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## Information Source Utilization and Service Effectiveness at Academic Library Settings: A Pilot Study on University Students' Perception

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#### Abstract

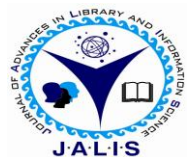
*University libraries play a crucial role in higher education and research, providing a wide range of information resources in both print and electronic formats to meet the diverse needs of their users. A study was conducted to analyze the information usage patterns of postgraduate students and evaluate their satisfaction with library services through a survey of 300 respondents from three universities in Karnataka. Utilizing the Information Use Index (IUI) to track usage patterns and Customer Satisfaction Scores (CSAT) to assess satisfaction, the findings revealed that students primarily visit libraries for reading books, newspapers, and note-making. Among print sources, newspapers, textbooks, and magazines were the most favored, whereas e-books, e-journals, and databases were the top electronic sources. Students expressed high satisfaction with the core services of libraries but showed dissatisfaction with personalized services. The study highlights the need to enhance awareness regarding the resources and services available in libraries to better serve all students, particularly those who are currently less engaged.*

#### Keywords

university library, effectiveness of library, information usage pattern, students,

#### Electronic access

The journal is available at [www.jalis.in](http://www.jalis.in)  
DOI: 10.5281/zenodo.19436234

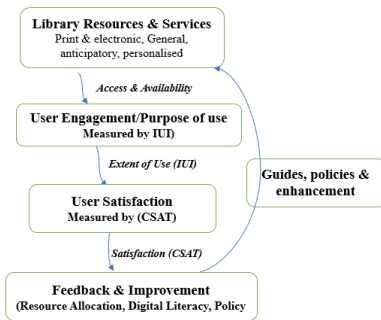


Journal of Advances in Library and Information Science  
ISSN: 2277-2219 Vol. 15. No.2. 2026. pp.171-176

## Introduction

Libraries are playing a key role in enhancing the quality of education in higher learning environments. Libraries are equipped with a vast range of information sources needed for academic learning, teaching and research activities. Leupp (1924) said, 'The library is the heart of the university, which is most relevant even in the present information explosion era. Libraries remain central in supporting higher learning and research, and have become a learning hub for all academic activities with their vast, need-based collection and innovative library services and facilities, including information products. Electronic information sources have become an essential component of today's library collection. Therefore, assessing the use pattern of the information sources (both print and electronic), and understanding the user preference for different types and formats is essential for libraries to adopt a considerate approach in developing a need-based collection and for the better use of library funds.

The UG students prefer both print and electronic information sources in their academic activities; the study provides input for libraries in equipping their collection with the desired sources (Chohda & Kumar, 2023). Veena & Kotari, (2016) and Gudi & Paradkar, (2016) observed user satisfaction with the general collection of the library, including the textbook collection and with circulation services of the libraries. The study suggested conducting user studies regularly to understand their information needs and seeking behaviour. Therefore, a systematic assessment of students' preferences for various kinds of information sources in the present situation reveals the use patterns of library resources, and contributes to developing a need-based collection and students' satisfaction with existing library services and facilities, providing input in bringing the modifications in them, and also helps in designing the user training programs and in infrastructure planning for libraries. Such evidence-based insights are crucial for university libraries to thrive in the era of information explosion. With this background, the study has attempted to understand the students' preferences for information sources and their satisfaction with library services in the university setting. The study has applied the 'Information Use Index (IUI)' to students' information use patterns and the 'Customer Satisfaction Score (CSAT)' to evaluate the students' satisfaction with library services. The model adopted in the study is presented here.



*Figure 1: Conceptual Model of Library Use, Resource Utilisation and User Satisfaction*

This model highlights the availability of information sources in print and digital formats, as assessed by IUI to capture students' preferences for information sources, and their satisfaction with general, anticipatory, and personalised services offered at university libraries, assessed using a CSAT score.

**Significance of the Study**

The present educational environment is tech-savvy. University libraries are in frontline in adopting the technology for effective knowledge management and also in addressing the variety of information needs of library users. The digital exposure influenced the current library users greatly, and brought drastic changes in their information needs and in their information-seeking behaviour. This influenced libraries to acquire electronic information resources. The effectiveness of the libraries lies in the optimum utilization of sources, services, and facilities of the libraries. Therefore, libraries need to understand its users' needs and their feedback on the existing information systems and services. This assessment will help libraries contribute to the success of their parent organization and other stakeholders.

