OPEN SOURCE SOFTWARE USE IN INDIAN LIBRARIES: A SURVEY

Jasimudeen S*

Vimal Kumar V**

Biju V.V***

Abstract: *The term "Open Source" is a trending topic at present among LIS professionals in India. Open Source applications in libraries progressed as a matter of serious discussion among the library professionals. Stakeholders of Indian Library sector now a day's realize the advantages of embracing Open Source software. This Paper attempts to find out the usage of Open Source software in Indian Libraries. It is found that there is a positive attitude from the part of library professionals towards the acceptance of Open Source software. The study also underlines the necessity of orientation programmes for making Library Professionals more familiar for adoption of Open Source software in libraries.*

Key Words: *Open Source software, Linux, Open Source in libraries in India*

*Librarian, St. Stephen`s College, Uzhavoor, Kottayam

**Technical Assistant, Mahatma Gandhi University Library, Kottayam

***Librarian, SH College, Thevara, Ernakulam, Kerala

INTRODUCTION

The monopoly over proprietary software owned by the so called "corporates" triggered the formation of Open Source Philosophy. The slogan of *"freedom is what makes a program better, and were willing to work for what we believed in"* [1] by the GNU Project elites drastically changed the monopolization of software industry by a few people. Open source[2] refers to a program in which the source code is available to the general public for use and/or modification from its original design free of charge. When "freedom" came, the opportunities to eliminate "bugs" and creation of better software happened. Discussions on the adoption of open source software into the library environment and formation of roadmaps for it were seriously considered during the yester years. The Draft report of a meeting convened by the Digital Library Federation in 2001 to consider Open Source Software for Libraries is one such roadmap. The report says that "with OSS , the IT infrastructure that is essential to library operations and services can be open, ubiquitously available to libraries, capable of being tailored to suit the needs and circumstances of individual libraries ,documented and errors can more effectively be identified and corrected"[3].

OBJECTIVES OF THE STUDY

- To know the popularity of Open Source software among library professionals in India
- To find the popular Open Source software using in Indian libraries
- To understand the expertise of library professionals in handling Open Source applications.

RESEARCH METHOD

Data was collected by using an online survey tool. An online questionnaire was used for the collection of feedback from library professionals. Questionnaire was posted in LIS-Forum, a popular online discussion forum in India[4]. Within one week 150 professionals recorded their feedback. Survey closed after seven days.

RESULT

First segment of the questions was meant to collect the profile of library professionals participated in the survey. Data regarding Open Source software usage and expertise were collected through the second segment of questions. Statistical Analysis was done by

analysing Percentage of responses to sort out the variables.

PROFILE OF LIBRARY PROFESSIONALS USING OPEN SOURCE SOFTWARE

The survey mainly targeted to LIS professionals and aimed to collect and analyse data on Open Source software software usage among them. Survey closed after receiving 150 responses. Students and research scholars were excluded from the survey.

Gender ratio

Male (78.6%) library professionals' participation was higher than females (21.4%).
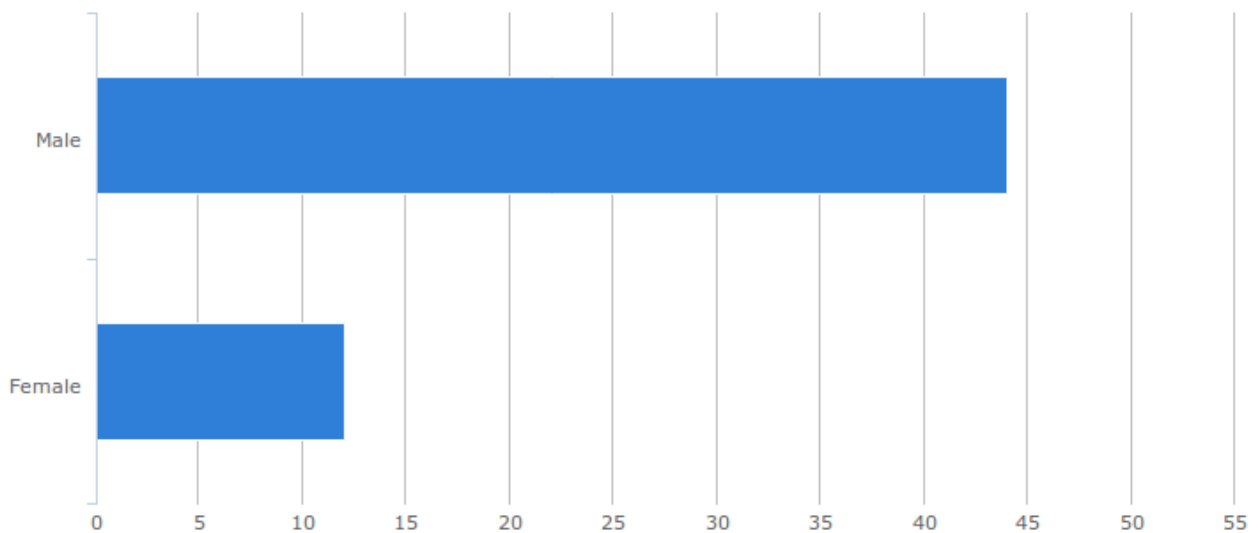

