

ATTITUDE OF NEWGENLIB SOFTWARE USERS TOWARDS THE ADOPTION OF OPEN SOURCE INTEGRATED LIBRARY SYSTEM IN INDIA

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Abstract

Adoption of library automation software is imperative. In the changing phase of the information sector, Open Source Integrated Library System is gaining more significance across the world for various factors such as availability of source code, flexibility, cost benefit, better quality control, self-customization and community support. The present paper investigated the attitude of potential NewGenLib software users towards the adoption of OSILS in Indian scenario. The study aimed to find out the major factors that influenced the NewGenLib users in adopting OSILS among Indian library community. The study also traced the major problems related to switching over and wider adoption of OSILS for managing libraries in Indian scenario. The paper formulated the suggestions obtained from NewGenLib users to improve the adoption of OSILS in Indian libraries. The study found that, in spite of a drastic increase in the adoption rate of NewGenLib software in Indian libraries when it was declared as open source software, lack of technical support and shortage of skilled manpower to execute installation, maintenance and customization have been barricades to its extensive use.

Keywords: NewGenLib, OSILS (Open Source Integrated Library System), ILMS
(Integrated Library Management Software), India, Library Automation, Library community

INTRODUCTION

In the knowledge society, information explosion is wafting beyond the control in different forms at distinguished levels. The present libraries and information centres are not only responsible for collection and diffusion of information, but also they are to shoulder the management and retrieval of information.

Information sector with cutting edge technology has reached an extent where information professionals determine to replace the proprietary Integrated Library Management Software (ILMS) with Open Source Integrated Library System (OSILS). An OSILS is basically available for use which is downloadable along with the source code. The users are licensed to use, modify and re-characterise. The rigidity, expensiveness and lack of timely technical support in commercial ILMS have caused OSILS being more popular and flexible. OSILS serves the basic philosophy of library science which signifies the open access (Dora, 2008).

OSILS are becoming more prominent by creating revolutionary changes in the modern information sector. With an extending horizon OSILSs have created the impact on libraries and information centres (LIC) by offering customization according to their ever-changing needs. OSILS has opportunities on create, modify and distribute and redistribute basis. With the limited financial resources LICs are being accountable to cater the information needs of the users. Proprietary ILMS are going beyond the affordability of most of the Indian libraries. OSILS can definitely be a viable alternative to proprietary ILMS as they are economic, offer specialized services and easy to fix technical issues with internal IT experts (Pruett, 2013). Functionality and technical support are gaining more seriousness in managing information resources. When a library chooses to adopt OSILS, it is not only reducing the cost of automation but also to be self sufficient and independent (Muller, 2011).

OSILS

An OSILS is created and maintained by developers crossing institutional and national barriers and has collaboration with internet as a communication platform and sources of development applications. Such OSILS are typically free for use along with the source code and licensed to modify and redistribute. Intellectual property rights on OSILS belong to everyone who takes part in development, use and redistribution and not just the vendor or creator alone (Singh, 2012).

In this transition time, the library communities around the world are realizing the importance of OSILS which are equally competent and exceeding the limits set by proprietary ILMS. Commercial contracts are now available to install and provide support services for which it needed a technical expert earlier (Dorman, 2008). An OSILS product is not locked into a single vendor. Thus, a library that uses an OSILS from one vendor can always choose to seek technical help from another company or in-house experts (Sheeja, 2009). OSILS's quality of suppleness to be customized with the free source code has made it adoptable in many libraries. An OSILS can be restructured according to the need of any library that uses it.

OSILS MOVEMENT IN INDIAN LIBRARIES

Being a developed country, India has made remarkable contributions to the world of science and technology in international level. The importance of OSILS is slowly coming into realization among Indian library communities. Koha, an OSILS, has been adopted by many Indian libraries including Delhi Public Library, South Asian University Library (SAU Library), Mysore University Library (Koha), Mahatma Gandhi University, Kerala, Indian Institute of Space Science and Technology, Kerala; IISER Mohali, IISER Bhopal, IIT Mandi, IIM Ahmedabad. Kerala government has declared Koha to be a recognized OSILS which is considered for the automation of all government libraries in Kerala and this is a milestone in the history of OSILS in India.