**Literature review**

Senthilkumar & Jeyothiprakash (2018) found a high preference for both print and electronic information sources at Amirta Vishwa Vidyapeetam, Tamil Nadu and opined that print sources remained important sources and an increasing trend in the use of e-resources. Chocda and Kumar (2023) evidenced the same trend among the UG students of NITs in North Western India. Further explored the demographic variables' influence on these preferences. Smith and Jones (2017) identified the different patterns of using the information sources available in both print and

electronic formats, and the use of electronic information sources was influenced by metadata management. Veeba and Kotari (2016) evidenced that general books, textbooks were predominantly preferred by students, and a high level of satisfaction with the library circulation services. Students are visiting the library to borrow books and to work on assignments at Stella Maris College, Chennai (Mahalakshmi, 2019), and a limitation was observed regarding the ICT infrastructure. A partial awareness of e-resources was observed by Biswas and Kishore (2024), and they found the influence of training and the availability of resources on their use and satisfaction. Gunarathna (2024) evidenced the impact of digital libraries equipped with a need-based collection aligned with the curriculum on user satisfaction with physical libraries. Philippine university students preferred print information sources; books were preferred more compared to all other information sources (Cabfilan, 2024). An increasing preference was explored by Kori (2025) among the Mangalore University students.

These reviews emphasized the growing interest in the use of e-resources, and the print resources remained central in academic settings, and user satisfaction acts as a key in measuring the effectiveness of the library. The studies revealed that students are satisfied with the core services of the libraries. Therefore, it's evident that libraries need to balance the traditional (Print) and modern (e/digital) resources in their collection.

**Methodology**

The study is survey-based research. The structured questionnaires were used to collect data from the university students pursuing postgraduate studies at Gulbarga University, Raichur University and Tumkur University. 100 responses from each university have been collected.

The Information Use Index (IUI) is used to evaluate the effective use of information resources by the respondents. The Information Use Index (IUI) is a composite measure to assess the extent of information utilization across various sources and facilities. It is calculated as:

$$IUI = \frac{\text{Total actual use of information resources/services}}{\text{Total Potential or expected use}} \times 100$$

The Customer Satisfaction Score (CSAT) method captures user perception by rating satisfaction on a five-point scale (Extremely Satisfied, Satisfied,

Neutral, Dissatisfied, Extremely Dissatisfied). The CSAT percentage is computed as:

$$CSAT (\%) = \frac{\text{Number of satisfied Responses}}{\text{Total Responses}} \times 100$$

This provides a simple, direct measure of satisfaction.

The CSAT highlights the perceived satisfaction level of users. IUI offers a more objective evaluation of how effectively information resources and services are being used. Together, these two measures provide a balanced framework for evaluating user satisfaction and information behaviour in university libraries. The study has adopted both methods and presented them in the following tables.

Limitation: Since it's a pilot study, the scope of the study is limited to the responses collected from Tumkur University, Gulbarga University, and Raichur University. The study group consists of students pursuing post-graduation in the academic year 2024-25.

**Results**

**Table 1: Gender Distribution**

Gender category	Discipline			Total
	Science	Social Science	Commerce and Management	
Male	63(21.0%)	84(28.0%)	26(8.7%)	73(57.7%)
Female	61(20.3%)	43(14.3%)	23(7.7%)	27(42.3%)
Total	24(41.3%)	127(42.3%)	49(16.3%)	300(100%)

300 postgraduate students took part in the study; 57.7% were male and 42.3% were female. 42.3% of respondents are from Social Science, 41.3% from Science, and 16.3% from Commerce and Management, who took part in the present study.

**Table 2: Purpose of Using the Library**

SN	Purpose	Agree	Neutral	Disagree	Total
a	To read Books	278 (80.6%)	35 (10.1%)	4 (1.2%)	317 (91.9%)
b	Issue, return, renewal, and the reservation of books	222 (64.3%)	59 (17.1%)	17 (4.9%)	298 (86.4%)
c	To read newspapers/ Magazines	246 (71.3%)	48 (13.9%)	13 (3.8%)	307 (89.0%)
d	To use computers/ Internet	197 (57.1%)	72 (20.9%)	27 (7.8%)	296 (85.8%)
e	To prepare class notes	201 (58.3%)	85 (24.6%)	16 (4.6%)	302 (87.5%)
f	To prepare a seminar/ presentation	160 (46.4%)	106 (30.7%)	31 (9.0%)	297 (86.1%)
g	For project work	150 (43.5%)	96 (27.8%)	38 (11.0%)	284 (82.3%)
h	Use the quiet space for reading and writing	217 (62.9%)	61 (17.7%)	20 (5.8%)	298 (86.4%)
i	To see friends to spend leisure time	109 (31.6%)	79 (22.9%)	80 (23.2%)	268 (77.7%)

