E-Resource Utilization Among Faculty Members and Research Scholars at Jawaharlal Nehru University and University of Delhi

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The application of information and communication technologies (ICT) has brought about a major exemplary transference in academic libraries. This paper bestows a study of the use of electronic resources in the untainted sciences by the faculty members and research scholars of Jawaharlal Nehru University and Delhi University. The research emphases on innumerable facets of e-resources i.e. awareness, usage patterns, preferences, and barriers. On the basis of the comparative analysis of the data from these two universities, this study intends to gauge the identify factors and the levels of satisfaction, that influence the utilization of e-resources, and highpoint how information literacy programs are working toward effectiveness.

Keywords: *E-Resources; Digital Literacy; Academic Libraries; User Satisfaction; JNU; DU.*

0   INTRODUCTION

One of the chief powerhouses of globalization that has transformed the visage of scholarly communication has been Information and Communication Technology (ICT). In fact, the Internet has paved innovative methods of resources and service access that permits scholars and information seekers to utilize relevant information at any time that is convenient and from anywhere across the globe, thereby eradicating geographical borders and barriers of time zones world-wide. The disproportionate exposure to a massive volume of online scholarly literature has been uncompromisingly directing towards

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dependence on e-resources mainly due to their ease of availability, accessibility, cost-effectiveness, and time-saving elements. It is against this background that universities and libraries are embracing technology with open arms and subscribing to e-resources to meet the increasing demands of users.

Academic libraries across the world are changing considerably in their conventional methods of procuring resources, storing them, and retrieving them with the encouragement of Information and Communication Technologies (ICT). The user friendly and non-linear information retrieval services are made available at any possible time and from any location, either local or remote which increases the optimal usage of the resources in the library effectively and propagating frequent and ease of access to them.

There are several factors that have heightened the trend in adopting ICT that are integrated with the Integrated Library Systems: diminishing prices for procuring ICTs, the abundance of open-source library management solutions, deep penetration of ICTs in society, and the availability of relevant, high-quality, and up-to-date e-resources. The move from print to electronics, despite its understandable advantages, is not without its critics. These cater to a variety of information and research requirements of users across various diverse disciplines, as well as a variety of age groups.

The incremental funds of the library also propel a thrust to the developing trend towards e-resources, since most of the institutions have colossal budgets for e-resources and, where necessary, have relocated from the budget for printed resources. A large number of topics have been raised about digital preservation, equity of access, and the further relegation of non-digital resources. The move toward e-resources, however, is an imperative progression of the academic library service. It is developing access to resources and trying to support scholarship as it changes today.

1   SCOPE

The scope of the present study is to identify about the awareness and the widespread use of e-resources by the faculty members and research scholars in the field of pure sciences of Jawaharlal Nehru University and the University of Delhi. It lays stress on the predilections and the importance of these e-resources. The study unravels the complexities encountered while accessing the e-resources and shall also determine the satisfaction level of the faculty members and research scholars.

2   LITERATURE REVIEW

The appreciation of e-resources in academic libraries commences with the study of the reputation, types, and complications connected with e-resources. In her discoveries, she appreciated that e-resources are extremely convenient,

cost-effective, and may be accessed at any location by countless users simultaneously.[1] This set the basis for a study on the usability and the level of awareness of e-resources by faculty members in the Arts & Science Colleges of Tamil Nadu. The results reveal a higher degree of awareness and access to e-resources among the faculties.[2] Ramakrishna et al.[3] assessed the level of user satisfaction with the library services of K L Deemed to be a university and derived conclusions that most users of K L Deemed to be a university, library services are moderately satisfied, except for inter-library loan services. Gowridevi et al.[4] steered a similar piece of research at GITAM University, where the majority of the users expressed a large-scale satisfaction with the library resources and services. The study conducted by Venkateswarlu and Raja[5] brought to the fore that e-resources played a noteworthy role in academic purposes among both faculty and students.

Ramakrishna et al.[6] targeted the students of pharmacy and mentioned a relatively high usage of electronic resources in studies and research. A concurrent study of engineering students by Aravind, 2017[7], exposed that there were topics with privacy concerns and a demand for training in handling and managing e-resources. Adeleke and Nwalo[8] have debated numerous barriers for the University of Ibadan postgraduate students in Nigeria: Power supply, IT skills, etc. Garg et al.[9] identified factors that impact e-resource usage by postgraduate business students at Nagpur. According to Natarajan[10], in 2017, it was noticed that an increased awareness led to the increased use of e-resources by Information Science students in Ethiopia. Sohail and Ahmed[11] explained user interest and issues about Fiji National University. It was mentioned that there was an emergent need for proper usage and refreshing or upgrading of e-resources on a regular basis.

