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Library Software Awareness: A Survey of OPAC Vs Card Catalogue in IIT Delhi, IIT Kanpur, and Kashmir University

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ABSTRACT

The objective of this study is to highlight the library software awareness with special focus on OPAC Vs card catalogue among the users of Indian Institute of Technology (IIT) Delhi, IIT Kanpur, and Kashmir University. The study also highlights the features of LibSys and Virtua software used by the select libraries. The investigator has used questionnaire as a key tool for collecting the necessary data for the present study. Although the study covers a number of software packages, but Virtua and LibSys softwares have been discussed in detail. A wonderful finding of this study is that the Kashmir University has successfully installed RFID technology through Virtua; but, the same is yet to take place fully in the select IITs. However, the majority of users in select IITs are using OPAC, while as the usage of OPAC in Kashmir University is comparatively lesser. Another finding of this study is that all the select libraries are still maintaining card catalogues, though used very less. The present study will be useful to enhance the usage of OPAC in the select libraries. It will also serve as a tool for other libraries to analyse the features and facilities of leading indigenous and international software package for selecting the suitable software.

Keywords: Library automation; library softwares, OPAC, LibSys, Virtua, IIT Delhi, IIT Kanpur, Kashmir University

1. INTRODUCTION

Library automation is said to have begun as early as 1930s, when punched card equipment was used in library circulation and acquisitions. Shortly after this breakthrough, other technology-related applications were introduced to library procedures. But, this movement was very slow and the most practical data processing applications could be found in library circulation[1]. The developed world, especially, Britain and US had shown a large interest in the early stage of library automation[2]. Later in 1960s, computers made possible a new era of library automation systems. Punched cards were not completely removed, but their role gradually diminished[3]. In this direction, the landmark efforts were primarily taken by USA, UK and Continental Europe due to the availability of best infrastructure in telecommunication and computing technology. Library automation development can be classified in three different phases: First phase during 1954-70; the second, during 1970-90; and the present from 1990 onwards. The hardware and software available at those times have influenced each of these phases[4].

In India, computers in libraries were for the first time used in 1965 by Indian National Scientific and Documentation Center (INSDOC) when it computerised the author and subject indexes of 'Indian Science Abstract'. Shortly after two years, INSDOC (now NISCAIR–National Institute of Science Communication and Information Resources) brought out 'Roster of Indian Scientific and Technical Translators' with the aid of computers[5]. However being developing country, the major development towards library automation took place with the declining hardware prices, easy availability of software packages and ever-increasing interest among library professionals. Consequently, a number of software packages like LibSys; Granthalaya; Maitreyi; Sanjay; SOUL; Suchika; DELMS; DELDOS; TLMS; LIBMAN; OASIS; Delsis; Libman; Librarian; Libris; Library Manager; Library Management; Loan Soft; Salim; Slim 1.1; Trishna; Tulib; Ulysis; Wilisys, etc., were developed in India[6]. However because of their continuous development for upgraded versions, SOUL and LibSys are popularly used in India. These software also fulfill the international standards to a large extent. Nevertheless, many large libraries of India are presently using some foreign softwares' like Alice for Windows, Virtua, Techlib Plus, etc., to enhance the standard of their operations and services. Notably, the trend towards using foreign software particularly Virtua is increasing among Indian libraries.

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2. LITERATURE REVIEW

A number of studies have been carried out in this direction. However, in India, the library software awareness is poor with a tiny silver percentage of users aware about it. Against this backdrop, the study was done in this regard.