The data shows that the most common purpose of library use is reading books (80.6%), followed by reading newspapers and magazines (71.3%), and using quiet space for reading and writing (62.9%). Academic support activities such as preparing class notes (58.3%) and seminars/presentations (46.4%) were moderately reported. However, only 31.6% used the library for leisure/social interaction, indicating that the library is primarily perceived as an academic rather than a social space. This highlights the dominance of traditional reading and academic purposes over recreational use.

**Table 3: Pattern of Using the Print and Electronic Information Sources**

Print Sources	Most Frequently	Frequently	Some Times	Rarely	Never	IUI	Rank Order
Text Book	202	55	37	11	3	1366	2
Reference Books	145	77	46	31	5	1238	4
News Papers	219	49	29	10	5	1403	1
Magazines	179	61	31	23	14	1292	3
Printed Journals	87	52	52	36	45	916	5
Theses & Dissertations	69	62	35	31	63	823	6
Technical Reports	65	51	41	25	74	776	7
Project Reports	67	47	44	22	73	772	8
Conference Proceedings	42	55	42	22	87	687	11

Manuals	65	43	32	33	84	743	10
Special Collections	64	52	30	27	75	747	9
<b>E-Resources</b>	<b>Most Frequently</b>	<b>Frequently</b>	<b>Some Times</b>	<b>Rarely</b>	<b>Never</b>	<b>IUI</b>	<b>Rank Order</b>
E-Journals	85	43	22	20	63	766	2
E-Books	76	53	28	23	62	784	1
Databases	72	39	30	22	68	718	3
CD/DVD ROMs	50	44	28	23	78	634	4
A-V Materials	35	47	26	21	83	566	6
Institutional Repository	38	43	25	26	83	572	5
E-Conf. Proceedings	35	33	27	29	89	535	9
E-Reports	33	43	19	31	92	548	8
E-Maps	39	35	23	30	88	552	7
E-Manuscripts	31	32	23	30	94	506	10
E-theses/dissertations	36	35	26	28	85	539	9

Among print resources, newspapers rank highest in usage (IUI = 1403), followed by textbooks (1366), and magazines (1292). Reference books also have significant usage (1238), reflecting their importance in academic tasks. In contrast, conference proceedings (687) and manuals (743) were less used, suggesting students rely less on specialized or technical materials. The top three print resources predominantly preferred by the students are Newspapers, textbooks, and magazines. This

indicates that students' preferences are still largely oriented towards general and curriculum-related print resources.

The e-books (IUI-784), e-journals (IUI-766) and databases (IUI-718) are the top preferred electronic sources of information. This preference indicates that students prefer information sources related to their curriculum, whether in print or electronic form.

**Table 4:** Students' Satisfaction with Different Types of Library Service

<b>General Services</b>	<b>Extremely Satisfied (5)</b>	<b>Satisfied (4)</b>	<b>Neutral (3)</b>	<b>Dissatisfied (2)</b>	<b>Extremely Dissatisfied (1)</b>	<b>Total</b>	<b>CSAT (%)</b>
Book Lending Service	148	103	19	3	7	280	89.6%
Book Reservation Service	95	83	62	27	9	276	64.5%
Reference Service	92	90	77	10	10	279	65.2%
Referral Service	75	67	56	36	17	251	56.6%
Bibliographic Service	58	67	49	42	26	242	44.8%
Reprographic Service	69	88	53	11	25	246	63.8%
Question Bank Service	81	100	52	14	24	271	66.8%
Book Bank Facility	74	77	60	25	23	259	58.3%
E-Resources	54	75	50	35	25	239	54.0%
Ask a Librarian	42	84	44	42	19	231	54.5%
<b>Anticipatory Services</b>	<b>Extremely Satisfied (5)</b>	<b>Satisfied (4)</b>	<b>Neutral (3)</b>	<b>Dissatisfied (2)</b>	<b>Extremely Dissatisfied (1)</b>	<b>Total</b>	<b>CSAT (%)</b>
Display of New Arrivals	86	93	30	18	23	250	50.2%
Table of Contents Service	56	64	52	39	28	239	57.3%
Document Delivery Service	63	75	50	32	21	241	55.8%
Career Information Service	57	78	64	23	20	242	60.9%
Current Awareness Service	60	94	56	22	21	253	54.5%
News Clipping Service	67	73	74	16	27	257	40.4%
Alerting Service	39	56	36	61	43	235	50.2%
<b>Personalized Services</b>	<b>Extremely Satisfied (5)</b>	<b>Satisfied (4)</b>	<b>Neutral (3)</b>	<b>Dissatisfied (2)</b>	<b>Extremely Dissatisfied (1)</b>	<b>Total</b>	<b>CSAT (%)</b>

