by skilled professionals or organization, and 3 (15.78%) respondents are natural. 12 (63.12%) respondents disagree for the statement 'OSS is insecure, whereas PS is secured', followed by 5 (26.30%) respondents agree for the statement. 17 (89.42%) respondents agree for the statement 'OSS encourages innovation, is PS limited scope for innovation, and 2 (10.52%) respondents are natural. 11 (57.86%) respondents disagree for the statement 'For PS we get better customer support compared to OSS', and 5 (26.30%) respondents agree for the statement. It is clear from the above analysis that the majority of the respondents are in favor of open source software.

It is evident that there is a vast difference between open source software and proprietary software in terms of operations and development. The open source software encourages library professionals to modify according to their needs and requirements and take their library to the next level.

Knowledge about Koha software

After well versed with the open source software and proprietary software. Now we have to understand the level of acceptance of Koha software by the SVKM institute library and information science professionals. The table-3 shows knowledge about Koha software of the respondents.

Table 3: Knowledge about Koha Software

Sl. No.	Factors	No. of respondents		
		Yes	No	Total
1	Koha is one of the best OSS, for the library management.	19 (100.00)	0 (0.00)	19 (100.00)
2	Koha has all modules for the library operations.	16 (84.20)	3 (15.80)	19 (100.00)
3	Requires technical knowledge and experience to work on Koha.	16 (84.20)	3 (15.80)	19 (100.00)
4	Do you think Koha is better than the Libsys.	17 (89.50)	2 (10.50)	19 (100.00)
5	OSS provides better technical support compared to PS.	14 (73.68)	5 (26.30)	19 (100.00)

(Figures in brackets indicate percentage)

It observed from the Table 3 that all respondents i.e. 19 (100.00%) agreed for the 'Koha is one of the best open source software for the library management', followed by 16 (84.20%) respondents are agreed for the 'Koha has all modules for the library operations', also 'Required technical knowledge and experience to work on Koha software'. 17(89.50%) respondents said 'Koha is better than the Libsys', and 14 (73.68%) respondents agreed for the 'Open source software provides better technical support compared to proprietary software. It is noticed from the data analysis that 5 (26.30%) respondents said open source software doesn't provide proper technical support.

Level of satisfaction with the Koha software

In all SVKM library Koha is functioning properly with the technical support from Firstray, Pune. Library and information science professionals are using all modules of Koha software. There are some restrictions are given based on the level of their grads. The table-4 shows the level of satisfaction of library and information science professionals working in SVKM institutes.

The analysis of the data from the Table-4 shows that the majority of the respondents i.e. 17 (89.42%) are satisfied with the acquisition, and circulation section, 16 (84.16%) respondents are satisfied with the serial control, and report generation, 18 (94.68%) respondents are satisfied with the cataloging section, and 19 (100.00%) satisfied with the OPAC search available in the Koha software. It is clear from the table that the majority of the professionals are satisfied with all the modules of the software. It is noticed that

Table 4: Level of Satisfaction with the KOHA Software

Sl. No.	Factors	No. of respondents			
		Satisfied	Not Satisfied	Not Sure	Total
1	Acquisition Section	17 (89.42)	1 (5.26)	1 (5.26)	19 (100.00)
2	Circulation Section	17 (89.42)	2 (10.52)	0 (0.00)	19 (100.00)
3	Serial Control	16 (84.16)	2 (10.52)	1 (5.26)	19 (100.00)
4	Cataloguing	18 (94.68)	1 (5.26)	0 (0.00)	19 (100.00)
5	Report generation	16 (84.16)	1 (5.26)	2 (10.52)	19 (100.00)
6	OPAC Search	19 (100.00)	0 (0.00)	0 (0.00)	19 (100.00)

(Figures in brackets indicate percentage)

Koha is one of the best open source software developed and designed by the rich experienced working library professionals around the world. It has all modules for the smooth flow of library housekeeping operations.

Problems and Challenges while working on Koha

After analyzing the acceptance level and satisfaction level of Koha software, it very important to know what are the problems and

Table 5: Problems and Challenges while working on Koha

Sl. No.	Factors	No. of respondents			
		Yes	No	Sometimes	Total
1	Difficulty in data entry (Cataloguing).	1 (5.26)	16 (84.16)	2 (10.52)	19 (100.00)
2	Difficulty in Budgeting.	3 (15.78)	11 (57.86)	5 (26.30)	19 (100.00)
3	Difficulty in upgrading the library member's information and other details.	0 (0.00)	18 (94.68)	1 (5.26)	19 (100.00)
4	Difficulty in Report Generation.	1 (5.26)	15 (78.9)	3 (15.78)	19 (100.00)
5	Difficulty in understanding the functions of Koha	1 (5.26)	14 (73.64)	4 (21.04)	19 (100.00)
6	Difficulty in sending Alert messages	3 (15.78)	13 (68.38)	3 (15.78)	19 (100.00)

(Figures in brackets indicate percentage)

challenges encountered while working on Koha software. The table-5 shows the problems and challenges faced by the library and information science professionals in SVKM institutes.

The table 5 shows that, 3 (15.78%) respondents facing difficulty in 'data entry', 8 (42.11%) respondents facing difficulty in 'budgeting', 1 (5.26%) respondent facing issue in 'upgrading the library member's information and other details', 4 (21.04%) respondents facing difficulty in 'report generation', 5 (26.32%) respondents facing difficulty in 'understanding the functions', and 6 (31.58%) respondents facing difficulty in 'sending alert messages'. All these issues are resolved by the Firstray team by providing training sessions to all SVKM library and information science professionals.

SUGGESTIONS

Based on the data analysis and opinion provided by the SVKM's library professionals, the following recommendations have been given:

1. It is evident from the study that most of the library professionals are very comfortable with the Koha open source software. Hence it is recommended that training programs should be arranged at regular intervals for the library user and non-professional staff for effective utilisation of the software and a smooth flow of library operations.
2. The study also reveals that some library professionals are facing issues with the few modules of the software. Hence it is recommended to the authorities that workshop and training program attendance be made essential for technical staff so they can easily address any issues with the software.
3. Most of the library professionals working in the SVKM library are well worth the advanced technologies available in the area of library management. Hence it is suggested to all professionals that implement open source software in the digitisation of library resources and effective utilisation of reference management software like Mendeley, Zotero, etc., also explore it with all research scholars and faculty members of their respective institute.

CONCLUSION

All library professionals are very grateful to Mr. Vikram Zadgaonkar and his team from Firstray, Pune (Maharashtra) for the successful implementation of Koha software in all SVKM institutes in India also configuring Koha with RFID in NMIMS and Mithibai College, Mumbai library. It is observed that the Koha open source software is playing a magnificent role in managing information and knowledge in every corner of the world. In SVKM institute libraries majority of the professional, semi-professional, and non-professional staffs are very impressed with software performance because of, an excellent web-based service, cost effective, simple to operate all modules, less maintenance cost, work on the cloud, supporting community, and easy to modify as per our requirements.

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