Conceptions of Indian LibSys Software Users on Open Source Integrated Library Management System

T.K. Gireesh Kumar
Assistant Librarian, Central University of Kerala
Tejaswini Hills, Periye, Kasaragod, India
gireesharci@gmail.com
Ph: 08547754492

Muruli
Librarian, National Power Training Institute
Power Systems Training Institute
Bangalore, India
muruli.acharya@gmail.com
Ph: 09972619975

ABSTRACT

There are many Free and Open Source Software (FOSS) available for library automation in the market and are being instrumental in managing information and knowledge all over the world. Cost effectiveness and the availability of source code are the major rationalities for LIS professionals to adopt FOSS over the proprietary packages. Open Source Integrated Library Management System (OSILMS) is gaining widespread adoption in Indian libraries for the last two decades. The present study intends to evaluate the perceptions of Indian LibSys software users on the adoption of OSILMS and focuses to survey the level of agreement of LibSys software users on some selected statements related to the features and characteristics of OSILMS. Study also compares the impact, functional features and financial aspects of OSILMS with its commercial counterparts practiced in Indian libraries. Online questionnaire method was used to collect the responses from the libraries in India using LibSys as their automation software. The study found that majority of the respondents positively agreed with most of the projected statements on the adeptness and rewards of OSILMS and a higher percentage of them expressed willingness to migrate to OSILMS.

Keywords: Open source integrated library management system, OSILMS, LibSys, Library automation, Integrated library system, India, Commercial library softwares

INTRODUCTION

Integrated Library Management Systems (ILMS) are programs that manage automation activities of libraries. There are good numbers of ILMS which are available in the open source stream and are available on the website in the form of downloadable code. Libraries are moving to 'free/open culture' to stretch their services and functions. Automation of house-keeping operations of library is more significant in a library rather than creating institutional repositories and digital libraries. Tremendous developments are being encountered in Open Source Integrated Library Management Systems (OSILMS) to solve its

limited functionalities. In India, some libraries have already adopted advanced technologies like cloud computing for their library automation, while others are still at the observation stage with an intention to adopt the technology soon. Considering the economic feasibility and need for functional developments it is necessary for libraries to adopt OSILMS. Provision of source code which intern gives freedom to edit, develop and distribute seems to be the key feature of open source revolution (Breeding, 2008 ; Ahammad, 2014). Many countries across the globe are demonstrating the increasing portion of OSILMS in the landscape of library automation. Technical service providers to a considerable extent have emerged to support such applications.

Over the last few years, the concept of open source ILMS is predominantly bringing about changes in managing resources and extending technology oriented services in modern libraries. Many libraries are unable to pay the licensing fee and annual maintenance cost of the commercial software packages. There are various reasons for adopting OSILMS in Indian libraries. Getting commercial support from the vendors also a key ingredient in adopting open source ILMS, where the library does not have skilled manpower to establish the installation and maintenance. Awareness on advantages of adopting OSILMS is spreading its sphere in larger scale in India scenario. Cost effectiveness and ability to tailor fit for local needs are the two major reasons why library choose an OSILMS. Many OSILMS have provision for technical support and training. Such services are available commercially for a fee, encourage libraries of less technical skilled professionals to adopt OSILMS. However the percentage of libraries in India that would seriously consider adopting or migrating to OSILMS is considerably small. There are instances where libraries downloaded and installed the software as a trail and then decided not to continue.

LibSys

In the contemporary information world there are number of ILMS among which LibSys has made a mark by existing for more than a decade. LibSys, a product of LibSys Ltd came into existence in 1984. Eversince, there are many libraries have been using this software for the libraries functions in India. It is commercial based integrated multi-user library management software developed by M/s LibSys Corporation, New Delhi using 'C' programming language and the software works on UNIX/LINUX, Windows Professional 98, and Windows NT operating systems. The software has been through timely changes to adopt new technologies to bring more functionality and efficiency. LibSys has gained the confidence of its users and

is one of most established commercial packages in India. LibSys is the most highly rated, possessing 37 software features and supports the house keeping operations of a library such as cataloguing, acquisition, circulation, OPAC, serial control etc (Lihitkar & Lihitkar, 2011). Additional services like SDI, CAS etc. can also be handled by the software. Presence of Graphical User Interface (GUI), multimedia interface and Web OPAC make the software more effective. Libsys also provides WebOPAC and has compliance with MARC21 and Z39.50 standards.

