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Purposes to Seek Information Resources by Academicians of the Oldest & Leading University of the Sub-Continent: An Explanatory Study

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Purposes to Seek Information Resources by Academicians of the Oldest & Leading University of the Sub-Continent: An Explanatory Study

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1 Abstract:

Major goal of this research was to know the purposes of seeking information resources by the academicians at GC University Lahore. As an allied goal, effort was made to know the role of the university library in meeting information and research needs of the academic faculty. Mixed methods research design was adopted for meeting goals of the research. Explanatory Sequential Design (QUAN + qual) was utilized. Firstly, quantitative data was collected through the instrument of questionnaire and analyzed by SPSS Software. Qualitative data was collected from 30 seasoned academicians working in different departments of the university. Thematic approach was followed to make analysis of the qualitatively driven data. Results of the study show that academicians search information resources for the purposes of preparing lectures, for guiding research scholars and students, for presenting research papers, to keep up with current developments, for writing research articles and enhancing their general knowledge. Findings of the study show that respondents are satisfied with the resources and services of university library. Participants recommend the need of formal training for developing skills to search specific information resources through online sources. Findings of this study are limited to the teaching faculty at GC University Lahore Pakistan, a leading institute of the sub-continent. The study has practical implication for the authorities of the universities and policy-makers of Higher Education Commission, Islamabad to design services in accordance with the needs of faculty members of the university. The study has revealed purposes of seeking information resources by academic faculty

of the university, role of the library and practical solutions to meet information and research needs of the teaching faculty members.

Keywords:

Purposes of teaching information, Role of University Library in Meeting Faculty Needs, Solutions to fulfill information & research needs

2. Introduction & Background to the Study:

Academicians search information resources in print and electronic format for meeting several purposes. Hallmark (2003) carried out a research work to know the information seeking behavior of scientists from universities, federal government agencies and private research institutes. The main purpose of this research was to know the use of electronic resources by scientists. A large majority of participants reported that they used electronic methods to access information resources. They utilized information resources for accomplishing specific tasks. Participants were also asked to comment on problems which they did face in using electronic journals. The participant mentioned that they found it very difficult to locate their specific information from the flood of information.

Quinn (2004) tried to know the information seeking behavior of users with the help of information technology. She performed this task to get knowledge about the barriers which happened in the path of information seeking especially when users used electronic resources for searching their required information. The acquired results of this study showed that users felt relaxation for searching articles with the help of information communication technologies. The study also exposed that users find it very difficult to discover their required information from the on-line data bases because of the lack of formal training to search on line information resources. Hakim & Silvio (2006) have investigated the information needs of and information seeking behavior of immigrants. The major objectives of study were to: a) identify their information needs b) identify their sources of information. The study recommended that librarians must have welcoming environment for the immigrants.

Kadli (2011) described that ICTs had brought innovative teaching in the searching-styles of users. They searched online resources to meet several purposes. They made completion of assigned tasks. They performed research-based projects with the help of Information and

Communication Technologies (ICTs). They searched information resources to share information with others. They utilized online information resources to work in a smart way. They used online resources to reduce dependency upon others. They better performed their relevant works through Information Technology.

Keeping in view the academicians' purposes to search information resources and essential role of the university library in satisfying needs of the teaching faculty at the university, it has become very necessary to know the purposes of seeking information resources by the teaching faculty at the university level so that services may be designed accordingly to uplift the university and to facilitate the faculty members. Modern librarianship has been changed. The role of the university library has become more dynamic in the present age. It is function of the university library to know needs of the faculty and provide services keeping in view the requirements of stake-holders. GC University Lahore is a leading educational institute of the sub-continent. This institute has produced two noble laureates and hundreds of legendary personalities in all fields of life. It was established in 1864. In 1872, The GCU Library was established to meet information needs of the community and to lend a hand in teaching, research, consultancy, and learning. The library has been modernized keeping in view the latest trends and needs. The library plays its leading role in meeting information and research needs of the users.

3. Statement of the Problem:

This research has revealed the purposes of seeking information resources by the faculty members of GC University Lahore, a revolutionary institute of Pakistan that has introduced history-making personalities belonging to all areas of life who have performed wonderful services across the world. The study has also explored the role of library in meeting information and research needs of the teaching faculty. Before this study, no such in-depth research has been conducted in any type of university having used explanatory approach. Recommendation based on the results of this study and the literature-review are very fruitful in designing information resources and services in accordance to the needs of the faculty members of the university and the same recommendations may be of great significance for the faculty members of the other universities of the country. It is need of the time to provide users' centric services and this study will help in establishing an amicable system for the faculty members.