Fig. 1- Gender ratio

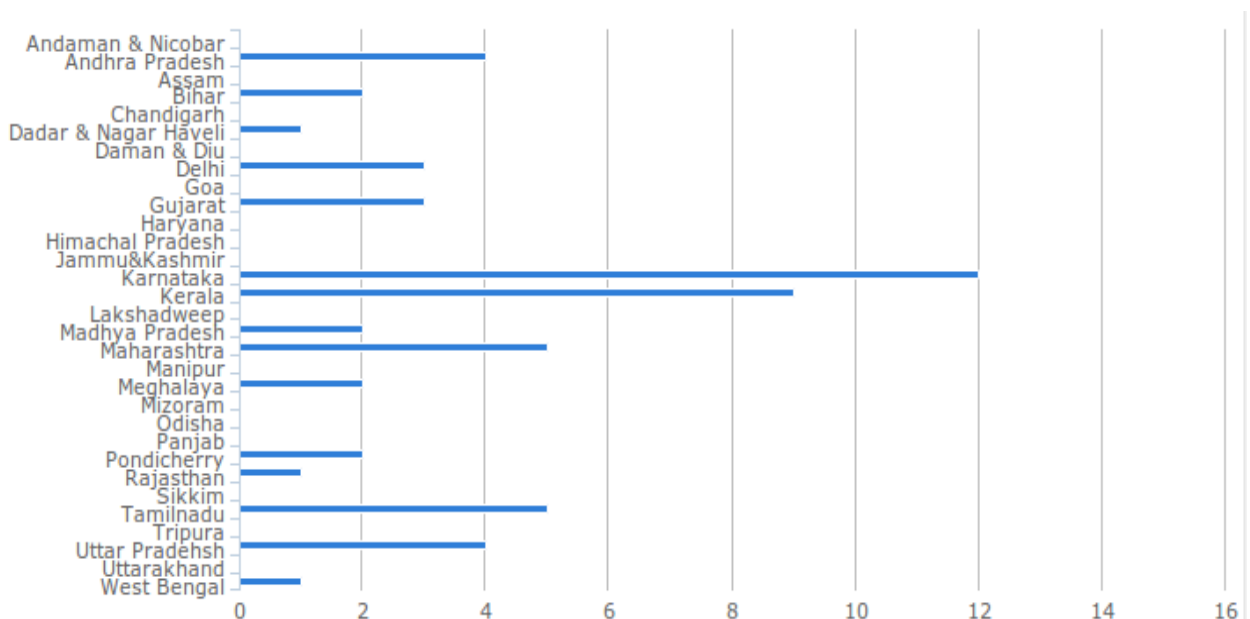***Representation from various states***

Fig. 2- *LIS professionals' representation from various types of libraries*

Majority of participants were from South Indian states: Karnataka (21.4%), Kerala (16.1.%), Tamilnadu (8.9%) and Andhra Pradesh (7.1%). Other significant participants were from Maharashtra (8.9%), Uttar Pradesh (7.1%), Delhi (5.4%), and Gujarat (5.4%). State governments and professional bodies have main role in the promotion of Open Source software in education and libraries. Very few states had taken initiative in this direction. Kerala government had framed policies to encourage Open Source software in education institutions and libraries [5,6] . Kerala Library Association and various university libraries in Kerala had organised training programmes on Open Source software. NRC-FOSS AU-KBC research center in Anna University have automated 33 district public libraries using Koha[7]. With the initiatives at Governmental level, Open Source software have made momentum in South Indian states.
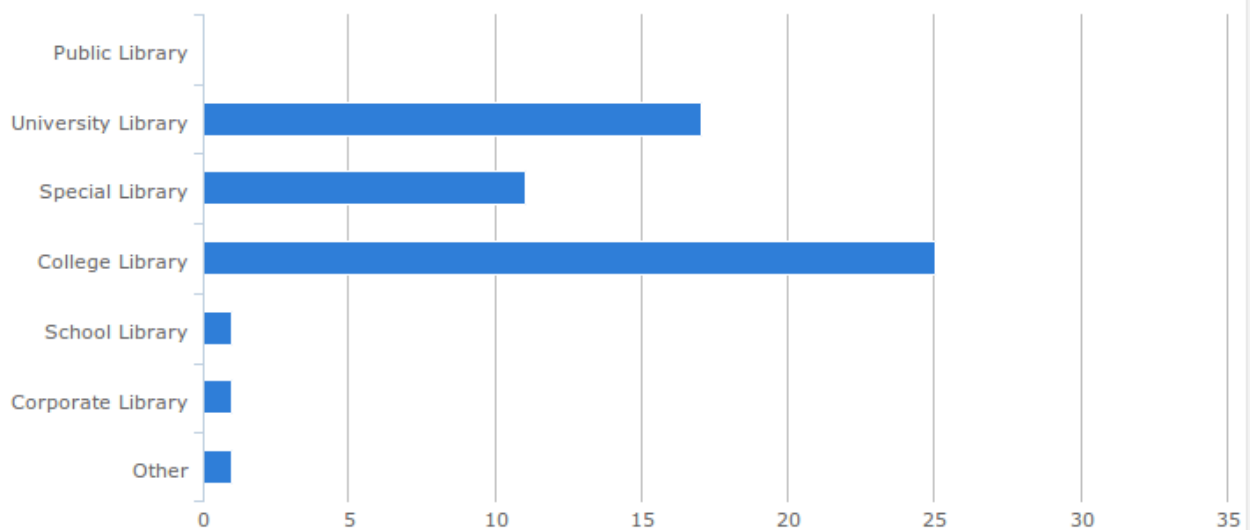
Types of library