The work of Saffady[7] highlighted the development of an automated circulation; acquisition; cataloguing; reference services and prewritten circulation software. Though online catalogues are not still widely popular, but a number of libraries have implemented such systems on an in-house or Turnkey basis. He revealed that some operations were automated and paved way for integrated systems. Another study[8] revealed that librarians should be aware that along with the advantages, automation comes with a new set of challenges also. Therefore, it becomes imperative to keep the users familiar with computerisation, before the selection of software. The study by Reynolds[9] revealed that OPAC merely identified the item, but does not help in identifying these items on the shelves. He also revealed that earlier in-house operations were abandoned; however, circulation system survived. He pointed out that automation has rapidly changed from early technical support system to online technical support system. Yet another study[10] revealed that library software particularly online catalogues will provide access to all resources wherever they are, but it is essential that the system must be easy to use as many users will be unfamiliar with computerisation. Kreslins[11], *et al*. mentioned that though recent OPACs like OKAPI offer keyword and subject searching by using Boolean operators, but they do not have any standards for use of partially or fully controlled vocabularies in OPACs. It also opined that integrated software should be used in libraries. Ali[12] stated that LibSys and LIBRIS proved good for Indian libraries, as they need lesser expertise and are more user-friendly. However, majority of Indian users are still unfamiliar with the advantages of automation. Garcha & Butler[13] discussed the characteristics of three African libraries with main emphasis on technological capabilities. It revealed the paucity of funds and unfamiliarity with the technical understanding as the two pressing problems for implementing automated library system. The study of McCallum[14] stated that the remarkable increase in the use of online catalogs and the increased interest in retrospective conversion of bibliographic records resulted in many retrospective conversion projects and creation of union catalogs. The inexperienced staff and outdated software are the major problems in automating Indian libraries. Satyanarayana[15] suggested CDS/SIS system for computerising any type of library which is not a standard package now-a-days. Alam & Amita[16] surveyed the awareness and use of library software; however, it was limited to the use of OPACs of five noted libraries of Delhi. It also revealed that users are still unfamiliar to handle the complex searches in OPAC. Tseng & Kuo[17] revealed that unfamiliarity in operating the automated system is the major difficulty faced by the library patrons. It is hoped that this study will fulfill the gap in the available literature on the said topic in India.

3. SCOPE & OBJECTIVES

Presently, a large number of indigenous and foreign library softwares are used by Indian libraries for their automation. Among them LibSys; SOUL; Granthalaya; Maitreyi; Sanjay; Suchika; etc. are notable to mention. However, LibSys and SOUL are widely used library software by Indian libraries. Mostly, these softwares were developed by Research and Development (R&D) institutes. In case of foreign software, Alice for Windows; Virtua; Techlib Plus; etc., are used by many Indian libraries. For this study one widely used indigenous and one popular overseas software, i.e., LibSys and Virtua were selected. Both these software are integrated library management systems and consist of various modules. Furthermore, the scope of this study is limited to the central libraries of IIT Delhi, IIT Kanpur, and Allama Iqbal Library, Kashmir University.

The present study was conducted with the purpose to assess the library software awareness among the users of selected libraries, special focus was on following core objectives:

- Highlight the features of software packages used by the select libraries;
- Determine the users awareness of their respective library software;
- Find out the extent of use of OPAC by the users of these libraries;
- Evaluate the usage of OPAC Vs card catalogue.

The hypothesis was that there is a significant diffrence in the awareness of library software among the users of IITs and Kashmir University.

4. METHODOLOGY ADOPTED

Since the library software awareness and the usage of OPAC Vs card catalogue in the select libraries revolve around human subjects, hence survey method was adopted for the present work. In survey research, there are three commonly used techniques for gathering the data–the questionnaire, interview, and observation. Questionnaires are considered the single most popular data collection tools in any survey research. Therefore, questionnaire is the key important tool used for collecting the necessary data. All the select libraries were personally visited and users were directly approached.

Significantly, care has been taken to have a representative sample of total population of students, though the random sampling technique was adopted. A total of 527 questionnaires were administered for a population of 5269 users comprising 3900 students, 948 research scholars, and 421 faculty members in the month of October 2012 among the users of Central Library, IIT Delhi. Similarly, 315 questionnaires were administered for a population of 3143 users comprising 2028 students and 758 research scholars and 357 faculty members of P.K. Kelkar Library, IIT Kanpur in the month of November, 2012. In case of Kashmir University, a total of 555 questionnaires were administered in the month of November, 2012 for a population of 5550 users comprising 4750 students, 400 research scholars and 400 faculty members. The ultimate response rate (Table 1) from the library users of IIT Delhi, IIT Kanpur and Kashmir University is found to be 89.75 %, 92.38 % and 90.63 % respectively.