4. Research Questions:

Following research questions were set:

1) What are the purposes of academicians of GC University Lahore to search information resources?
2) What are faculty members' opinions about ways to get information resources?
3) What are purposes of academic faculty of GC University Lahore to visit the library?
4) Which are barriers to access required information resources?
5) What are recommendations by the faculty members of GC University Lahore to design a user-friendly system to meet information and research needs?

5. Review of Related Literature:

Mistsugi & Fujitsu (1985) stated that first computers were used to perform scientific calculations but their applications have now progressively grown. With the assistance of computer, one can have quick access to information; either he is a student or businessman. Information age has come into being after the arrival of computers. One can have speedy information. Technology has both benefits as well as bad impacts. Most common problems are as the following a) loss of privacy of information b) dehumanization of individuals c) exploitation by poor information d) overload of information. Faculty members make the usage of IT for seeking information resources for the purpose of teaching to the students and research scholars efficiently. Kuhlthau (1989) worked on the feelings, thoughts and actions of the students which were commonly experienced in the information search process. Findings indicated that thoughts and feelings changed in the information search process as an individual formed new constructs. The researcher exposed those problems which were encountered affected student's learning. According to the writer, the most eminent problem of student to seek their specific information was the lack of experience of using electronic resources. Users' searched information resources for specific purposes. They browsed information resources through traditional and online means for making completion of assigned tasks.

Scott & Wootliff (1992) revealed that there are three major categories of users in a business environment. The following are those categories of user and identification of the nature of information, they need in their day-to-day activities. a) planners and market analysts who need information on future trends in order to plan future strategies for business b) service professionals

such as accountants, stockbrokers, and management consultants who need information on specific industries such as who are major players in an industry? And what are their activities? and so on c) corporate finance specialists who need to identify potential takeover targets in a specific industry and need information on their financial performance. No user can excel in any field of life without authentic information. Information is always searched in some context and due to some purpose. Maheswarappa & Hiremath (1995) made an effort to know the information use pattern of social scientists in a university environment in India. The major aims of this study were to explore amount of time spent in different activities, the methods used for seeking information and problems faced while seeking the information. A questionnaire was distributed among 103 social scientists and 90 scientists responded to the questionnaire. The findings of the study showed that primary periodicals were the most frequently used sources of information among the majority of social scientists. Majority of the social scientists also consulted expert persons for locating their relevant material. Specific projects were completed through information resources.

Nazan, Ucak & Kurbanglu (1998) have worked on the information needs and seeking behavior of scholars at Hacettepe University, at Ankara, Turkey. This study was accomplished with the help of a questionnaire and the respondents were asked to respond to questions such as their choices of information sources and information channels. All the respondents preferred formal sources for getting needed information. These information resources were used for teaching and research purposes. Bajpai (1999) showed that modern society depended on information for all its activities. Information is very much required in science, industry and commerce etc. Every person has the need for information. Without information, a person cannot get promotion in any field of life. Teachers also use information to do research-based tasks.

Jarvelin & Peter (2004) elucidated the general directions of information seeking. The study was based on the assumption that information seekers cannot locate their relevant information with the help of internet. The study recommended that information seekers must be trained and they must be taught to use the on-line resources so that they might gain their relevant information. Francis (2004) conducted research on the Information Seeking Behavior of Social Science Faculty at the University of West Indies, ST Augustine Campus. His study focused on how social science faculty was getting benefits from the material available in their own institution and how they used electronic resources for their teaching research and current awareness activities. A questionnaire,

consisting of 19 closed-ended questions and one open-ended question was sent to the respondents. Respondents indicated that information resources were located by them for the purposes of seeking information related to field in order to remain up-to-date, to teach different classes, to do research work and to validate the authenticity of information through online resources. Chauhdary (2004) mentioned information seeking behavior of users. According to him, information seeking behavior of users depends on a number of factors. The general educational level of users is such a factor which influences their information seeking behavior. Faculty members mostly looked for information resources to form research-based projects in order to excel in relevant field.

Limberg & Sundin (2006) stated that information seeking was performed in relation to certain; institutionally-shaped objectives. Individual interviews were conducted with librarians and teachers from three schools. Interview questions focused on the contents and methods of teaching information seeking. Most of the participants mentioned about the specific tools which they used to seek information. The participants used on-line resources to meet their urgent need for information. They used information resources to make completion of urgent assignments. Lydia & Bondy (2006) made study on the information needs and seeking behavior of health practitioners and health planners for decision making in Uganda. The major aim of the study was to determine the most influential type of information for health workers' and planners' decision making. For this, questionnaires were sent to 610 health workers and planners. Findings of the study indicated that most of the respondents (79%) used personal experience, discussion with colleagues (76%) and treatment guidelines (75%) for making decisions in health care and planning. The sources which were used with less frequency were the Internet and the library.

