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Sustainability of Open Source Integrated Library System in Selected Indian Libraries

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Abstract : *Adoption or migration to Open Source Software (OSS) for building institutional repositories, creating digital libraries, automating house-keeping operation etc. are common in libraries for many years as a cost effective solution. However many libraries are still adhere to use commercial solutions as a result of lack of sufficient knowledge in the benefits of using OSS and particularly in adopting Open Source Integrated Library System (OSILS). This study aims to investigate the attitude of potential SOUL software users in Indian libraries towards the adoption of OSILS and assess the major reasons which cause SOUL users not to adopt OSILS for their libraries. Study also makes an attempt to figure out the level of satisfaction of SOUL users with the features and functional modules of the software and their opinions on the various aspects of OSILS. From the data analysis and observations it was found that majority of the SOUL users were interested in adopting OSILS for their libraries and expressed that lack of technical knowledge required to install and maintain the software is the major concerned associated with the adoption.*

Keywords : *Library automation, Open Source Software (OSS), Integrated Library System (ILS), SOUL, India.*

1. Introduction

Application of computer driven activities reduces the difficulties in maintaining a modern library and information centre. Integrated Library System (ILS) is one of the major components of libray automation process. There are various ILS software, commercial and open source are available in the software industry with regular up-gradations, improved and customized versions. Software for University Libraries (SOUL) is a no profit and no loss based integrated library management software with cost effective solution useful to university and college libraries developed by the INFLIBENT Center, Gandhinagar, Gujarat. The software is compliant to MARC 21 bibliographic format and is suitable not only for the academic libraries, but also for other types and sizes of libraries. Emergence and application of Open Source Software (OSS) is really a boon for libraries to cope with the growing threat of budget constraints as a matter of concern for library automation. The major benefit which makes the OSS with its commercial counterparts is the availability of its source codes under some license (GPL, Creative Commons)

Which can be studied, edited, modified and improved and the same can be transferred without any copyright restrictions. OSS provides certain benefits compared to its commercial equivalents particularly in terms of cost and access to the source code, which is highly recommended for the libraries having low budget.

2. Open Source Integrated Library System (OSILS)

An Integrated Library System (ILS) helps to automate more than one library functions. An integrated library system uses computer automation to operate library functions through modules that address specific functional areas[1]. There are typically five standard modules : cataloguing, circulation, serials, acquisitions, and an online public access catalogue (OPAC)[2]. An ILS system can be mainly categorized according to its source code availability to the users as commercial and open source. In the recent years, Open Source Integrated Library System (OSILS) are more popular among the Indian libraries as an automation tool and as a cost effective solution. Last two decades many libraries in India started adopting OSILS and conducting training, seminars and workshops etc., to make both the library professionals and users aware about the OSILS. The importance of OSILS is slowly coming into realization among Indian library communities. Koha OSILS has been adopted by many Indian libraries including Delhi Public Library, Mysore University Library, IISER Mohali, IISER Bhopal, Mahatma Gandhi University, Kerala, Indian Institue of Space Science and Technology, Kerala, IIT Mandi, IIM Ahmedabad. Kerala Government has declared Koha to be a recognized OSILS which is considered for the automation of all government libraies in Kerala and this is a milestone in the history of OSOLS in India. Systematic adoptionof OSILS has lot of potential to make a library successfully automated and extends opportunities to the libraries in developing countries who struggle with financial constraints to make their libraries automated.

3. Review of literature

SOUL (Software for University Library) in an integrated library management system designed and developed by INFLIBNET, Ahmedabad to automate various housekeeping operations based on the requirements of college and university libraries.

SOUL is accepted as user-friendly software in the academic sectors in India with more than 1350 installations[3]. Chandrakar and Arora[4] conducted a study on library automation in India in 2009 and observed that SOUL was the most highly used library management software followed by LibSys and Slim and found that SOUL software was used in 30 colleges during the period of study. It has all the basic modules such as acquisition, cataloguing, circulation, Online Public Access Catalogue (OPAC),Serials control and administration and the first version of the software was released in 2000. Mukhopadhyay[5] stated that SOUL is the only Indian LMS from the government sector with third generation features and facilities.It is available at an affordable price and much cheaper in comparison with other similar commercial LMSs[6]..Lihitkar and Lihitkar[7] analyzed the 39 features of ten selected library software packages used in Indian libraries and found that SOUL is the second highly rated software in terms of its features and first among the library software developed in India. Authors also described that SOUL had all of the selected

features as far as the circulation, acquisitions and serial control features concerned and was highly ranked.

