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Librarians' Attitude towards Open Source Software Working in Academic Intuitions in District Bareilly of Uttar Pradesh, India

Yogesh Sharma[1]* and Shajarul Islam Khan[2]

[1]Assistant Professor, Department of Library and Information Science, Bareilly College, MJP Rohilkhand University, Bareilly, Uttar Pradesh, India
[2]Technical Assistant, National Library of Veterinary Sciences, Indian Veterinary Research Institute, Bareilly, India
(*Corresponding author) email id: *ms.yogi101@gmail.com, [2]drshajarkhan@gmail.com, [2]shajarul.khan@icar.gov.in

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ABSTRACT

Since the mid-1990s, there has been a surge of interest among academics and practitioner in open source software (OSS). The design and development of OSS are significantly different from that of proprietary software. OSS is developed by community for community. The development of OSS is of interdisciplinary in nature and needs knowledge and expertise from many scientific disciplines such as computer science, management and organisation, social sciences, law, economics and psychology. The paper is organised as follows: Sections A and B; Section A deals with introduction of OSS and Section B deals with data analysis and interpretation, findings and conclusion.

Keywords: Open access software, Open source software, Integrated library management software, Proprietary software

SECTION A

INTRODUCTION

Today information technology has made a blast in every dimension of discovery, invention as well as in the development of better opportunities for new ways to research and development. Recent innovation in the information technology has changed the dynamics of computer-based human activities included e-culture of learning [E-learning enhanced the ease of use and Internet for (Pankaja, 2013)], e-conferencing with video capability, e-commerce, e-marketing and e-governance and this number will go on to endless.

Internet made the learning 'online' and offers many rewards. It is suitable and available 24×7 and can be accessed globally (Pankaja, 2013).

Use of Information and Communication Technology (ICT) has become very popular in day to day activities that is why it is now very much expensive technology not everyone can possess it. Due to which digital divide erupted in the society (Tomazin, 2007).

Despite the fact that the use of ICT is becoming very significant in the learning environments, this technology has become very costly. This causes the global digital divide between the information-rich and

information-deprived worlds, which affects educational opportunity (Tiene, 2002; Kirkwood, 2001 as cited in Tomazin and Gradisar, 2007).

Dorman (2002 as cited in Akintomide, 2016) is of the opinion that open access software is at the centre of a great struggle over the control of information in modern society. Libraries and librarians have traditionally always been instrumental in information management and the rise of open access software has impacted greatly how libraries and librarians carry out their traditional functions of information management and dissemination. How librarians choose to respond to this open access software movement will be a good indication of the future role libraries and librarians will play in providing information services in the years to come.

SOFTWARE

Computer has penetrated in each and every task of humans and created new paradigm to their lives but computer in itself is nothing more than a structure of some raw materials until or unless it has been guided by some instructions. To make it working some instructions is to be written in a language which is understandable to computers. These set of instructions make it working according to the program and these set of programs contribute to software evolution. Hence, computer is guided by various sets of commands and programs which are called as software. So, in short, software can be defined executable set of laws that are written to controls computer's actions and operations (Pankaja, 2013). Software is used to integrate, control and manage the computer hardware (Pankaja, 2013). Basically software is of three kinds viz. system software, application software and programming software. The models of software responsible for creating any application in computer include proprietary software and open source software (OSS) (Pankaja, 2013).

OPEN SOURCE SOFTWARE

OSS is considered as the software that can be freely accessed, used, shared and modified by the users (Nehra and Tyagi, 2014). In recent years, the open source movement has been taken place remarkably. There is abundance of benefits and opportunities related to the OSS tools that are providing support in teaching and learning. OSS has many benefits over the proprietary software. Some of them are as follows (Nehra and Tyagi, 2014):

Reduce Cost

For purchasing OSS, one has to pay nothing or has to pay very least that is OSS is available as freely or it cost very low (Nehra and Tyagi, 2014).

Reduce Constraint

OSS package can be used at any place any time by its users (Nehra and Tyagi, 2014).

Devoting Budget to Other Academic Activities

OSS has reduced the cost of higher education in academic institutions (Nehra and Tyagi, 2014).