Burke (2006) highlighted the importance of information needs in the networked society. The purpose of this study was to introduce the idea of 'information fulfillment'. He also threw light on the role of networked society. According to him, information professionals accepted their desired information neglecting its sort, format and importance. The research showed that there were many factors which effected information fulfillment. The study exposed that achieving high levels of information fulfillment was an important issue and had become important in terms of the amount of information which needed to be dealt on a daily basis. It also showed that the networked society had increased the amount of information which was available for all those who were involved in both the information processing and organizational objectives in their countries.

Nicholas & Paul & Hamid & Tom (2006) have highlighted the importance of digital forms in information seeking behavior. An online questionnaire survey was conducted for this purpose. The study showed the positive as well as negative aspects of online resources. First researchers exposed positive aspects of online resources. With the help of digital environment, one could have a wide range of information. The study also showed that people found it very difficult to find their particular information on the web. It showed that people made the use of different search engines to access their desired information. The researchers also mentioned that people searched information without any formal training and having a low level of information literacy.

Sujatha (2014) stated that patterns of information seeking had been changed due to the impact of Information and Communication Technologies. Users aimed to search information resources for several purposes. They sought relevant material for completing certain tasks. They didn't look for information aimlessly. They visited the library to quench their thirst for information and research. They needed to learn basic IT skills in order to benefit from the benefits of online content from digital resources. Yuvaraj (2016) emphasized that social websites and Web 2.0 tools had brought revolution in the techniques of searching information. Users had become more familiar with web based resources to search their specific type of information resources. They had become more and more self-reliant for seeking required material. The role of the Library had become more vital in the modern times due to IT revolution. Librarians needed to grab the latest knowledge and skills related to emerging technologies in order to serve their users efficiently and quickly in order to play a supportive role.

6. Research Methodology:

Mixed methods design was used to meet objectives of the study. Both quantitative and qualitative data were gathered and analyzed. Mixed methods design was chosen keeping in view the nature and significance of the study. Quantitatively driven approach was used to gather data from a large number of population and qualitatively driven data was collected to add value in the study and support the quantitatively statistical results. Keeping in view the users' centric philosophy, in-depth study was done having used mixed methods research.

The study was completed in two phases for meeting research-objectives of the study. Two-Phase-Study-Approach was followed in accordance with the nature of the research.