Santosh[8] in a case study on impact of library automation in the development era examined that the complex job of keeping track of serials can easily and effectively be handled using SOUL through its Serial Control module. Mohsin[9] in a comparative study found that SOUL covers many options like accession, stock etc in its Catalogue module and list of supplier in Acquisition module compared to SLIM21. SOUL software is suitable not only for the academic libraries, but also for all types and sizes of libraries, even school libraries[10].

4. Objectives of the study

- To investigate the attitude of potential SOUL software users towards the adoption of Open Source Integrated Library System in Indian libraries.
- To investigate the level of satisfaction of SOUL users with its functional modules.
- To investigate the satisfaction level of SOUL users with its general features.
- To assess the major reasons which prevent SOUL users not to adopt Open Source Integrated Library System in their libraries.

5. Methodology

The online questionnaire survey method was adopted to collect data from the libraries using SOUL software as their integrated library system during August and September 2014. A structured questionnaire was designed, using Google docs online survey tool and emailed to libraries using SOUL software. Thirty Four responses were received from university and college libraries using SOUL as their ILS software. The data were tabulated using Microsoft excel to analyze the data and presented in graphically.

6. Scope and limitations of the study

The present study was carried through online survey of selected university and college libraries those who are using SOUL software in India. There are a number of open and commercial ILS are available and being used by various types of libraries. Among commercial software a number of software are being used by college and university libraries. The scope of the present study is limited to selected libraries in India using SOUL as their Integrated Library System. Since the software is designed and developed mainly for university libraries the study is limited to selected university and college libraries.

7. Analysis and findings

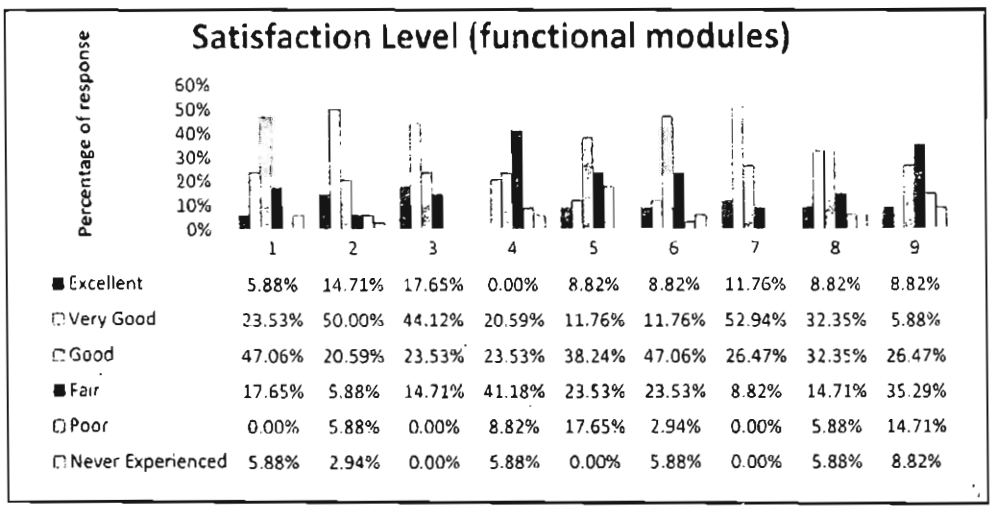
Total of thirty four resoponses were received from different universities (47%) and college libraries (53%) and among them 94% of respondents, though they are using commercial solution were aware of the advantages of using OSILS in libraries. Some of the best things of adopting OSILS in libraries commented by the respondents were, OSILS follows the international standard, data can be exported in a standard format, facilitates democratization of information, provides standardization for resource sharing, cost effectiveness and the possibilities for growth and freedom.