Table 1. Sample distribution

Categories	No. of respondents											
	IIT Delhi				IIT Kanpur				Kashmir University			
	Students (UG+PG) (%)	Res. schol. (%)	Faculty (%)	Total (%)	Students (UG+PG) (%)	Res. schol. (%)	Faculty (%)	Total (%)	Students (UG+PG) (%)	Res. schol. (%)	Faculty (%)	Total (%)
Administered questionnaires	390	95	42	527	203	76	36	315	475	40	40	555
Questionnaires received	355 (91.02)	89 (93.68)	29 (69.04)	473 (89.75)	192 (94.58)	73 (96.05)	26 (72.22)	291 (92.38)	435 (91.57)	40 (100)	28 (70)	503 (90.63)
Questionnaires analysed	330 (79.71)	84 (20.28)	27 (6.12)	441 (83.68)	184 (65.48)	72 (25.99)	25 (9.02)	281 (89.20)	416 (86.30)	40 (8.29)	26 (5.39)	482 (86.84)

The data obtained through questionnaires has been cross-checked by the data obtained through interview and observation. Finally, the data have been organised, analysed, compared, consolidated, tabulated, and interpreted by using tables, percentages and statistical techniques. The software package MS-Excel and Chi-Square statistical tests have been used to verify the validity of results. In the light of data, useful findings, recommendations and conclusions have been derived.

5. SOFTWARE PACKAGE IN USE

The Central Library, IIT Delhi has been using LibSys software since 1999; however, in 2007 it shifted from LibSys4 to LSPremia version to enhance its functions and services IIT Delhi[18]. Recently, the library has switched over to LibSys7 version which contains advanced features and supports RFID compatibility. On the other hand, P.K. Kelkar Library, IIT Kanpur began with in-house developed (iit-KLAS) Kanpur Library Automation Software in 1988. After using iit-KLAS for nearly two decades, the library in 2007 migrated to presently using LSPremia version of LibSys IIT Kanpur[19]. In contrast, Allama Iqbal Library, Kashmir University started with CDS/ISIS in 1997; however, in 2003 the library migrated to SOUL (Software for University Library) software. Due to the unsettled shortcomings of UNICODE support to deal with the large number of bi-directional resources and lack of RFID compatibility in SOUL, the library in 2008 switched over to Virtua software of VTLS Company to overcome these drawbacks[20].

5.1 Description of Software

The LibSys software is developed by Info Consultants Private Limited (now LIBSYS Ltd.) with its headquarters in Gurgaon. It is an integrated multi-user library management system designed to run on different hardware/software platforms in client-server architecture. LibSys is easy to operate and does not require in-depth programming/computer skills. It produces high productivity as it requires nominal data entry, maximum possible integration of operations and powerful search and query facilities. The software is built around its centralised bibliographic database based on Z39.50 format. LibSys performs almost all activities related to acquisition; cataloguing; circulation; and serials. Besides above, it has a powerful and user-friendly OPAC. Being indigenous, LibSys is widely used across the nation having more than 1000 Indian libraries as its clients. It is also used in some adjacent countries like Nepal, Sri Lanka and overseas country like Costa Rica, etc. The continuous development of LibSys popularised it as a standard library management package for Indian libraries. With constant progress, LibSys has produced LibSys suite comprising different products like LSEase; LibSys7; LSPremia; LibSysX and LSDigital LibSys[21]. Nevertheless, the select IIT libraries are presently using LSPremia version as stated above.

Virtua software is developed by Virginia Technology Library Solutions (VTLS) Inc; the leading library automation vendor at Blacksburg, USA. It is a fully integrated library management package acknowledged internationally to deal with the wide range of library functions. Virtua provides web OPAC and Chameleon iportal that facilitate the patrons to interact with