Prevention of Illegal Copying

This is not mandatory to take permission to install the OSS thereby it gives the authority to the users to install it in their computers without any restriction and thus illegal copying of software is not necessary (Nehra and Tyagi, 2014).

Access to Source Code

It provides the freedom to read the source code (Nehra and Tyagi, 2014).

Secure and Stable

The source code of the OSS is open and generously available to the users who are potentials programmers who can understand, restructure and change the source code as desirable (Nehra and Tyagi, 2014).

LITERATURE REVIEW

Open source software is software that is free and whose source code is freely available to any member of the public to modify as they deem fit and has become an important component of human existence (Akintomide, 2016).

According to Pitegoff (2001), there is difference between OSS and proprietary software on the mode of its distribution. OSS is provided freely with its source code which gives the liberty to users to make changes to the programming of the software, whereas in proprietary software, source code is kept secret and programmers have to maintain the confidentiality by not disturbing the coding of the software (Pitegoff, 2001).

OBJECTIVES OF THE STUDY

1. Find out if librarians are familiar with OSS
2. Find out what type of software librarians use
3. Find out software preferences librarians have and why
4. Find out what criteria librarians' take into account when selecting software
5. To find out librarians' attitudes towards Open Access Software

SCOPE OF THE STUDY

The study is limited to 21 academic intuitions in District Bareilly of Uttar Pradesh, India. The targeted subjects of the study are librarians working in these academic intuitions in District Bareilly of Uttar Pradesh, India.

SIGNIFICANCE OF THE STUDY

In the age of modernisation and computerisation, software has the most significant role to play in the day-to-day life of modern day man. As librarians are custodians of knowledge, it is important to understand what their attitudes are to this relatively new phenomenon called open access software in particular as it could possibly indicate the attitudes of librarians to new technologies and change. When carried out, the study would reveal librarians' attitude to open access software. It would also reveal whether they adopt open access software, why they adopt it if they do and reasons why they do not adopt it if they do not.

METHODOLOGY

In this study, our goal was to trace out the attitude of librarians towards OSS. For this reason, we selected as the key informants in our study librarians of various institutions in District Bareilly of state of Uttar Pradesh, India. The research instrument of the study was a questionnaire which was designed and administered to librarians to extract information. Responses to this instrument were then analysed using simple percentages and results of this process presented in tables.

SECTION B

DATA ANALYSIS AND FINDINGS

Demographic Information

Table 1: Gender-Wise Breakup of Respondents

Gender	Frequency	Percentage
Male	06	28.57
Female	15	71.43
Total	21	100

Gender-wise, it was discovered that female respondents were more than male respondents with male respondents accounting for 71.43% of the total respondents while males accounted for 28.57%.

The age of respondents ranged from 20 years old to 50 years old. The greatest numbers of respondents were within the 20–30, that is, 76.2%.

Table 2: Age-Wise Breakup of Respondents

Age	Frequency	Percentage
20–30	16	76.2
31–40	04	19
41–50	01	04.8
Total	21	100

Objective 1: Find out if librarians are familiar with OSS

Respondents Were Asked that Are They Familiarity with the Term Software, Proprietary Software and OSS or Not?

On the basis of analysis and data received, it was found that all users were familiar with the terms software, proprietary software and OSS.

Objective 2: Find out what type of software librarians use

Table 4: Do librarians use software

Question	Response	Frequency	Percentage
Do you ever use any software?	Yes	21	100
	No	0	0
	Total	21	100

Survey asked to the librarian that they ever used any software

It was found from data analysis that 100% librarians used software.