Tlakula and Fombad[12] indicated low levels of awareness and usage in a study on the use of e-resources by undergraduate students at the University of Venda in South Africa. Yebowaah and Plockey[13] have created some suggestions for promoting the use of e-resources at the University for Development Studies in Ghana. Soni et al[14] assessed at Jiwaji University, India, amongst Library Science scholars, about the complications and the advantages of e-resources and proposed improved training sessions. Guruprasad et al.[15] conducted a study on the use of electronic resources by research scholars. The conclusions indicated that it was the maximum for e-journals and databases. Khaisar[16] evaluated the level of user satisfaction with electronic resources at the University of Mysore and reported a high degree of satisfaction. Tamrakar and Garg[17] measured the resource usage data at IIT Guwahati, India. They directed their work laying an emphasis on the relevance of the resources to the user's interests. Kuri[18] et al. studied the level of awareness towards-resource awareness and usage at Vishveshwarya Technical University; where they recommended the use of specific search engines and organized formal training programs.

Priyadarshini et al.[19] appraised the users' level of awareness of e-resources of e-resources in the Agricultural College and Research Institute, Madurai, where it was established that postgraduate students and faculty were considered to be high users of the same. To complete the survey, Makori[20] established micro factors influencing the use of e-resources amongst postgraduate students in Kenya, hence establishing the importance of the same in the success of their academics.

These studies provide an synopsis of the evolution, development, advantages and barriers of e-resources in academic library and highlights the role of e-resources in improving the quality of research and education.

3 OBJECTIVES

The following are the objectives of the study:
- To identify the awareness level, purpose, and extent of use of e-resources in sciences among the Faculty Members and Research Scholars in selected University libraries in Delhi.
- To know the diverse types of e-resources available in the field of science at selected universities in Delhi.
- To assess the frequency of use of e-resources by the Faculty Members and Research Scholars at selected Universities in Delhi
- To know the satisfaction level about the availability and coverage of e-resources and infrastructure available for accessing e-resources by Faculty Members and Research Scholars in science at selected Universities in Delhi.
- To determine the importance of the Information Literacy/Training Program in using e-resources provided by the selected university libraries.
- To identify the specific factors that promote or create hindrances in the use of electronic resources.

4 INSTITUTION PROFILE

In this study, two universities are undertaken. The profiles are given below:
Jawaharlal Nehru University (JNU): JNU was established in 1969 as the Central University and comprises of variety of schools of study that emphasizes on postgraduate education and research across different disciplines. The university library, was named Dr B R Ambedkar Central Library, that is acknowledged as the knowledge hub of JNU. It provides unstinted support to the increasing requirements of postgraduate students, faculty members, research scholars and administrative staff. The library has a huge collection that includes 5,16,243 books, subscription of 29 and 13 eSS online databases, 1412 CD/ROM databases, 38,973 E-books, number of print journals, reports, e-journal,

electronic theses and dissertations.

University of Delhi (DU): The University of Delhi was established in 1922, and has been rooted in its long-cherished ethnicities of drawing scholars who have excelled in various fields. The central library, named Delhi University Library System (DULS). DULS comprises of more than 34 libraries to cater to the needs of postgraduate students, faculty members, research scholars in various disciplines and administrative staff. The library resources are also accessible to the college faculty members and students affiliated to the University of Delhi. The library can easily boast of a massive collection including 16,53,277 books, 1,217 print journal titles and 4,56,806 bound journals, 640 manuscripts, 2000 CDs, Thesis and dissertation and has a subscription of 64 electronic databases using the DU E-library with the addition of 21 more databases through the UGC-INFONET Digital Library Consortium.

5   METHODOLOGY

This study adopted a descriptive survey research method and designed a structured questionnaire and observation method for collection of data to achieve the objectives of the study. The sample was randomly selected from the Ph.D. research scholars and faculty members of pure sciences (Physics, Chemistry, and Mathematics) of University of Delhi and Jawahar Lal Nehru University.

6   ANALYSIS AND DISCUSSION

The study analyses the responses received from the faculty members and research scholars on the "Use of E-Resources in the Field of Pure Science". A total of 475 questionnaires were distributed among the faculty members and research scholars of Pure Sciences of Jawaharlal Nehru University and University of Delhi, in print format and online format of Google form. The collected data has been analyzed and presented in a tabular form. The details are mentioned below:

TABLE-1
61 Total Number of Respondents

Users	Questionnaire Distributed	Questionnaire Received	Percentage
Faculty Members	105	52	49.52%
Research Scholars	370	254	68.65%
Total	475	306	64.42%

Table-1 shows the total number of 475 questionnaires distributed across select universities in Delhi, out of which 306 filled questionnaires total number of questionnaires were received. Out of the total percentage, 49.52% of responses are from Faculty Members and 68.65% are from Research Scholars.

TYPES OF RESOURCES PREFERRED

Table-2 represents the type of format preferred among faculty members and research scholars for education and teaching such as Print, Electronic Resources, and Both formats

TABLE-2

62 Type of Resources Preferred by Faculty Members and Research Scholars

Type of Resource	JNU		DU		Total
	FM	RS	FM	RS	
Print	1	7	2	5	15
	7.14%	5.93%	5.26%	3.68%	4.90%
E-Resources	11	98	32	120	261
	78.57%	83.05%	84.21%	88.24%	85.29%
Both	2	13	4	11	30
	14.29%	11.02%	10.53%	8.09%	9.80%
Total	14	118	38	136	306
	100%	100%	100%	100%	100%

FM =Faculty Members   RS= Research Scholars

The data indicates that a respectable percentage of the faculty members and research scholars of both Delhi University and Jawaharlal Nehru University prefer e-resources. The analysis indicates that 85.29% of the faculty and research scholars use electronic resources. Both resources i.e. print and electronic e-resources are preferred by 9.80% of faculty members and research scholars. The print resources are preferred least i.e. 4.90% of faculty members and research scholars prefer them.

