



# “A STUDY ON PREFERRED INFORMATION SOURCES AND SEARCH STRATEGIES AMONG USERS OF TKR COLLEGE OF ENGINEERING AND TECHNOLOGY”

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## Abstract:

This study explores the information sources preferred and the search strategies used by students, faculty, and staff at TKR College of Engineering and Technology (TKRCET). Drawing on data from a descriptive survey of 112 participants, the findings show that most users seek information mainly for assignments and project-related tasks, with a strong preference for printed materials such as subject-specific books and journals. Although the Library OPAC and Google/Google Scholar serve as the primary starting points for searches, the use of specialised databases like IEEE Xplore and EBSCO is notably low. Users predominantly rely on basic search techniques particularly keyword searches and subject browsing while advanced methods are rarely practiced. Resource access follows a hybrid model, combining both in-person library visits and digital platforms. Overall, the results indicate a continued dependence on print sources, limited digital literacy skills, and a clear need for improved training to enhance the effective use of e-resources and advanced search tools at TKRCET.

**Key words:** Information-seeking behaviour; Information sources; Search strategies; Academic library usage;

## Introduction:

Information is a fundamental component of teaching, learning, and research, forming the basis for academic progress and institutional development. As higher education continues to expand globally, the need to strengthen academic infrastructure particularly libraries and digital learning systems has become increasingly significant. Academic libraries have emerged as essential centres for accessing diverse information sources that support knowledge creation, curriculum development, and overall academic performance (UNESCO, 2015). They offer extensive collections of print and electronic resources,

including textbooks, journals, databases, and digital learning platforms, which collectively meet the varied information needs of students, faculty, and researchers across disciplines (Kumar et al., 2015).

The rapid advancement of Information and Communication Technology (ICT) has transformed the structure and functioning of academic libraries. Traditional libraries are now evolving into hybrid and digital environments that facilitate continuous access to information, overcoming physical and temporal limitations (Thanuskodi, 2012). This shift has increased the need for users to develop strong digital literacy skills, technical competence, and effective search strategies to navigate complex online information systems. According to Akhter (2023), the ability to locate, retrieve, and evaluate digital information has become an essential academic competency, while Kaur et al. (2009) emphasize the significance of digital search proficiency for academic success.

Information-seeking behaviour, as described by Wilson (1997), is influenced by personal, psychological, and environmental factors. Fatima et al. (2008) view it as a dynamic and adaptive process shaped by user motivations and the availability of resources, whereas Case et al. (2016) emphasizes the role of institutional and technological contexts in determining user preferences and search strategies. These factors collectively influence whether users rely on print or digital sources and how effectively they apply search techniques.

At TKR College of Engineering and Technology (TKRCET), the library provides a balanced mix of printed books, journals, digital databases, and e-resources to support the academic and research needs of its users. Despite this, many students and staff continue to show a strong preference for printed materials, a trend observed in many similar institutions. Preferences of such kind may arise from limited awareness of available e-resources, insufficient digital literacy skills, unstable internet connectivity, or unfamiliarity with online databases (Thanuskodi, 2009). Understanding these behaviours and user preferences is essential for enhancing resource utilization and promoting stronger engagement with digital information systems.

Accessing information involves multiple layers of cognitive and technical interaction, ranging from basic human computer operations to complex intellectual activities such as formulating search strategies, filtering results, and evaluating relevance. These processes require critical thinking and cognitive judgment to determine accuracy, reliability, and usefulness. Although students depend on current and reliable information to advance their academic learning, navigating the digital information landscape has become more difficult because of the overwhelming volume of online content, the wide range of publisher platforms, and the lack of uniform indexing systems. In contrast, institutional library resources are systematically organized, pre-evaluated, and comparatively easier to navigate, enabling users to retrieve reliable information more efficiently with the support of faculty and librarians (Wijetunge et al., 2017).

In this context, examining the preferred information sources and search strategies of TKRCET users becomes essential. Recognising the methods students and staff use to locate information, the sources they use, and the difficulties they face offers important insights into their academic habits and their readiness to work in digital environments. Such knowledge can inform improvements in library services, guide user training initiatives, and support more effective management of both print and digital information resources within the institution.

