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## INFORMATION NEEDS AND SEEKING BEHAVIOUR OF POST GRADUATE STUDENTS OF KOHAT UNIVERSITY OF SCIENCE AND TECHNOLOGY KHYBER PAKHTUNKHWA, PAKISTAN

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**INFORMATION NEEDS AND SEEKING BEHAVIOUR OF POST GRADUATE  
STUDENTS OF KOHAT UNIVERSITY OF SCIENCE AND TECHNOLOGY  
KHYBER PAKHTUNKHWA, PAKISTAN**

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**Abstract**

**Purpose:** This study investigated the information needs and seeking behaviour, hurdles to information seeking of Post Graduate students of Kohat University of Science and Technology, Khyber Pakhtunkhwa. It focused on the information requirements of the Post Graduate students of the university, the pattern they use for seeking information, the difficulties they faced during seeking information.

**Design/Methodology/approach:** This study used a quantitative approach, adapting a survey questionnaire method for data collection. The population of this study was composed of M.Phil. and PhD students of 2019 and 2020 in the faculties of Physical and Numerical Sciences, Chemical and Pharmaceutical Sciences, Biological Sciences and Social Sciences of KUST. The sample size was 260. Students were selected randomly. The study response rate was 77% and data were analyzed through SPSS (22 version).

**Key findings:** The study revealed that Most students' information needs were for study and research activities, new knowledge, and for career development. To fulfil these needs, the scholars use various sources and resources. The sources they used for information needs were Journal Articles, Textbooks, and Research Projects commonly. For the information-seeking purpose, often, students preferred books that have some importance. The other factors that played an essential role in selecting material were topical relevance, Novelty, Recommended by colleagues, and publisher's reputation. Most of the students thought that Book Exhibitions, Open Access systems in the Library, and the Display of new arrivals could enhance the students' information-seeking. The main problems during seeking information were faced by them were shortage of printed information resources. Overall they wanted more facilities, enhancement in the library collection and better services.

**Delimitations of the study:** This study has not included 1) BS and M.Sc. Students of KUST; 2) The colleges and institutions affiliated with KUST; 3) This study was delimited only to the Post Graduate students of KUST.

**Practical implication(s):** The findings of the study motivate the policy makers, authorities of KUST to restructure the information literacy programs to fulfil the scholars' information needs. It may inform the policy makers to know the difficulties faced by scholars during information seeking.

**Contribution to the knowledge:** No significant work has been done on the students' Information Needs and Seeking Behaviour at KUST. The Study analyzed the Information Needs and Seeking Behaviour of Post Graduate students. It brought a clear picture of information needs and seeking behaviour of scholars and addressed the problems faced by them during seeking process.

**Keyword(s):** Information needs-Pakistan; Information seeking behaviors-Postgraduate students; university libraries- Kohat University of Science and Technology; Khyber Pakhtunkhwa; Pakistan.

### **Introduction**

Information is a significant source of acquiring education. Its role has been recognized as a significant perspective in scholastic and research activities (Sheela & Shivaram, 2011). Information is base of all education, development and personal growth. The significance of information in each field is undeniable. It is now considered the most important component of the present social advancement; as social development depends upon the way of life of that specific culture. It is very difficult to move forward in any field of life without latest information. (Bajpai, 1990) The elevated factor that influences Research is Information. Human beings are social animals, without society they feel difficulties, to get information about society and surrounding is as necessary as food, shelter and cloth. Basic needs of human beings are breath, eat, drink and shelter, information ranked as the fifth need after these needs. (Kemp, 1976)

Information needs to be explained as any piece of information recorded as well as unrecorded that a scholar may require regarding to his research process, teaching and study (Turner, 1998). Information Needs explains as a state of knowledge (Belkin et al, 1982). The proficient and powerful activity of a library and information system is time to time study of users and visitors. These types of studies provide help to form new policies which were not considered yet and help the productive and practicable activity of the information system. (Sridhar, 2002; De Saulles, 2012).

Information Needs are essential for those students who want to get higher education and want to research in particular fields. Information Needs are to be evolved in confused situation and one wants to get awareness about the situation. Thus it is essential to know the needs of clients.