Table 3: familiarity with the term software, proprietary software and OSS

Question	Are you familiar with the term 'software'?		Are you familiar with the term 'proprietary software'?		Are you familiar with the term 'OSS'?	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Yes	21	100	21	100	21	100
No	0	0	0	0	0	0
No response	0	0	0	0	0	0
Total	21	100	21	100	21	100

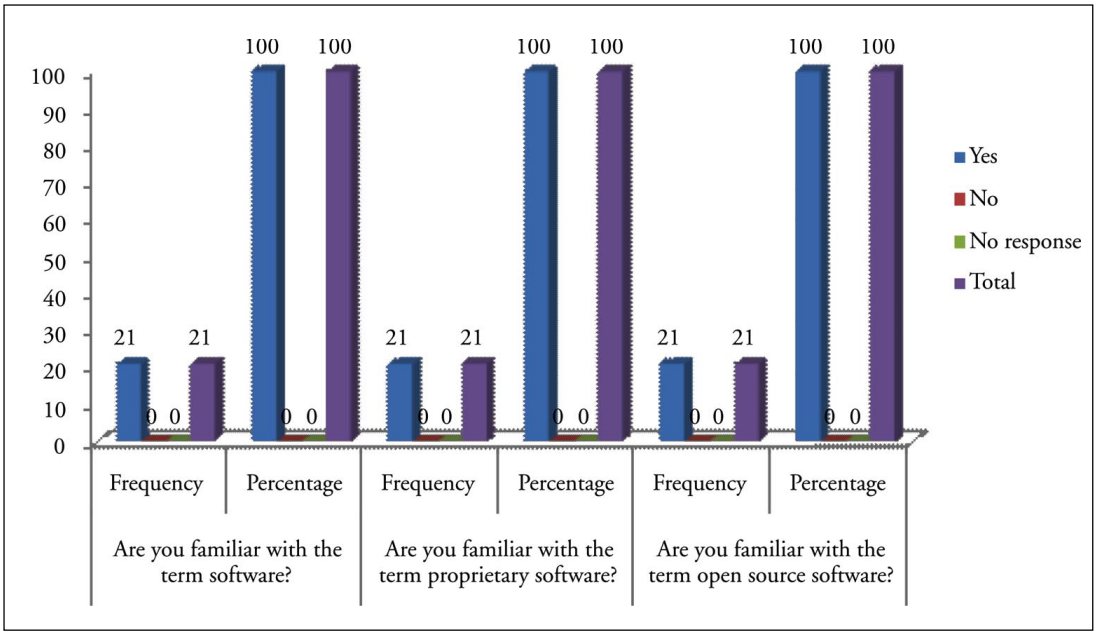

Figure 1: Familiarity with the term software, proprietary software and open source software

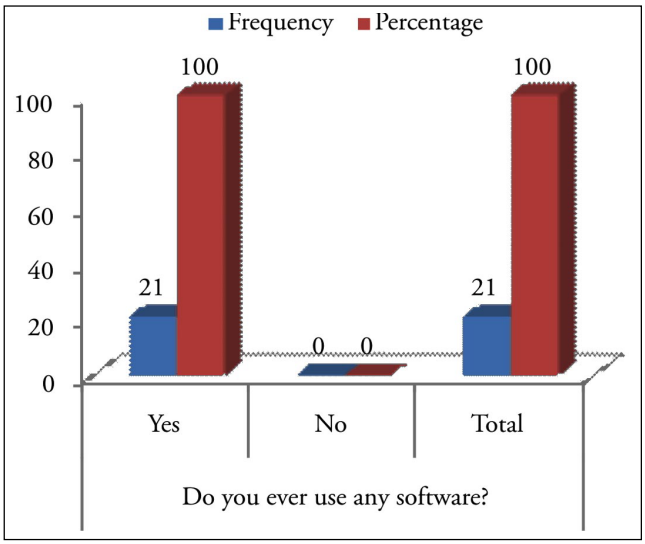

Figure 2: Do Librarians use software

Table 5: What type of software librarians use?

Question	Response	Frequency	Percentage
What type of software do you use?	Proprietary	09	42.86
	Open Source	11	52.38
	Both	01	04.76
	Total	21	100

Researcher asked to the answerer that which type of software they used?

It was found that most of the (42.86%) librarian used proprietary software, 52.38% librarians used OSS, 4.76% librarian used both these software.