the library by letting them to share what they have found on social network sites such as Facebook and Twitter, etc. Virtua is the first software that fully supports FRBR (Functional Requirement for Bibliographic Records) and RDA (Resource Description and Access) standards. The software is based on six technologies such as Relational Database Management System (RDBMS); Rapid development tools; three tier Client-Server architecture; database warehousing; UNICODE support and ATM network optimised applications[22]. These technologies help in database management handling, software development and network delivery. Virtua is used by over 1800 libraries across 42 countries. In India, nearly 40 libraries including National Library, Kolkata; Jawaharlal Nehru University, New Delhi; Central Institute of Indian Languages, Mysore; University of Hyderabad; Kashmir University; IIT Madras; Indian Institute of Management (IIM), Indore; Indian institute of Science Education & Research (IISER), Kolkata; Indian Institute of Management (IIM), Ranchi; Indian Institute of Management (IIM), Bangalore; Indian Institute of Technology (IIT), Bhubaneswar; etc., are using Virtua software[23]. The features of LibSys and Virtua software are presented in Table 2.

6. ANALYSIS, INTERPRETATION AND DISCUSSIONS

Despite having significant difference in tabular form, to prove the difference (as per hypothesis) statistical tool like Chi-Square (χ^2) has been applied for this purpose to get the desired results.

The formula used for Chi-Square is

$$\chi^2 = \frac{\sum (O - E)^2}{E}$$

where, *O* is the observed frequency which is the summation of total of three categories (i.e., STU, RS, and FM of IIT Delhi, IIT Kanpur and Kashmir University) in one row of the Table 3, and *E* is expected frequency which is the summation of all categories of one variable in one row (i.e., Yes of IIT Kanpur & Kashmir University) multiplied by the total of column of individual category (say IIT Delhi of both variables, i.e., Yes & No) and divided by the total of whole table.

Table 2. Features of software

S. No.	Features	LibSys	Virtua
1.	Organisation responsible for development of the software with year of establishment	Info Consultants Private Limited/ LibSys Corporation/LIBSYS Ltd, Gurgaon, India. 1992	Virginia Technology Library Solutions (VTLS) Inc., USA. 2001
2.	Nature of the software	Proprietary and Fully Integrated library management system	Proprietary and Fully Integrated library management system
3.	Design/architecture	Client-server	Client-server
4.	Operating system (client platform)	Windows 95/98/NT/2000, UNIX, Linux and NOVELL	95/98/2000/NT/XP/Vista, Linux
5.	Operating system (server options)	SCO Unix, Windows NT/Unixware/ Novell, UNIX, LINUX Sun Sparc (SOLARIS)	UNIX, LINUX, SOLARIS, SUSE LINUX, IBM(AIX), SUN(SOLARIS)
6.	RDBMS	ORACLE, SQL, MySQL	ORACLE
7.	Standards	ANSI Z39.50, USMARC, UKMARC, UNIMARC, MARC21, CCF	ANSI/ISO Z39.50, MARC21, ISO-23950, ISO-10161
8.	ISO Certified	No	Yes (VTLS received ISO certification in 1997)
9.	Profiler	Windows GUI	Windows GUI
10.	Supports multi-lingual scripts	Yes through UNICODE	Yes through UNICODE
11.	User facility	Multi user tasking	Multi user tasking
12.	Protocol compatibility	TCP/IP communication protocol	TCP/IP communication protocol
13.	Mode of searching	OPAC	OPAC
14.	Modules supported	Acquisition, Cataloguing, Circulation, Serials Control, OPAC and Article indexing	Acquisition and Fund Accounting, Cataloguing, Circulation, Serials control, OPAC, Statistics and Reporting, Chameleon Gateway
15.	Reports	Customisation restricted	Customisation certified
16.	Installation base	Over 1000 Libraries in India and some about 5-10 libraries in adjacent countries namely Sri Lanka, Nepal, etc.	Over 1800 Libraries across 42 Countries and about 40 libraries in India with number speedily increasing.

The finalised data have been categorised into two groups; the library software awareness and the usage of OPAC Vs card catalogue. The obtained data in software awareness have been analysed, interpreted and discussed in Table 3.

The maximum and effective utilisation of library software' has a direct relationship of users' awareness with them. In this respect, the data obtained in Table 3 reveals that 91.21 % students, 94.04 % research scholars and 81.48 % faculty members in IIT Delhi are aware of library software. In comparison, 89.67 % students, 91.66 % research scholars, and 84 % faculty members in IIT Kanpur are aware of library software. Kashmir University lags behind as 80.28 % students, 82.5 % research scholars and 76.92 % faculty members are aware of library software.