Firstly, quantitative data was gathered and analyzed through SPSS Software and later qualitative data was collected and analyzed used thematic approach. Data gathered from both quantitative and qualitative approached provided strengths of both types of studies.
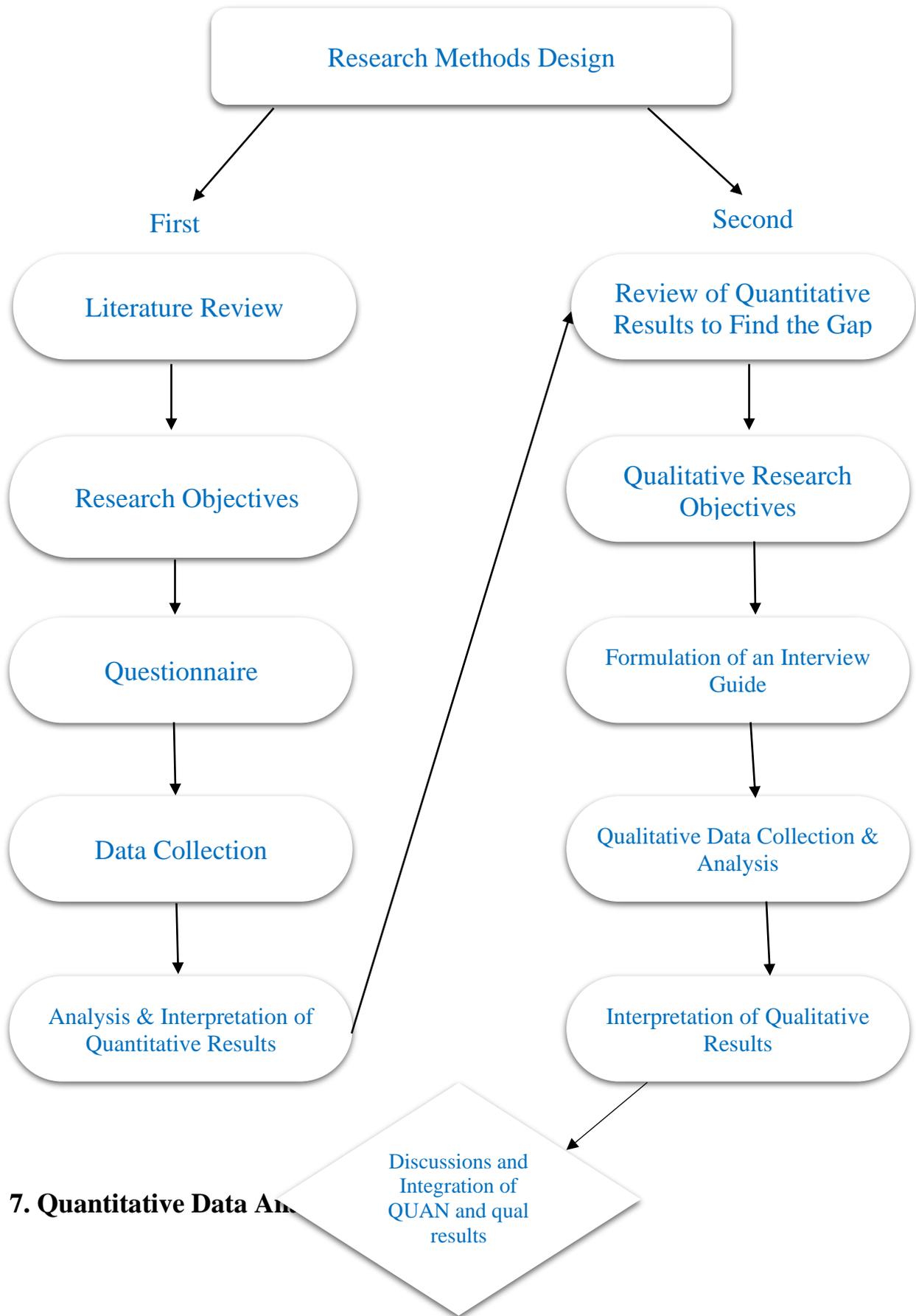
The population of the quantitative study was all the full-time regular faculty members of GC University Lahore, Pakistan. Faculty profile was available at the web pages of the concerned faculty at the university's website (www.gcu.edu.pk). Data was collected through printed questionnaires.

Convenience Sampling Technique was used for collecting quantitatively driven data. Questionnaire-instrument was passed through pilot-testing phase and modifications were made at par with experts' reviews. Questionnaire was distributed among 225 faculty members of GC University Lahore, 163 academicians responded to the questionnaire. Response rate was 72.4% of the quantitatively driven approach. Collected data was analyzed through Statistical Package for Social Sciences (SPSS) Software.

Secondly, interviews were conducted from 30 seasoned faculty members of the university. In-depth interviews were conducted to know recommendations to design a friendly system for meeting information and research needs quickly and efficiently. Practicable genuine based solutions were sought for the initiation and implementation of users' centric system in the university's library to better facilitate the faculty members. Expert sampling was applied to select these 30 expert faculty members belonging to different departments of the university. Their thoughts were taken for the development of a friendly system in the university. Qualitatively collected data was analyzed through thematic approach.

Informal discussions were also done with the faculty members in order to know real problems and seeking their genuine solutions for giving a plan for users' centric system. Informal talk provided precision for the implementation of user-friendly-system to serve the users efficiently. Qualitative data was interpreted in textual form. Following Figure 1 depicts the adopted mixed methods research design of this research:

Figure: 1

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                    ┌─────────────────────────────────┐
                    │   Research Methods Design       │
                    └─────────────────────────────────┘
                       ↙                         ↘
                  First                            Second

          ╭──────────────────╮          ╭──────────────────────╮
          │ Literature Review│          │ Review of Quantitative│
          ╰──────────────────╯          │ Results to Find the Gap│
                   ↓                     ╰──────────────────────╯
          ╭──────────────────╮                    ↓
          │Research Objectives│         ╭──────────────────────╮
          ╰──────────────────╯          │ Qualitative Research  │
                   ↓                     │     Objectives        │
          ╭──────────────────╮          ╰──────────────────────╯
          │  Questionnaire   │                    ↓
          ╰──────────────────╯          ╭──────────────────────╮
                   ↓                     │Formulation of an Interview│
          ╭──────────────────╮          │        Guide          │
          │ Data Collection  │          ╰──────────────────────╯
          ╰──────────────────╯                    ↓
                   ↓                     ╭──────────────────────╮
          ╭──────────────────╮          │Qualitative Data Collection &│
          │Analysis & Interpretation of│ │      Analysis         │
          │  Quantitative Results│      ╰──────────────────────╯
          ╰──────────────────╯                    ↓
                                         ╭──────────────────────╮
                                         │Interpretation of Qualitative│
                                         │       Results         │
                                         ╰──────────────────────╯
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7. Quantitative Data An...