8. Level of satisfaction with the functional modules of SOUL Software

The respondents were asked to rate their level of satisfaction on the use of each functional modules of SOUL software to understand

whether there was any major reasons which make them change their legacy software.

It is ascertained from the study that SOUL users were satisfied with all the functional modules to meet all library routine activities. However a quite good number of respondents were unsatisfied with poor performance of the modules for 'statistical reports' (17.65%) and 'stock verification' (14.71%) and in addition to that 8.82% of the respondents of stock verification module and an equal numbers respondents (5.88%) of acquisition, serials management, patrons details and system administration modules had never explored these modules. It is found from the analysis that half of the respondents (52.94%) remarked OPAC module and cataloguing (50%) modules were very good when compared to the satisfiable values of Circulation (44.12%), System Administration (32.35%), and Acquisition (23.53%) modules. There was a higher majority (47.06%) of respondents who commented that both the Acquisition and Patrons details modules were good compared to 38.24% of Statistical reports module and 32.35% System administration module. However, overall responses emphasized that all the modules available in SOUL software were satisfying them to continue with the software. On the whole, the satisfaction levels of SOUL software were satisfying them to continue with the software. On the whole, the satisfaction levels of SOUL software users with its functional modules were good. (Fig.1)



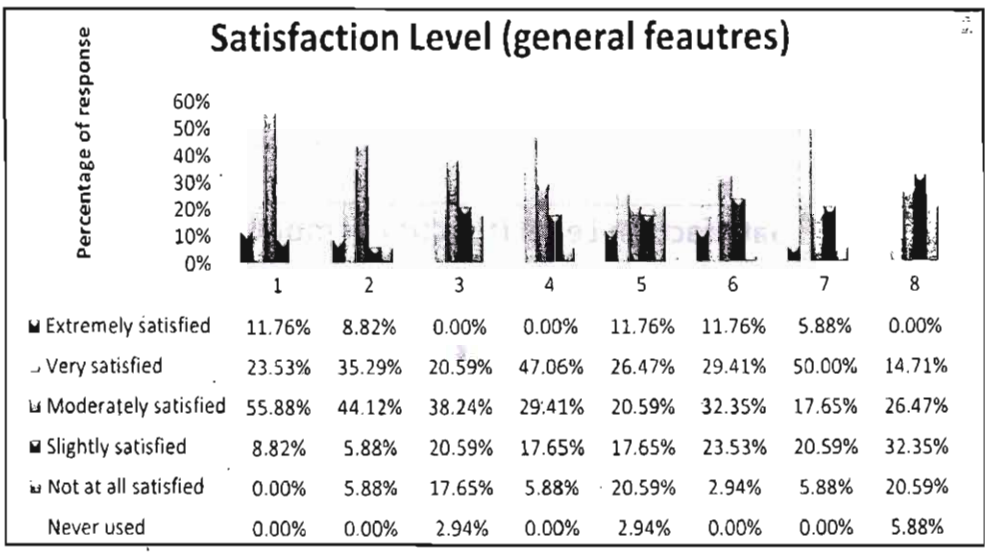
	1	2	3	4	5	6	7	8	9
Excellent	5.88%	14.71%	17.65%	0.00%	8.82%	8.82%	11.76%	8.82%	8.82%
Very Good	23.53%	50.00%	44.12%	20.59%	11.76%	11.76%	52.94%	32.35%	5.88%
Good	47.06%	20.59%	23.53%	23.53%	38.24%	47.06%	26.47%	32.35%	26.47%
Fair	17.65%	5.88%	14.71%	41.18%	23.53%	23.53%	8.82%	14.71%	35.29%
Poor	0.00%	5.88%	0.00%	8.82%	17.65%	2.94%	0.00%	5.88%	14.71%
Never Experienced	5.88%	2.94%	0.00%	5.88%	0.00%	5.88%	0.00%	5.88%	8.82%

(Codes : 1 Acquisition; 2. Cataloguing; 3. Circulation; 4. Serials Management; 5. Statistical Reports; 6. Patrons Details; 7. OPAC; 8. System Administration; 9. stock Verification).