Fig. 3- *LIS professionals representation from various types of libraries*

Majority of participants were from college libraries (44.6%) and university libraries (30.4%). Participants from special libraries (19.6%) are in third place. Nobody had represented from public library sector. There was nominal representation from school and corporate libraries. Library professionals from college and university libraries in India have the facilities to receive training on cutting edge technologies like Open Source software. INFLIBNET, Ahmedabad Center has been organizing courses of short and long duration for library professionals on regular basis [8]. In addition, University Grants Commission has been
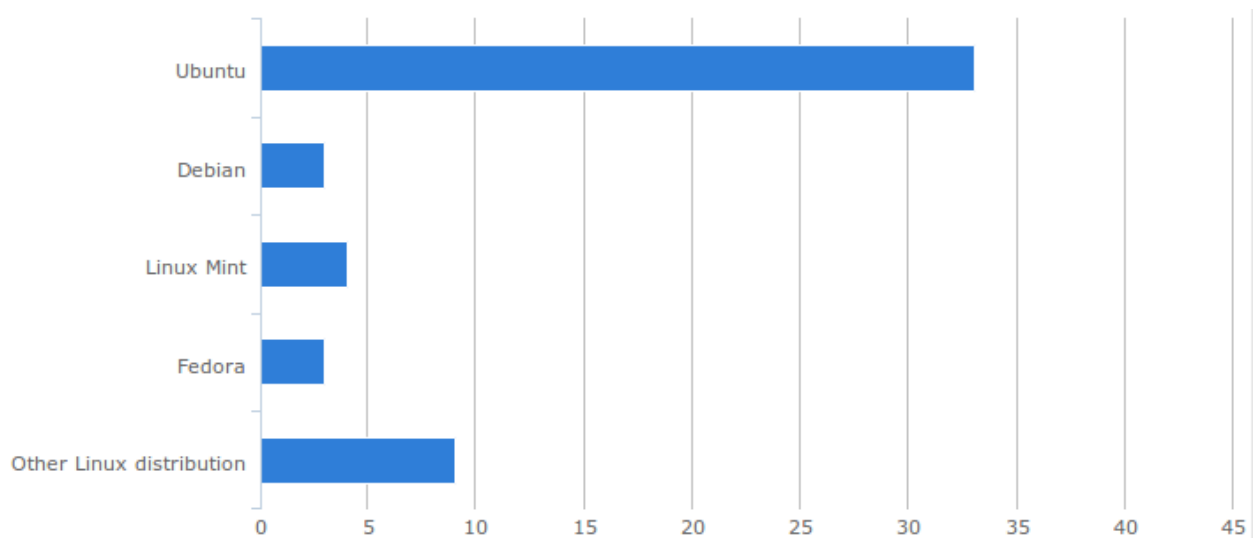
distributing financial aid for colleges to organize workshops and seminars. Library professionals from colleges and universities are participating in training programmes as part of their career improvement programme. So, awareness and application of Open Source software among library professionals from college and university libraries are relatively high.

Linux expertise

In this segment,a set of questions were asked to know popularity and expertise of Linux among working professionals. Questions were asked about popular Linux flavor, expertise and type of installation.

Popular Linux distributions among Indian library professionals

Fig.4 - Popular Linux operating system among library professionals

The survey revealed out that Ubuntu (63.5%) is the most popular Linux distribution among LIS professionals in India. Ubuntu is considered as the most user friendly Linux distribution. Second popular distribution is Linux Mint (7.7%). Linux Mint is based on Ubuntu and both are easiest Linux distributions for new users[9]. Debian (5.8%) and Fedora Linux (5.8%) found third in popularity. About 17.3% LIS professionals are using other Linux distributions.
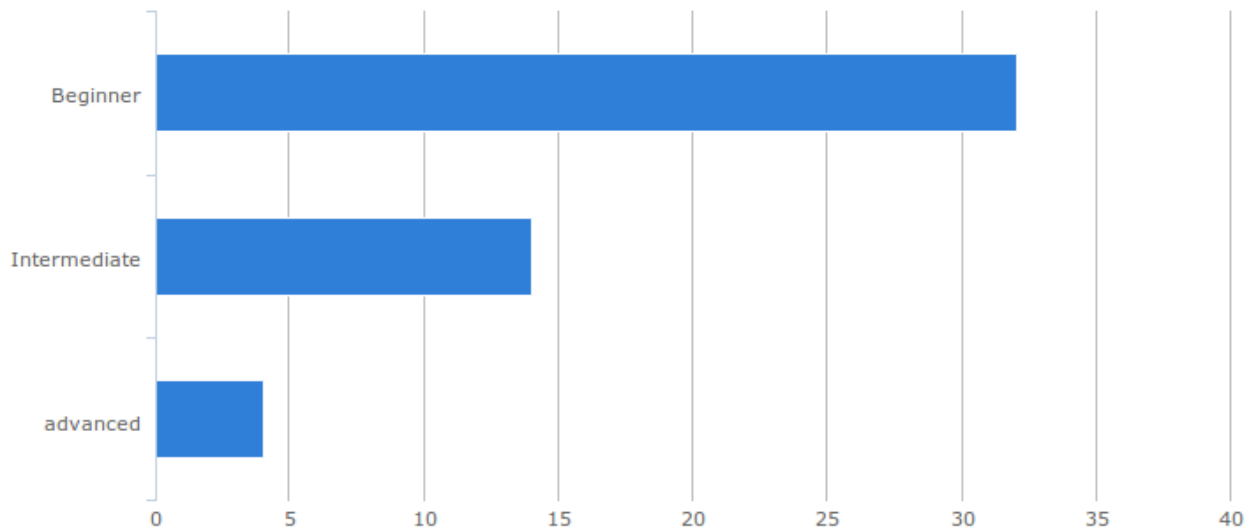
Level of Linux expertise