LITERATURE REVIEW

Many researchers have been investigating the adaptability and usability of OSILMS in Indian libraries. Most of the literature provides case studies, their own migration experiences and individual expertise in customization etc. There are several concerns and issues which are prevented being wider adoption of OSILS among the Indian libraries. Gireesh Kumar and Jayapradeep (2015) in their study on perceptions of LIS Professionals on OSILMS and the adoptability of Koha over LibSys in India found that though library professionals are interested to adopt OSILMS for their libraries, lack of effective training for the customization, technical support and of the software and timely maintenance prevent them from introduction, adoption, , expansion and maintenance. A questionnaire survey revealed that OSILMS are not just a low-cost alternative but they possess the core quality of proprietary library software (Hanumappa et al., 2014). Kumar and Abraham (2011) found that the implementation of open source library management system is limited in India due to the lack of awareness and knowledge on the brighter side of open source concept among library professionals.

Development of OSILMS is a boon for libraries experiencing budget shortfalls to cope with the exorbitant cost of the proprietary software both for its purchase and maintenance. Adoption of open source software helps to reduce the total budget on library automation and provide effective library services with a minimal cost. However, while libraries in the developed parts of the world are fast embracing and adopting the use of FOSS in their library automation, those in the developing nations are yet to fully embrace them for fear of their efficiency and effectiveness. It is said that reliability, stability, auditability, flexibility and freedom are more with OSILMS in comparison with commercial software packages. (Ukachi et. al, 2014). Kandar, S. et al(2011) reviewed the open source movement in developing countries and ascertained that commercial products often points out at advancement and

constant customization of visible and most used features for getting marketing advantages. Payne and Singh (2010) in an evaluation of open source technology in libraries found that the libraries are demonstrating growing interest in adoption of open source softwares as they are becoming more of user oriented which was the main focus of proprietary softwares. Adoption of OSILMS is an alternative to traditionally licensed software and one of the solutions for librarians looking for ways to cut back expenses. Brooke made his statement on OSILMS as libraries have very few options to save money on publishers and database providers. There is not much more that can be cut from salaries, and funding sources are not going to increase any time soon. But there is one solution that has only recently become viable (Brooke, 2013). For the widespread use of open source software in libraries, Satpathy and Maharana (2012) signify the importance of cooperative and participatory organizational system, need of positive attitude of authorities and library professionals, and provision of proper training for LIS professionals (Satpathy & Maharana, 2012). The study of Kushwah et al opines that high purchase and maintenance cost, addition of new version or new feature, heavy charges for additions, lack of proper support from the vendors etc are the major problems involved in using proprietary software (Kushwah and et al, 2008).

Adoption of OSILMS is a better choice for libraries confronting budgetary constraints. Joy made a comparative study of LibSys with Koha and found that though according to reviewed literature commercial software LIBSYS found to be the most recommended commercial software. Evaluation revealed that KOHA was stronger in different modules (Joy, 2014).

OBJECTIVES

- To record the perspective of LibSys users towards OSILMS in various aspects such as technical expertise required, training, scalability, longevity.
- To compare the impact, functional features and financial aspects of OSILMS with commercial packages.
- To examine the propensity of LibSys software users towards the adoption of OSILMS.

LIMITATION

The study focused on Indian libraries using LibSys as their integrated library management system. The survey carried out in the study, intended to consider every library using LibSys

software regardless of its type such as academic/research/corporate and volume of collection. The questionnaire is designed to consolidate the awareness and observation of OSILMS of library professionals of India. In total, 108 responses were received from various libraries. The study looks upon the OSILMS from LibSys user's point of view.
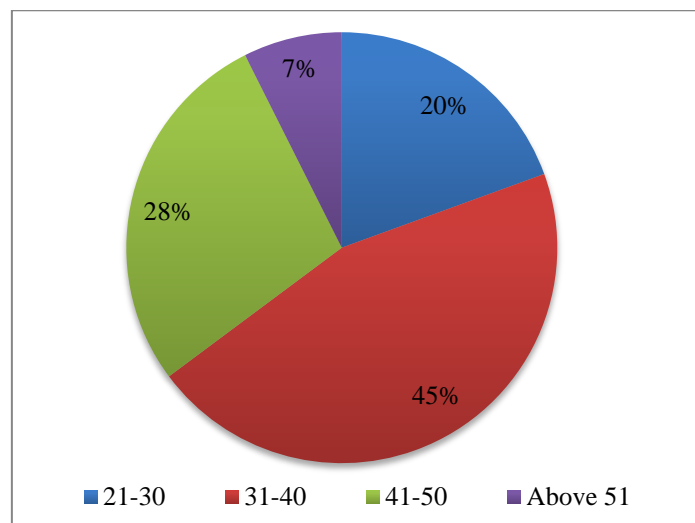
METHODOLOGY