The problem of satisfying human needs is quite difficult due to

1. The rapid growth of literature on daily basis confuses a consumer for selection of information.
2. Literature is produced in hundreds of languages which is a great hurdle because of ignorance about other languages (Eliss D, 1989)

Information seeking is a method of acquiring the needed information from humans and machines. Information Seeking Behaviour is an attitude which a user shows when he/she searches the knowledge. The term Information Seeking Behaviour involves the needs, seeking, selection and using of information in various patterns (Savolainen, 2007). An information seeker may use different channels to obtain information. The method he uses for getting information is Information Seeking Behaviour. It is mainly known that what kind of information is needed by users, which method is used for getting information, how this information is used and analyzed. (Girija Kumar, 1990). The information seekers find their latest information from different sources available in libraries, e.g. books, periodicals, reference books and more latest electronic media

(David, 2001). “The complex patterns of actions and interactions which people engage in when seeking information of whatever kind and for whatever purpose” (International Library and Information Science Encyclopedia, 2007).

Kohat University of Science and Technology (KUST) was established in 2001 at District Kohat. It is an important institution for higher education in the south region of Khyber Pakhtunkhwa (KPK) province. It is an excellent centre of knowledge promotion and has great contribution in bringing positive changes in the society. It provides high-quality education in the fields of Physical and Numerical Sciences, Chemical and Pharmaceutical Sciences, Biological Sciences and Social Sciences. The University has offered Bachelor (Two and Four years), Master, M. Phil and PhD degree Programs in various departments. The number of students were about 4200 and staff were 220.

<https://kust.edu.pk/kust/index.php/homepagekust/explore/modulepositions/itemlist/categor/132-about-kust>).

This Study examined the Information Needs and Seeking Behaviour of students of Post Graduate level in KUST. It was very necessary to highlight the expectations of the users, problem faced by users, demands by users for various reading materials in KUST library, as each department’s students has its own Information Needs. It is accepted that a superior comprehension of information seeking activities and Information Needs for the practice of researchers is indispensable for their success.

### **Statement of the Problem**

Information plays an elevated role in the progress of any field. Informer people spend better lives as information changes the lives of people. Information needs fill the gap in the users’ knowledge. A library has a vital role in any civilized society and educational institution. It is the responsibility of librarians or information managers to give right information to the needy person at the right time (S.R Ranganathan). Therefore, it is necessary for librarians to provide such a system and services through which users can easily get their needed information.

The present research was intended to examine the Information Needs and Seeking Behaviour of Post Graduate scholars at KUST. It is a big university in the region, having more than 4000 students and it is expected to expand more in future. Without adequate library resources and services, it is difficult to run a university effectively. Information Needs and Seeking Behaviour of scholars is a topic has great importance that not only connected to the students at KUST, but also authorities, planners and policymakers of university to meet Information Needs and requirements, solve problems faced by students and proposed the techniques in which students can easily seek and select their desired information. Students need information for preparing their assignments, projects, class works etc. The study helps the authorities to know the Information Needs and can take steps for changes and development according to students’ problems, expectation and requirements.

### **The objectives of the study**

The basic purpose of this study was to know the Information Needs and Seeking Behaviour of Post Graduate students of different faculties at KUST. Some of the objectives of the study are given below like

1. To know the Information Needs of Post Graduate students at KUST
2. To study the Information Seeking Behaviour of Post Graduate students at KUST.

3. To know about the major problems faced by Post Graduate students while seeking information.

### **Literature Review**

A literature review is a previous study on a topic. It is an important part of the Research Process. The literature of Information Needs and Seeking Behaviour are available in an extensive range. An endeavor has been made to cover several studies that were available on past works of the Information Seeking Behaviour. Different sources were used for this purpose.

Ismaila (2019) studied the Information Needs and Seeking Behaviour of Kwara state university students. The findings were based on pattern of students' information gathering system and nature of academic information need. The purpose of using the library material is for writing thesis, preparing of competitive examinations and completion of their course works. Howlader & Islam (2019) investigated Information Seeking Behaviour of Dhaka University Students, Bangladesh. The data was collected through questionnaire the result showed that most students seek information about their study and for job-related awareness. Many students were unaware about the library collection and facilities. Elgllab & Shehata (2019) explored the Information Seeking Behaviour of Shaqra University scholars of both English and Arabic languages. The investigation collected from twenty scholars which showed little disparity between two languages in information seeking. Usman (2019) investigated Information Needs and Seeking Behaviour of distance learning students of selected universities. He used a questionnaire for data collection, in which 87 percent responses shows that the students focus on the material which help them in their course works. Students use different sources for Information Seeking Behaviour like internet, online libraries etc. Ahmad, Ahmad, & Anwar (2018) conducted research on Information Seeking Behaviour of forestry scientists. The Study revealed that the purpose of the scientists' information seeking, is for conducting research, updating their knowledge and for personal progress. Chipeta, Dub e, Malemia, Chaura & Chawinga (2018) focused on the Information Seeking Behaviour of students at Mzuzu University, Malawi. The research has been based on three primary goals, Information Needs, obstacles in getting information and sources of getting information. Lectures and library books are the primary sources of information used by students. The main problems are the shortage of relevant library books, unavailability or slow connection of internet and lack of computer and searching skills in students. Trivedi (2018) studied the Information Needs and Seeking Behaviour of research scholars of Gujrat University in Social sciences and Linguistics disciplines. The Research demonstrated that the significant reason for Seeking Behaviour is for research work, information advancement and writing research and conference papers. Fay (2017) investigated the Information Seeking Behaviour of lawyers in Ireland. In her investigation, she concluded that some barristers got information from books and some of them fond of electronic sources. Afida, Idrus, & Hashim (2017) examined the Information Seeking Behaviour of Malaysian Town Planners (MTPs). Their study showed that the Town Planners wanted to get information which could help them in fulfilling their particular tasks in such a way that might result in reducing flood risk. Das & Jadab (2017) analyzed the channels of Information Seeking Behaviour of University of Dhaka law students. Their research resulted that most of the students prefer online databases for study rather than library print resources. They mentioned some obstacles for information