Although, the users of IITs have taken lead over the users of Kashmir University; however, it is disappointing to point out that a considerable percentage of 8.78 % students, 5.95 % research scholars and 18.51 % faculty members in IIT Delhi are unaware of library software. The situation is somewhat same in IIT Kanpur, where 10.32 % students, 8.33 % research scholars and 16 % faculty members are still unaware of library software. While as expectedly this category of users in Kashmir University is higher as 19.71 % students, 17.5 % research scholars and 23.07 % faculty members are still unaware of library software.

6.1 Chi-Square Test

On applying Chi-Square test in Table 3, it is found that the calculated Chi-Square value is 26.95 as shown below:

Observed frequencies (O) of variable 'Yes' are 402 (total of IIT Delhi), 252 (total of IIT Kanpur), and 387 (total of Kashmir University) in first Row.

Observed frequencies (O) of variable 'No' are 39 (total of IIT Delhi), 29 (total of IIT Kanpur), and 95 (total of Kashmir University) in second Row.

Calculation for Expected Frequency (E):

E = Total of all categories of Variable Yes (i.e., IIT Delhi, IIT Kanpur & Kashmir University) x Total of individual column (IIT Delhi) of both 'Yes' and 'No' variables/total of whole Table

Therefore, E(402) = 1041x441/1204= 381.29
= 381 (approx.)
E(252) =1041x281/1204 = 241.95 = 243 (approx.)
E(387)= 1041x482/1204 = 416.74 = 417 (approx.)
E(39) = 163x441/1204 = 59.70 = 60 (approx.)
E(29) = 163x281/1204 = 38.04 = 38 (approx.)
E(95) = 163x482/1204 = 65.25 = 65 (approx.)

Calculation for Chi-Square (χ^2):

$\chi^2 = \sum(O-E)^2/E$

$\sum (402-381)^2 = 441/381 = 1.15 = 381$

$\sum (252-243)^2 = 81/243 = 0.33 = 243$

$\sum (387-417)^2 = 900/417 = 2.15 = 417$

$\sum (39-60)^2 = 441/60 = 7.35 = 60$

$\sum (29-38)^2 = 81/38 = 2.13 = 38$

$\sum (95-65)^2 = 900/65 = 13.84 = 65$

Therefore, Chi-Square (χ^2) = Summation of all above as per the formula i.e.,

$\chi^2 = \sum(O-E)^2/E$

Thus, χ^2 = (1.15+0.33+2.15+7.35+2.13+13.84)
= 26.95

Calculation for degree of freedoms:

The Degree of Freedom (which is number of independent variables present in the observation) i.e., df was taken as 2 and is calculated as follows:

df= (row-1)(column-1)

There are two (2) rows in the table and three (3) columns of categories (i.e., IIT Delhi, IIT Kanpur, and Kashmir University) in the table 3

So, df = (2-1)(3-1)
df = 1(2) = 2

Now, Chi-Square tabulated value with 2 degrees of freedom at 5 % level of significance is 5.991. Thus, the calculated Chi-Square value is greater than the Chi-Square tabulated value which proves that there is a significant difference in the library software awareness among the users of the select institutes.

Apart from tabular presentation, the investigator took keen interest to represent the deuced difference in graphical presentation also (Fig. 1).

Table 3. Library software awareness

Response	IIT Delhi				IIT Kanpur				Kashmir University			
	Students (UG+PG) (%) N=330	Res. Schol. (%) N=84	Faculty (%) N=27	Total (%) N=441	Students (UG+PG) (%) N=184	Res. Schol. (%) N=72	Faculty (%) N=25	Total (%) N=281	Students (UG+PG) (%) N=416	Res. Schol. (%) N=40	Faculty (%) N=26	Total (%) N=482
Yes	301 (91.21)	79 (94.04)	22 (81.48)	402 (91.15)	165 (89.67)	66 (91.66)	21 (84)	252 (89.67)	334 (80.28)	33 (82.5)	20 (76.92)	387 (80.29)
No	29 (8.78)	5 (5.95)	5 (18.51)	39 (8.84)	19 (10.32)	6 (8.33)	4 (16)	29 (10.32)	82 (19.71)	7 (17.5)	6 (23.07)	95 (19.70)