The study used survey method to examine the perception of library professionals using LibSys as commercial ILMS towards open sources softwares available for library automation. An online questionnaire method was used to gain an understanding of attitude of LibSys users towards the adoption of open source ILMS. An e-mail requesting participation was sent to library professionals using LibSys software. One Hundred and Eight (108) responses were received from different types of libraries from different parts of the country. The responses were organized under respective segments. The analysis of tabulated information was carried out and the graphical representation of the findings was executed.

RESULTS AND DISCUSSION

Respondent's age group

Different segments of respondents were made with regard to age of the 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. A higher percentage (45% each) of library professional have responded the survey in the age group 31-40 to and 28% have responded in the age group 41 50 while only 20% of 21-30. The senior respondents beyond 51 years stood last at 7%. The response rate in terms of their age group is diagrammatically represented in Figure. 1.

Fig 1: Age groups of respondents

Type of Libraries Responded

The questionnaire was sent to diversified libraries across the nation and 108 libraries responded to the questionnaire. A majority of the respondents that had installed LibSys software were special or research libraries (42%) and university libraries (40%) where as the installation was found minimum in college libraries (13%) and very limited in corporate, public, school and non-profit institute libraries. (Table. 1)

Table1: Type of libraries responded

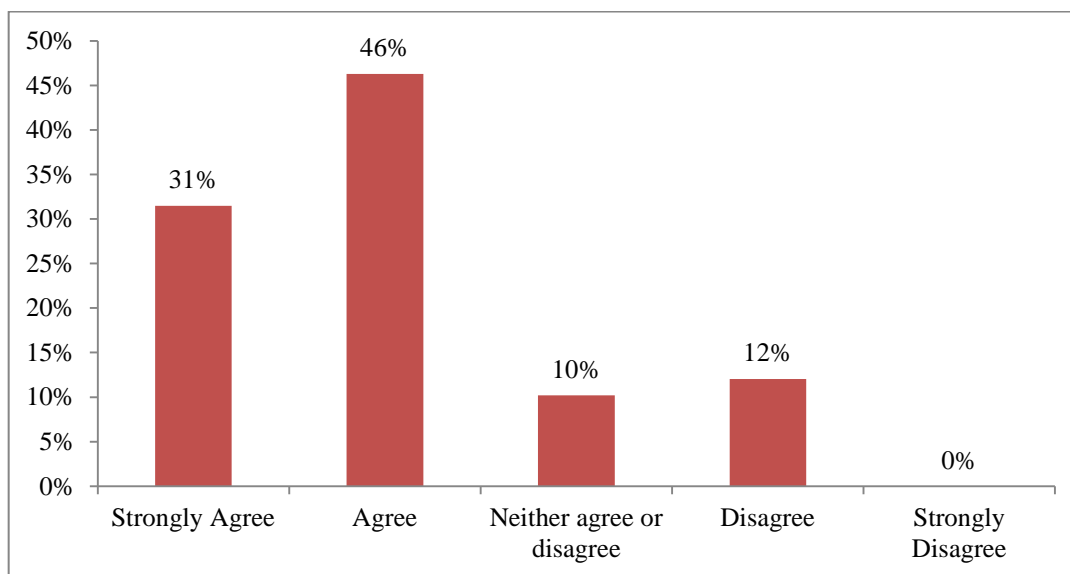| Type of library	University Library	Special/Research Library	College Library	Other Libraries
Total no of respondents (Percentage)	43 (40%)	45 (42%)	14 (13%)	6 (5%)

Conceptions of LibSys users on OSILMS

Respondents were asked to indicate their level of agreement with a set of statements and characteristics to determine their perceptions towards the adoption of OSILMS in five point scale

1. OSILMS requires more technical expertise than proprietary software

As OSILMS requires strong technical knowledge to install the software, maintain the server and the systems, support of technical expertise is required for successful implementation and management. It is true that any ILMS whether it is open source or proprietary requires a significant technically skilled staffing commitment. The analysis for the statement, "OSILMS requires more technical expertise than proprietary software" revealed that, 46% of the respondents agreed, 31% of the respondents strongly agreed, 10% of them had ambiguity and 12% of them disagreed (Figure 2). It is clear from the responses that a higher number of respondents either agreed or strongly agreed that OSILMS requires more technical expertise than commercial software and that would be the prime reason why the rate of adoption of OSILMS is considerably low in Indian libraries. The response resembles the earlier survey where majority of the proprietary software users thought maintenance and local

customization are the main concern with OSILMS and lack of technically skilled workers stood the main reason for not implementing the an OSILMS (Dalling & Pauline, 2013).