seeking and provided suggestions for improvement. Lone, Mir, & Ganie (2017) Studied Information Seeking Behaviour of University of Kashmir, Social Sciences Scholars. The main purpose of this study was to know accessibility, availability, awareness of library services and catering of Scholars' information requirements. This Study also discussed the level of satisfaction, main problems and use of electronic sources by research Scholars. Ali, Bashir, Fatima, & Babar (2016) conducted a study of students' Information Needs and Seeking Behaviour with visual weakness in Pakistan. The study aimed at to explore the difficulties of students during information seeking. Khurram Shahzad & Khan (2015) focused on pattern of information seeking of Government College University teaching faculty. The study revealed different methods for information seeking of teaching faculty of university. Shafique & Mahmood (2015) investigated the research studies aimed to know Information Needs and Seeking Behaviour of educational authorities and other partners of education institutions. The purpose behind this survey is to recognize the significant factors influencing the Information Needs and Seeking Behaviour of educational authorities. F. D. Khan & Sheikh (2014) explored Information Needs and Information Seeking Behaviour of Peshawar University Social Science Students during 2013-14. The researcher conducted that most of students use the central library for printed material and many students use various electronic resources for study purposes. Shaheen, Arif, & Naqvi (2013) proposed a study to know Information Needs and Seeking Behaviour of women parliamentarians. The study analyzed the different information sources which are used for preparing bills, laws and resolutions etc. Yaranal (2016) was conducted research on Information Needs and Seeking Behaviour of different library users at Bangalore city in which the collection, facilities, and services of libraries according to library users' needs were examined. Majid, Anwar, & Eisenschtz (2000) was analyzed that Information Needs and Seeking Behaviour of students played a significant role in a library to improve its services, facilities and collection. Al-Muomen, Morris, & Maynard (2012) investigated the Information Seeking Behaviour of Kuwait University students and the factors affecting their behaviour. The factors affecting Information Seeking Behaviour of students are related to library awareness, environmental and institutional problems, information literacy, demographics and source characteristics. G. Khan & Bhati (2012) examined the Information Seeking Behaviour of the law college students of University of Peshawar. The study investigated the facilities, collection, services and internet provided by law college library, used for Information Needs purposes. Iqbal, Mahmood & Arif (2011) conducted a survey on medical researches' Information Needs and Seeking Behaviour in Pakistan which included Post graduate students of KPK, Punjab and capital Islamabad. It also addressed the problem faced by the students. Majority of students use electronic resources for their information requirements. Bhatti (2009) published an article about the significance of Information Needs and Information Seeking Behaviour of Islamia University of Bahawalpur faculty members. The results showed that the university library is well equipped and in accordance with all Information needs required by Teachers and Researchers. Qureshi, Zafar, & Khan (2008) studied students' Information Needs & Seeking Behaviour at Pakistani Universities. They mentioned several factors like education, culture, environment, background of students have a major impact on Information Seeking Behaviour of students. K. Shahzad (2007) studied to find out Government College University, Lahore faculty members' Information Seeking Behaviour.

He obtained the information from all three departments including arts, science and technology and social sciences. Anwar (2007) presented an analysis of research based on Information Needs and Seeking Behaviour. He assessed fourteen unpublished research articles of University of Punjab students from 1975 to 1982. He suggested positive steps to be taken by library professionals for promotion in this field and carry out research in this area.

