Use of Physical and Electronic Information Resources by Users in JSPM's Rajarshi Shahu College of Engineering, Pune (India): A Case Study

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Abstract

This paper aims to analyse the usage of library resources both in physical and electronic format available at Jayawant Library of Rajarshi Shahu College of Engineering, Pune. The library visitor registers were surveyed to know the utilisation of physical resources. Downloads of e-journal articles, e-books, and Web OPAC logins were surveyed to understand usage of electronic resources. The library software books issue/return reports were analysed to know the print books utilization. This study is limited to the usage of library resources at RSCOE Jayawant Library during academic sessions 2018-19 to 2022-23. With regard to overall access is concerned, highest frequency (108079) of users visited different sections of library and used different resources both in print, electronic and physical format and found during the academic year 2022-23 followed by frequency (57664) during 2018-19. No physical access from users found during 2020- 21 as it was a Covid period however electronic resources access found and it was at smallest frequency. A total of 2676 e-journals articles and e-books were downloaded and used during this period.

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1. Introduction

Engineering is a profession which applies learned skills for advancement knowledge in science and technology. It is a broad field which holds knowledge and training in science, technology and business management. The basic premise of engineering education is to produce engineers as an obligation to the society for maintenance and improvement of men, material and environment within the economical limits.

Engineering college library can be described as heart of learning community. It provides suitable ambience for students and faculty members for effective learning and help them to advance their knowledge. It also provides variety of information resources like text books, reference books, journals and electronic resources, and also emerging new technologies to access these resources.

In NAAC guidelines the Key Indicator 4.2 indicates Library as a Learning Resource and Indicator 4.2.4 indicates usage of library resources and library footfalls and login data for online. Library needs to maintain data related to usage of both physical resources and electronic resources in every academic year. Therefore, it is essential for engineering college

librarians to monitor the usage of resources by library users in order to analyse return on investment in library resources.

Profile of the Institute and Library

Rajarshi Shahu College of Engineering is an autonomous institute affiliated to Savitribai Phule Pune University approved by AICTE and accredited by NBA and NAAC with A Grade. This institute is under the management of Jayawant Shikshan Prasarak Mandal and established in 2001. Institute Central Library named as Jayawant Library with due respect to honourable Jayawant Sawant father of respected Founder Secretary of JSPM.

It provides a good ambience to students and staff for study. Its collection comprises with a large collection of books and journals both in print and electronic format for all courses offered through Rajarshi Shahu College of Engineering. The Library has separate reading area with 250 seating capacity, reference section, digital library room with good IT infrastructure, and periodicals section with attractive display etc. Its collection is about 43466 print books, 107 Print Journals, 1 Lakh+ e-Books, 79000+ E-Journals. The library has subscribed e-journal and e-books databases like IEEE, ASME, ASCE, Science Direct, J-Gate, Pro Quest, DELNET and N-List. The library uses social media like Telegram, WhatsApp and E Mail to communicate about updates and notifications of Library periodically. Library has taken renowned outside Library membership like, Automotive Research Association of India (ARAI), Pune, and IIT Mumbai Central Library for providing resources which are available in respective Libraries. Institute's library facilitates open access to all the registered members. The reading materials have been classified according to Dewey Decimal Classification (DDC). An attractive KIOSK system made available for students to access OPAC, and download e-journal articles and e-books effectively.

2. Objectives, Scope and Limitations

Following are the main objectives of this present study:
1. To know the preferred format of resources among library users of JSPM's Rajarshi Shahu College of Engineering, Pune.
2. To analyse the statistics of library usage of physical resources.
3. To analyse the statistics of library usage of electronic resources.
4. To find out which format resources are most used resources in library.

This study is limited to usage of resources at Rajarshi Shahu College of Engineering Jayawant Library. The researcher examined the statistical information regarding utilization of different library resources during five academic years beginning in 2018-19 to 2023-24.