The present study, therefore, aims to investigate the information needs of students and staff in correspondence to their preferred information sources and search strategies at TKRCET, and to identify the preferred information sources of users and analyse the strategies they employ in searching, accessing, and retrieving information.

## Research Methodology

The study adopted a descriptive survey approach to examine the information needs, preferred sources, and search strategies of users at TKR College of Engineering and Technology (TKRCET), Hyderabad. This method was selected because it enables structured, reliable, and economical collection of data directly from respondents about their information-seeking patterns.

To ensure a comprehensive understanding, a mixed-method design was implemented, combining quantitative and qualitative techniques. Quantitative data were obtained through structured questionnaires that captured the nature of information needs, usage of print and digital resources, and the frequency of various search strategies. Qualitative insights were gathered from open-ended responses and informal observations to understand user experiences, influencing factors, and difficulties encountered while searching for information.

The study population included undergraduate and postgraduate engineering students, faculty members, and supporting staff such as librarians and administrative personnel. This diverse selection ensured that all major user groups involved in information seeking at TKRCET were represented. A stratified random sampling technique was used to achieve balanced representation across designations, gender, and academic branches. A total of 112 respondents ranging from frequent to occasional users were selected based on availability and relevance.

Data collection was carried out using questionnaires distributed in both print and digital formats (Google Forms) to maximize accessibility. The instrument covered demographic information, purposes of information seeking, preferred sources, initial search tools, search strategies, and awareness of online databases. Separate questionnaires were designed for students and faculty/staff to reflect their distinct information roles. A pilot test was conducted to ensure clarity, logical flow, and reliability of the questions, and revisions were made where necessary. Permission from institutional authorities was obtained prior to the survey, and participants were given one to two weeks to respond, with periodic reminders issued.

Primary data were derived from the completed questionnaires, supported by observations and informal faculty discussions. Secondary data included institutional records, library usage statistics, academic literature, and previous studies related to information-seeking behaviour.

After verifying the completeness of responses, both qualitative and quantitative data analyses were conducted. Qualitative data were examined through thematic analysis to identify trends in information needs, source preferences, and challenges in applying search strategies. Quantitative data were analysed using MS Excel and SPSS, employing descriptive statistics such as frequencies, percentages, and means. Fisher's Exact Test was used to explore associations between user designation and selected variables when expected frequencies were low. The Kruskal-Wallis's test was applied to determine differences in satisfaction with library and e-resource services across user groups.

### **Data Analysis and findings**

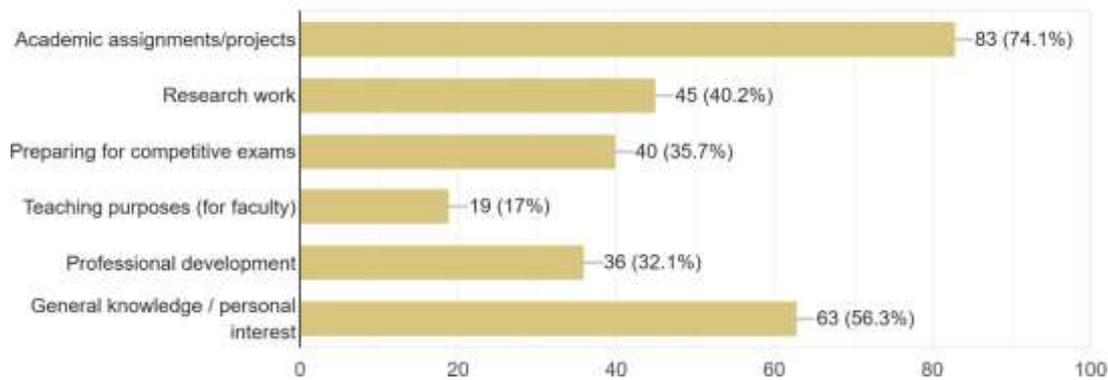
This section analyses information collected from 112 TKRCET students, faculty, and staff using structured questionnaires and library records. It highlights key patterns in preferred information sources and search strategies, offering a clear overview of how users seek, access, and utilize print and digital resources.