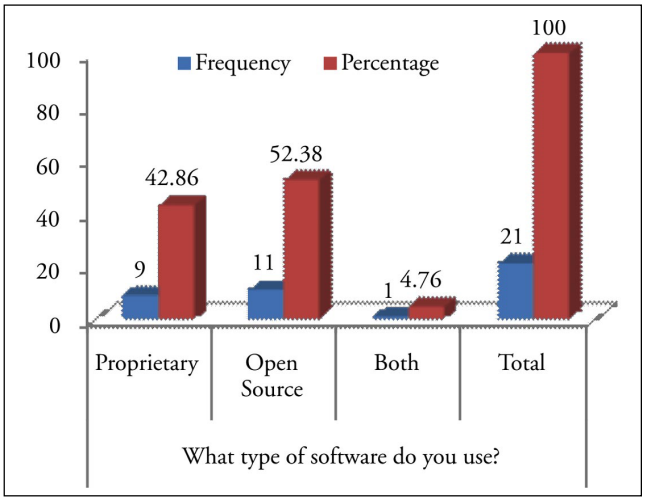

Figure 3: Type software used by librarians

Table 6: What mobile operating system are librarians familiar with

Question	Response	Frequency	Percentage
Which mobile operating system have you ever used?	Android	13	61.90
	iOS	0	0
	Blackberry	0	0
	Windows Phone	0	0
	Others	08	38.1
	Total	21	100

The question was asked to the respondents that which mobile operating system have ever used

From the analysis, it was found that mostly 61.90% of the librarian used Android, nobody used iOS, Blackberry, Windows Phone and 38.1% librarians used other mobile operating systems.

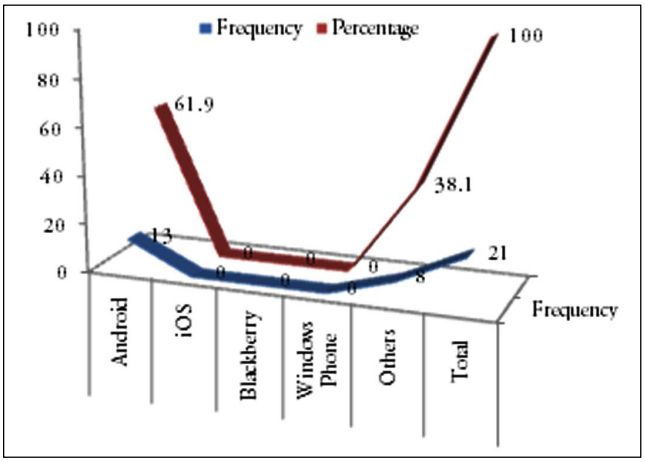

Figure 4: Familiarity of Librarians with mobile operating system

Table 7: What desktop operating system are librarians familiar with

Question	Response	Frequency	Percentage
Which operating system have you ever used?	Windows	20	95.24
	Linux	0	0
	Apple OS	01	4.76
	Total	21	100

The question was asked to the respondents that, to which operating system you are familiar?

From the analysis, it was found that mostly 95.24% of the librarian was familiar with Windows, nobody found familiar with Linux and 4.76% librarians responded that they are familiar with Apple operating system.

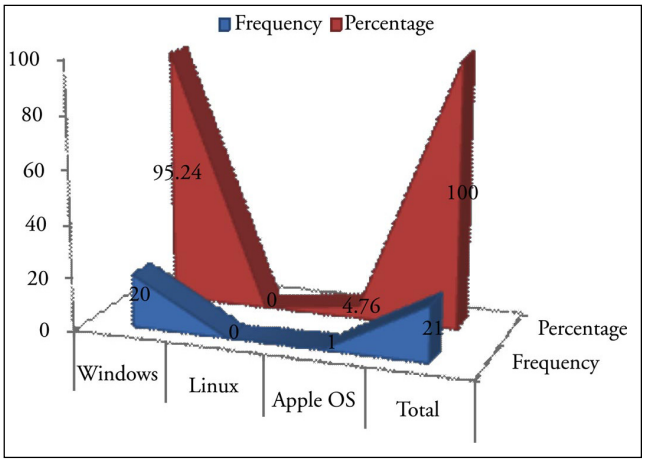

Figure 5: Familiarity of Librarians with desktop operating system

Table 8: Integrated library management software (ILMS) used by librarians

Question	Response	Frequency	Percentage
What Integrated Library Management Software (ILMS) are you using?	SLAM	0	0
	Virtual	0	0
	Libsys	01	4.76
	KOHA	01	4.76
	New Gen Lib	08	38.10
	SOUL	01	4.76
	Liberty	0	0
	AgriOcean	0	0
	Others	10	47.62
	Total	21	100

The researcher questioned the respondent that which ILMS they are using

The responses showed that 4.76% librarians were using Libsys, KOHA and SOUL, respectively. While remarkable number of librarians that is 38.10% was using New Gen Lib and 47.62% librarians used other type of ILMS.