Fig. 5- Level of expertise of library professionals' in Linux

Linux operating systems are user friendly and new user can easily manage the desktop. Linux installation is also very easy for library professionals with the advent of application based Live DVDs. Installation of Open Source library software need more expertise in Linux. For example, Koha and Dspace installation is very tiresome and need to know how to execute commands. Koha and Dspace can now installed easily and make ready to use after installation from Live DVD[10]. Beginners in Linux are 64% of participants and 28% of users have intermediate level knowledge in Linux. Only 8% of users are claims that they have advanced level knowledge in Linux operating system.
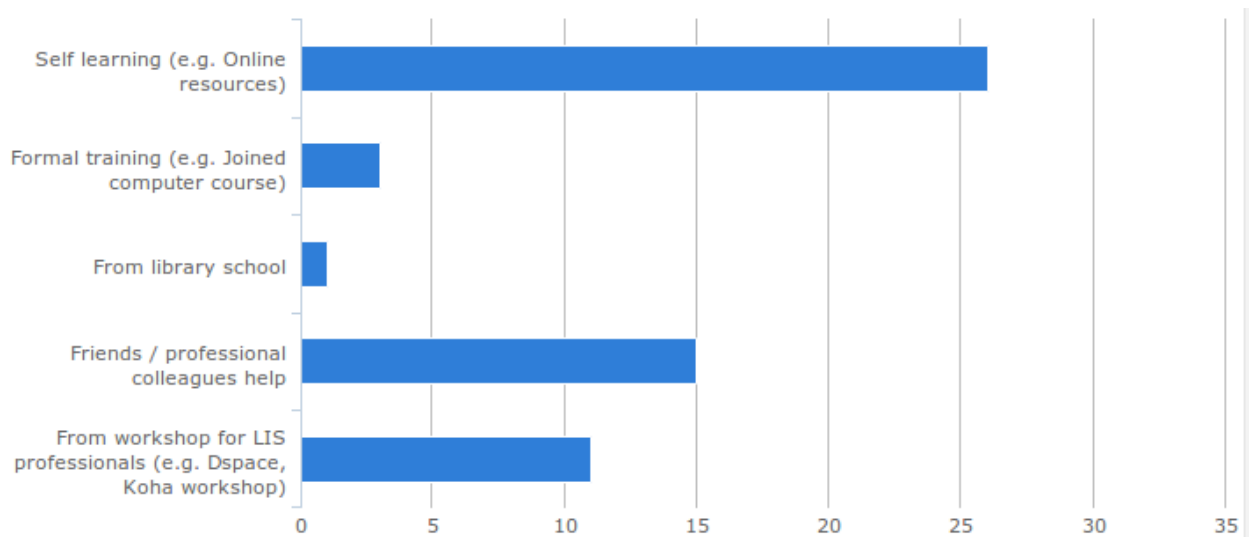
Learning mode

Fig. 6- Mode of Open Source software learning

Learning by trial and error is a globally approved method of learning Linux. Open Source software has no trial version, so anybody can download the full operating system Package. Majority of LIS professionals (51%) adopted self learning to acquire Linux skills. A good number of professionals (29.4%) learned Linux skills with the help of colleagues and friends. Another group of participants (21.6%) have learned Linux from training programmes organised for other Open Source applications (e.g. Koha, Dspace) useful in libraries. A small group of professionals (2%) learned Linux from LIS schools. This can be considered as a good initiative from LIS schools and it gives an opportunity for students to get familiar with Linux operating system. Professional associations, government organisations and various libraries in India have organised Linux training programmes exclusively for LIS professionals. Such programmes could have made good impact on the Linux expertise of LIS professionals.
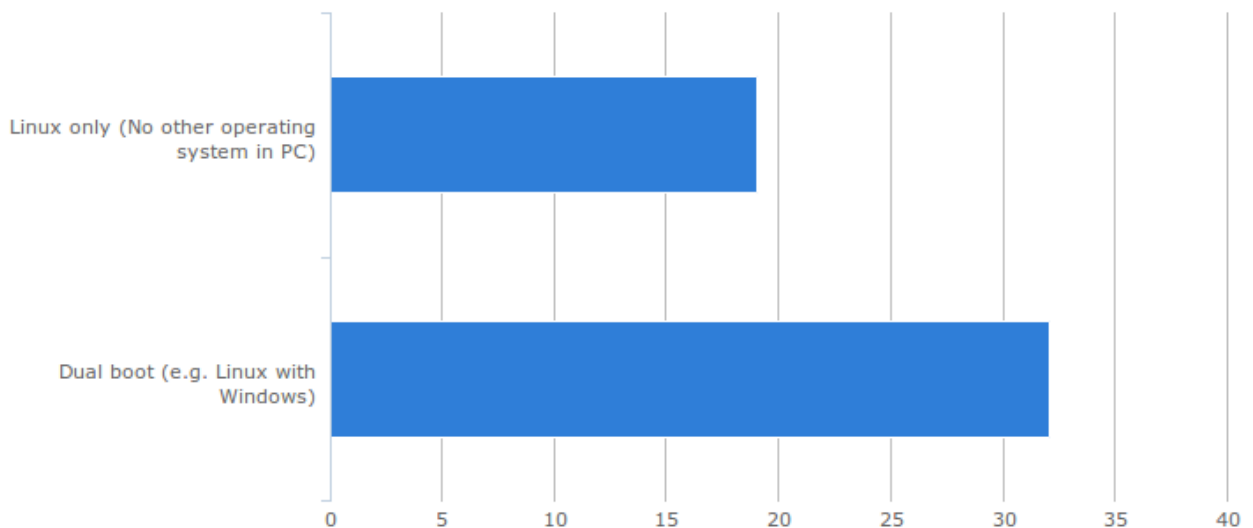
Type of Linux installation