Fig. 1 - Satisfaction level of SOUL users on its functional modules

9. Level of satisfaction with the general features of SOUL Software

Among those who answered for their satisfaction level with the features of the SOUL software majority of the respondents were moderately satisfied with the features and functionalities (55.88%), maintenance and backups (44.12%), customization and integration (38.24%). However majority of the respondents were very satisfied with the software on managing print resources (50.00%) and documentation (47.06%). It is clearly observed from the study that some respondents specifically mentioned that they were either not at all satisfied (20.59%) with the ability of SOUL software on managing electronic resources and the support from vendors and a few respondents (5.88%) never experienced the option for managing electronic resources. Over all, the satisfaction levels of SOUL software users with its functional features were moderate. (Fig. 2)



	1	2	3	4	5	6	7	8
Extremely satisfied	11.76%	8.82%	0.00%	0.00%	11.76%	11.76%	5.88%	0.00%
Very satisfied	23.53%	35.29%	20.59%	47.06%	26.47%	29.41%	50.00%	14.71%
Moderately satisfied	55.88%	44.12%	38.24%	29.41%	20.59%	32.35%	17.65%	26.47%
Slightly satisfied	8.82%	5.88%	20.59%	17.65%	17.65%	23.53%	20.59%	32.35%
Not at all satisfied	0.00%	5.88%	17.65%	5.88%	20.59%	2.94%	5.88%	20.59%
Never used	0.00%	0.00%	2.94%	0.00%	2.94%	0.00%	0.00%	5.88%

(Codes : 1 Features and Functionalities; 2. Maintenance and Backups; 3. Customization and Integrations; 4. documentation; 5. Vendor Support; 6. House Keeping and Report Generation; 7. Managing Print Resources; 8. Managing Electronic Resources).

Fig. 2 - Satisfaction level of SOUL users on its general features

10. Attitude of SOUL software users towards adoption of OSILS

Majority of the SOUL Software users (88.24%) had supported the adoption of OSILS in libraries where as some (8.82%) of the respondents were not interested on OSILS and few (2.94%) were not able to make any opionion.

The respondents were asked to select(s) factors determined or influenced them to be interested on OSILS. From the responses received, the majority at 27% considered the cost effectiveness was the most important factor attracted them to consider OSILS. Full control over the data and software (19%) and flexibility to use (13%) were the other factors to be made them interested on OSILS. Other factors that featured equally were the easy to use and the ability of the software to customize for local needs and shrinking budget / pressure from the management (11%), and the technical and community support and full control on the direction of development (8%). Demand from users was considered as least important (3%) on adoption of OSILS.