NewGenLib has been in use in various libraries across the country. Bangalore University Library, Karnataka, Central Institute of Plastics Engineering & Technology, Chennai, Indira Gandhi Delhi Technical University for Women (IGDTUW) Library, NewDelhi, Osmania University, Hyderabad, IIT Jodhpur, Karnataka State Open University, Karnataka, University College of Arts Library, Tumkur University, Karnataka, Central Library of Sree Chaitanya Institute of Technological Sciences, Hyderabad, SDMIMD Library, Mysore, Maulana Azad National Urdu University, Hyderabad, TKR College of Engineering & Technology, Hyderabad and Archaeological Survey of India (ASI) Hyderabad are the few libraries where NewGenLib has successfully been implemented. The response to NewGenLib is comparatively fair enough in India. It is true that the developer has instituted several initiatives like the NewGenLib adoption program, offering free data conversion, maintaining a dedicated OSS team for providing quick responses to user queries, but all the developmental work is done only by the original developer (i.e. Verus Solutions Private Limited), and there are hardly any external developers for NewGenLib. Indian libraries are adopting NewGenLib, but we lack in contributing to the code base of the OSS, as most libraries hardly have any dedicated IT experts (Giri, 2012).

ABCD, an OSILS, is getting introduced in Indian libraries. It is basically an OSILS that provides automation functions for conventional libraries as well as documentation centres. ABCD is developed by (BIREME WHO, Brazil) in association with the Flemish Interuniversity Council, Belgium. It is a multilingual OSILS based on CDS/ISIS database technology. Presently ABCD is successfully being used by Modern College of Arts, Science and Commerce, Ganeshkhind, Pune and Centre for South Indian Studies Library (CSIS) Thiruvananthapuram (ABCD).

Evergreen is another OSILS which was developed by Georgia Public Library System in the year of 2006. Adopting the Z39.50 standard, Evergreen offers applications to cover most of the library activities. It is more in use in USA and Canada. In India, Indian Institute of Science Education and Research Library, Thiruvananthapuram has adopted Evergreen for its library functions (Evergreen).

REVIEW OF LITERATURE

The literature reflects the use of OSILS to have been increasing in the recent years. The tendency of adoption of OSILS is becoming prominent in all kinds of libraries. Kiriyananth (2012) examined through a survey on adoption of OSILS in Thai University libraries in Bangkok and Pathumthani to realize that 69% of the libraries had awareness of OSILS and 59% respondents chose to adopt OSILS. The result of the survey confirms that library communities in Thai universities are moving towards adopting OSILS. A study showed the instantaneous change through a shift from proprietary software's to OSILS and recorded the facts which made libraries switch over to OSILS. It examined the various OSILS in terms of their technical requirements and functionality (Salve, 2012). Financial crisis had been the main hindrance why small scale libraries had not adopted a commercial ILMS. Such libraries are setting up for OSILS which considerably can reduce the cost. OSILS provides technological freedom to the libraries and also help the library professionals to provide services at lost cost or free of cost (Kamble, 2012). The ability to be tailored with new applications by retaining the old hardware and almost nil cost on the purchase are the main feature of OSILS (Kandar, 2011). As Payne reported the existing presence of OSILS in the libraries, it is noticeable that libraries had a great deal of interest in adopting OSILS which are cost effective and also showed their willingness to be involved in the development and diffusion process of OSILS(Payne, 2010).