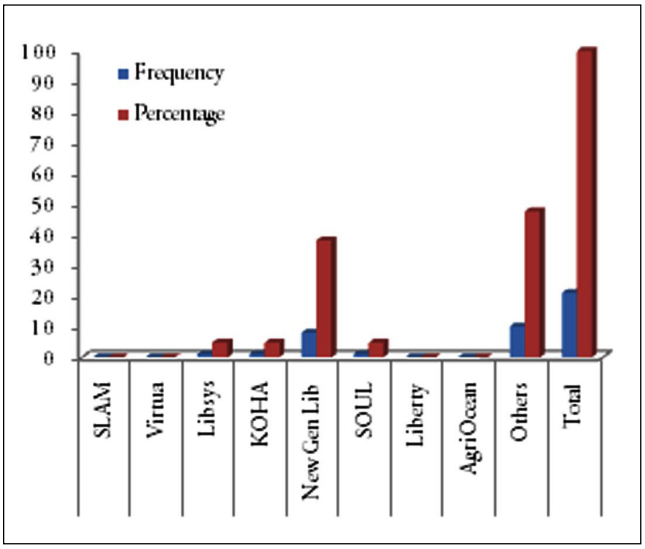

Figure 6: Integrated library management software (ILMS) used by librarians

Objective 3: Find out software preferences librarians have and why

Table 9: Which mobile operating system do librarians' prefer?

Question	Response	Frequency	Percentage
Which mobile operating system do you prefer?	Blackberry	0	0
	Android	21	100
	iOS	0	0
	Windows Phone	0	0
	Others	0	0
	Total	21	100

It was asked to the respondents to which mobile operating system do they prefer

And the data revealed that 100% of the librarians preferred to use Android as mobile operating system.