## **Research Design**

A research design is a plan for a study. It is a structure within which study to be conducted and scheme for data collection and analysis. It is a description of methods and a plan for getting the required information for solving the problems. Research Design is not a specific plan to be act upon without divergence but a set of guidelines for one to keep it in the right direction. It has been defined by various scholars in different terms. A research design is to be more relevant and serve as a guideline for collecting and analyzing data. (Terre & Durrheim, 1999).

The study used a survey research design. Survey Design is a method of collecting data that explain the extent of data ranging from physical frequencies and counts to opinions and attitudes (Punch, 2005). This method is most suitable for such types of studies in which researchers generalize the research from a smaller group to a larger group of population. Surveys are used to get the answers to the questions why, what, who, where, and how much. A quantitative survey design gives a numeric overview of a population's opinions, perceptions, or trends by analyzing a samples of that population (Creswell, 2009). Also, surveys are carried out to draw statistical inferences regarding the population being surveyed, and this relies very much on the survey questions used (White, 2003).

According to Creswell (2009), a population is a set of individuals, objects, or events with some common features that a researcher is interested in studying. (De Vos, 2002) described a Population as a whole community of people or items in which the researcher is attracted for research. In this study, the population included PG students of KUST of the session 2019 and 2020. The population of the study was 781. Brick (2006) defined the sample as a subset of a larger set or a part of an entire population, selected by the researcher to study the whole population. The study of the total population is not possible, and it is impractical to research the entire population, hence the need to take sampling which represents the whole population (Singh, 2006). It is the most important step in the survey research. Therefore, in the present study, the PG (M.Phil & Ph.D.) students of 2019 and 2020 were proportionally selected from four faculties, Physical and Numerical Sciences, Chemical and Pharmaceutical Sciences, Biological Sciences and Social Sciences of KUST. On account of the nature of this study, the samples were divided into various stratas which were M.Phil and, Ph.D. of 2019 and 2020 groups. The total Population of PG students of 2019 and 2020 were 781. As per Krejcie and Morgan Table (1970), the sample size of the given population was 260.

The data collecting instrument in this research was questionnaires. It consists of questions based on objectives to be answered by respondents. For this study, a questionnaire was adapted from scholars Ms. Sujata S. Rajpurkar and M. Manjula. The logic for using this questionnaire for respondents was that it was easy to administer and enabled the researcher to attempt several research questions and get suitable answers

within a short period. The questionnaire consists of four segments, as given below

Part I- Demographic Information                      Part II - Information Needs  
Part III - Information Seeking Behaviour      Part IV - Problems in obtaining Information

The draft questionnaire was submitted to experts consisting of Dr. Fauz Dar and Dr. Ghalib Khan for review and suggestions. The questionnaire was then revised with the changes suggested by the experts.

A pilot testing would identify, modify, replace and reduce the misunderstanding by the respondents. The questionnaire was tested in a pilot study from forty-five randomly selected students. Some students could not understand some of questions and suggested to make some amendments. For this purpose, some changes and necessary corrections were made in order to improve the questionnaire.

One of the essential elements of research is data analysis. Creswell (2009) describes the data analysis as the mechanism by which meaningful and relevant results can be drawn from the cluttered and bulky pieces of information collected during the study. SPSS is perfect because it provides detailed data analysis in terms of tables, frequency, and percentages. It makes data analysis simple and is easily available.

### 1.1. PURPOSE OF INFORMATION NEED:

Information need may be any piece of Information, either recorded or unrecorded. It is an essential part of the study and development. A scholar may need Information in connection with his research, study, and teaching activities. Information needs may vary according to users' experience, educational backgrounds, and functions performed. To know about the purpose of information needs, a question was asked from respondents, and the responses were analyzed in table 6.

*Table 1: Purpose of Information Need*

Variables	Mean	Std. Deviation
For study/research work	4.6900	.53416
For new knowledge	4.3900	.64807
For job opportunities	3.9450	.86354
For participation in seminars / conferences etc	3.6450	.76937
For career development and growth	4.1200	.85396
To write and publish papers	3.8350	.93925
For further education	3.8700	.89280
For course related information	3.7650	.79558
For general awareness	3.9400	.78067

N=200

A five-point Likert scale was used in the above Table, where strongly Disagree-1, Disagree -2, Neutral -3, Agree -4, and Strongly Agree- 5.

Table 1 shows the purpose of Information needs of the Post Graduate students of KUST. It clearly shows that the purpose of most of the PG students of various faculties of KUST was for study/research work (SD=.53, X=4.69). It was closely followed by for new knowledge (SD=.65, X=4.39), For career development and growth (SD=.85,

X=4.12), For job opportunities (SD=.86, X=3.94), For general awareness (SD=.78, X=3.94), For further education (SD=.89, X=3.77), To write and publish papers (SD=.94, X=3.84), For course-related Information (SD=.80, X=3.77), For participation in seminars/conferences, etc. (SD=.77, X=3.65).