The implementation of OSILS could be decided considering the parent institution's IT infrastructure and motivation. A study of attitudes in UK higher education institution libraries showed the unwillingness of libraries being more conservative (Dalling, 213). Espiau-Bechetoille et al (2011) conducted a study of three universities that switched over to an OSILS. It was a process to increase inter-university cooperation where the OSILS was installed, tested and carrying out the modifications in the modules on a mutual consensus. Kumar and Reddy (2013) examined different OSILS and evaluate their features and functionalities to derive the best OSILS. The study also observed that in the recent years OSILS are gaining more importance due to their features and benefits. Biswas et al (2008) conducted a study to assess the features and functionalities of NewGenLib at the beginning point of time. This study also compares NewGenLib with other softwares like Koha, SLIM++, Libsys, Easylib and reveals that NewGenLib with little modification can be a very efficient OSILS with more advanced features of its time. Singh (2011) conducted a comparative study between Koha and NewGenLib to find NewGenLib had better functionality of modules than Koha. It has essential components for digital library functionalities in terms of technology, data structure and programming. NewGenLib offers more enhanced features which are significant for OSILS.

OBJECTIVES

The basic objective of the present study is to assess the attitude of NewGenLib users towards the adoption of OSILS in libraries. Following are the main objectives of the study.

- (a) To investigate the attitude of potential NewGenLib software users towards the adoption of OSILS in Indian libraries
- (b) To identify the major issues associated with the wider adoption of OSILS in Indian libraries
- (c) To find out the major factors which made NewGenLib software users to consider OSILS
- (d) To obtain suggestions from NewGenLib users to improve the adoption of OSILS in Indian libraries.

METHODOLOGY

Online survey was conducted in Google by using a structured questionnaire to collect data from the libraries using NewGenLib Software in India as their integrated library system. Questionnaires were used to comprehend the attitude of NewGenLib users towards adoption of OSILS in India. Importance was given to bring in all possible aspects of NewGenLib in preparation of the questionnaire. The questionnaires were sent to various libraries using NewGenLib through personal email and the investigator received response from Thirty Six libraries including university, college, school, special and research libraries. Analysis was carried out to identify the factors persuading the NewGenLib users to prefer OSILS.

LIMITATION

The study is limited to the users of NewGenLib in India. Irrespective of the kind of libraries such as academic/research/school libraries, the study intends to cover each library that uses NewGenLib for its functions. The questionnaire has been designed for professionals namely Librarians, Assistant Librarians and Library Assistants to gather their perseverance of OSILS. The study signifies the merits and demerits of OSILS considering only NewGenLib users experience and opinions.

ANALYSIS AND FINDINGS

NewGenLib

NewGenLib, the first Indian OSILS has been in use for about a decade in Indian libraries. It offers all possible services according to the needs of any given library ranging from a school library to a university library.

NewGenLib is developed by Verus Solutions Pvt. Ltd. (VSPL) on the domain expertise provided by Kesavan Institute of Information and Knowledge Management, Hyderabad, India. The latest version of the software is 3.0.4 R1 which was released in the year of 2012 (Wiki). NewGenLib has gone through enormous changes along the time since its initial version 1.0 was released in 2005. In January 2008 NewGenLib was declared to be an OSILS

under GNU/GPL and it is clear from the graph that there was a shoot up in the adoption rate of the software from that point in time (Fig.1).