AWARENESS OF E-RESOURCES

Table-3 represents the awareness of electronic resources among faculty members and research scholars in the field of pure sciences.

TABLE-3

63 Awareness of E-Resources by Faculty Members and Research Scholars

Awareness	JNU		DU		Total
	FM	RS	FM	RS	
Aware	14 (100%)	115(97.46%)	38 (100%)	134 (98.53%)	301 (98.37%)
Not Aware	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Don't Know	0 (0%)	3 (5.08%)	0 (0%)	2 (3.67%)	5 (1.63%)
Total	14(100%)	118(100%)	38(100%)	136(100%)	306(100%)

The faculty members are fully aware of e-resources, and there is a cent per cent (100%) awareness among the DU and JNU faculty about the availability of e-resources in pure sciences. This trend in awareness is also maintained amongst research scholars, where 98.53 % of the research scholars in DU and 97.46 % of the research scholars in JNU were very well aware of these resources. This indicates that institutional effort to a great extent has been made toward the promotion of e-resources

FREQUENCY OF ACCESS TO E-RESOURCES

Table-4 represents the frequency of accessing e-resources by faculty members and research scholars.

TABLE-4

64 Frequency of Access to E-Resources

Frequency of Access to E-Resources	JNU		DU		Total
	FM	RS)	FM	RS	
Daily	1 (7.14%)	15 (12.71%)	2 (5.26%)	19 (13.97%)	37 (12.09%)
Twice in a week	2 (14.28%)	6 (5.08%)	3 (7.89%)	9 (6.61%)	20 (6.53%)
Once in a week	3 (21.42%)	58 (49.15%)	4 (10.52%)	64 (47.05%)	129 (42.15%)
Once in a month	3 (21.42%)	7 (5.93%)	11 (28.94%)	6 (4.41%)	27 (8.82%)
Occasionally	5 (35.71%)	32 (27.11%)	18 (47.36%)	38 (27.94%)	93 (30.39%)
Total	14(100%)	118(100%)	38(100%)	136(100%)	306(100%)

The analysis reveals that both have different preferences in frequency of accessing e-resources. The frequency of accessing e-resources diverges, yet numerous faculty members access them occasionally, 47.36% at DU and 35.71% at JNU. The access amongst the faculty in DU on a monthly basis as also quite frequent. Among the research scholars, the access pattern is changed, although 49.15% at JNU and 47.05% at DU have mentioned accessing e-resources on a weekly basis; thus, they frequently use e-resources for their

academic work. Faculty members access occasionally depending upon their information that is required by them; whereas research scholars access weekly basis as they need resources for their study and research purpose.

PREFERENCE OF PLACE FOR ACCESSING E-RESOURCES

Table-5 reflects the place of preference of faculty members and research scholars of select universities to access e-resources.

TABLE-5
65 Preference of Place to Access E-Resources

Reasons	JNU		DU	
	FM	RS	FM	RS
University Library	0	5	2	7
	0%	4.23%	5.26%	5.14%
Access through LAN in Campus	2	9	5	8
	14.28%	7.62%	13.15%	5.88%
Access through Wifi In Campus	8	75	22	87
	57.14%	63.55 %	57.90%	63.97%
Access through Remote Login	4	29	9	34
	28.57%	24.57%	23.68%	25%
Total	14	118	38	136
	100%	100%	100%	100%

For both faculty members and research scholars of JNU and DU, the maximum access to e-resources is through campus Wi Fi, with 57.14% of JNU and 57.90% of DU faculty members, and 63.55% of JNU and 63.97% of DU research scholars respectively possessing a maximum preference for this mode of access. The remote login is also one of the key methods of access reflecting total dependence on institutional support for remote access to e-resources. The analysis demonstrates that both faculty members and research scholars have the same preference for places to access e-resources.

SOURCE OF INFORMATION ABOUT E-RESOURCES

Table-6 manifests the sources of information for e-resources in pure science among faculty members and research scholars of selected universities in Delhi