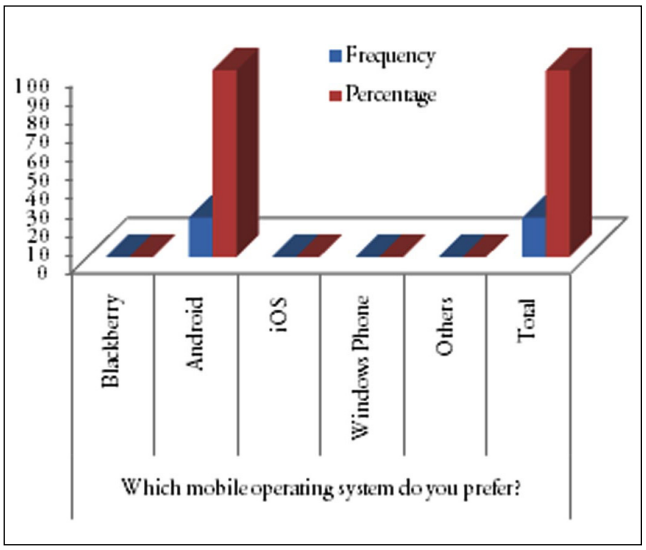

Figure 7: Librarians' preference of mobile operating system

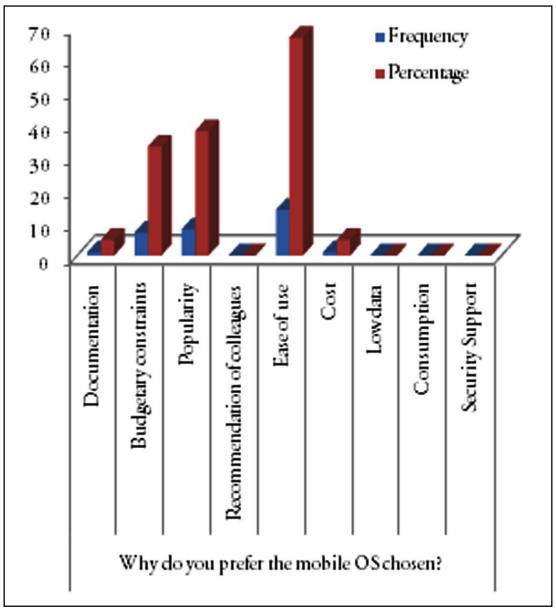

Figure 8: Reasons for Mobile OS preference

Table 10: Reasons for mobile OS preference

Question	Response	Freq.	%
Why do you prefer the mobile OS chosen?	Documentation	01	4.76
	Budgetary constraints	07	33.33
	Popularity	08	38.10
	Recommendation of colleagues	0	0
	Ease of use	14	66.66
	Cost	01	4.76
	Low data	0	0
	Consumption	0	0
	Security Support	0	0

(Multiple choices were allowed so percentage may exceeds 100%)

Respondents were asked to state why they prefer the mobile OS chosen?

The answers were found after analysis that 66.66% librarians found it easy to use, 38.10% librarians preferred it on the basis of the popularity of the Mobile Operating System, and 33.33% librarians preferred it due to budgetary constraints while 4.76% librarians preferred it due documentation and cost, respectively.

Table 11: Which desktop operating system do librarians' prefer?

Question	Response	Frequency	Percentage
Which operating system do you prefer?	Windows	21	100
	Linux	0	0
	Apple OS	0	0
	Total	21	100

The question was asked to the respondents that, which operating system you prefer

From the analysis, it was found that mostly 100% of the librarian preferred Windows.

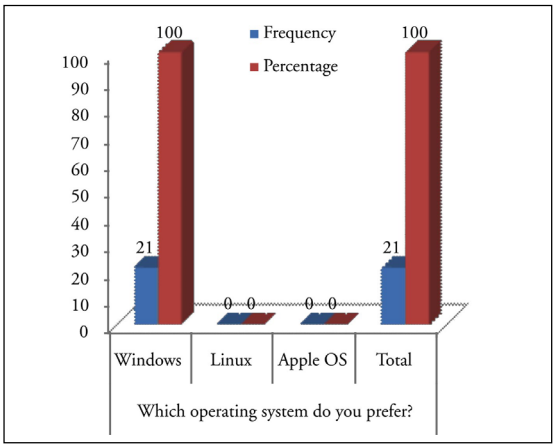

Figure 9: Librarians' preference of desktop operating system

Table 12: Reasons for desktop OS preference

Question	Response	Freq.	%
Why do you prefer the chosen desktop OS?	Documentation	02	9.52
	Budgetary constraints	02	9.52
	Popularity	0	0
	Recommendation of colleagues	03	14.29
	Ease of use	0	0
	Cost	01	4.76
	Low data	0	0
	Security	07	33.33
	Support	06	28.57

(Multiple choices were allowed so percentage may exceeds 100%)

Table 13: Reasons for choice of ILMS

Question	Response	Freq.	%
What were the reasons for your choice of ILMS?	Documentation	0	0
	Budgetary constraints	08	38.10
	Popularity	0	0
	Recommendation of colleagues	0	0
	Ease of use	09	42.86
	Cost	05	23.81
	Low data	0	0
	Web based	07	33.33
	Support	0	0

(Multiple choices were allowed so percentage may exceeds 100%)

Respondents were asked to state why they prefer the desktop OS chosen?

The answers were found after analysis that 33.33% librarians preferred it because of security, 28.57% librarians said that they preferred it due to the technical support provided by its authority, 14.29% librarians preferred it due to recommendations made by their colleagues while 9.52% librarians preferred it due documentation and budgetary constraints, respectively. Only 4.76% librarians preferred it due to the cost involved in its installation.