Fig. 2: Users' perception on technical expertise required

Implementation of OSILMS is made easy due to the availability of supports from other libraries, online communities and also from commercial vendors. However in order to customize the software to fit into a specific environment's needs, there is a need to involve the support of expertise. In this facet, most of the Indian libraries are said to be running without sufficient technical staffing.

2. *OSILMS are more expensive than anticipated*

Respondents were asked to indicate whether the additional cost requirement in implementing OSILMS is within in the range of their anticipation and majority (50%) revealed that they disagree with the statement "OSILMS are more expensive than anticipated". However while 22% of the respondents neither agree nor disagree with the statement 15% were agreed that it crosses their expectations in terms of economy. A few percentages (4% and 9%) were strongly agreed and disagreed with the statement respectively (Table 2).

Table 2: Cost of OSILMS

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
OSILS are more expensive than anticipated	4%	15%	22%	50%	9%

The result of the survey to measure the economic viability of OSILMS during its implementation indicates that OSILMS are within the expected financial limit and is

economical. The overall responses show that implementation of OSILMS are not high-priced than it is anticipated. By adopting outsourcing method and cloud hosting environment, the automation of a library can be easily done without spending much time and money. Moreover libraries can save much space for keeping the server and reduce the cost of air-conditioning and its maintenance for system administration. It is imperative that a library with an expertise for installation, configuration and implementation brings down the cost of running software to zero.

3. *Exhaustive training is required for implementing OSILMS*

Inadequate training on implementation and maintenance is one of the main barriers in adoption and introduction of OSILMS in Indian libraries. When prompted, more than half (51%) of the respondent agreed with the statement "exhaustive training is required for implementing OSILMS". The distributions of the percentage professionals who believed training is required at different level come consecutively as strongly agree (27%), neither agree or disagree (10%), disagree (11%) and strongly disagree (1%) (Table 3).
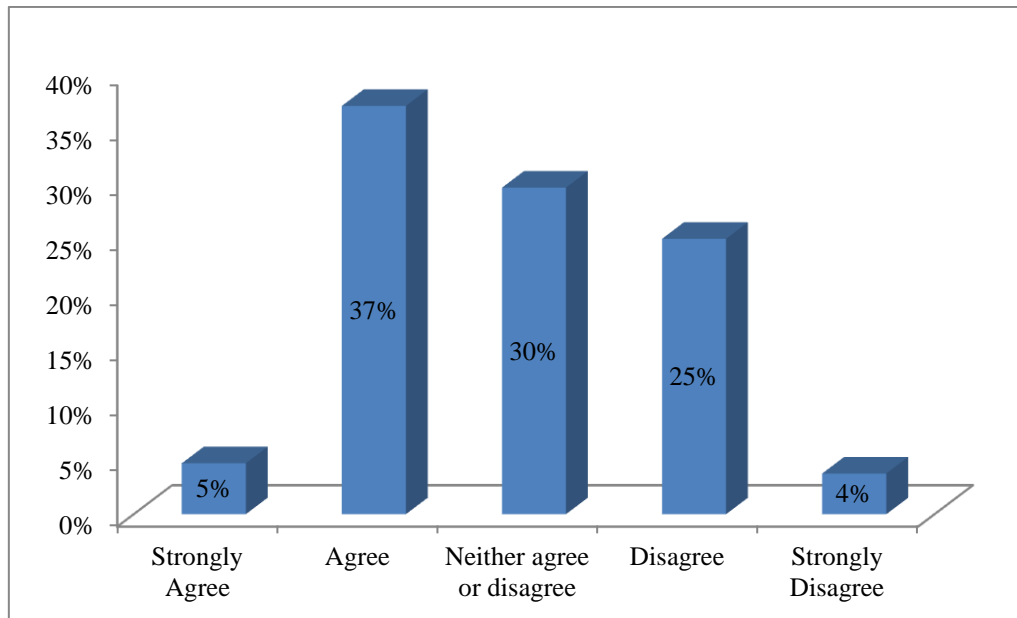
Table 3: Training for OSILMS