Fig. 7- Type of Linux installation

Most of the LIS professionals (62.7%) prefer to install Linux along with the existing operating system like Windows. It means that majority of LIS professionals are not in a position to completely switch over to Linux soon. Its a good sign that about 37.3% of professionals can manage Linux alone as Operating system in their computers.
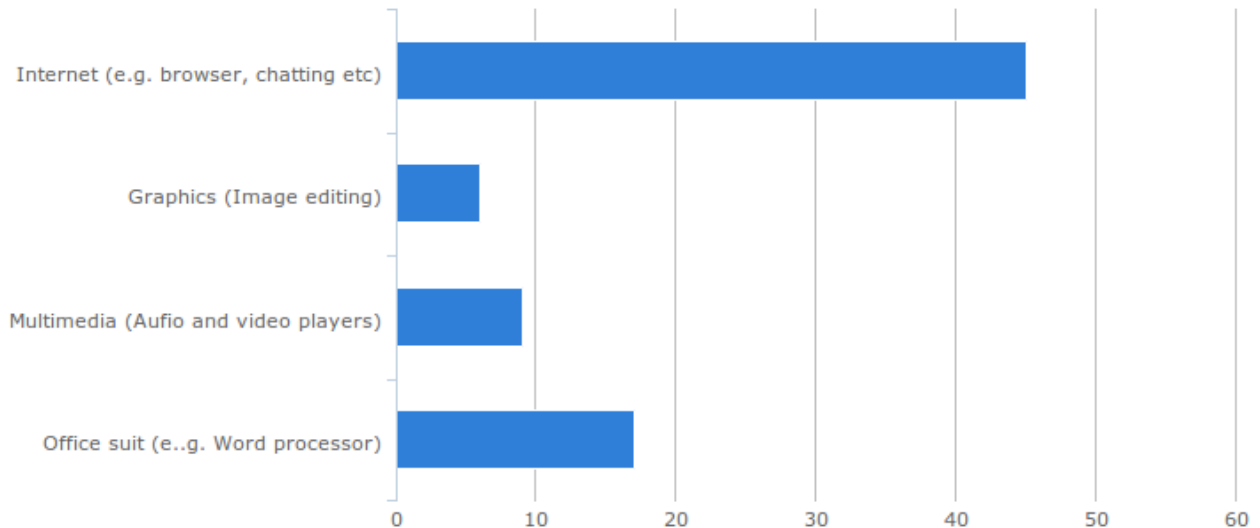
Favorite application categories

Fig. 8- Category of Open Source applications

In favorite applications category, majority of LIS professionals (88.2%) are using Open Source applications for accessing Internet. Web browser (e.g. Firefox), email client (e.g. Thunderbird) and chatting client (e.g. Gwibber) are popular Internet applications in Linux. Libreoffice and Openoffice are the office suite applications available with most of the Linux. About 33.3% of professionals are using Open Source word processors.
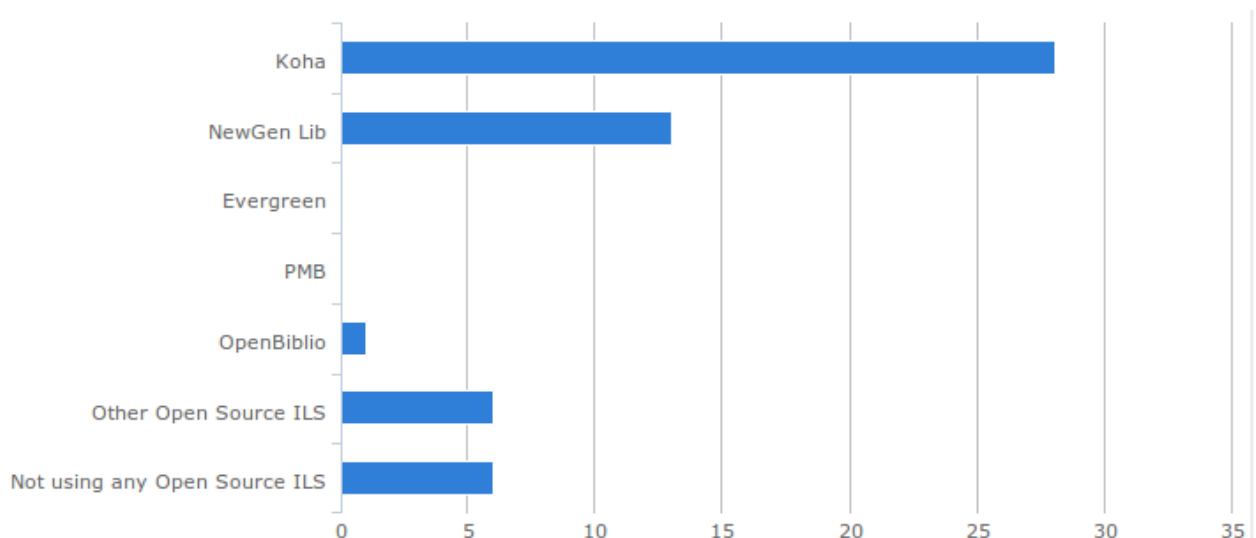
Library automation software

Fig. 9- Usage of Open Source library automation system.