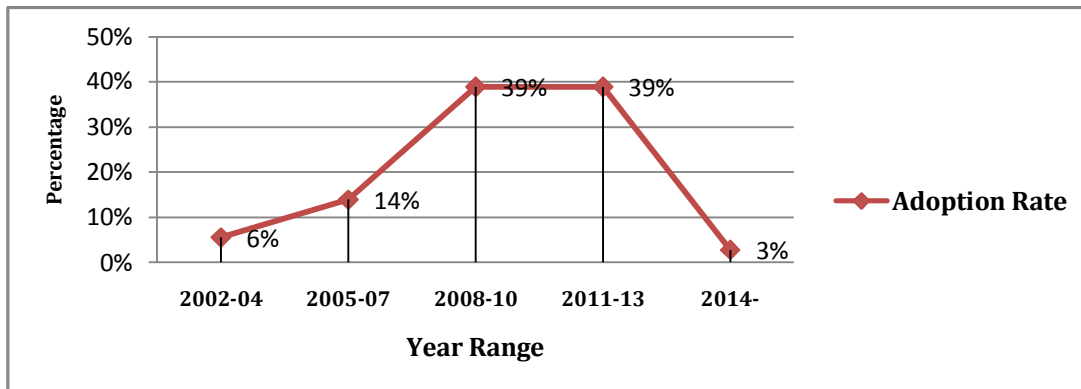


Figure 1. Usage of NewGenLib in India

VSPL has been offering technical services and training for the libraries opting NewGenLib. The company also offers commercial support when the library needs a dedicated channel (NewGenLib). Conducting workshops and seminars among the NewGenLib users have greatly been helping the professionals to upgrade their knowledge with the latest updates.

Response Rate and Library Collection

The questionnaire was sent to diversified libraries across the nation and 36 libraries responded to the questionnaire. It is observed from the survey that maximum library professionals (94%) supported the adoption of OSILS which is an evidence of awareness spreading over the Indian library community (Fig.2).

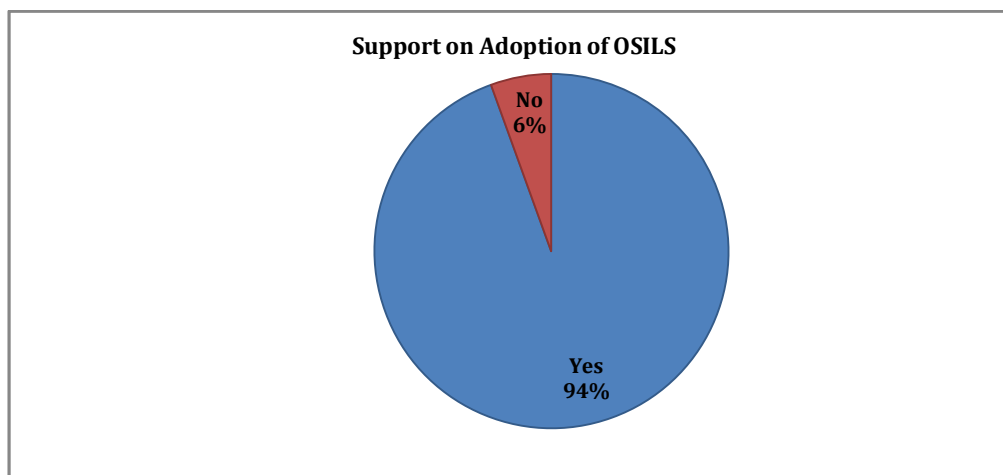


Figure 2. Support on Adoption of OSILS

Among the libraries responded, there were 55.56% college libraries and 30.56% university libraries. The rate of special or research libraries was 11.11% and school libraries being 2.78% to be at the lower end (Fig.3). The responded libraries were divided into three groups according to their size of collection and they were 1-49999 (72%), 50000-99999 (17%) and 100000-499999 (11%). This denotes that libraries ranging from low to high collections have adopted NewGenLib for the functions.