**1.2. SELECTION OF INFORMATION SOURCES THAT MEET THE ACADEMIC AND OTHER INFORMATION NEEDS:**

Students need the proper resources to find the desired Information like library catalogues, journal articles, online searching, etc. To understand which resources the Postgraduate students were using to find the needed information, questions were asked, and they responded as;

*Table 2: Selection of information sources that meet the academic and other information needs.*

Variables	Mean	Std. Deviation
Biographies	2.7800	1.33058
Bibliographies	2.9850	1.29738
Conferences/Seminars Proceedings	3.3600	1.32255
Indexes(e.g. Index to education)	3.0250	1.00969
Reference Books(e.g. Encyclopedia etc)	3.8950	1.14478
E-books	3.6000	1.02727
Journal Articles	4.1850	.99283
Library Catalogue	3.0800	.96865
Magazines/Newspapers	3.4000	.96679
Research Projects	4.0100	1.06091
Textbooks	4.0000	.91882
E-journals	3.7650	.90769

N=200

Information Sources are beneficial to students for their research process. Twelve types of sources were listed in the questionnaire needed to the students for their research work.

Table 2 indicates that most of the Post Graduate students of KUST used the information sources that meet their academic and other information needs are Journal Articles(Mean=4.19), Textbooks(Mean=4.00), Research Projects (Mean=4.01), Reference Books (e.g., Encyclopedia, etc.) (Mean=3.9), E-books(Mean=3.6), E-journals (Mean=3.76), Magazines/Newspapers (Mean=3.4), Conferences/Seminars Proceedings, (Mean=3.36), Library Catalogue(Mean=3.08), Indexes(e.g., Index to education) (Mean=3.02). They were not familiar with biographies (Mean=2.78) and bibliographies (Mean=2.99) as their source of Information.

**1.3. PREFERRED FORMAT OF THE INFORMATION RESOURCES:**

The third question was about the Preferred Format of the information resources. Total three questions were asked from the respondents to take their view regarding their format of information sources

*Table 3: Preferred Format of the information resources.*

Variables	Mean	Std. Deviation
Printed materials	4.19	.993
Electronic (Online, audio, video) resources	3.84	1.16
Non printed (manuscripts, typed)	3.01	1.236

N=200

Scale Values: 1. Not preferred; 2. Less preferred; 3. Neutral; 4. Preferred; 5. Most preferred

These sources were necessary for students to achieve their academic goals. The table showed that most of the respondents (Mean=4.19) used printed material for educational needs. It was followed by electronic resources (Mean=3.84). Moreover, Non printed (manuscripts, typed) (Mean=3.01) were rated neutral as they were not familiar with this type of source.

#### 1.4. PURPOSE TO USE THE FOLLOWING INFORMATION SOURCES:

The fourth question was asked about the purpose of using the following information sources. Six questions were asked from the respondents with five keywords to take their view purpose of information sources.

*Table 4: Purpose to use the following information sources.*

Variables	Mean	Std. Deviation
General books	2.4100	1.33447
Subject books	1.6100	.77518
Abstracts & reviews.	2.0905	.77970
Papers delivered at conferences & their Proceedings	2.2700	.94422
Non book materials (pamphlets/ brochures, globes/maps/photos).	3.5300	1.27169
Newspapers, Bulletins, newsletters, and their proceeding	3.4121	1.25169

N=200

**Key Words:** 1. Classwork, 2. Assignment/ Research work/Exam, 3. Consultation work/ Satisfying confusion, 4. Personal development, 5. Entertainment/Relaxation.

The participated students used all the above-mentioned information sources for one purpose or the other, particularly for the completion of research work. It is showed in the above table that the listed sources of Information mentioned as general books and Papers delivered at conferences & their Proceedings are mostly used for Consultation work / Satisfying confusion. Non-book materials (pamphlets/ brochures, globes/maps/photos).and Newspapers, Bulletins, newsletters, and their proceeding were mostly used for personal development. Subject books, Abstracts & reviews were mostly used for Assignment/ Research work/Exam.

#### 1.5. CRITERIA FOR SELECTION OF REQUIRED INFORMATION SOURCES:

The criteria used for selecting information materials have been ascertained using fifteen variables on a five-point scale: strongly disagree, disagree, neutral, agree, and strongly agree. The mean and standard deviation were calculated using a five-point scale.