Open Source library management systems have made its foot print in Indian market with the implementation of Koha in reputed libraries. A survey reveals that lot of libraries which

were having any automation software adopted Koha. In addition, libraries are using proprietary automation software show the tendency to switch over Open Source alternatives. Indian libraries have recognised the capabilities of Koha features and its suitability to implement in any type of libraries [11]. Half of the participants (51.9%) say that they are familiar with Koha Open Source library management system. NewGenLib users are in second place (24.1%). About 11.1% of participants are using commercial library management system.
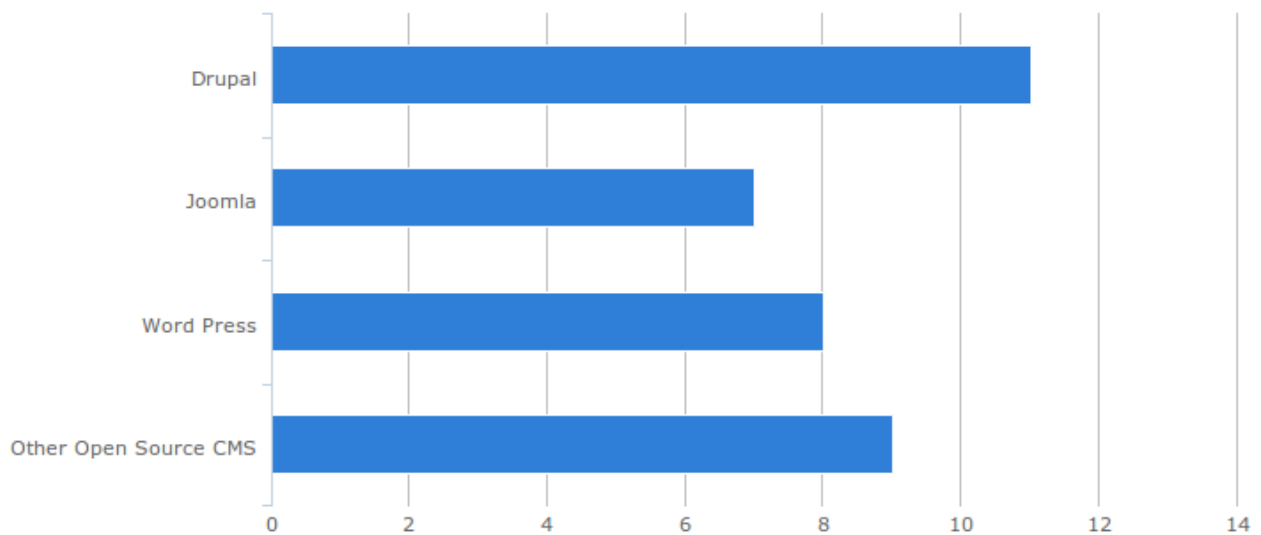
Content management system

Fig. 10- Usage of content management software

Drupal is considered as one of the most flexible and powerful CMSs available for developing complex enterprise websites. Drupal has evolved into a sophisticated publishing platform with more than 18,000 modules developed by a community of 800,000 members [12]. According to the statistics, 31.4% of participants are familiar with Drupal. Wordpress (22.9%) and Joomla (20%) are two other Content Management Systems popular among LIS professionals.Many other Open Source Content Management systems are available for selection and 25.7% of participants are using other CMS.
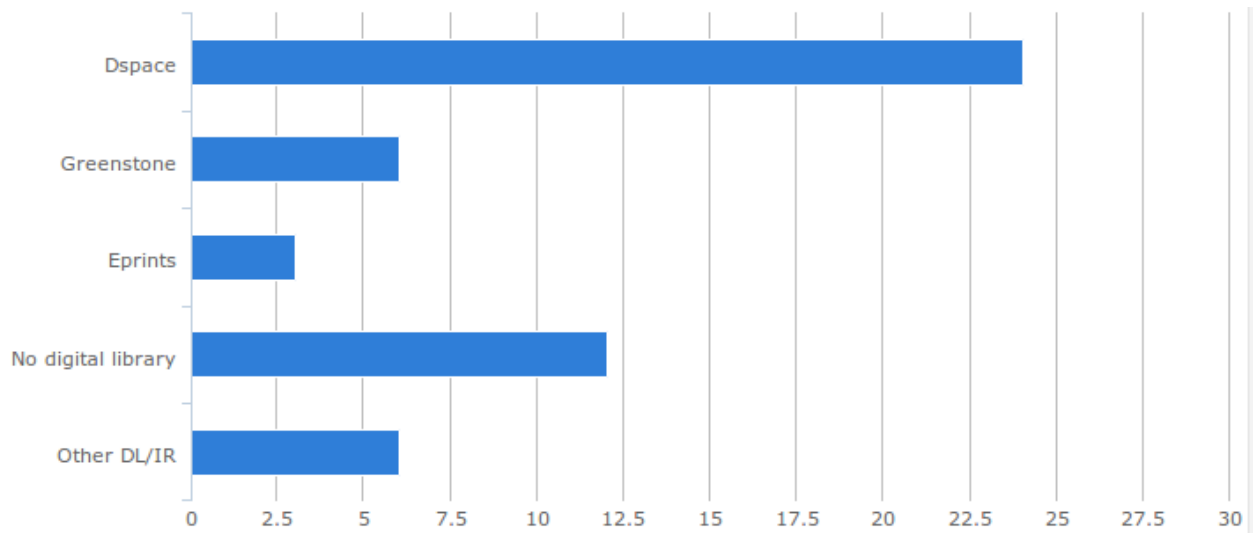
Digital library software

Fig. 11- Open Source Digital library software using in Indian libraries

Various studies have revealed that Dspace is the most efficient and widely used Open Source digital library software in India[13,14]. Majority of participants are using Dspace (47.1%), Greenstone (11.8%) and Eprints (5.9%). About 23.5% of library professionals are not making use of any digital library software.