◇ Discussions and Integration of QUAN and qual results ◇

Data collected through questionnaires are analyzed and interpreted in this section. All the faculty members of Government College University (GCU), Lahore were selected as a population of this study. Data were collected through the distribution of questionnaires among the faculty members of Government College University, Lahore. One hundred and sixty three questionnaires have been analyzed below.

7.1 Respondents' Ages

Respondents were asked to mention their ages. The ages ranged from 21 to above sixty. Acquired results show that forty six (28.2%) respondents had their age between 21 to 30. Forty seven (28.8%) respondents had their age between the ranges of 31 to 40. Fifteen (9.2%) respondents were more than 60 years old, thirty five (21.5%) had their age from 51 to 60 while 19 (11.7%) were between the age limit of 41 to 50. Frequency distribution of respondents' ages is presented in table 1.

Table 1

Frequency Distribution of Respondents' Ages

Age groups	Frequency	Percent
21-30	46	28.2
31-40	47	28.8
41-50	19	11.7
51-60	35	21.5
Above 60	15	9.2
Total	163	100.0

7.2 Respondents' Academic Qualification

Respondents were asked to mention their highest academic qualification. Acquired results show that 80 (49.1%) respondents had the degree of Masters, 48 (29.4%) had the degree of M. Phil, 31 (19%) had the degree of Ph.D. and only 1 respondent (0.6%) had the degree of M.Com. Frequency distribution of respondents' qualifications is given in the table 2.

Table 2

Respondents' Academic Qualification

Qualification	Frequency	Percent
M.A./M.SC	80	49.1
M.PHIL	48	29.4
PH..D	31	19.0
Other	1	.6
Total	163	100.0

7.3 Respondents' Teaching Experience

Respondents were asked to indicate their teaching experience at G C University Lahore. The acquired results highlight that 57 (35%) respondents (35%) had their teaching experience from one to five years, 37 (22.7%) possessed experience from six to ten years, 31 (19%) had more than 26 years experience, 25 (15.3%) had their experience from 21 to 25, six 6 (3.7%) had from eleven to fifteen years while 6 (3.7%) had from 16 to 20 years. Table 3 shows the frequency distribution of respondents' teaching experience at the university.

Table 3

Respondents' Teaching Experience

Experience	Frequency	Percent
1-5	57	35.0
6-10	37	22.7
26 and more	31	19.0
21-25	25	15.3
11-15	6	3.7
16-20	6	3.7
Total	163	100.0

7.4 Years of Using the Internet

Respondents were asked about the period since they had been using the internet. The responses varied from ten years to one year. Seventy one (43.6%) respondents mentioned that they had been using the internet from one to five years, 60 (36.8%) had been using it for more than 10 years, five (3.1%) had been using it from six to ten years while 27 (16.1%) were not using the facility of internet. Results are shown in the table 4.

Table 4

Frequency Distribution of Years of Using the Internet

Years	Frequency	Percent
From 1 to 5 years	71	43.6
More than 10 years	60	36.8
No, I do not use	27	16.1
From 6 to 10 years	5	3.1
Total	163	100

7.5 Search Engines

Participants were asked to mention which search engines they were using to get required and relevant information. One hundred and forty-four (88.3%) respondents were using Google , 124 (76.1%) Ref Seek, 47 (28.8%) Dog Pile, 31 (19%) I Seek, four (2.5%) Mamma while two (1.2%) were using Ask. Com, Nivisimo and Ixquick. Frequency distribution is presented in table 5.

Table 5

Frequency Distribution of Search Engines Used by the Respondents

Search Engines	Frequency	Percent
Google	144	88.3
Ref Seek	124	76.1
Dog Pile	47	28.8
I Seek	31	19
Mamma	4	2.5
ASK.COM	2	1.2
nivisimo.	2	1.2
Ixquick	2	1.2

7.6 Respondents' Information Skills by Using the Internet

Respondents were asked to rate their information seeking skills with the help of using the Internet. One hundred and thirteen (69.3%) respondents were having excellent information seeking skill with the help of internet, 19 (11.7%) had very good, five 5 (3.1%) and one (0.6%) fair while 25 (15.3%) respondents stated that they had poor information seeking skill with the help of internet. Frequency distribution of respondents' information skills is presented in table 6.