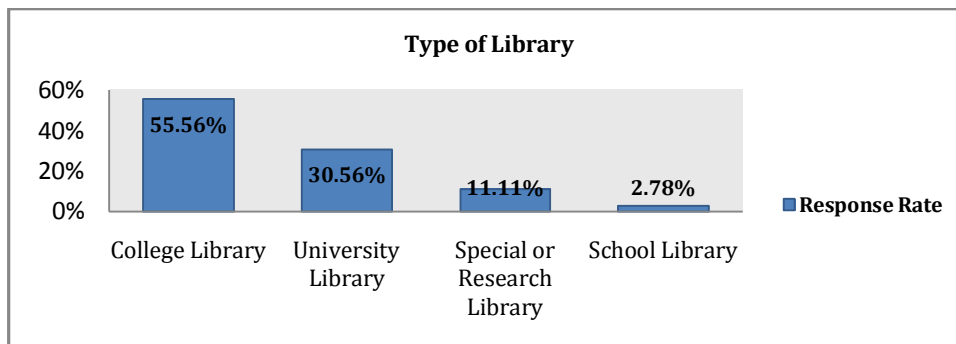


Figure 3. Response Rate from NewGenLib Users

Respondents

The respondents were divided into four different age groups such as 21-30 years, 31-40 years, 41-50 years and above 51 years and they have a response rate of 10%, 35%, 55 % and 3% respectively. The people age group of 31-40 showed better interest in responding comparing with the other three. In the segment, where library staffs were divided such as Professionals, Paraprofessionals/Semi Professionals and Non-Professionals, it is learned that 29 libraries of out of 36 libraries have 1-4 professionals and 20 libraries manage their functions with 1-4 Para/Semi professionals. It is observed that only two libraries having more than 12 non-professionals staff or supporting staff (Table 1).

Table 1. Staffing pattern

No of Staff /Category	Professionals	Para Professionals/ Semi Professionals	Non-Professionals/ Supporting Staff
1-4	29	20	29
5-8	4	5	3
9-12	0	0	2
13-16	1	1	1
17-20	1	8	0
21 and Above	0	0	1
Nil	1	2	0

Implementation of NewGenLib

Implementing an OSILS indirectly creates opportunities for library professionals and in-house technical personnel to explore and contribute to the development process. In the survey it is observed that, 58% of the libraries managing to self install NewGenLib in their libraries. Seeking help for installation from the OAs (19%), PC (6%), OT (8%), LCDM (3%), LC (3%) and OM (3%) is comparatively less. This undoubtedly shows the enhanced self sufficiency among the library community. In areas which require technical knowledge like Configuration (44%), Hosting (64%), Maintenance (61%), Adding new features (34%) and Customization (33%) libraries are managing by themselves to a noticeable extent. Libraries depend on PC for Migration of Data (22%), Configuration (18%), Hosting (16%), Maintenance (11%), Customization (17%) and Bug Fixing (32%). The rates of libraries come down in LCDM, LC and OM for approaching for professional help in the implementation of NewGenLib. 64% of libraries train their staffs for the software by themselves where as 14% libraries rely on OA for training. 7% of libraries are getting help from the community for training. For Bug fixing, 14% of the libraries finding ways to resolve issues themselves and OA, PC, OT, LCDM, LC and OM are helping out the libraries at the rate of 32%, 31%, 11%, 6%, 3% and 3% orderly (Table 2).

Table 2. Mode of Implementation and sources of Technical Support

Functions/Mode of Implementation	Self (%)	Outsourcing Agencies (%)	Through Professional friends/Community (%)	Through online Tutorials (%)	Through Live CD/DVD Course Materials (%)	Through library Consortium (%)	Other Methods (%)
		OA	PC	OT	LCDM	LC	OM
Installation	58	19%	6	8	3	3	3
Migration of data	25	28%	22	8	6	3	8
Configuration	44	23%	18	6	3	3	3
Training of staff	64	14%	7	6	6	0	3
Hosting	64	11%	16	6	3	0	0
Maintenance	61	14%	11	11	0	0	3
Adding new features	34	22%	19	14	11	0	0
Customization	33	25%	17	19	3	3	0
Bug fixing	14	32%	31	11	6	3	3

Issues Associated with the Wider Adoption of OSILS in Indian Libraries

Though OSILSs are cost effective solution to compete with its commercial counter parts many concerns which foreclose the library professionals to adopt it. Lack of confidence, knowledge and proficiency in the application of OSILS and lack of taking initiatives and attaining self-reliance are the common reasons among professionals for continue with their legacy proprietary systems.

Respondents were asked to indicate the major issues associated with the wider adoption of OSILS in Indian libraries. The major problems fingered by NewGenLib users are lack of technical support (13%) and lack technical knowledge required in installing and maintaining (12%). An equal number of professionals (10%) feel that shortage of skilled staff to install and maintain the software and inadequate promotional activities are the other two major issues associated with wider adoption of OSILS. Lack of vendor support, issue of reliability/longevity and data security issues are being blockades at the same level (8%). Lack of software support (7%), Lack of community support (6%) incompatible organizational policies (5%) and lack of high quality documentation (5%) are hindering the usage of OSILS. A few respondents (4%) observed that issues of functional features and availability of commercial softwares are contributing to the reduced rate of OSILS adoption in Indian libraries (Fig.4).