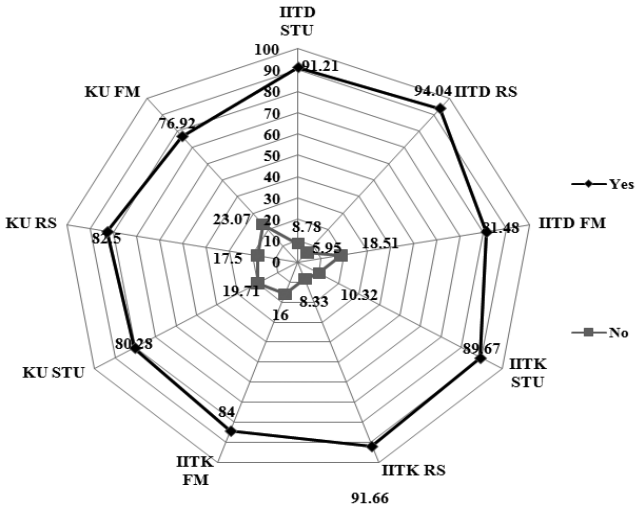

Figure 1. Radar chart showing the difference of library software awareness among the users.

research scholars, and 7.69 % faculty members in Kashmir University still search and retrieve information manually.

It is noteworthy to mention that 13.63 % students, 14.28 % research scholars, and 14.81 % faculty members in IIT Delhi use both manual methods and OPAC for search and retrieval purpose. In comparison, with 16.30 % students, 15.27 % research scholars, and 16 % faculty members in IIT Kanpur use both the above methods. In case of Kashmir University, the percentage of users using both the above methods is higher as 28.84 % students, 25 % research scholars and 19.23 % faculty members search and retrieve the library resources both manually and through OPAC.

Besides tabular presentation, the collected data is also depicted in graphical presentation in Fig. 2.

Table 4. OPAC Vs card catalogue

Means of searching	IIT Delhi				IIT Kanpur				Kashmir university			
	Students (UG+PG) (%) N=330	Res. Schol. (%) N=84	Faculty (%) N=27	Total (%) N=441	Students (UG+PG) (%) N=184	Res. Schol. (%) N=72	Faculty (%) N=25	Total (%) N=281	Students (UG+PG) (%) N=416	Res. Schol. (%) N=40	Faculty (%) N=26	Total (%) N=482
OPAC	273 (82.72)	71 (84.52)	23 (85.18)	367 (83.21)	150 (81.52)	60 (83.33)	21 (84)	231 (82.20)	256 (61.53)	28 (70)	19 (73.07)	303 (62.86)
Manual	12 (3.63)	1 (1.19)	0 (0)	13 (2.94)	4 (2.17)	1 (1.38)	0 (0)	5 (1.77)	40 (9.61)	2 (5)	2 (7.69)	44 (9.12)
Both	45 (13.63)	12 (14.28)	4 (14.81)	61 (13.83)	30 (16.30)	11 (15.27)	4 (16)	45 (16.01)	120 (28.84)	10 (25)	5 (19.23)	135 (28)

Library software have shifted the means of searching and retrieving information from manual to online methods. Significantly, OPAC has been wonderful invention in this direction. Table 4 reveals that 82.72 % students, 84.52 % research scholars and 85.18 % faculty members in IIT Delhi use OPAC for searching and retrieving the information. The situation is more or less similar in IIT Kanpur, where 81.52 % students, 83.33 % research scholars and 84 % faculty members use OPAC for search and retrieval purpose. In comparison, this category of users in Kashmir University is relatively less as only 61.53 % students, 70 % research scholars and 73.07 % faculty members make use of OPAC for searching and retrieving the resources of their interest.