Table 6

Respondents' Information Skills by Using the Internet

Information seeking skills	Frequency	Percent
Excellent	113	69.3
Very Good	19	11.7
Good	5	3.1
Fair	1	0.6
Poor	25	15.3
Total	163	100.0

7.7 Respondents' Opinion about the Purposes of Seeking Information

The Respondents were asked to give their opinion about different attributes of the purpose of seeking information. For this, they were given different statements to rate, which revealed their perception about the purpose of seeking information. Descriptive statistics presented in table in 7 show that the respondents frequently sought information for several purposes i.e., "Preparation for interview" (Mean=4.42), "To improve personal competencies" (Mean=4.42), "To support the research work"(Mean=4.41), "To keep up with current developments" (Mean=4.40) ,"To carry out administrative work" (4.4), "For guiding researchers and students" (Mean=4.34), "For work shop and seminar presentations" (Mean=4.32), "Reading purposes only" (Mean=4.32), "General knowledge"(4.28), "For writing a book or article (Mean=4.27), "Service or job requirement" (Mean=4.2) and "For lecture preparation"(4.07).

Table 7

Descriptive Statistics of Respondents' Opinion About the Purpose of Seeking Information

Sr.	Purposes	Mean	Median	Mode	Minimum	Maximum	St. Deviation
1	For lecture preparation	4.07	4	5	1	5	1.03
2	For guiding researchers and students	4.34	5	5	1	5	0.97
3	For workshop and seminar presentations	4.32	5	5	1	5	0.96
4	To support the research work	4.41	5	5	1	5	0.87
5	To keep up with current developments	4.40	5	5	1	5	0.86
6	To improve personal competencies	4.42	5	5	1	5	1.07
7	To carry out administrative work	4.4	5	5	1	5	1.9
8	Service or job requirement	4.2	5	5	1	5	1.24
9	Preparation for interview i.e. job interview etc.	4.42	5	5	1	5	2.74
10	General Knowledge	4.28	5	5	1	5	0.89
11	Reading purposes only	4.32	4	5	2	5	0.78
12	For writing a book or article	4.27	5	5	2	5	0.85

Note: 5=Always, 4=Frequently, 3= Sometimes, 2=Seldom, 1=Never

7.8 Participants' Opinion about the Acquisition of Information Resources

The participants were asked to mention from where they acquired information resources. For this purpose, they were given different statements to rate, which revealed their perception about the achievement of information resources from various ways. Descriptive statistics presented in the table 8 show that participants frequently acquire information resources from the following ways "Through HEC online databases" (4.23), "Personal collection", (Mean=3.86),"From university libraries" (Mean=3.63), "From colleagues" (Mean=3.56) and they sometimes get information resources from the following means "From other colleagues" (Mean=3.44), "Through purchase" (3.34) and "Free of cost/ Donation"(3.34).

Table 8

Descriptive Statistics of Respondents' Opinion About Ways to Get Information Resources

Sr	Ways to get information	Mean	Median	Mode	Minimum	Maximum	St. Deviation
1	From your University Libraries	3.6.3	3	3	1	5	1.02
2	From other Libraries	3.44	3	3	1	5	1.03
3	From Colleagues	3.56	3	3	1	5	1.04
4	Through Purchase	3.34	3	3	1	5	1.04
5	Free of cost/ Donations	3.34	3	3	1	5	1.13
6	Personal Collection	3.86	4	5	1	5	1.09
7	Through HEC online databases	4.23	5	5	1	5	1.15

Note: 5=Always, 4=Frequently, 3= Sometimes, 2=Seldom, 1=Never

7.9 Respondents' Opinion about the Amount of Time Spent in Different Information Seeking Activities

Descriptive statistics presented in the Table 49 show that participants remained busy from seven to nine hours in a week in the following activity "Internet searching" (Mean=2.57), while they remained busy from four to six hours in the following activities "Conferring with coworkers or other experts" (Mean=2.21), "Scanning journal articles"(Mean= 1.90), "Photocopying" (Mean=1.61) and participants remained busy from one to three hours in a week in the following activity "Reading e-mail alerts" (Mean=1.55).