3. Research Methodology

This is an empirical study on the usage of different resources in Rajarshi Shahu College of Engineering, Jayawant Library The frequency of visit to different sections of library, daily issue return of print books and journals, number of downloads of e-journals articles and E-Books, were summed in particular to avail total usage of library resources during respective academic years. Data were collected from visitors' registers, Issue/return transactions from library software, E resources access reports received from authorized agents of different e-journals and e-books packages and e-databases in the institution for subscriptions from 2018-19 to 2022-23. The data is completely based on the usage of the resources in the institute.

4. Literature Review

Gomathi and Dhanavandan (2012) evaluate user's satisfaction with information services in government engineering library, Salem. Author found that, students are using library regularly and are satisfied with library collection, staff members and library working hours and rules and regulations. The author opined as state government release fund to surveyed library to increase the relevant information resources and to provide ICT facilities to users.

Fatima and Tadasad (2013) attempts to find out user's attitude towards library resources. This study also analyzes the awareness, usage, comprehensiveness of library resources including satisfaction level of users. The study was carried out at Gulbarga University Library, Gulbarga among PG Students, Research Scholars and teaching faculty. The authors found low awareness of users with Indian scientific periodicals, union catalogues and high awareness with books, dictionaries, newspapers, general magazines and encyclopaedia. Books, newspapers, dictionaries, theses and dissertations found as are the highly utilized resources. Users are not completely satisfied with library collection. Users have poor satisfaction with catalogue, union catalogue, indexing and abstracting sources, and directories. The authors suggested to conduct user studies at regular intervals to gather their requirements and develop collection accordingly and organization of user education program. Authors also suggest to display the list of new additions and the information resources which have not been utilized at prominent locations to attract user's attention.

Naqvi (2012) found as use of e-journals is common among post graduate engineering students. The study suggested to conduct training program and provide awareness for students about e-resources. It was also found in the study that majority of the respondents are quite satisfied with the available e-journals and their usage. The author pointed out some problems faced by users in accessing of e-resources viz, difficulty in finding relevant information, excessive time to view/download web pages due to slow internet speed.

Agyekum and Ossom (2015) conducted survey among faculty members to know awareness about e-journals available in Kumasi Polytechnic, Kumasi, Ghana. The authors also tried to find out e-journals usage, and overall satisfaction by users during their access. Questionnaire method used and collected in training workshop by faculty members. From the survey the authors found as most of the respondent faculty members were aware and use the e-journal in their department and laboratories. And majority of respondents are satisfied with e-journals.

Anyaoku (2015) examine awareness and use of medical library resources in the college of Health Sciences, Nnamdi Azikiwe University, Nigeria Author found that, major 60% of respondents are not aware or sure about the availability of electronic information resources in the library. Majority of respondents use personal text books and newspapers in library. As per author, deficiency of computers, slow internet speed, current resources are the main reason for less utilization of library. The findings of the study recommended to improve the relevant electronic information resources and infrastructure to meet the user needs and expectations.

Nkoya (2016) examine the availability and usage of electronic resources by Post Graduate students in Calabar University Library at Nigeria. Descriptive survey method used for this study. The author found that, sufficient electronic resources were available in surveyed university and utilized by post graduate students and online databases are underutilized, e-journals were the most often used resources. The author suggests for sufficient budget to be sanctioned for acquisition of relevant electronic resources, making awareness about available

electronic resources to users and installation of inverter and battery system in the electronic library of Calabar university for better use of electronic resources.

Gudi and Paradkar (2019) analysed on the use of engineering college libraries by students and faculty members. The author fond from her study as Engineering college libraries are broadly used once in a week for one hour during morning and afternoon hours to study. It was also found as issue/return of books, refer books and to read the newspaper are the key purposes to use library.

Bokoh, Ajiboye and Bello (2020) evaluated the use of library resources and services as correlates of research activities among postgraduate students in southwest Federal Universities, Nigeria. The author found textbooks, and e-books were the major resources used by the respondents while journal, books and e-books were frequently used.