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
Exhaustive training is required for implementing OSILS	27%	51%	10%	11%	1%

Effective training for the customization and maintenance of OSILMS should be provided to inculcate and nurture the required skills in professionals. Attendance in workshops, seminars etc. enhances the knowledge of professionals on the advantages and possibilities of OSILMS applications in libraries and to familiarizes the library professionals with OSILMS adoption and installation. A study records that professionals prefer hands on workshop and onsite training for better familiarization of the applications (Hanumappa, 2014). National Library Automation and Resource Sharing Network (NLARN), which is funded and supported by the Ministry of Human Resources Development, Government of India under its National Mission for Education through ICT (NMEICT), National Institute of Science Communication and Information Resources (NISCAIR), New Delhi, Information and Library Network (INFLIBNET) Centre, Gandhinagar, and Delhi Library Network (DELNET), New Delhi etc frequently organize awareness programs on OSILMS.

4. *OSILMS lacks scalability*

Provision for scalability or expandability is one of the important characteristics of an OSILMS. The responses for the statement "OSILMS lacks scalability" were of mixed in nature where 5% strongly agreed, 37% agreed, 30% neither agreed or disagreed, 25% disagreed and 4% strongly disagree with the statement (Figure 3).

Fig. 3: Scalability of OSILMS

It is found from the study that a higher majority of the total respondents is agreed that OSILMS are scalable solution to handle the load and can meet the needs of any kind of libraries. The modification in the application along the time is facilitated in OSILMS and that is most unique feature of OSILMS. Unlike

5. *OSILMS lack ability to meet current and future demands of the library*

For the statement "OSILMS lack ability to meet current and future demands of the library", 23% of the respondents agreed, 7% of the respondents strongly agreed, 25% of them had ambiguity and represented as neither agreed or disagreed, 40% of them disagreed, and remaining 5% of them strongly disagreed (Table 4).

Table 4: Ability of OSILMS to Meet Users' Demands

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
OSILS lack ability to meet current and future demands of the library	7%	23%	25%	40%	5%

However, the statement inclines towards positive side as the higher majority of the respondents disagreed with the statement. Hence present OSILMS solutions are capable to meet the current and future demands of any library. The open source environment is offering many prospects to bring about timely changes in the information business and it has become possible to bind the present and future requirements because of the increase in availability of verities of open source applications today. OSILMS has every possibility to take shape according to users' requirements.

6. *OSILMS has only fewer advanced features*

On the whole, 20% of the respondents agreed, 6% of the respondents strongly agreed, 31% of them had ambiguity, 40% of them disagreed, and remaining 4% of them strongly disagreed for the statement "OSILMS has only fewer advanced features" (Figure 4). It is clear from the analysis that a higher percentage of respondents disagreed with the statement, however as the OSILMS products are developed over many years in a collaborative manner and are updating frequently can have more advanced and updated features. In the recent years the concept of cloud computing is bringing into OSILMS as well. Cloud computing facilitates inter-institutional participation in resource sharing (Kumar, D.A. 2013). Most of the OSILMS today are adhere to prescribed standards such as Z39.50. OPACs of OSILMS have been developed to be web enabled. They have the compatibility to entail the Web 2.0 applications which are most appropriate for a modern library' information activities.
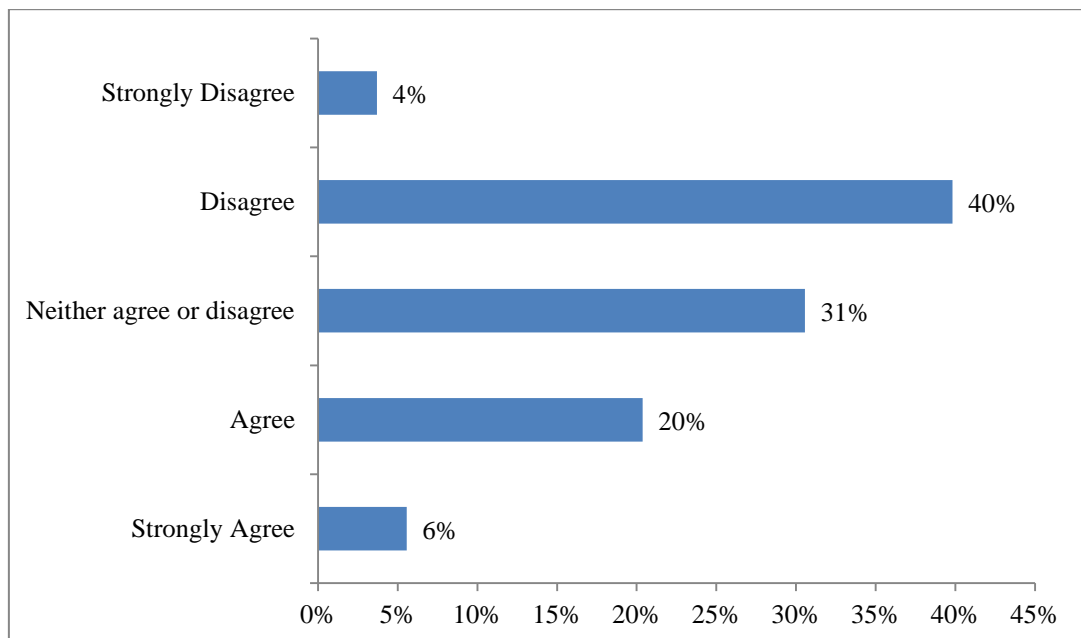