Table 9

Descriptive Statistics of Respondents' Opinion About the Amount of Time Spent in Different Information Seeking Activities

Sr.	Activities	Mean	Median	Mode	Minimum	Maximum	St. Deviation
1	Reading e mail alerts	1.55	1	1	1	3	0.81
2	Scanning journal articles	1.90	2	1	1	3	0.88
3	Photocopying	1.61	1	1	1	3	.83
4	Conferring with coworkers	2.21	2	3	1	3	80
5	Internet searching	2.57	3	3	1	3	0.68

Note 3=7-9 Hours, 2=4-6 Hours, 1=1-3 Hours.

7.10 Respondents' Opinion about the Purposes to Visit Library

The respondents were asked to give their opinion about their purposes to visit the library. For this, they were given different statements to rate, which revealed their perception about their purposes to visit the library. Descriptive statistics presented in the Table 10 show that participants frequently visit library for the following purposes "To use reference material" (Mean=4.11), "To search some specific information" (Mean=3.96), "To use electronic resources"(Mean=3.72), "To borrow or return books" (Mean=3.56) while they sometimes visit library for the following purposes "To read journals "(Mean=3.35), "To browse library collection"(Mean=2.88), "To discuss with staff"(Mean=2.88), "To study personal material/ Quiet study" (Mean=2.66). On the other hand, they seldom visited library for the following purpose "To use computer and internet" (Mean=2.53).

Table 10

Descriptive Statistics of Respondents' Opinion about the Purposes to Visit Library

Sr.	Purposes	Mean	Median	Mode	Minimum	Maximum	St. Deviation
1	To borrow or return books	3.56	4	4	1	5	1.30
2	To read journals and newspapers	3.35	4	5	1	5	1.58
3	To use computer and internet	2.53	2	1	1	5	1.52
4	To browse library collection	2.88	3	1	1	5	1.59

5	To use electronic resources	3.72	4	5	1	5	1.54
6	To use reference material	4.11	5	5	1	5	1.25
7	To discuss with library staff	2.88	2	1	1	5	1.59
8	To search some specific information	3.96	5	5	1	5	1.29
9	To study your own material /quiet study	2.66	2.50	1	1	5	1.63

Note: 5=Always, 4=Frequently, 3= Sometimes, 2=Seldom, 1=Never

8. Qualitative Data Analysis

8.1 Problems in Accessing Information Resources

Purposive sampling was applied to get qualitative data from the respondents. 30 faculty members belonging to different departments and faculties were selected to get required data. Respondents mentioned problems which they faced in accessing information resources. They mentioned that they retrieved so many results from Google Search Engine and they found it difficult to filter the results of their own choice (n=19). Faculty members faced the problem of information overload (n=22). They found it difficult to locate specific information resources (n=17). They faced barrier in getting remote access to HEC Online Databases (n=26). They couldn't get multiple copies of required books of recommended syllabus for their students (n=27). Respondents did not have requisite skills of searching online information resources (n=23). Faculty members couldn't get subscription of printed journals of their area of interest due to high cost (n=29).

Table 11

Problems in Accessing Information Resources   *N=30*

Statements	Frequency

Statements	Frequency
Difficulty in filtering required information	19
Barrier of information overload	22
Problem in accessing specific information resources	17
Hurdle in accessing HEC Online Databases	26
Unavailability of multiple copies of syllabus-related-books	27
Lack of advanced searching skills	23
High cost of printed journals	29

8.2 Role of Library to Provide Information Resources

Respondents were asked to mention the role of university's library in the provision of required information resources. Subjects of the qualitative study mentioned that the library was playing an active role in the fulfillment of information services through traditional and online means (n=28). They stated that the attitude of library professionals was friendly (n=23). University Library had sufficient traditional sources (n=24). Participants were satisfied with the availability of digital resources (n=22). They were satisfied with traditional services of the library (n=30). They were happy with the availability of required resources through online moods by the library staff (n=24). They showed satisfaction with the cooperative role of Chief Librarian with the students working on specific projects assigned by the concerned departments (n=23). Subjects (Respondents) mentioned that work and attitude of Chief Librarian of the university was very dynamic.