*Table 5: Criteria for selection of required information sources.*

Variables	Mean	Std. Deviation
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Topical relevance	4.2800	.79673
Importance	4.4600	.70775
Author's reputation	3.7450	.80199
Availability (and time it takes to get a hold of the information /material)	3.6400	.90248
Curiosity(if item seems interesting)	3.6950	.84590
Novelty(new information)	4.1150	.83982
Publisher's reputation	3.8200	.77499
Utility(usefulness)	3.5300	.70824
Interesting	3.8550	.96365
Cost	3.4700	.89617
Frequency of citations	3.5900	.97295
If item is published in a renowned journal	3.5650	.90547
Recommended by colleagues,	3.9350	.80873
Date of publication	3.6200	.97486
Location of item	3.5250	.87934

N=200

The large number of students use the material for information seeking on its importance (Mean=4.46), similarly after this preferences were given for selection to “topical relevance”, Mean=4.28), Novelty (new information) (Mean=4.11), Recommended by colleagues (Mean=3.85), Interesting (Mean=3.85), Publisher's reputation(Mean=3.82), Author's reputation(Mean=3.74), Curiosity(if item seems interesting) (Mean=3.70), Availability (and time it takes to get a hold of the information /material) (Mean=3.64), Date of publication (Mean=3.62), Frequency of citations(Mean=3.59), If item is published in a renowned journal(Mean=3.57), Utility(usefulness) (Mean=3.53).The mean value ranges between 4.28 and 3.53, showing that all the variables fall in the scale of agree and strongly agree. Similarly, the standard deviation ranges between 0.707 and 0.708, indicating no significant deviation in the students' opinion.

## 1.6. PURPOSE TO VISIT THE LIBRARY:

A library's collection can include general books, subject books, newspapers, periodicals, films, manuscripts, prints, maps, abstract and reviews, documents, bibliographic sources, microform, CDs, e-books, cassettes, DVDs, videotapes, databases, and other formats.

The purpose of visiting the library has been analyzed by criteria using nine variables in a five-point scale such as never, rarely, occasionally, frequently, always. The mean and standard deviation were calculated using a five-point scale.

*Table 6: Purpose to visit the Library*

Variables	Mean	Std. Deviation
To study general books	4.2350	1.13853
To study subject books	4.0250	.94277
To read bulletins, journals, newsletters &magazines	3.2600	1.02844
To take help from abstract and reviews	3.2800	1.08512
To seek help from the bibliographic sources.	3.4100	1.01343

To get help of the library staff	3.0800	1.00431
To borrow/return books and reading materials.	3.5650	1.00540
To study in a quiet place.	3.7900	.99542
For entertainment/ relaxation.	3.0650	1.10766

N=200

The table indicates that a large number of students visited the library to study the general books (Mean=4.24), and to study subject book (Mean=4.03), To study in a quiet place (Mean=3.79), To borrow/return books and reading materials (Mean=3.57). Similarly, many students occasionally visit the library to seek help from the bibliographic sources (Mean=3.41), to take help from abstract and reviews(Mean=3.28), To read bulletins, journals, newsletters &magazines(Mean=3.26), To get the help of the library staff(Mean=3.08), For entertainment/ relaxation(Mean=3.07)

### 1.7. FACILITIES THAT CAN ENCOURAGE THE INFORMATION SEEKING:

This question was about the facilities that can promote the Information-seeking behaviour of students. Five points Likert scale was used to obtain the data from them.

Strongly disagree, disagree, neutral, agree, and strongly agree. Six questions were asked to determine that these facilities can help them for information searching.

*Table 7: Facilities that can encourage the information seeking*

Variables	Mean	Std. Deviation
Book Exhibitions	4.5950	.71662
Display of new arrivals	3.9300	.91613
Inter Library Loan	3.4700	.96632
Display of Newspaper clippings	3.5350	.90713
Open Access system in the Library	4.3050	.90336
Signage (direction) in the Library	3.2800	.99829

N=200

The table indicates that a large number of students agreed that Book Exhibition (Mean=4.59), and Open Access system in the library (Mean=4.30), Display of new arrivals (Mean=4.93), Display of Newspaper clippings (Mean=3.53), Inter Library Loan (Mean=3.47), can enhance their ability to search Information. They were neutral about Signage (direction) in the Library (Mean=3.28).