Singh and Singh (2021) reported that growing interest to the use of E-Resource at College of Agriculture, G.B. Pant University of Agriculture & Technology, Pantnagar (Uttarakhand). Elsevier Publications with 77.5% was the most used database by the students and faculties in the agricultural sciences community. Approximately 60% students and faculty members were using online databases 2-4 times in a week.

Andrew and Umar (2022) investigates use and user satisfaction with library information resources and services at the Federal University of Kashere Library Gombe State, Nigeria. The author found as majority of respondents used hardcopy of information resources more than electronic format and recommended for user education and orientations to make the users to use electronic information resources like e-books, e-journal, e-newspapers, e-magazines, online.

5. Data Analysis and Interpretation

5.1 Composition of Library Users

Table 1 depicts library membership registrations during the five academic years 2018-19 to 2022-23. Composition of library users at RSCOE has been described to know how community of users are structured.

Table - 1: Composition of Library Users

User Category	Year				
	2018-19	**2019-20**	**2020-21**	**2021-22**	**2022-23**
UG Students	3224 (90.38)	3264 (90.01)	3655 (91.37)	3697 (90.43)	3667 (91.06)
PG Students	126 (3.54)	131 (3.61)	120 (3.0)	100 (2.44)	110 (2.73)
Faculty Members	217 (6.08)	231 (6.37)	225 (5.62)	291 (7.11)	250 (6.20)
Total	3567 (100.0)	3626 (100.0)	4000 (100.0)	4088 (100.0)	4027 (100.0)

Note: Number given in brackets are represent percentages.

It can be seen from table 1 that more than 90% registered users of the library are belonging to UG Engineering students whereas approximately 6% and 3% are Faculty Members and PG Engineering students respectively. The maximum 4088 students and faculty member were registered in the year 2021-2022.

5.2 Analysis of Usage of Library Physical Resources

Table 2 reveals the data about frequency of visit in person to different sections of library and issue return of different information resources provided by college library. Analysis has been made on the basis of frequency of students and faculty members visited and used different sections of library and the frequency of different information resources borrowed by them.

Table - 2: Usage of Physical Facilities and Print information Resources of Library

S.N.	Resources Utilized by Users	2018-19	2019-20	2020-21	2021-22	2022-23
1	Frequency of Student Visit Reference Section	2840	1456		616	1010
2	Frequency of Students Reading Space Usage	18927	12406		9642	15218
3	Frequency of Students Reading Space Usage (Beyond Library Hours)	5694	3560	Pandemic Period	1520	7383
4	Daily Books Issue/Return Transactions	28799	19033		13874	20079
5	Number of Books Issued in Book Bank Books	1345	774		----	-----
6	Frequency of Students Usage: Digital Library Space	2542	2103		777	715
7	Print Journals Transactions	2213	2186		1651	1445
	Total	45325	45518		28080	45850

Table 2 revealed that, among print resources all highest (28799) frequency of text books and reference books borrowed and used by students which was recorded during 2018-19 followed by (18927) frequency of students used physical facility reading hall for their study during and beyond college working hours and was recorded during the same year 2018-19 only. And the least frequency of library users used reference section to read reference books (616) which was recorded during 2021-22. Bokoh, Ajiboye and Bello (2020) found text books were the major resources used by the respondents while journal, books and e-books were frequently used reading materials.

5.3 Analysis of Usage of Electronic Resources

Table 3 reveals the data about year-wise downloads of different e-journals articles, E-Books and Web OPAC Logins by college library users. Analysis has been made on the basis of usage reports received from the authorized vendors of e- journals and e-books. The name of e-journals and e-books databases procured at institute is mentioned in the Table 3.