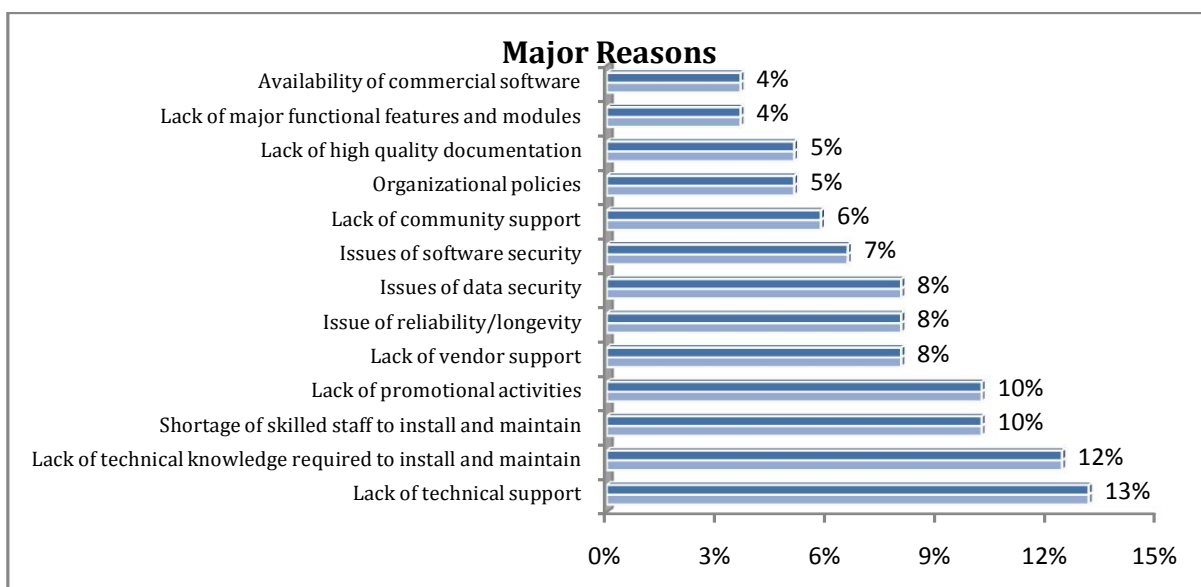


Figure 4: Issues in adoption of OSILS

Factors Influencing NewGenLib Users to Prefer OSILS

The ever-changing needs of libraries always compel to adopt the system that is flexible for constant modification. 13% of the libraries feel customization is one of the main reasons to

adopt NewGenLib. 12% libraries prefer NewGenLib to escape vendor lock-in, shorten the software costs and to avoid licensing fee. Easy installation and maintenance (11%) and wider adaption in the recent years (10%) as well availability of quality documentations (9%) have been other major reasons for having opted NewGenLib. Uncertainty of commercial service provision (5%) and concerns of receiving timely support from the proprietary provider (5%) have caused OSILS become more prominent (Table 3).

Table 3. Reasons for adopting NewGenLib

Sl No.	Reasons for adopting NewGenLib	Responses	Response Rate
1	Its ability to customize to fit the library's needs	23	13%
2	To cut short the costs	21	12%
3	Freedom from maintenance and licensing fee	21	12%
4	Freedom from vendor Lock-in	21	12%
5	Easy to install, maintain and modify	20	11%
6	Its wider adoption/support/online community	17	10%
7	Availability of quality documentations	16	9%
8	Availability of source code	13	7%
9	Uncertainty due to merges and outside ownership of proprietary software ILS	9	5%
10	Concerns about the suppliers of proprietary	9	5%
11	To become part of the consortium	6	3%