### 1.8. INFORMATION SERVICES/FACILITIES THAT ARE USING BY STUDENTS IN THE LIBRARY FOR SEEKING INFORMATION:

The criteria used for Information Services/facilities used by students in the library to seek Information have been ascertained using ten variables in a five-point scale such as never, rarely, occasionally, always. The mean and standard deviation were calculated using a five-point scale

*TABLE 8 Information Services/facilities that are using by students in the library for seeking Information.*

Variables	Mean	Std. Deviation
Book Borrowing	4.1400	1.00271
Newspapers clipping services	3.1200	1.12781
Current Awareness Services	3.3750	1.24585

Journal Circulation	3.2950	1.19798
Selective Dissemination of Information	2.7350	1.22568
Online database / journals	2.9500	1.50293
Institutional repository	2.4300	1.20930
OPAC Search / Browsing	2.4900	1.38546
Printing, Copying & Scanning	1.3600	.92991
Interlibrary loan	1.4250	.96386

N=200

Overall, the 1 information services in the library, usage preference of the scholars were Book Borrowing (Mean=4.14), Current Awareness Services (CAS) (Mean=3.38), Journal Circulation (Mean=3.29), Newspapers clipping services (Mean=3.12), Online database/journals (Mean=2.95). The services that were very rarely or never used by students for their research purposes were Selective Dissemination of Information (Mean=2.74), OPAC Search / Browsing (Mean=4.03), Institutional repository (Mean=2.43), Interlibrary loan (Mean=1.43), Printing, Copying & Scanning (Mean=1.36).

### 1.9. DIFFICULTY WHILE SEARCHING INFORMATION:

This question was investigated from students whether they feel difficulties while seeking Information or not.

*Table 9: Difficulty while searching Information*

Variable	Mean	Std. Deviation
How often do you feel difficulty while searching Information	3.5600	.99567

N=200

Five points scale such as never, rarely, occasionally, frequently, always was used. It clearly shows that most of the students were often facing difficulties while seeking Information (X=3.56).

### 1.10. LEVEL OF PROBLEMS FACED USING THE RESOURCE MATERIALS:

The students try their best to collect information for their research purposes; they used several means to collect information. It was also analyzed that they spent a lot of time and worked hard to gather a small piece of Information. Many times due to problems or unhealthy circumstances, they failed in getting desired Information. To know the problems faced by students at the time of information seeking, seven questions were asked containing the measurement scale Strongly disagree, disagree, neutral, agree, and strongly agree. The responses showed in table 4.16 to know the seriousness of the problem

*Table 10: Level of problems faced using the resource materials*

Variables	Mean	Std. Deviation
Inadequate resources	2.3850	.91155
Disorganized collection in the library	2.6950	1.03311
Shortage of printed information source	2.3850	1.09672
Lack of my personal knowledge in searching library sources	2.7300	1.13735
Clash of timings b/w my classes and library hrs	2.4700	1.16442

Lack of time	2.6300	1.05292
Required material is not available	2.4000	1.06096

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N=200

The results showed that Inadequate resources and Shortage of printed information sources (X=2.38) were the topmost problems. Similarly, the other difficulties were faced by students were the Required material is not available (X=2.40), Clash of timings b/w my classes and library hrs (X=2.47), Lack of time (X=2.63), Disorganized collection in the library (X=2.70), Lack of my personal knowledge in searching.

### **FINDINGS:**

The following findings were found during the research.

1. Most students' information needs were for study and research activities, new knowledge, and career development and growth.
2. It was found that most of the students often using sources as Journal Articles, Textbooks, and Research Projects commonly for their information needs and information seeking.
3. Most of the students give prime preference to the printed material as a formal information source. Electronic material ranked second in selection. They were neutral about Non printed (manuscripts and typed).
4. It was found that General books and Papers delivered at conferences & their Proceedings were mostly used for Consultation work / Satisfying confusion. Non-book materials (pamphlets/ brochures, globes/maps/photos) and Newspapers, Bulletins, newsletters, and their proceeding were mostly used for personally development. Subject books, Abstracts & reviews were mostly used for Assignment/ Research work/Exam.
5. For the information-seeking purpose, often, students preferred books that have some importance. The other factors that played an essential role in selecting material are topical relevance, Novelty, Recommended by colleagues, and Publisher's reputation.
6. The main purposes of visiting the library among the PG students were To study general books, study subject books, borrow/return books and reading materials, and study in a quiet place.
7. Most of the students thought that Book Exhibitions, Open Access systems in the Library, and the Display of new arrivals could encourage the students' information-seeking.
8. It was found from the study that PG students of the university using various services of the library commonly. Most students always used Book Borrowing, Journal Circulation, Current Awareness Services, and Newspapers clipping services. It was also found that the critical services for information seeking as interlibrary loan and Printing, Copying & Scanning were not available in the library.
9. The respondents occasionally faced difficulties while seeking information
10. The respondents had agreed that they had experienced various problems in the library.