Fig. 4: Advanced Features of OSILMS

A recent comparative study of OSILMS reveals that OSILMS such as Koha, NewGenLib and E-Granthalaya are encompassing most advanced activities such as retro conversion, easy data import/export, processing of invoices, claims unsupplied items, overdue notices, subscription maintenance, web interface, reservation through OPAC, multi user facility, email service, Wikis, RSS feeds etc (Reddy, 2013).

7. *Entry of OSILMS had a major effect on the proprietary ILMS market*

When the statement "entry of OSILMS had a major effect on the proprietary ILMS market?" was prompted, the respondents replied in such a way that 12% strongly agree, 44% agree, 29% neither agree or disagree and 15% disagree (Table5). The usage rate of OSILMS in Indian libraries indicates that majority of the libraries are interested in adoption OSILMS. The entry of OSILMS had a major effect on the proprietary ILMS market due to its availability and supports in all levels of library operations like commercial software.

Table 5: Effects of OSILMS on Commercial Softwares

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
Entry of OSILS had a major effect on the proprietary ILS market	12%	44%	29%	15%	0%

In the changing phase of electric age, the closed source vendors are lagging behind to maintain the confidence of their clients may be because of poor customer support and delayed customization. This is indirectly causing the precipitate migrations to OSILMS where implementation and customization seems much easier (Breeding, 2009). There are success stories where libraries using commercial softwares have migrated to OSILMS and have been able to customize the applications as and when required. Also library professionals can take part in the development and customization of the software according to their specific requirements.

8. *OSILMS increases the efficiency of the library services*

When the statement "OSILMS increases the efficiency of the library services" was analyzed, a higher majority (57%) was agreed and 15% of the respondents were strongly agreed with the impact of OSILMS in increasing the efficiency of the library services. However the respondents were neither agreed nor disagreed and disagreed at the rate of 21% and 6% respectively (Table 6).
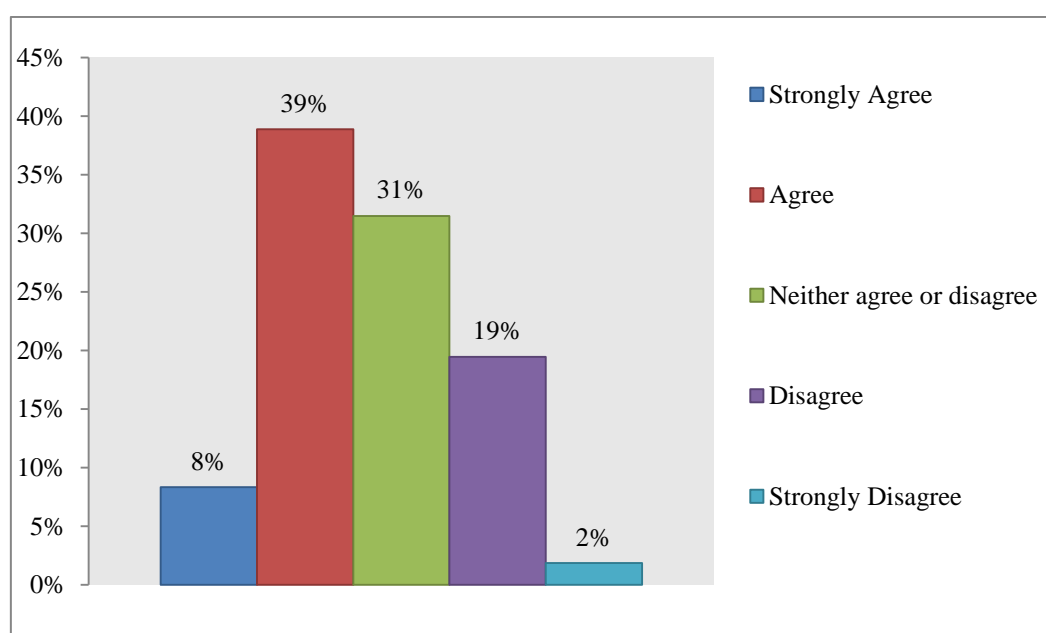
Table 6: Efficiency of OSILMS in Library Services