Justification of Respondents on why OSILS is being the Best

Respondents were asked to indicate their perspectives on the best things about OSILS. Summary of the comments says OSILS:

- is highly economical and give more opportunities to library professional in enhancing their technical skills
- provides a sense of control and reduces dependency on the vendor considerably
- is cost effective solution for any type of libraries as the initial cost for purchasing an OSILS is almost nil
- facilitates to gain adequate knowledge of various essential modules in library software
- gives opportunity to collaborate for customization
- makes library community innovative and more active

- provides good support, both technical and non-technical through online community
- comes with source code and is flexible for customization as per the library requirements
- minimizes the technical inequalities
- is a combination of the qualities of Interchangeability, Interoperability, Customization, Consistency and Integrity
- Allows retaining local variation at users' convenience.
- is more reliable as every step of installation and maintenance involves the library staff who actually carry out the work
- facilitates to obtain timely technical support through in-house experts or devoted companies that offer services
- makes it possible to carry on with the existing IT infrastructure thereby withstands the obsolescence of technology
- makes it easy for the evaluation as it is always available for trial
- helps to achieve better quality control effectively and efficiently
- brings reduction in maintenance cost to a great extent since an in-house IT expert can monitor the functions.
- sets free the libraries from the risk of ceased services
- uses open standards and freely available supporting applications which gives the users independence to modify with lower cost or even switch over easily

Justification of Respondents on why no to Choose OSILS

Respondents indicated their perspectives on the negative aspects of OSILS and the highlights are;

- Lack of technical support in installation, troubleshooting and data migration
- Lack of support from the vendor or the community if the software crashes
- Lack of technical knowledge required to maintain and update the software
- Lack of manpower to handle the system
- Difficulties in debugging and keeping backups
- Difficulties in keeping track of software developments and their upgradations
- Lack of knowledge in supporting LIS professionals
- Difficulties in maintaining both the software and the database
- Lack of publicity
- More responsibility
- If the OSILS is coded in a complex computer language, it definitely requires technical support, which may finally result in the expenditure for services alike in commercial software
- When the community size of the adopted OSILS is small, it is hard to get help when stuck with a problem

- It makes the implementation difficult with the limited organizational support with respect to high speed Internet connectivity, memory storage devices and hardware peripherals, etc.

Suggestions to Improve the Adoption of OSILS in Indian Libraries

- Educational institutions and universities should conduct workshops frequently to train and make LIS professionals aware of OSILS
- Simplified documentation and training are required for customization and data migration
- Library professionals must nurture the technical skills along with the computer knowledge to make the professionals self sufficient
- Software development team should take the feedback and suggestion from working Librarians while designing every module
- It is better to integrate repository, automation and learning management system in a single OSILS
- Software installation and backup process should be made easy
- Partnering with user libraries to continuously develop standard customizations is a need which also helps in cost reduction and avoids repetition of work
- Good technical documentation must be provided
- OSILS has to form a council/consortium to monitor quality control and share updates among the member libraries
- Technical/Cloud support is needed
- OSILS should be made more user friendly and simple

CONCLUSION

Open source software is continuing to gain momentum among the library community across the world. Adoption and use of OSILS have changed the landscape of library automation process. The paradigm shift of large-scale libraries from commercial ILMS to OSILS is signifying the booming progress of open source movement. Indian library professionals are interested to adopt OSILS for their libraries because of its tremendous advantages in managing information and introducing innovative services with minimal cost. OSILS comes into focus as an alternative tool for libraries to automate their libraries in a cost effective manner, where libraries experience dissatisfaction with their legacy proprietary system due to poor support from the vendors, expensive maintenance charges, customization inefficiency, and inflexibility.

Lack of technical knowledge and support, shortage of skilled staff and lack of promotional activities are some of the major issues encountered in OSILS adoption by NewGenLib users in India. Libraries having staff with the necessary skills and experience to implement and customize the software can be highly benefitted with its vast potential. Use of OSILS is to be

promoted as they pave the way for collaborative research and this can be achieved with the confluence of professionals.

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