**To examine the information needs of students and staff in relation to their preferred information sources and search strategies at TKR College of Engineering and Technology.**

## Purpose for Information Seeking

For what purpose do you usually seek information? (Multiple responses allowed)

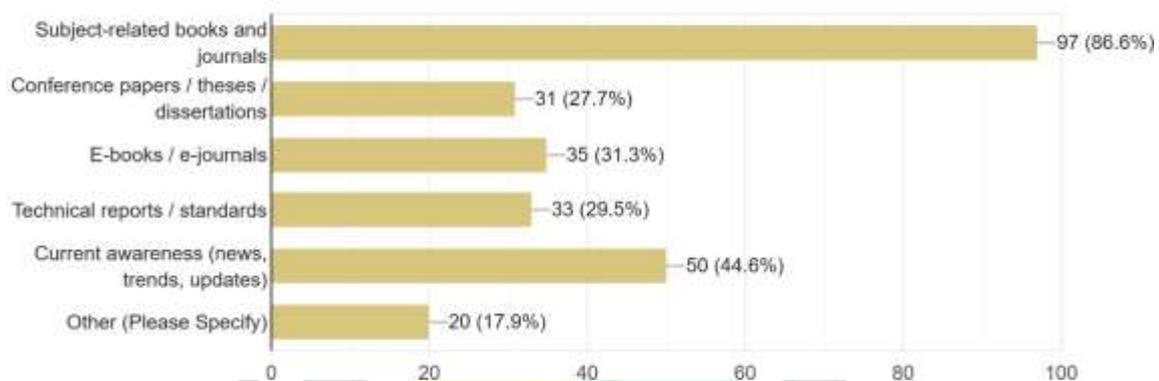
112 responses



**Figure.1 Purpose for Information Seeking in TKRCET Library Type of Information Needed**

What type of information do you mostly need? (Multiple responses allowed)

112 responses



**Figure.2 Type of Information Needed to Library Users**

Figures 1 and 2 indicate that students and staff at TKR College of Engineering and Technology (TKRCET) have varied academic, research, personal, and career-related information needs. Most users (74.1%) seek information for assignments and project work, while others look for general knowledge (56.3%), research support (40.2%), and competitive exam preparation (35.7%).

A majority (86.6%) rely on subject-related books and journals, showing the continued importance of print resources. At the same time, users also access materials for personal interests and current awareness. A gradual move toward digital and research-oriented sources is visible, with increasing use of e-books, technical reports, and conference papers. Students mainly use these resources for academic tasks, while faculty depend on them for teaching and research. Overall, the findings show that the TKRCET Central Library meets diverse

information needs by offering a balanced mix of print and digital resources that support learning and research productivity.

## Concise Summary of Information Needs

The information needs of the TKR College community are primarily academic, with 74.1% of users seeking resources for assignments and project work. Subject-related books and journals (86.6%) remain the most essential sources, supported by materials for general knowledge and personal interest (56.3%) and current awareness (44.6%). Overall, the pattern indicates a strong focus on curriculum-based requirements while also accommodating broader informational and learning interests.