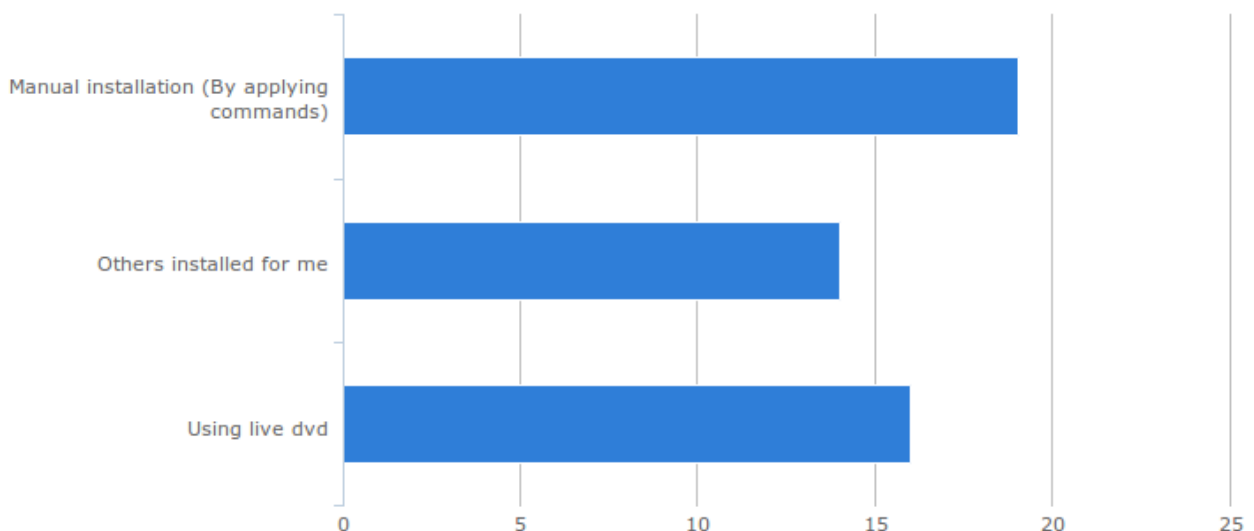**Installation of Open Source software in libraries**

Fig. 12- How Open Source software installed in libraries

A significant number of Open Source source applications in libraries (38.8%) have installed

manually using commands. Intermediate level of expertise in Linux is necessary to install applications by applying commands. Other group of professionals (28.6%) says that they have installed Open Source software with the help of others. With the help of live DVD 32.7% LIS professionals have installed and managing Open Source software in libraries.Live DVD's provide great help for new users who like to try Open Source applications.
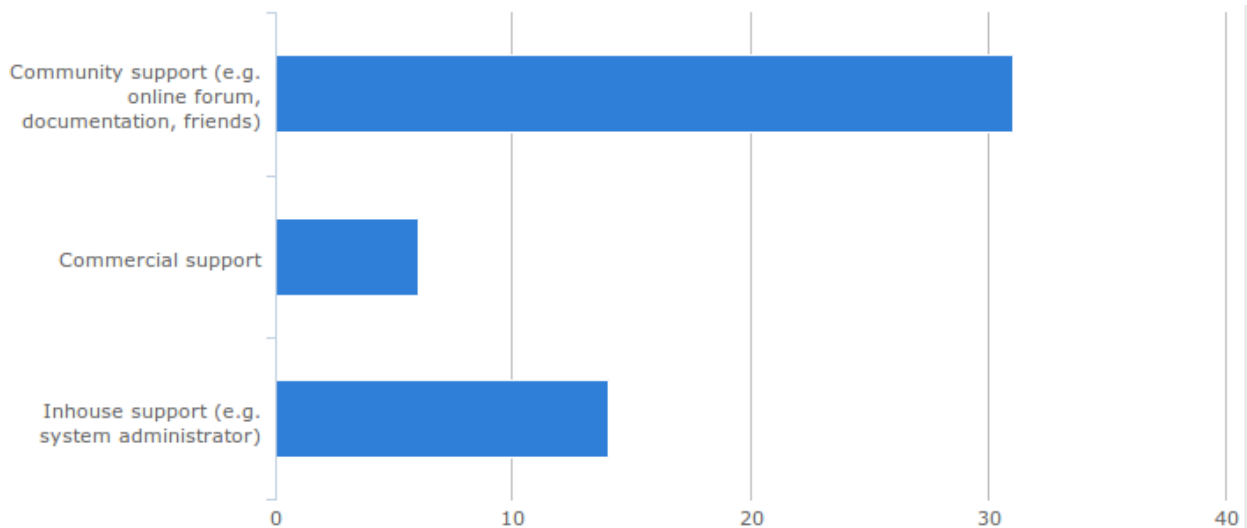
Type of support

Fig. 13- Type of support for Open Source software in libraries

Community support is preferred by majority of participants (60.8%) to maintain Open Source software in libraries. Community support is free and easy to access. Community support is available through wiki, blogs, official software documentation and discussion forums. Information seeking skill is only required to search and to find the correct solution from Internet. Providing community support or helping each other is considered as the basic culture of Open Source movement. Support from skilled people in their organizations itself is a great help for library professionals. About 27.5% of participants are lucky enough to get support within the walls of the library. Premium support for Open Source software from commercial service providers are not costly as like buying and maintaining proprietary software for libraries. Many libraries in developed countries have switched from proprietary library automation systems to alternative Open Source software candidate in the light of financial recession to save money. About 11.8% of participants have sought the help of Open Source service providing companies for installation and maintenance of library software.