The Internet is the principal source of awareness about e-resources for

TABLE-6
66 Source of Information About E-Resource in the Field of Science

Source		Library Website	Attending Seminars/ Workshops	Through Friends	Through Library Staff	Attending User Education/ Information Literacy Program	Through Internet	Social media	Total
Faculty	JNU	3	1	0	2	3	5	0	14
		21.43%	7.14%	0%	14.29%	21.43%	35.71%	0%	100%
	DU	5	3	0	1	8	21	0	38
		13.16%	7.89%	0%	2.63%	21.05%	55.26%	0%	100%
	Total	8	4	0	3	11	26	0	52
		15.38%	7.69%	0%	5.77%	21.15%	50%	0%	100%
Research Scholar	JNU	11	28	4	7	21	46	1	118
		9.32%	23.73%	3.39%	5.93%	17.8%	38.98%	0.85%	100%
	DU	17	31	0	9	26	53	0	136
		12.5%	22.79%	0%	6.62%	19.12%	38.97%	0%	100%
	Total	28	59	4	16	47	99	1	254
		11.02%	23.23%	1.57%	6.3%	18.5%	38.98%	0.39%	100%

both faculty members and research scholars. In the case of DU, 55.26% of the faculties and 38.98% of the JNU research scholars responded that the Internet was their main source of information. This indicates the inevitability of advertising or promoting the available e-resources through online channels. Library websites, user education programs, and seminars or workshops also play a noteworthy role in creating an enthusiastic awareness about e-resources. Similarly, interaction with library staff makes up a smaller percentage of responses at both universities. In addition, it can be witnessed that learning about e-resources through friends or social media is negligible in both institutions, which indicates a gap in the extensive use of social media for awareness about e-resources. The data suggests that institutions should focus on increasing user education programs and ensuring easy access to online resources to improve the overall utilization of e-resources among both faculty members and research scholars. Additionally, expanding outreach efforts through the use of social media presents an opportunity for universities to further improve awareness and utilization of e-resources.

PURPOSE OF USE OF E-RESOURCE

In this table, various purposes of using electronic resources for example, academic writing, preparation of lecture notes, teaching, updating knowledge, course study, research, and career development by the faculty members and research scholars are examined

At JNU, the major use of e-resources by faculty members is for research purposes at 92.86%, followed by 71.43% in academic writing. On the other hand, for DU faculty members, academic writing ranked first with 94.74% of responses, followed by research with 84.21%. The majority of the research scholars from both universities are using e-resources for their research purposes and academic writing, updating their subject knowledge. The analysis displays that a slight difference does exist between these two universities. The lesser reasons are career development, curriculum design and general awareness for which e-resources are used by the faculty members and research scholars.

TABLE-7

67 Purpose of using Electronic Resources

		For course-based study	For the preparation of lecture notes/teaching	For Research purpose	For Academic Writing	General Awareness	Updating Subject Knowledge	Curriculum Design	For career development
Faculty	JNU	0	5	13	10	1	7	2	0
		0%	35.71%	92.86%	71.43%	7.14%	50%	14.29%	0%
	DU	0	9	32	36	4	9	5	1
		0%	23.68%	84.21%	94.74%	10.53%	23.68%	13.16%	2.63%
	Total	0	14	45	46	5	16	7	1
		0%	26.92%	86.54%	88.46%	9.62%	30.77%	13.46%	1.92%
Research Scholar	JNU	61	10	114	74	32	59	2	48
		51.68%	8.47%	96.61%	62.71%	27.11%	51.68%	1.69%	40.67%
	DU	74	14	130	83	48	68	5	62
		54.41%	10.29%	95.58%	61.02%	35.29%	50%	3.67%	45.58%
	Total	135	24	244	157	80	127	7	110
		53.14%	9.44%	96.06%	61.81%	31.49%	50%	2.75%	43.30%

Note (Multiple answers can be ticked)

TABLE-8

68 Reasons for Preference to Use E-Resources in Research

	University Affiliation	Quick Retrieval	Time-Saving	24X7 access	User Friendly	Easily Searchable	Multiple access to documents
Faculty	JNU	10	12	9	6	8	4
		71.43%	85.71%	64.29%	42.86%	57.14%	28.57%
	DU	35	30	26	15	24	9
		92.11%	78.95%	68.42%	39.47%	63.16%	23.68%
	Total	45	42	35	21	32	13
		65.21%	60.87%	50.72%	30.43%	46.38%	18.84%
Research Scholar	JNU	115	102	95	58	86	16
		97.46%	86.44%	80.51%	49.15%	72.88%	13.56%
	DU	136	125	107	84	97	20
		100%	91.91%	78.68%	61.76%	71.32%	14.71%
	Total	251	227	202	142	183	36
		98.81%	89.37%	79.52%	55.90%	72.04%	14.17%
Total	JNU	125	114	104	64	94	20
		94.69%	86.36%	78.78%	48.48%	71.21%	15.15%
	DU	171	155	133	99	121	29
		98.28%	89.08%	76.44%	56.89%	69.54%	16.66%
	Total	296	269	237	163	215	49
		96.73%	87.90%	77.45%	53.27%	70.26%	16.01%