**Association Between User Designation and Information Needs**

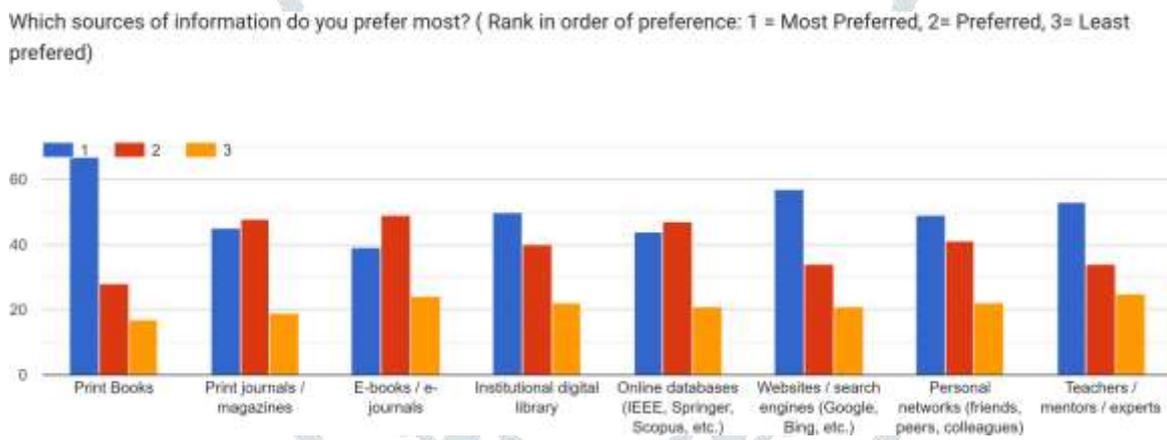
The association between user designation (students vs. staff) and their information needs was examined using Fisher’s exact tests, given the presence of small expected counts in some cells. Results indicated a significant association for certain purposes of information seeking. Specifically, academic assignments/projects showed a significant relationship with designation ( $p = 0.011$ ), suggesting that the likelihood of seeking information for academic assignments differs between students and staff. Similarly, teaching purposes exhibited a highly significant association with designation ( $p < 0.001$ ), revealing that faculty are more likely than students to seek information for teaching-related activities.

In contrast, other purposes including research work ( $p = 0.579$ ), preparation for competitive exams ( $p = 0.587$ ), professional development ( $p = 0.158$ ), and general knowledge/personal interest ( $p = 0.164$ ) did not show significant differences between designations. These results indicate that although a person’s designation significantly affects information-seeking related to academic and teaching tasks, it does not meaningfully impact other kinds of information needs among the respondents.

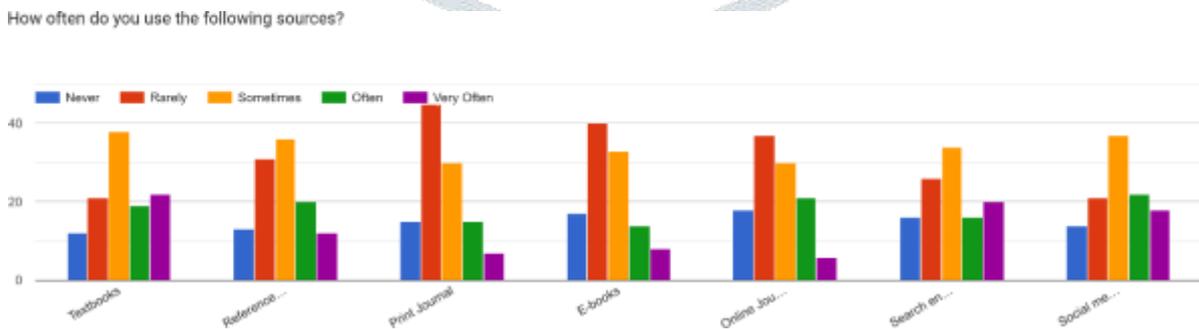
**To identify the preferred information sources of users and analyse the strategies they employ in searching, accessing, and retrieving information.**