Table - 3: Usage of Electronic Resources Subscribed at Library

S.N.	Name of Database	Number of Downloads				
		2018-19	2019-20	2020-21	2021-22	2022-23
1	Pro Quest E-Books	351	1450	1577	3862	4553
2	IEEE ASPP E-Journals	7766	2668	1057	430	52685
3	ASME Digital Collection E-Journals	120	80	21	26	86
4	ASCE Digital Collection E-Journals	168	371	21	71	207
5	J Gate (JET) and (JSMS) E-Journals	16	273	0	0	357
6	Science Direct E-Journals	3918	2946	0	0	109
7	Pro Quest E-Journals	0	0	0	0	4232
	Total	12339	7788	2676	4389	62229

On analysis of Table 3, it was found as the proportion of IEEE ASPP e-journal articles are downloaded at highest level (52685) during the year 2022-23 followed by Pro Quest E-books (4553) downloaded during the same year. Least downloads (21) are of ASCE and ASME E-Journals Articles during the year 2020-21. Wherever 0 downloads shown means those respective e-journals databases were not procured at institute during the respective period. The analysis shows the growing interest of e-journals, e-books, etc. among the library users of the Rajarshi Shahu College of Engineering, Pune.

5.4 Analysis of Usage of Physical and Electronic Resources

Table 4 shows that library users preferred to use physical resources of the library than electronic information resources available in the library. This finding is in line with the findings of Andrew Temboge CLN and Umar Ahmed Ga'anda (2022) which revealed that majority of respondents used hardcopy and secondary sources of information resources more than electronic format.

Table - 4: Usage of Physical and Electronic Resources Subscribed at Library

Year	Physical Resources	Electronic	Total
2018-19	45325	12339	57664
2019-20	45518	7788	53306
2020-21	Covid Period	2676	2676
2021-22	28080	4389	32469
2022-23	45850	62229	108079
Total	**164773**	**89400**	**254194**

Even though table 4 shows as e-journals and e-books were less utilized from 2018 -19 to 2021-22 however during 2022-23 the utilization of the same has been increased at higher level due to highest utilization of IEEE E-Journals This implies that IEEE is the prominent e-journal package for students and faculty members. Remaining electronic resources were utilized at low level. This could be attributed because of lack of proper awareness about particular e-journals packages.

6. Major Findings

It was found as text books were the most used resources and reference books were less utilized at the Rajarshi Shahu College of Engineering, Pune. Usage of digital library space is declining as optimum students and faculty members were acquired laptop and accessing e-resources on their own laptops. Moreover, library has also provided remote access to e-resources through integrated journal discovery search box on institute's website on the library home page. Students can login and download the electronic resources beyond institute campus. It was also found as total usage of electronic resources is more than physical resources during the academic session 2022-23. IEEE e-Journals were used at highest level followed by Pro Quest e-Journals and e-Books among electronic resources. It was also noticed that some e-journals like ASCE and ASME were least utilized.

7. Suggestion

It is essential to provide awareness to concerned department students and faculty members about importance ASCE and ASME e-journals as these were least utilized. Apart from providing remote access library staff need to take more efforts to reach library users through various social media to aware and encourage about e resources. Bokoh, Ajiboye and Bello (2020) author suggested in the same line for awareness about current available resources at library. Andrew Temboge CLN and Umar Ahmed Ga'anda (2022) recommended in the same line as user education and orientations to enlighten the users more on the use of electronic information resources like e-books, e-journal, e-newspapers, e-magazines, online databases rather than the present practice where they use printed information resources more.

8. Conclusion

In the present paper usage level of both physical and electronic library resources by students and faculty members of Rajarshi Shahu College of Engineering was analysed. It was found that, overall substantial resources were utilized by the most of the users. It is also concluded that awareness need to be given about the ASCE and ASME E-journals provided and required to take efforts to increase the frequency of utilization of these e-resources. Regarding the print journals library staff can provide the Table of Contents (TOC) Service in order to facilitate for immediate and regular viewing of research articles in new issues of multiple journals subscribed at library as and when published and arrived at library to increase the use.

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