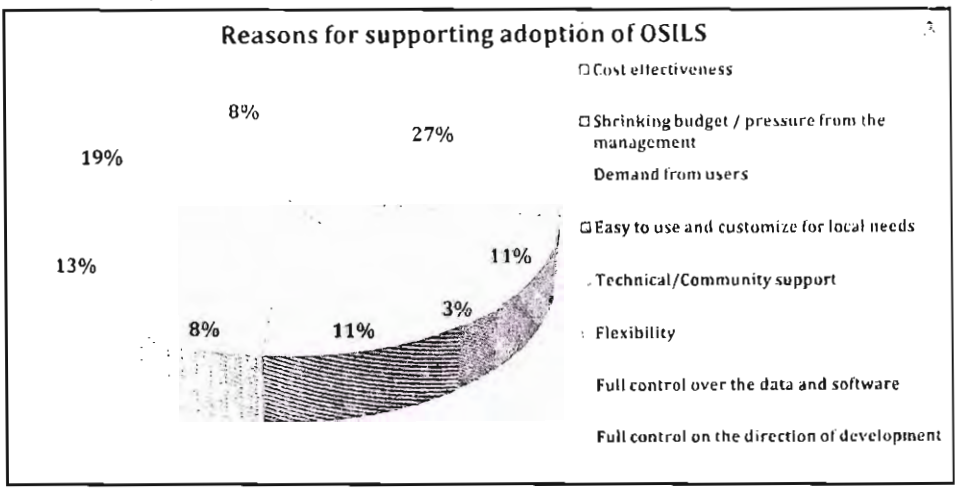


Fig. 3 - Reasons for supporting the adoption of OSILS

11. Issues associated with the adoption of OSILS

Respondents of (44%) were interested to migrate to any OSILS because of the advantages of OSILS compared to SOUL software. Though the majority of the respondents are very much interested in adopting OSILS for their libraries there are many issues and concerns which keep them away to make a firm decision to opt for it. Majority of the respondents (17%) expressed that lack of technical knowledge required to install and maintain the software is the major concerned associated with the adoption of OSILS for their libraries. Lack of promotional activities and shortage of skilled staff to install and maintain the software (13%) were the two equally responded issues associated with the adoption of OSILS and lack of technical support (11%) was another major issue of concern. Organizational policies and lack of vendor support (8%) were other equally responded issues. Interestingly, there were also an equal numbers (6%) of respondents who felt that availability of commercial software, issues of data security, software security and issue of reliability / longevity were influences the adoption of OSILS in libraries. Other factors that were not great importance out of the listed factors were lack of high quality documentation, lack of major functional features and modules and lack of community support. (Fig. 4)

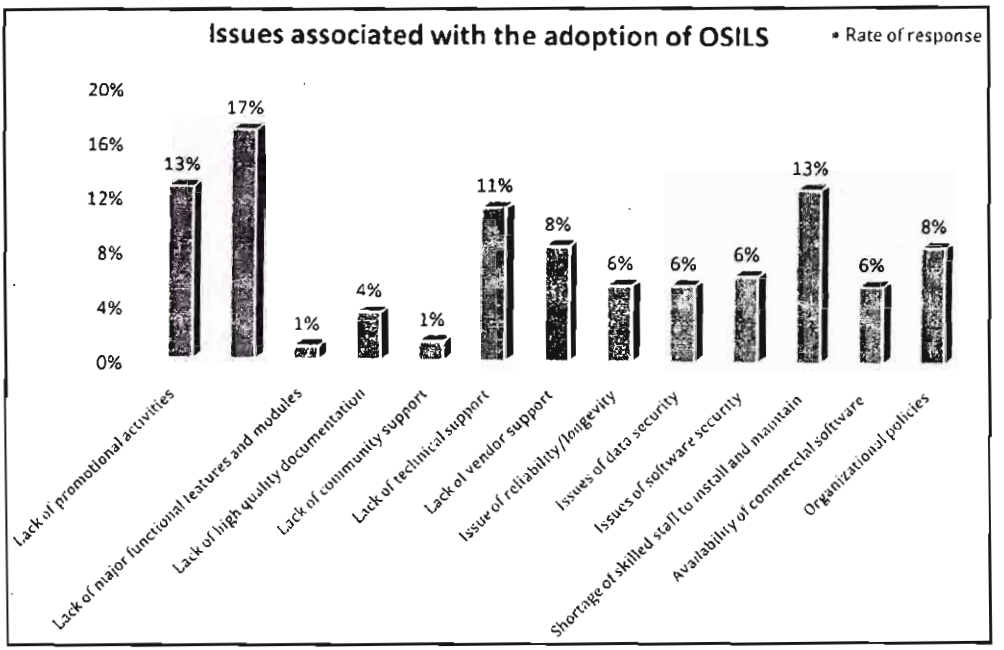


Fig. 4 -Issues associated with the adoption of OSILS

12. Opinion of SOUL users on different aspects of OSILS

It is clear from the observation that majority of the respondents either 'strongly agreed' (41.18%) or 'agreed' (38.24%) that OSILS requires more technical expertise than proprietary software and 'disagreed' (41.18%) that OSILS was more expensive than anticipated. Majority of the respondents (44.12%) 'strongly agreed' and 29.41% 'agreed' that implementation of OSILS in libraries require exhaustive training. Though majority of the respondents (44.12%) disagreed that OSILS lacked ability to meet current and future demands of the library, there was an equal number (11.76%) of responses that either had chosen the option 'strongly agree' or 'neither agree or disagree'. And also major part of the responses either 'agreed' (38.24%) or 'strongly agreed' (29.41%) that OSILS gives financial advantages as compared to commercial ILS, but 'disagreed' that OSILS provided lower functionality (44.12%) and less user friendly (47.06%) than commercial software. Some respondents (23.53%) agreed that OSILS lacked high quality documentation-showever increased the efficiency of the library services. Though a major percentage (32.35%) of respondents disagreed that OSILS created more work for library staff interms of customization and maintenance 29.41% strongly agreed with this statement (Table. 1)