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
OSILS increases the efficiency of the library services	15%	57%	21%	6%	0%

It is indicated by the study that Libsys software users had the assumption that adoption of OSILMS will increases the efficiency of the library services. As the implementation of OSILMS takes place, the library staffs are required to acquire minimum technical skills to handle the issues and up keep of the software. Eventually, contemporary and advanced technologies are tailored to the main application to enhance the efficiency which indirectly demands the upgradation of information professionals' knowledge on technology.

9. OSILMS gives financial advantages as compared to commercial ILMS

OSILMS is free in its availability of source code, but involve expenditures in system administration, maintenance, hardware requirement, staff training and facilities management etc. Higher majority (39%) of the total respondents agreed with the statement "OSILMS gives financial advantages as compared to commercial ILMS" apart from the neither agree or disagree response of 31% and strongly agreed response of 8%. 19% of respondents disagreed with the statement and an insignificant response rate of 2% was strongly disagreed (Figure 5).

Fig. 5: Financial Advantages of OSILMS

As the large majority of the respondents agreed that OSILMS are economically viable, hence it is, worth considering OSILMS for libraries where financial aspect is an obstacle in bringing cutting edge technology to their information users. Many earlier studies have unarguably agreed that OSILMS are being instrumental in achieve economy in library automation (Kumar, V. & Jasimudeen. 2012; Muruli & Gireesh Kumar, T. K. 2014; Macan, B. 2013).

10. OSILMS provides lower functionality than commercial software

When the statement "OSILMS provides lower functionality than commercial software" prompted to know the functionality features of OSILMS, 33% of the respondents were neither agreed or disagreed with the statement and 31% were disagreed where as 29% of the total respondents were agreed. The rate of strongly agree and strongly disagree were at the rate of 4% (Table 7).

Table 7: Functionality of OSILMS

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
OSILS provides lower functionality than commercial software	4%	29%	33%	31%	4%

OSILMS provides all the functionalities that meet the needs of a particular library. Users have to upgrade the capacity of the server from time to time to bring considerable speed and customization needs to be taken care of to enable the application to function at par with the ever changing environment of libraries. OSILMS such as Koha, NewGenLib are proved to possess every possible functional feature that a commercial software does.

11. OSILMS are less user-friendly than commercial ILMS

Responses at the rate of 6% (strongly agreed), 24% (agreed), 27% (neither agreed or disagreed), 37% (disagreed) and 6% (strongly disagreed) were received for the statement "OSILMS are less user-friendly than commercial ILMS" (Table 8).
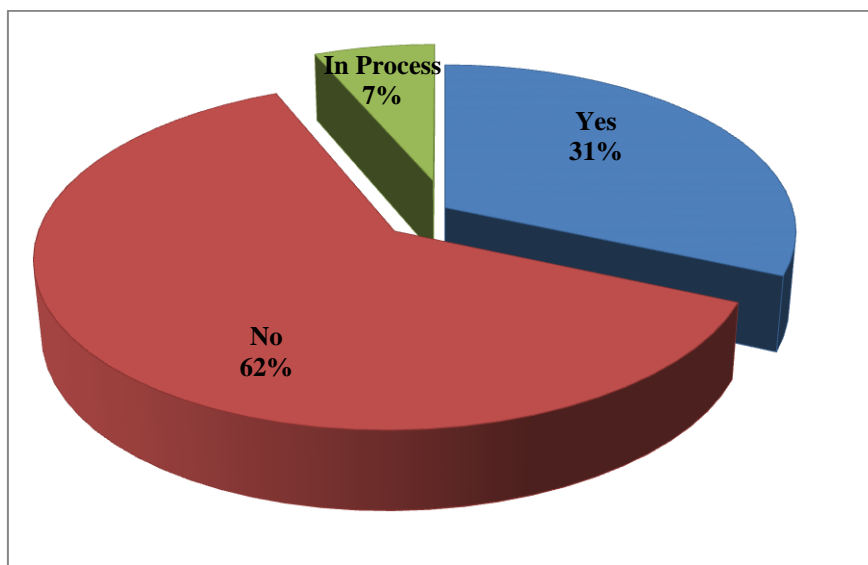
Table 8 : User-Friendliness of OSILMS