CONCLUSION

According to the survey, majority of Open Source software users are from college libraries. No representation was there from public library sector. Usage of Open Source software in South Indian states are higher than other parts of India. Awareness and training programmes on Open Source software are high among LIS professionals in South Indian states.

User friendly Linux distributions like Ubuntu, Linux Mint and Fedora are more popular among LIS professionals. Majority of LIS professionals are beginners in the case of Linux expertise. They have acquired expertise in Open Source applications by self learning method using free online resources. In addition, they have received friends/colleagues help to build skill set in Linux.To a certain extent, training programmes and workshops helped LIS professionals to acquire knowledge in Linux operating system. Most of the LIS professionals have been using Linux with Windows in dual boot mode. This method is convenient for users who like switch from Windows to Linux. Internet (e.g. Firefox browser, Thunderbird mail client) and office suit (e.g. LibreOffice, OpenOffice) applications are popular Open Source application categories.

Survey found that LIS professionals are trying to adopt Open Source alternatives in libraries. A group of LIS professionals are using proprietary integrated library management systems. Koha is the popular Open Source integrated library management system among survey participants. Open Source Content Management Systems like Drupal, Joomla and Wordpress are popular among LIS professionals. Dspace digital library software has high popularity. Both community and in-house support are using for Open Source software administration and maintenance. Both method are cost effective.

The survey reveals that Open Source software have already made foot print in library automation market and gaining popularity among LIS professionals. The primary reasons of libraries not implementing open source solutions for their automation purposes are lack of awareness, training and absence of encouraging government policies. Training programmes for working information professionals and inclusion of open source software in library science curriculum will help to tackle the situation properly. Government and professional organizations can act a critical role in designing policies to encourage the use of open source software in libraries.

REFERENCES

1. Bisson, Cassey. Open-Source Software for Libraries. Rep. no. 43:3. N.p.: American Library Association, 2007. Print. Library Technology Reports.

2. "Open Source." Webopedia, n.d. Web. 22 Feb. 2014. <http://www.webopedia.com/TERM/O/open_source.html>.

3. Greenstein, D. Draft Report of a Meeting Convened by the Digital Library Federation on October 5-6, 2001 in Washington DC to Consider Open Source Software for Libraries. Issue brief. Digital Library Federation, 22 Oct. 2001. Web. 22 Feb. 2014. <http://old.diglib.org/architectures/ossrep.htm>.

4. V, Vimal Kumar. "Open Source Software Survey for LIS Professionals." LIS-Forum. Indian Institute of Science, 09 Feb. 2014. Web. 22 Feb. 2014. <http://ncsi.iisc.ernet.in/pipermail/lis-forum/2014-February/016210.html>.

5. PI, Rajeev. "Kerala Shuts Windows, Schools to Use Only Linux." The Indian Express, 04 Mar. 2008. Web. 17 Feb. 2014. <http://archive.indianexpress.com/news/kerala-shuts-windows-schools-to-use-only-linux/280323/>.

6. V, Vimal Kumar. "Government of Kerala Decides to Use Koha." LIS-Forum. Indian Institute of Science, 20 Aug. 2008. Web. 17 Feb. 2014. <http://ncsi.iisc.ernet.in/pipermail/lis-forum/2008-August/007

7. "Tamil Nadu State Libraries Migrate to Open Source." NRC-FOSS AU-KBC Research Centre, 03 Sept. 2010. Web. 17 Feb. 2014. <http://www.nrcfoss.au-kbc.org.in/full/89/AN/>.

8. "Functional Groups: Human Resource Development." INFLIBNET, 07 Nov. 2013. Web. 17 Feb. 2014. <http://www.inflibnet.ac.in/functionalgroup/hrd.html>.

9. J.D., Biersdorfer. "Picking a Flavor of Linux." Personal Tech. The New York Times, 06 Feb. 2014. Web. 17 Feb. 2014. <http://www.nytimes.com/2014/02/07/technology/personaltech/picking-a-flavor-of-linux.html?_r=0>.

10. V.V., Biju, Jasimudeen S., and Vimal Kumar V. "A Study on Managing Koha Open Source Library Management System Using Live CD." National Conference on Emerging Trends in User Expectations for Next Generation Libraries. Proc. of 40th Andhra Pradesh Library Conference, Dravidian University, Kuppam. Vijayawada: Andhra Pradesh Library Association,

2012. 83-86. Print.

11. V., Vimal Kumar, and Jasimudeen S. "Adoption and User Perceptions of Koha Library Management System in India." Annals of Library and Information Studies 59.4 (2012): 223-30. Annals of Library and Information Studies (ALIS). NISCAIR, Dec. 2012. Web. 17 Feb. 2014. <http://op.niscair.res.in/index.php/ALIS/article/view/122>.

12. Mitchell, Robert L. "Choosing an Open-source CMS, Part 1: Why We Use Drupal."Computer World. N.p., 13 Feb. 2013. Web. 17 Feb. 2014. <http://www.computerworld.com/s/article/9236648/Choosing_an_open_source_CMS_part _1_Why_we_use_Drupal>.

13. Tramboo, Shahkar, Humma, and Shafi S.M. "A Study on the Open Source Digital Library Software: Special Reference to DSpace, EPrints and Greenstone."International Journal of Computer Applications 59.16 (2012): n. pag. Web. 17 Feb. 2014. <http://arxiv.org/pdf/1212.4935.pdf>.

14. Jose, Sanjo. "Adoption Of Open Source Digital Library Software Packages: A Survey." Proc. of CALIBER 2007, Chandigarh. INFLIBNET Centre, 2007. Web. 17 Feb. 2014. <http://ir.inflibnet.ac.in/handle/1944/518>.