TABLE-9

69 *Kind of E-Resources Used by Researchers and Faculty Members*

			E-Books	E Journals/E Article	E Reference Sources	E Thesis & Dissertation	Research Reports	Online Database	E Conference Proceedings	E Patents & Standard
Faculty	University Affiliation	JNU	11	14	2	3	4	8	6	3
			78.57%	100%	14.29%	21.43%	28.57%	57.14%	42.86%	21.43%
		DU	16	38	5	4	18	9	21	10
			42.11%	100%	13.16%	10.53%	47.37%	23.68%	55.26%	26.32%
		Total	27	52	7	7	22	17	27	13
			51.92%	100%	13.46%	13.46%	42.31%	32.69%	51.92%	25%
Research Scholar	University Affiliation	JNU	102	116	20	87	29	35	69	25
			86.44%	98.31%	16.95%	73.73%	24.58%	29.66%	58.47%	21.19%
		DU	113	132	31	95	56	57	85	38
			83.09%	97.06%	22.79%	69.85%	41.18%	41.91%	62.5%	27.94%
		Total	215	248	51	182	85	92	154	63
			84.65%	97.64%	20.08%	71.65%	33.46%	36.22%	60.63%	24.8%
Total	University Affiliation	JNU	113	130	22	90	33	43	75	28
			85.61%	98.48%	16.67%	68.18%	25.00%	32.58%	56.82%	21.21%
		DU	129	170	36	99	74	66	106	48
			74.14%	97.7%	20.69%	56.90%	42.53%	37.93%	60.92%	27.59%
		Total	242	300	58	189	107	109	181	76
			79.08%	98.04%	18.95%	61.76%	34.97%	35.62%	59.15%	24.84%

Note: Multiple responses were allowed.

REASONS FOR PREFERENCE TO USE E-RESOURCES IN RESEARCH

Table-8 represents the reasons for the preference to use e-resources by the faculty members and research scholars in pure science in select Universities in Delhi

The most preferred reason for using e-resources is Quick retrieval by faculty members and research scholars at DU and JNU. The second important reason is saving time and 24x7 access, which proves that convenience and efficiency are going to be prime reasons for the use of e-resources. The analysis demonstrates that the faculty members and research scholars of JNU and DU give high importance to Quick Retrieval, time-saving, and 24x7 access features while using e-resources for their research.

TYPE OF E-RESOURCES USED BY FACULTY MEMBERS AND RESEARCH SCHOLARS

Table-9 presents the types/kinds of e-resources used by Faculty Members and Research Scholars of select universities in Delhi.

Faculty Members and Research Scholars of both universities show high usage of e-journals and e-articles. In comparison to 42.11% of DU faculty members, JNU faculty members use e-books more with 78.57%. This indicates that while e-journals and e-articles are extremely popular among all concerned, other e-resources might have significant institutional preferences. Research Scholars have a high usage of e-thesis and dissertations for their research study in comparison to the faculty members. E-reference sources are the least used e-resources by both i.e. faculty members and research scholars.

REMOTE ACCESS FACILITY OF E-RESOURCES

Table 10 represents the availability of remote login access to e-resources to the faculty members and research scholars of both universities.

Data analysis reveals that 100% of the faculty members at both the universities (JNU & DU) are aware of the remote login facility of e-resources. About 99.15% of JNU Research scholars are aware of the remote login facility

TABLE-10

610 Remote Access Facility of E-Resources

Particulars			Yes	No	Don't Know	Total
Faculty	**University Affiliation**	JNU	14	0	0	14
			100%	0%	0%	100%
		DU	38	0	0	38
			100%	0%	0%	100%
		Total	52	0	0	52
			100%	0%	0%	100%
Research Scholar	**University Affiliation**	JNU	117	0	1	118
			99.15%	0%	0.85%	100%
		DU	136	0	0	136
			100%	0%	0%	100%
		Total	253	0	1	254
			99.61%	0%	0.39%	100%
Total	**University Affiliation**	JNU	131	0	1	132
			99.24%	0%	0.75%	100%
		DU	174	0	0	174
			100%	0%	0%	100%
		Total	305	0	1	306
			99.67%	0%	0.32%	100%

for accessing e-resources, and about 0.85% are not aware of this facility provided by their university. Whereas, 100% of DU research scholars are aware of the remote login facility of e-resources. On an average, the faculty members and research scholars are aware of the remote login facility to access the e-resources, albeit, a fraction of a section of research scholars either lack access or are unaware of this facility. The library is doing commendable work in the promotion of e-resources and has complete accessibility of its resources.

BENEFITS OF USE OF E-RESOURCES

In Table 11, the advantages/Benefits of the use of e-resources by faculty members and research scholars in select Universities in Delhi are shown:

TABLE-11

611 Benefits of Use of E-resources by Faculty Members and Research Scholars

Designation			Access to updated information	Multi User Access	Anytime Anywhere access	Full-text searching	Time-Saving	Access to a wide range of information	Easily Searchable	Increased Professional Competency	Increased professional collaboration with distant colleagues
Faculty	University Affiliation	JNU	12	7	11	7	9	5	8	4	4
			85.71%	50%	78.57%	50%	64.29%	35.71%	57.14%	28.57%	28.57%
		DU	35	24	31	22	28	19	26	16	13
			92.11%	63.16%	81.58%	57.89%	73.68%	50%	68.42%	42.11%	34.21%
		Total	47	31	42	29	37	24	34	20	17
			90.38%	59.62%	80.77%	55.77%	71.15%	46.15%	65.38%	38.46%	32.69%
Research Scholar	University Affiliation	JNU	115	76	112	71	109	56	106	47	28
			97.46%	64.41%	94.92%	60.17%	92.37%	47.46%	89.83%	39.83%	23.73%
		DU	133	104	129	97	124	83	119	62	45
			97.79%	76.47%	94.85%	71.32%	91.18%	61.03%	87.5%	45.59%	33.09%
		Total	248	180	241	168	233	139	225	109	73
			97.64%	70.87%	94.88%	66.14%	91.73%	54.72%	88.58%	42.91%	28.74%
Total	University Affiliation	JNU	127	83	123	78	118	61	114	51	32
			96.21%	62.88%	93.18%	59.09%	89.39%	46.21%	86.36%	38.64%	24.24%
		DU	168	128	160	119	152	102	145	78	58
			96.55%	73.56%	91.95%	68.39%	87.36%	58.62%	83.33%	44.83%	33.33%
		Total	295	211	283	197	270	163	259	129	90
			96.41%	68.95%	92.48%	64.83%	88.24%	53.27%	84.64%	42.16	29.41%

Faculty Members and Research Scholars assign a higher value to e-resources for access to updated information and their anytime-anywhere access. Another highly-valued benefit is time-saving. There is, however, less emphasis on the benefits related to professional growth and collaboration which suggests some areas for potential improvement in how these resources might be promoted.

BARRIERS IN ACCESSING OF E-RESOURCES

Table-12 bestows an investigation of the barriers faced by the faculty members and research scholars of the selected universities in Delhi while accessing e-resources. The users usually face problems are registration issues

in which they have to register before accessing the resource, which creates hindrances in access to the database. The other barriers are Slow Internet Speed, lack of assistance from trained library staff, limited access to databases, and remote access pages not working. All these problems have been evaluated through responses received.

TABLE-12

612 Barriers to E-Resource Access

Designation	University		Poor Internet connectivity	Registration process	Lack of skilled library staff	Limited Access to Database	Overlapping of Information in Databases	Multiple Download Format (PDF/HTML etc	The remote login access page not working	Search Mechanism (Federated/ Combined)
Faculty	JNU	Yes	12	11	4	10	6	2	8	3
		%	85.71%	78.57%	28.57%	71.43%	42.86%	14.29%	57.14%	21.43%
		No	2	1	6	2	7	9	4	8
		%	14.29%	7.14%	42.86%	14.29%	50%	64.29%	28.57%	57.14%
		Don't Know	0	2	4	2	1	3	2	3
		%	0%	14.29%	28.57%	14.29%	7.14%	21.43%	14.29%	21.43%
		Total	14	14	14	14	14	14	14	14
		%	100%	100%	100%	100%	100%	100%	100%	100%
	DU	Yes	33	31	12	27	11	4	23	9
		%	86.84%	81.58%	31.58%	71.05%	28.95%	10.53%	60.53%	23.68%
		No	3	6	16	7	19	27	9	12
		%	7.89%	15.79%	42.10%	18.42%	50%	71.05%	23.68%	31.58%
		Don't Know	2	1	10	4	8	7	6	17
		%	5.26%	2.63%	26.32%	10.53%	21.05%	18.42%	15.79%	44.74%
		Total	38	38	38	38	38	38	38	38
		%	100%	100%	100%	100%	100%	100%	100%	100%
Research Scholar	JNU	Yes	102	95	46	83	43	36	71	37
		%	86.44%	80.51%	38.98%	70.34%	36.44%	30.51%	60.17%	31.36%
		No	14	20	58	26	52	67	40	69
		%	11.86%	16.95%	49.15%	22.03%	44.07%	56.78%	33.9%	58.47%
		Don't Know	2	3	14	9	23	15	7	12
		%	1.69%	2.54%	11.86%	7.63%	19.49%	12.71%	5.93%	10.17%
		Total	118	118	118	118	118	118	118	118
		%	100%	100%	100%	100%	100%	100%	100%	100%
	DU	Yes	116	110	52	96	50	41	82	52
		%	85.29%	80.88%	38.24%	70.59%	36.76%	30.15%	60.29%	38.24%
		No	17	21	67	31	61	76	45	71
		%	12.5%	15.44%	49.26%	22.79%	44.85%	55.88%	33.09%	52.20%
		Don't Know	3	5	17	9	25	19	9	13

Poor internet connectivity and access to databases are the major challenges both for faculty members and research scholars. Other problems, like remote login access, repetitiveness of information, and lack of library staff with sufficient skills, act as stumbling blocks in the effective exploitation of e-resources. Therefore, remedying these problems will immensely improve the accessibility and usability of e-resources.

ORGANIZATION OF ORIENTATION/TRAINING/INFORMATION LITERACY PROGRAM ON THE USE OF ELECTRONIC RESOURCES

Table-13 presents an analysis of the orientation/training/information literacy program on the use of e-resources organized by universities under study for their faculty members and research scholars.