Table 4 further reveals that, OPAC has not completely replaced manual methods, as a small percentage of 3.63 % students and 1.19 % research scholars in IIT Delhi; whereas 2.17 % students and 1.38 % research scholars in IIT Kanpur still search and retrieve the information manually. Nevertheless, none of the faculty members in the both IITs use manual methods. On contrary, 9.61 % students, 5 %

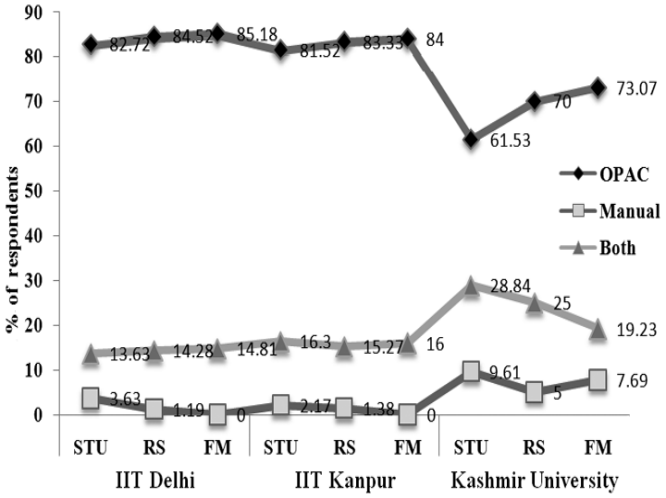

Figure 2. Usage of OPAC Vs card catalogue among the users.

7. FINDINGS AND CONCLUSIONS

Both LibSys and Virtua software have their own advantages and limitations. Virtua is worldwide accepted to have robust features that are compatible to all international standards. While as LibSys falls short to support some international standards. But

like Virtua, LibSys can be installed on various operating systems. Virtua inevitably requires Oracle RDBMS at its back-end. In case of LibSys, RDBMS is not required. Nonetheless, LibSys has an option of SQL server or Oracle as back-end RDBMS. However, LSPremia version of LibSys, presently used by the select IIT libraries falls short in RFID compatibility. On the other hand, Virtua fully supports RFID technology. Significantly, Allama Iqbal Library has successfully installed RFID technology. Besides above, Virtua is the primary software in library automation industry that is fully compatible with UNICODE, FRBR, and RDA standards. While as except partial UNICODE, LibSys does not support these standards. It now remains up to the librarians' ability and expertise to choose the software that accomplishes the most requirements of their library effectively and efficiently.

In view of the fact that IITs are technologically more advanced than the academic universities, therefore the users of select IITs have taken a clear cut lead in library software awareness over the users of Kashmir University. However, 8.84 % users in IIT Delhi and 10.32 % in IIT Kanpur are still unaware of library software. In contrast, the users of Kashmir University are expectedly behind as 19.70 % users are still unaware of library software.With respect to OPAC Vs card catalogue, the majority of users are using OPAC for search and retrieval process and a thin minority is using card catalogue. While as considerable number of users are using both the forms, i.e., OPAC as well as Card catalogue. The study revealed that majority of users in all the select libraries find OPAC less time consuming and user-friendly in comparison to card catalogue. However, when this investigator elucidated the opinion of some card catalogue users, they revealed that since they are used to it, therefore they have been carrying on using card catalogue. Some users also revealed that there is no crowd around the trays of card catalogue; thus they directly go to use these trays. On contrary, OPAC terminals are more often busy and users need to wait for their turn. Significantly, this category belongs to users who are short of time.

All the surveyed libraries are still maintaining card catalogue, though in very less use. This phenomenon is also witnessed in many libraries of other developing countries primarily due to the erratic electricity. It is notable to state here that these libraries have also revealed that sometimes there is a problem in library software like security of the database or data loss, etc., and during the trouble-shooting they cannot shut the doors of the library. Card catalogue comes as a rescue during these emergency situations. Furthermore, the library staff also showed apprehensions regarding the loss of data due to virus or other problems in the soft version of the data. Therefore, they maintain the hard copy of data in form of the card catalogue. The results clearly point out that there is further improvement required on part of the select libraries particularly of Allama Iqbal Library to take appropriate measures for enhancing the library software awareness and subsequently the usage of OPAC. It is also hoped that other libraries in general will also find this study useful in selecting the appropriate software for enhancing the usage of OPAC and other operations and services of their library.

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