**Source Preference (Ranked)**

**Figure.3 Source Preference (Ranked) by Library Users at TKRCET Source Usage**



**Frequency**

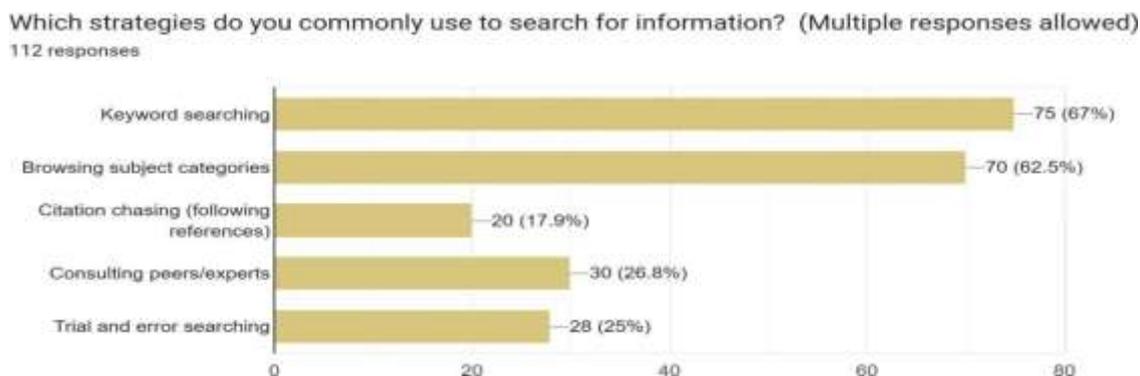


**Figure.4 Source Usage Frequency at TKRCET**

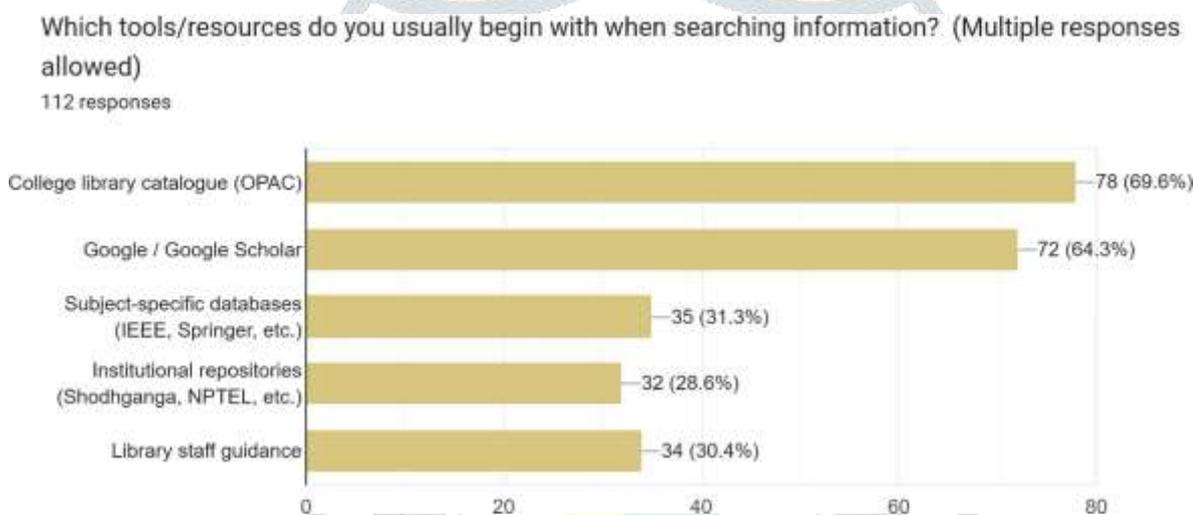
The analysis of Figures 3 and 4 reveals a hybrid information-seeking pattern among TKRCET users, combining strong reliance on traditional resources with selective use of digital platforms. Print books are the most preferred source, followed by print journals and general web search tools like Google, while e-books, institutional digital libraries, and academic databases are moderately used. Personal networks and teachers are less relied upon, indicating dependence on formal information channels. Usage frequency mirrors these preferences: textbooks, print journals, and online journals are used most often, search engines are popular for quick retrieval, and digital resources are used moderately. Social media sees minimal

academic use, reflecting low credibility perception. Overall, users primarily depend on print resources, with digital tools supplementing academic needs, highlighting a gradual integration of digital resources alongside enduring traditional preferences.