Attitude of the Respondents	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
OSILS are less user-friendly than commercial ILS	6%	24%	27%	37%	6%

It was well noticed from the analysis that OSILMS are more user-friendly in its downloads, documentation facility and even its interfaces also and right from the installation all the functions at distinguished levels can be learned and performed by oneself without external help. Consortium of counterparts, timely organised workshops, seminars and training programmes have been contributing in turning out OSILMS more user-friendly.

12. Willingness of LibSys users on OSILMS adoption

31% of respondents completely agreed that they had already planned to adopt OSILMS and 7% were stated that they were in the process of migration. However the analysis shows that majority (62%) of the libraries surveyed was unwilling to change or switch over to OSILS (Figure 6). Though the percentage of willing professionals for migration seems to be feeble, the number indicates the progress in change in line of thinking among Indian library community. The awareness of OSILMS and its merits are slowly gaining the confidence of commercial software users as well. As professionals state, requirement of sound technical knowledge, lack support at the right time, training, customization are the primary key factors which are hindering the migration initiation. The parent organization's disapproval and library professionals' inability to convince the authority are also being hurdles at the next level. The resolutions made in conferences and seminars appear to be limited to library community and they are not reaching the authorities of parental bodies. As libraries are basically subordinate institutions, managerial decisions are usually made by the authorities. It is advisable to make sure that the resolutions of consortium and relevant research updates in the library field should reach the management of parental organizations as well to create a promising environment for wider adoption of OSILMS.

Fig 6: Willingness to adopt OSILMS

CONCLUSION

Libraries of modern world are in the junction where user demands are ever-growing and resources appear to be decreasing. Bringing and managing the cutting edge technology has become a great challenge of the time. In this changing phase, OSILMS offer libraries multidimensional functionality with limited cost. A raising trend of supporting adoption of OSILMS is self evident from the study. The open source environment is opening up more opportunities by providing source code to diversified open source applications and this practice adds more value to OSILMS in the upcoming years. The sphere of functional areas in OSILMS is broadening to engross every possible information activity and possibilities to handle them in an open source environment are better than ever. OSILMS are being competent enough to compete with commercial packages and the respondents' willingness to migrate to OSILMS is a sign of transformation.

Commercial software requires licence which demands cost and reduces the freedom. Dependence on the commercial vendors in library automation is diminishing and library professionals are gaining more control over the customized use of OSILMS to meet their specific requirements. Cost effectiveness and freedom to use are the major attractions which create trends towards adopting OSILMS in Indian libraries. Adoption of OSILMS involves invisible costs in-terms of expertise, infrastructure, maintenance and updation. Application customization, a significant issue can be effectively addressed with OSILMS as the source code would be available. OSILMS has every possibility of tailoring the upcoming technologies such as Library 2.0 applications to add more value to the service. Utilization of cloud computing and adoption of OSILMS reduces the risk budgetary shortfalls in libraries up to some extent. Alternatively, installation, maintenance and modification happening through consortium may lessen the financial burden and bring more affordability to the libraries.

Competencies in installing, maintaining and servicing OSILMS are to be acquired by LIS Professionals. Awareness on OSILMS needs to be introduced in the LIS Course curriculum and the professionals are to be enabled to acquaint with these at the very beginning of their profession. The usage of OSILMS should be promoted in Government organization. There should be technical support from the experts to improve the quality of OSILMS according to the individual requirements at a minimal cost and the parent organization is expected to provide such support by deploying minimum required in-house technical experts to its library. Accessibility of tutorials and step by step demonstrations, promotional activities like

workshops, conferences and hands on training etc help to enhance the visibility of the OSILMS. Also OSILMS requires better and extensively available documentation to suit needs of all type of Library professionals.

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