Indexing & Abstracting Service	40	47	43	37	53	220	39.5%
SDI Service	32	44	49	36	58	219	34.7%
Research support	38	51	43	38	58	228	39.0%
Translation Service	33	55	43	38	62	231	38.1%
One-on-one training	26	42	48	37	64	217	31.3%

Among

general services, the highest satisfaction levels are recorded for book lending services (CSAT = 89.6%), followed by question bank service (66.8%) and reference service (65.2%). However, services like bibliographic service (44.8%) and referral service (56.6%) show relatively low satisfaction. This suggests that while core services meet user expectations, specialized support services need improvement to enhance academic assistance.

Among anticipatory services, the career information service received the highest satisfaction (CSAT = 60.9%), while the news clipping service (40.4%) and the alerting service (50.2%) recorded lower ratings. This shows students' preference for service related to the future career aspects.

Overall, the low satisfaction score was attributed to the personalised services offered by the libraries. This indicates the lack of awareness and lack of user engagement with these library services.

### Discussion

The study reveals that students primarily use the library for academic purposes, including reading books, preparing notes, and accessing newspapers and magazines. Newspapers, textbooks, and magazines were most frequently preferred among print sources of information, and e-books and e-journals were most frequently preferred among electronic sources of information.

The students were highly satisfied with the circulation services such as book lending, return, renewal, reservation, and taking library membership, and the question bank facility offered by the university libraries. It shows that the libraries are successfully addressing the immediate informational needs of their user community. Overall, the students are satisfied with the general services offered by the libraries, dissatisfaction is noted with the personalised services of the libraries. Thus, libraries need to strengthen their services and raise awareness of the advanced academic support they offer. Therefore, the following suggestions have been provided for the university libraries.

- a) Raising awareness on Specialised Services: many students are not aware of the bibliographic and newspaper clipping service, and of the personalised library services. User orientation, training programs/workshops, posters, and digital announcements are suggested.
- b) Strengthening the digital infrastructure: since the students are given high preference for e-books, e-journals, and databases, libraries need to provide collaborative learning spaces with ICT infrastructure to ensure equitable access to the e-resources. Developing need-based information products, such as user-friendly library portals, and developing apps will enhance the accessibility and usability of e-resources.
- c) Regular Library Literacy Programs: Conducting periodic library literacy programs and a digital competency program for students will help students navigate the e-resources with ease.
- d) Integrating Career and Research Support Services: Conducting workshops on research writing, plagiarism, citation, and reference management will enhance the quality of students' research projects, and Career Information Services can be designed by the libraries to assist students in getting placements.
- e) Feedback Mechanisms: Libraries need to interact with the students to understand their needs and to collect their feedback on existing library services and facilities to improve or bring changes in them. Improved service quality tends to increase user satisfaction significantly (Baffour Gyau et al., 2021).

### Conclusion

This study highlighted that libraries are a necessary resource for their users in their academic learning and research. Print and electronic sources play a key role in academic preparation, particularly in reading. The general services offered by the libraries have received highly satisfactory responses, while the personalized information services received responses of dissatisfaction. Therefore, it is suggested to raise awareness among students on the same, the awareness creates curiosity among users to use or attempt to utilise services. The gap is evident in the use and user satisfaction with library sources and services. Awareness programs, posters, special lecture series, and regular library periods will enhance the effectiveness of the libraries in addressing diverse informational needs. Since current library users are

digital natives, libraries need to think beyond boundaries and adopt a pedagogical approach to turn them into creative, collaborative learning hubs with suitable infrastructure. This will empower the library users to look and learn beyond their curriculum. Libraries need to be the best facilitators for guiding the students for the optimum utilization of libraries as well as cultivating critical thinking, which leads the users to become lifelong learners.

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