### **5.2. SUGGESTIONS:**

The finding of the study made it feasible to provide some suggestions that would help improve the information needs and information-seeking behaviour of PG students of KUST.

1. The central library should improve collection according to the need of every user. PG students are important and special clients of a library. They demand some specific sources for their study and research work. Therefore, the library should give preferences to their needs at the time of accessing library items.
2. SDI and CAS services are essential and crucial for scholars; inter-library loan service is also necessary for scholars. Library authorities should give priority to these services while offering services to its users.
3. Library staff also increases their ability by getting special training for the marketing of library services. They can provide effective services to their users and bridge the gap between users and resources due to such trainings.
4. The students cannot make the best use of library collections and resources without user education and special training. They need some special skills to get the information they need from IT-based information sources.
5. Non-books material has importance. Although micro technology is outdated, it retains some ancient and unique knowledge that may be very useful and important to some scholars. The library must encourage research scholars to use such sources on a regular basis.
6. Libraries must establish a user-friendly timetable. For scholars, reading room hours should be extended. Libraries should subscribe consortiums on various subjects. It was observed in the study that PG students were having financial problems while obtaining required information from online sources. Libraries should make an effort to provide free access to online sources to their patrons.
7. Libraries may use various social media platforms to provide SDI services by setting up Whatsapp and Facebook groups. A library can upload, and students can download a list of new arrivals with the help of such groups. Libraries should create a separate Facebook page to promote their services. The use of digital technology can reduce the frequency of research library visits.
8. Libraries should focus on the binding of back volumes of research papers and research journals, which are extremely useful to the researchers. The number of copies and the latest editions of books are important places where libraries can focus their efforts. The number of books issued to research scholars should be increased.
9. For scholars, libraries should create research repositories and subject gateways. They might provide a helpline.
10. The university's off-campus research centers should establish a database of information sources and their locations, which scholars can access. The university's affiliated colleges are given access to off-campus research centers. These colleges should establish a special collection in the library for research scholars. A special counter for research should be established at the research center.
11. Creating an online public access catalogue is more beneficial to library users so they can check the availability of documents without wasting time.
12. The Library should initiate the title and content alert services.

13. Abstracting and Indexing services can enhance the information searching abilities of students.
14. The students had the problem of unavailability of photocopying and printing services in the library. Libraries should start the photocopy and printing service to the students at non-profit rates.
15. Attending the seminars/conferences is essential for the scholars. The library should be facilitated the students for attending seminars/conferences for their research promotions.
16. Subject books are the priority of the students, so it is suggested to purchase new subject books and discard the old ones regularly.
17. General academic books should be purchased for this library, as the students usually use them to expand their academic abilities.
18. At the start of the new sessions, the library should give orientation programs to users and guides to new members to optimize library services and resources.
19. Improve the latest journal and magazine collection; It is highly beneficial to subscribe more periodicals to the scholars at the library.
20. Avoid unnecessary delays in the issuance of library cards to the new students. Staff members of the library should also preserve silence because no one must be disturbed in the library.

### **5.3 CONCLUSION:**

The findings indicate that understanding the students' information needs and seeking behaviour is necessary to strengthen the current library services and information resources in the university. This study shows that information sources and library services for students should be improved to meet the information needs and variations in information collecting and provide such services that are most valuable for scholars. There needs to be more progress in terms of services and technologies. The majority of students need more scholarly journals, periodicals, and subject books. Providing Photostat, printing and fast internet facilities are necessary for the library. At the time of selecting material preference to be given to Research Projects, Reference Books (e.g., Encyclopedia, etc.), E-books, E-journals, Magazines/ Newspapers, Conferences/ Seminars Proceedings as these sources were identified as significant research aids to students for acquiring information. Some problems were faced by the students while using library resources in the Main Library. The authorities were suggested to resolve the issues according to users' desires.

### **5.4. SUGGESTIONS FOR FURTHER RESEARCH:**

Based on the experience obtained from the study, it has been proposed that the areas listed below be considered for undertaking further study in the field of library and information science.

1. Information needs and information-seeking behaviour of other professionals such as Law, medical, engineering, etc.
2. Information needs and information-seeking behaviour of undergraduate students.
3. Information needs and information-seeking behaviour of teaching staff of the universities.
4. Comparative study of Information needs and information-seeking behaviour of various faculties of KUST

Information needs and information-seeking behaviour of the Members of the Provincial assemble of KPK.

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