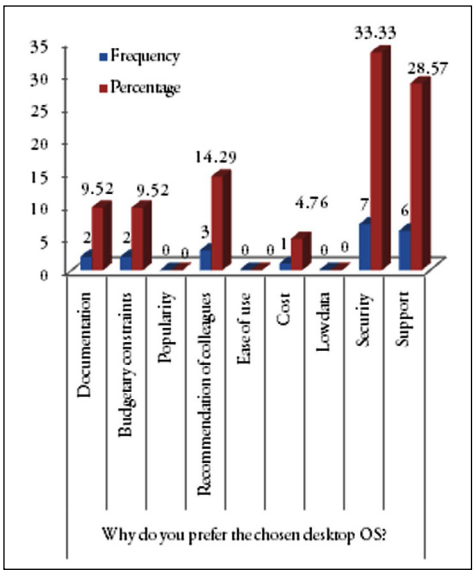

Figure 10: Reasons for desktop OS preference

Respondents were asked to state the reasons for their choice of ILMS

On the analysis of the data retrieved from the respondents, it was found that 42.86% librarians found it easy to use, 38.10% librarians preferred it because of its budgetary constraints, whereas 33.33% librarians said that the reason for choosing their desired ILMS because it was web-based and 23.81% librarians preferred it due to the reason of low cost.

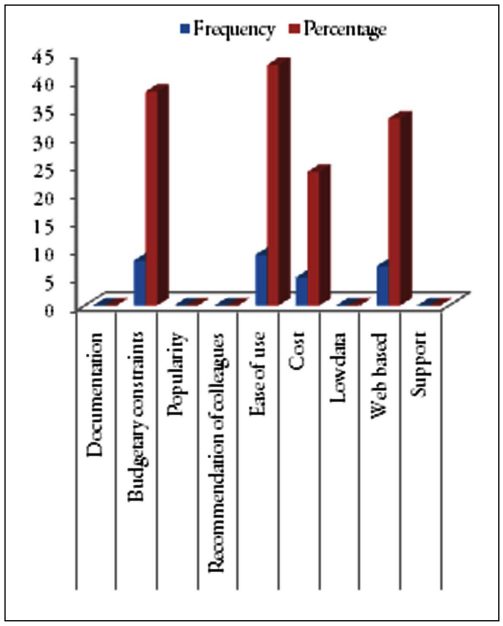

Figure 11: Reasons for choice of integrated library management software

Objective 4: Find out what criteria librarians' take into account when selecting software

Table 14: What are the major considerations of librarians' when selecting software?

Question	Response	Freq.	%
What are your major considerations when selecting software?	Documentation	0	0
	Budgetary constraints	05	23.81
	Popularity	0	0
	Recommendation of colleagues	01	4.76
	Ease of use	06	28.57
	Cost	03	14.29
	Support	0	0
	Security	09	42.86

Note: Multiple choices were allowed so percentage may exceeds 100%

Researcher asked the respondents to state their major considerations when selecting software?

It was found from the data retrieved from the respondents that 42.86% consider the security as the major issue while selecting the software, 28.57% librarians consider the easy to use feature while selecting the software, budgetary constraints had been taken into consideration by the 23.81% librarians in selecting the software, 14.29% librarians revealed that for them cost is the major constraint in selection of software whereas 4.76% librarians said they select software on the basis of recommendation made by their colleagues.

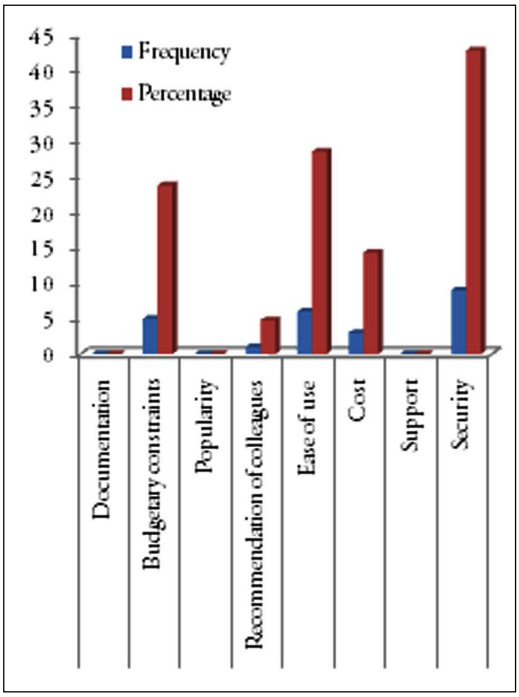

Figure 12: Major considerations of librarians' when selecting a library management software

Objective 5: To find out librarians' attitudes towards open access software

Table 15: Librarians' attitudes towards open access software

Question	Response	Freq.	%
How do you feel about the principles of Open Source?	Strongly in favour	18	85.71
	Mildly in favour	03	14.29
	Not in favour	0	0
	Total	21	100

Survey asked the librarians to give their thoughts about the open access software

Majority of librarians (85.71%) strongly favoured Open Access Software whereas 14.29% librarians mildly favoured the Open Access Software.