Tablelll 1-Attitude of SOUL usere on different aspects of OSILS

Perceptions of the Respondents	1	2	3	4	5
OSILS requires more technical expertise than proprietary software	14 41.18%	13 38.24%	02 5.88%	04 11.76%	01 2.94%
OSILS are more expensive than anticipated	02 5.88%	06 26.47%	06 17.65%	14 41.18%	03 8.82%
Exhaustive training is required for implementing OSILS	15 44.12%	10 29.41%	02 5.88%	06 17.65%	01 2.94%
OSILS lacks scalability	03 8.82%	07 20.59%	09 26.48%	11 32.35%	04 11.76%
OSILS are more expensive than future demands of the library	04 11.76%	06 17.65%	04 11.76%	15 44.12%	05 14.71%
OSILS has only fewer advanced features	03 8.82%	07 20.59%	06 17.65%	15 44.12%	03 8.82%
Entry of OSILS had a major effect on the proprietary ILS market	05 14.71%	18 52.94%	07 20.59%	03 8.82%	01 2.94%
OSILS increases the efficiency of the library services	09 26.47%	12 35.29%	08 23.54%	03 8.82%	02 5.88%
OSILS gives financial advantages as compared to commercial ILS	10 29.41%	13 38.24%	06 17.65%	04 11.76%	01 2.94%
OSILS provides lower functionality than commercial software	02 5.88%	06 17.65%	07 20.59%	15 44.12%	04 11.76%]
OSILS are less user-friendly than commercial ILS	03 8.82%	03 8.82%	09 26.48%	16 47.06%	03 8.82%
OSILS lack high quality documentations	03 8.82%	08 23.54%	10 29.41%	11 32.35%	02 5.88%
OSILS create more work for library staff interms of customization and maintenance	10 29.41%	05 14.71%	06 17.65%	11 32.35%	02 5.88%

(Codes : 1 Stongly Agree; 2. agree; 3. Neither agree or disagree; 4. Disagree; 5. Strongly disagree)

13. Conclusion

OSILS is generally free and continually evolving in real time as developers add to it, modify it, improve it and transfer it, which means it can be of better quality and more secure. You can modify and adapt OSILS for your own local requirements, something that is not possible with proprietary systems. It is clear from the feedback of majority of the respondents that they support the adoption of OSILS in libraries due to its characteristics such as cost effectiveness, full control over the data and software, flexibility to use, easy to use and customize for local needs, technical and

community support and full control on the direction of development compared to its commercial counterparts. Though the majority of the respondents showed their interest in adopting ISILS for their libraries there were many issues and concerns which kept them away to make a firm decision to opt for it such as lack of technical knowledge required to install and maintain the software, lack of promotional activities and shortage of skilled staff to install and maintain the software, organizational policies, lack of vendor support, issue of reliability/longevity, data security and availability of commercial software etc.

As far as the functional modules of the software concerned the satisfaction levels of SOUL software users were good where as it appeared as 'moderately satisfied' with the functional features. It is observed from the study that majority of the respondents strongly agreed that OSILS require more technical expertise than proprietary software, and exhaustive training was required for implementing OSILS in libraries. At the same time they disagreed with the statements such as 'OSILS is more expensive than anticipated' and 'OSILS lack ability to meet current and future demands of the library',. Majority of the respondents agreed that OSILS given financial advantages as compared to commercial ILS and its existence had a major effect on the proprietary ILS market.

Observations from the study lead to the significance of providing sufficient awareness to the library professionals in the use and advantages of OSILS for library automation. Lack of knowledge in open sorce technology, lack of experience and training, lack of motivation from the management, lack of sufficient manpower and organization policies etc reduce the rate of adoption of OSILS in Indian libraries. Users of OSILS must be trained in such a way that the software could be used at ease. Exhaustive training is required for installing and implementing OSILS and source code of the OSILS could be adopted as per the library requirement.

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