**Information retrieval strategies**



**Figure.5 Information retrieval strategies Preferred by Users at TKRCET Initial Search Tools**



**Figure.6 Initial Search Tools Used at TKRCET**

Figures 5 and 6 show that TKRCET users mainly rely on basic search strategies and familiar entry points. Keyword searching (67%) and subject browsing (62.5%) dominate, while advanced methods citation tracing (17.9%), trial-and-error searching (25%), and consulting experts (26.8%) are seldom used, limiting access to specialized resources. Most searches start with the Library OPAC (69.6%) or Google/Google Scholar (64.3%), while specialized databases and institutional repositories remain underutilized. This hybrid pattern reflects a transitional behaviour, combining traditional library systems with web-based tools. The findings underscore the need for targeted information literacy training to improve advanced search skills, database navigation, and scholarly evaluation, thereby enhancing the quality and relevance of retrieved information.

**Mode of Access**

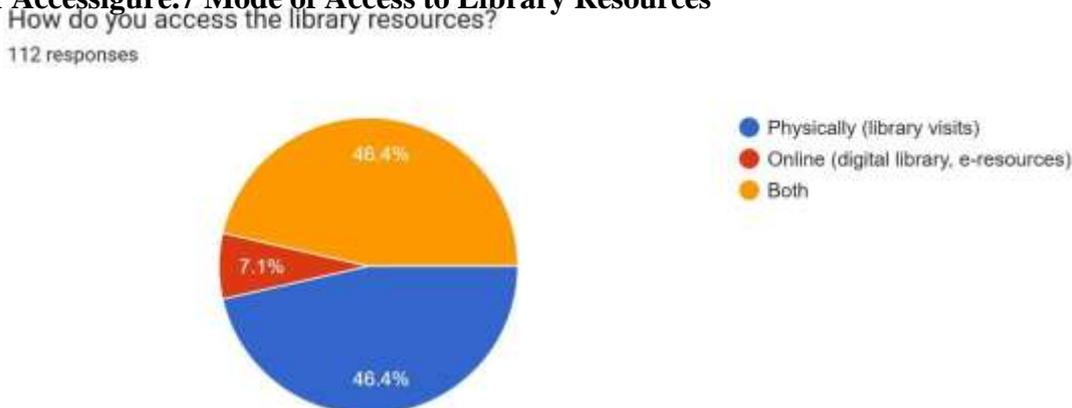


Figure 7 shows the modes of access used by respondents at TKR College of Engineering and Technology (TKRCET) for library resources. Nearly half of the users (46.4%) access resources through physical visits, with an equal proportion using a hybrid approach that combines physical and online access, while only 7.1% rely solely on digital platforms. This highlights the continued importance of the physical library, alongside the growing integration of digital tools. The low adoption of fully online access indicates opportunities to expand digital infrastructure, promote e-resources, and encourage remote usage. Overall, the balanced access pattern reflects user's preference for flexibility and suggests potential for enhancing fully digital access to support efficient, anytime-anywhere academic and research activities.

### **Concise Summary of Information Sources, Usage, and Search Strategies.**

Users at TKR College of Engineering and Technology (TKRCET) demonstrate a hybrid information-seeking behaviour, combining traditional print and digital resources. Print books and journals are the most frequently used sources, while websites, search engines, and guidance from teachers or mentors support both independent and guided learning. Specialized academic databases and institutional repositories are underutilized, indicating a need for awareness and training. Basic search strategies, such as keyword searching and browsing by subject, dominate, whereas advanced techniques like citation tracing and consulting experts are less common. Library access occurs through a mix of physical visits and hybrid modes, with limited fully online use. Overall, users rely on accessible resources and straightforward search methods, with scope to enhance research effectiveness through digital literacy and database training initiatives.

### **Satisfaction with Library Services by User Designation**

To examine whether satisfaction with various library services differed by designation, Kruskal- Wallis tests were conducted for six key satisfaction items: availability of print resources, availability of e-resources, internet speed and accessibility, library infrastructure (seating, space, facilities), assistance from library staff, and overall library services.