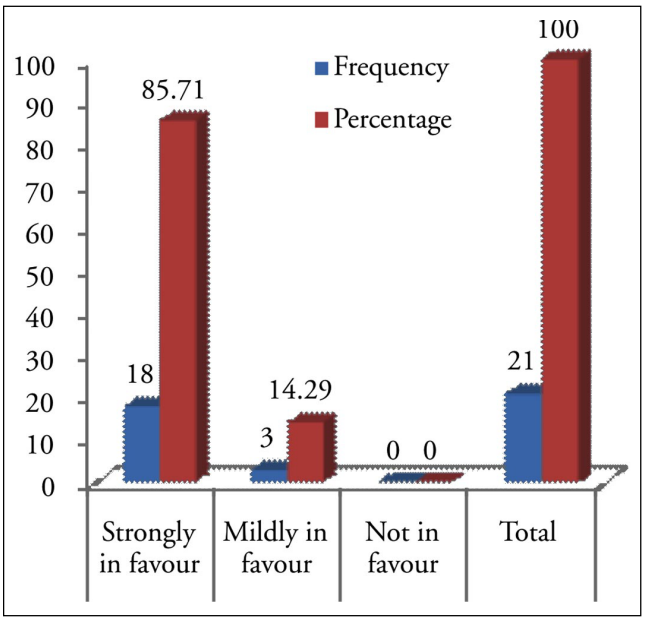

Figure 13: Librarians' attitudes to open access software

DISCUSSION OF FINDINGS

The study reveals that librarians working in academic intuitions in District Bareilly of Uttar Pradesh, India, are familiar with software (both proprietary and OSS). They also make use of open access and proprietary software in their day to day lives. This agrees with the position of Pitegoff (2001) that both open access and commercial software peacefully coexist in many organisations' computer systems. Certain findings are given below.

- From Table 3, it was found that out of 100% users were familiar with the term 'software', 100% users were familiar with the term software and 100% users were familiar with the term OSS.
- From Table 5, it was found that most of the (42.86%) librarian used proprietary software, 52.38% librarians used OSS, 4.76% librarian used both these software.
- From Table 8, it was found that 4.76% librarians were using Libsys, KOHA and SOUL, respectively. While remarkable number of librarians, that is, 38.10% was using New Gen Lib and 47.62% librarians used other type of ILMS.
- From Table 11, it was revealed that 100% of the librarian preferred Windows.
- From Table 12, it was found that 33.33% librarians preferred windows because of security, 28.57% librarians said that they preferred it due to the technical support provided by its authority, 14.29% librarians preferred it due to recommendations made by their colleagues whereas 9.52% librarians preferred it due documentation and budgetary constraints, respectively. Only 4.76% librarians preferred it due to the cost involved in its installation.
- From Table 13, it was found that 42.86% librarians had chosen ILMS because it is easy to use, 38.10% librarians preferred it because of its budgetary constraints, whereas 33.33% librarians stated the reason for choosing their desired ILMS because it was web-based and 23.81% librarians preferred it due to its low cost.

CONCLUSION AND SUGGESTIONS

It is very fortunate to know that today the librarians of academic institutions are becoming aware with the latest trending issue and development in the field of Library automation software especially to the OSS. It is suggested that librarian's should not be rigid and stuck to the propriety software and should consider the various peculiar features of their libraries. Atmosphere of the libraries are getting changed day by day with the change in technology, so the librarians should keep them up to date with the changing technologies. It is to be noted that not every technology is fruitful to the libraries so, librarians should equip themselves with the good knowledge of the best technologies.

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