TABLE-13

613 Organization of Orientation/Training/Information Literacy program on the use of electronic resources

Designation			Yes	No	Don't Know	Total
Faculty	**University Affiliation**	JNU	**13**	**0**	1	14
			92.86%	0%	7.14%	100%
		DU	36	0	2	38
			94.74%	0%	5.26	100%
		Total	49	0	3	52
			94.23%	0%	5.77%	100%
Research Scholar	**University Affiliation**	JNU	96	12	10	118
			81.35%	10.16%	8.47%	100%
		DU	117	10	9	136
			86.02%	7.35%	6.61%	100%
		Total	213	22	19	254
			83.86%	8.66%	7.48%	100%

Faculty members are fully aware of the orientation/information literacy programs, as 94.74% in DU and 92.86% in JNU know about these programs. However, on the part of research scholars, 83.86% are aware of the orientation programs/information literacy programs, 8.66% are not aware and about 7.48% have no idea about such programs. At the research scholars' level, communication requires to be improved so that maximum participation and utilization of e-resources may be ensured.

ATTENDING ORIENTATION/TRAINING/INFORMATION LITERACY PROGRAM FOR USE OF E-RESOURCES

Table-14 analyses the perception of faculty members and research scholars towards orientation/training/information literacy programs organized by their libraries.

TABLE-14

614 Attending Orientation/Training/Information Literacy Program for use of E-resources

Designation			Yes	No	Don't Know	Total
Faculty	**University Affiliation**	**JNU**	10	3	1	14
			71.43%	21.43%	7.14%	100%
		DU	28	7	3	38
			73.70%	18.40%	7.90%	100%
		Total	38	10	4	52
			73.07%	19.23%	7.70%	100%
Research Scholar	**University Affiliation**	**JNU**	95	15	8	118
			80.51%	12.71%	6.78%	100%
		DU	117	13	6	136
			86.03%	9.56%	4.41%	100%
		Total	212	28	14	254
			83.46%	11.02%	5.51%	100%

The participation rates of training programs at DU are higher, with 73.70% for faculty and 86.03% for research scholars than those at JNU, with participation rates of 71.43% for faculty and 80.51% for research scholars. This establishes that, compared to JNU, at DU, the engagement with training programs is marginally better; however, further improvement is needed in both cases.

METHOD TO PROMOTE THE ACCESS AND USE OF E-RESOURCES AMONG FACULTY MEMBERS AND RESEARCH SCHOLARS

Table-15 delves into the various methods implemented by their university library to promote the use and access of e-resources among Faculty members and Research Scholars of select universities in Delhi.

TABLE-15

615Method to promote the access and use of e-resources among Faculty members and Research Scholars

			Email Alerts	Orientation/ Workshops on Hands	Current Awareness link on the library webpage	Information through the Library's Social media Page	Circulation of Printed circulars about newly subscribed e-resources	Tutorials and Guides
Faculty	University Affiliation	JNU	13	10	3	2	3	4
			92.86%	71.43%	21.43%	14.29%	21.43%	28.57%
		DU	35	28	9	6	9	3
			92.11%	73.68%	23.68%	15.79%	23.68%	7.90%
		Total	48	38	12	8	12	7
			92.31%	73.08%	23.08%	15.38%	23.08%	12.96%
Research Scholar	University Affiliation	JNU	106	89	23	19	31	37
			89.83%	75.42%	19.50%	16.10%	26.27%	31.36%
		DU	124	104	36	26	41	49
			91.17%	76.47%	26.47%	19.11%	30.15%	36.03%
		Total	230	193	59	45	72	52
			90.55%	75.98%	23.23%	17.72%	28.35%	20.47%

Note: Multiple answers were allowed

Email alerts and orientation and hands-on workshops are the most preferred methods for promoting the access and use of e-resources among faculty members and research scholars at both universities. Although a variety of methods are used, the effectiveness of email alerts and workshops suggests that these need to be given priority in promotional strategies. The least expended methods are the Tutorials and guides, and Information through the library's social media page. The library should improve the presentation of information about e-resources on its social media page for more visibility and to increase the usage of e-resources by the users.

SATISFACTION WITH THE INFRASTRUCTURAL FACILITIES

Table-16 reflects the satisfaction level of faculty members and research scholars with the infrastructural facilities in their university libraries.

TABLE 16

616 Satisfaction with the infrastructural facilities

		Satisf action Level	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total
Faculty	University Affiliation	JNU	2	5	3	4	0	14
			14.29%	35.71%	21.43%	28.57%	0%	100%
		DU	5	18	9	6	0	38
			13.16%	47.37%	23.68%	15.79%	0%	100%
		Total	7	23	12	10	0	52
			13.46%	44.23%	23.08%	19.23%	0%	100%
Research Scholar	University Affiliation	JNU	16	71	19	8	4	118
			13.56%	60.17%	16.10%	6.78%	3.39%	100%
		DU	15	84	21	9	7	136
			11.03%	61.76%	15.44%	6.62%	3.59%	100%
		Total	31	155	40	17	11	306
			12.2%	61.02%	15.75%	6.70%	4.33%	100%
Total	University Affiliation	JNU	18	76	22	12	4	254
			13.64%	57.58%	16.67%	9.09%	3.03%	100%
		DU	20	102	30	15	7	174
			11.50%	58.62%	17.24%	8.62%	4.02%	100%
		Total	38	178	52	27	11	306
			12.42%	58.17%	16.99%	8.82%	3.59%	100%

About 44.23% of the faculty members and 61.02% of research scholars are satisfied with the infrastructural facilities, though a notable percentage suggests enhancements. The satisfaction is slightly higher among the research scholars; still, both categories feel that there is ample scope and sky is the limit for improvement in using e-resources. The universities should improve the infrastructural facilities like enhanced wi-fi connectivity, availability of more computer terminals, better support services etc.