Results indicated a significant difference in satisfaction across designations for availability of print resources ( $\chi^2 = 8.867, p = 0.031$ ), suggesting that students and staff perceive print resource availability differently. For the remaining items, no statistically significant differences were observed: e-resources ( $\chi^2 = 6.354, p = 0.096$ ), internet speed ( $\chi^2 = 3.545, p = 0.315$ ), library infrastructure ( $\chi^2 = 6.811, p = 0.078$ ), assistance from staff ( $\chi^2 = 7.223, p = 0.065$ ), and overall library services ( $\chi^2 = 4.690, p = 0.196$ ). These results suggest that, aside from print resources, designation does not substantially influence satisfaction levels with other library services.

Overall, these findings suggest that, aside from print resources, satisfaction with library services is largely consistent across students and staff.

### **Reliability Analysis of the Satisfaction Scale**

Reliability analysis of the satisfaction scale indicated high internal consistency, with Cronbach's alpha = 0.92 (95% CI: 0.89-0.94). Individual item statistics showed moderate to strong inter-item correlations (average  $r = 0.66$ ), and mean satisfaction scores ranged from 3.1 to 3.3 on a 4-point Likert scale, reflecting overall positive user perceptions. Frequency

distributions indicated that the majority of respondents reported being "Satisfied" or "Very Satisfied" across all satisfaction items.

Overall, these findings suggest that while satisfaction with print resources differs across designations, perceptions of other library services are relatively uniform, and the satisfaction scale demonstrates robust reliability.

**Discussion:**

The study highlights a clear hybrid pattern of information-seeking behaviour among TKRCET users, shaped by academic requirements, resource accessibility, and varying digital literacy levels. The strong preference for print books and journals (86.6%) shows continued trust in traditional sources, especially for assignments and project work, which form the major information need (74.1%). This trend aligns with existing LIS literature, where print materials remain central to academic learning despite digital growth.

The frequent use of the Library OPAC (69.6%) and Google/Google Scholar (64.3%) indicates a balanced reliance on structured library systems and easily accessible open-web tools. However, minimal use of specialized databases such as IEEE Xplore and EBSCO reveals gaps in awareness, training, or confidence in navigating scholarly e-resources an important concern for a technical institution that depends on peer-reviewed content.

Search behaviour among users remains basic, with most relying on simple keyword searches (67%) and subject browsing (62.5%). Advanced techniques like Boolean operators, citation tracing, and expert consultation are rarely applied, pointing to limited information literacy skills. Similar studies report comparable challenges, where users struggle to utilize complex digital search systems effectively.

Access patterns suggest growing acceptance of digital resources, with many users adopting mixed physical and online modes. Yet only 7.1% depend exclusively on online access, indicating that infrastructural constraints, unfamiliarity with e-resources, or preference for tangible materials may hinder full digital adoption.

Statistical findings further show notable differences in information needs between students and staff, particularly regarding academic and teaching tasks. Although overall satisfaction with library services is positive, concerns about the adequacy and availability of print resources persist.

Overall, the findings indicate that although TKRCET users make active use of the resources available to them, their information-seeking practices continue to be heavily influenced by curriculum requirements and remain focused on traditional formats. The low usage of digital databases and advanced search techniques highlights the need for well-structured information literacy initiatives, practical training sessions, and stronger awareness of e-resources. Strengthening these areas will enhance research effectiveness, broaden access to scholarly materials, and contribute to a more dynamic academic environment at TKRCET.

**Conclusion**

This study examined the information needs, preferred sources, and search strategies of students, faculty, and staff at TKR College of Engineering and Technology (TKRCET). Analysis of 112 responses and library records revealed that users rely mainly on print materials and basic search methods, with subject-specific books and journals (86.6%) being most accessed. Information seeking follows a hybrid approach, combining physical visits (46.4%) with online searches via the Library OPAC (69.6%) and Google/Google Scholar (64.3%), while specialized databases and advanced strategies remain underutilized. The library plays a central role in supporting assignments and projects, but these findings indicate a curriculum-driven yet skill-limited information behaviour, emphasizing the need for structured literacy programs, promotion of e-resources, and improved infrastructure. Future studies could explore barriers to advanced search adoption and assess the impact of literacy interventions on resource utilization and research effectiveness.

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