SATISFACTION WITH THE E-RESOURCES SUBSCRIBED BY THE UNIVERSITY

Table-17 examines the satisfaction level of the subscribed E-resources by the university among the faculty members and research scholars in select

Universities in Delhi.

TABLE-17

617 Satisfaction with the E-Resources subscribed by the University

		Satisfaction Level	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total
Faculty	University Affiliation	JNU	5	8	0	1	0	14
			35.71%	57.14 %	0%	7.15%	0%	100%
		DU	10	17	7	4	0	38
			26.32%	44.74%	18.42%	10.52%	0%	100%
		Total	15	25	7	5	0	52
			28.85%	48.08%	13.46%	9.62%	0%	100%
Research Scholar	University Affiliation	JNU	10	96	8	4	0	118
			8.47%	81.36%	6.78%	3.39%	0%	100%
		DU	17	114	3	2	0	136
			12.5%	83.82%	2.21%	1.47%	0%	100%
		Total	27	210	11	6	0	306
			10.63%	82.68%	4.33%	2.36%	0%	100%
Total	University Affiliation	JNU	15	104	8	5	0	132
			11.36%	78.79%	6.06%	3.79%	0%	100%
		DU	27	131	10	6	0	174
			15.52%	75.29%	5.75%	3.45%	0%	100%
		Total	42	235	18	11	0	306
			13.73%	76.80%	5.88%	3.59%	0%	100%

A majority of the faculty members in JNU and DU are satisfied with the e-resources subscribed by their respective universities. The satisfaction level of JNU faculty members is higher than that of DU faculty members. In the case of research scholars, it is even higher in DU: 96.32% satisfaction at DU justifies the present e-resources, which can serve most of the needs. The analysis demonstrates that faculty members and research scholars are satisfied with the e-resources subscribed by their university.

SATISFACTION WITH THE REMOTE ACCESS PLATFORM/MECHANISM PROVIDED BY THE UNIVERSITY

In Table 18, satisfaction among the faculty members and research scholars is examined with the remote access platform/mechanism provided by select universities in Delhi.

TABLE-18

618 Satisfaction with the Remote Access Platform/Mechanism provided by the University

Designation		Satisfaction Level	Useful	Not Useful	Don't Know	Total
Faculty	University Affiliation	JNU	13	1	0	14
			92.86%	7.14%	0.00%	100%
		DU	36	2	0	38
			94.74%	5.26%	0.00%	100%
		Total	49	3	0	52
			94.23%	5.77%	0.00%	100%
Research Scholar	University Affiliation	JNU	112	4	2	118
			94.92%	3.39%	1.69%	100%
		DU	127	6	3	136
			93.38%	4.41%	2.21%	100%
		Total	239	10	5	254
			94.09%	3.94%	1.97%	100%
Total	University Affiliation	JNU	125	5	2	132
			94.70%	3.79%	1.52%	100%
		DU	163	8	3	174
			93.68%	4.60%	1.72%	100%
		Total	288	13	5	306
			94.12%	4.25%	1.63%	100%

In the case of faculty members, there is a major satisfaction with the remote access platform in 94.23% of faculty members and 94.09% of research scholars from both DU and JNU. There is an urgent requirement that Universities should enhance Orientation/Information Literacy programs and provide efficient

support systems to their users to improve the overall satisfaction level.

7   CONCLUSION

The comparative study revealed that faculty members and research scholars exhibit a high level of awareness and utilization of e-resources. The majority of users access e-resources for research, academic writing, and updating their subject knowledge. The study identifies significant satisfaction with the availability and accessibility of e-resources, with a notable preference for both print and electronic formats. However, the research also highlights several challenges. Issues, such as, digital preservation, equitable access, poor internet connectivity, and limited database access are significant barriers to effective e-resource utilization. Furthermore, there is an essential requirement for improved communication on the availability of remote access and training programs to maximize the potential benefits of e-resources.

The study highlights the standing of continuous investment in digital infrastructure and the provision of comprehensive training programs to enhance the digital literacy of users. Libraries must address the technical and infrastructural barriers to improve user experience and satisfaction. Enhanced promotion of e-resources through online channels, workshops, and user education programs is crucial for increasing awareness and usage.

Academic libraries can suggestively enhance the support they provide to the academic and research activities of faculty members and research scholars by addressing the identified challenges and leveraging the strengths. This will not only improve the effectiveness of e-resources rather it would also contribute to the overall academic excellence of the institutions.

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