Table 12

Role of Library to Provide Information Resources   N=30

Statements	Frequency

Positive role of library in fulfilling information needs	28
Friendly attitude of library professionals	23
Availability of sufficient traditional resources in university library	24
Satisfaction with available digital resources	22
Satisfaction with traditional services	30
Satisfaction with services through ICTs	24
Cooperative attitude of Chief Librarian	23

8.3 Practical Solutions for Developing a User Centric System in the University Library

Respondents were asked to present practical solution for the development of a user centric system in the university library. They mentioned that budget of the library should be increased (n=30). They indicated that special sections should be developed in the library (n=24). They emphasized that discussion rooms should be built (n=26). Respondents described that remote access to HEC Digital Resources should be provided (n=29). They described that Subject Librarians should be recruited (n=22). They stated that emerging technologies and tools should be implemented (n=24). They elucidated that training workshops related to Information Literacy need to be conducted (n=27).

Table 13

Solutions for Developing a User Centric System   N=30

Statements	Frequency
Budget of the library should be increased.	30
Special sections should be developed in the library.	24
Discussion rooms should be built.	26
Remote access to HEC Digital Resources should be provided.	29
Subject Librarians should be recruited.	22

Emerging technologies and tools should be implemented.	24
Training workshops related to Information Literacy need to be conducted.	27

9. Discussion of Findings:

Respondents of the interview mentioned that traditional and online information resources were of great significance for the purposes of fulfillment of general and specific tasks. They stated that barriers took place in finding required information resources. They appreciated the role of library in the fulfillment of their information and research needs to a great deal.

Participants of the research gave solutions for the development a user centric system in the university library. Analysis of the interviews shows that the steps recommended by the study-participants are of great value in the establishment of a user-centered-system because philosophy of modern librarianship lies in satisfying the needs of user efficiently.

Interviewees described that multiple copies of the latest editions should be acquired. Latest editions of the books were highly significant in imparting up to date knowledge to the students and research scholars. Very often, it happened that students couldn't find even a syllabus recommended book from the library because multiple copies of the same were not available. It was a dire need of the time that there should be integration between teaching departments and the library.

One expert said that:

"If multiple copies of a syllabus related book may not be available in the Library due to budget-shortage or other reasons than the library should arrange reference service of that needed volume through on-campus reading facility of that book or through the provision of photocopy service. The faculty needs to be in touch with the library administration in this connection."

Respondents of the interview remarked that budget of the library should be increased. Without proper budget, the library couldn't facilitate its users efficiently. Books on scientific subjects were costly and subscription of journals was very expensive too so the library should be allocated sufficient budget in this regard.

One subject of the study described that:

"The library can't provide a comfortable environment to the users without sufficient budget. Physical structure and information resources can't be increased without the availability of finance. Competent authorities of the universities should allocate maximum budget to empower the library resources. The library professionals should themselves look for alternative means for generating funds for the library so that the library may prosper in terms of resources and services".

Respondents of the study emphasized that discussion rooms should be built inside of the library so that faculty and other users of the library may make educational discussions and make the completion of assigned tasks easily.

One respondent explained that:

"The library didn't have any discussion area so students kept on making discussions about several topics of interest and this caused excessive noise and disturbance for those students who came in the library for silent-study. All this disturbance happened because of the non-availability of discussion rooms. Management of the university should solve this problem on urgent basis to better facilitate the library users".

Respondents described that remote access to HEC Digital Resources should be provided. HEC Online databases had brought a great revolution in research. Several peer-reviewed journals were available through HEC Digital Resources however these resources were only available on campus and the library couldn't manage hundred of users at the same time in the computer lab because of the shortage of space and required systems so it was a dire need that off campus access to HEC digital resources should be provided.

One participant was of the opinion:

"Some private sector universities have taken initiative of providing remote access services to digital databases through Virtual Private Network (VPN). Our university could also develop such a system and Log Ins should be provided to the users on demand basis so that no barriers could take place while doing research relevant tasks".

The subjects of the research described during interview that Subject Librarians should be recruited. They said that modern age was very challenging. A general librarian couldn't have knowledge of all areas of knowledge so if subject library professionals are appointed then users' information needs may be satisfied to the level of efficiency. Librarians needs to have knowledge of the subjects too so that they could better facilitate the users through their learning and skills.

One respondent remarked:

"In the departmental libraries, subject librarians need to be recruited so that they could better serve the users of those departments keeping in view the subject-needs however it was a very alarming situation that instead of deputing subject librarians, only clerks had been appointed in the departmental libraries and they could not prove so much helpful in the research-endeavors of the academicians. Modern librarianship differed from the traditional methods of serving the users. Now, the users had also become smart due to the advent of web related tools and innovations in IT due to social website too so librarians need to be skilled so that faculty members may be served in an efficient style. Subject librarians should be appointed in the departmental libraries having required knowledge and skills to meet information and research needs of specific departments so that true role of facilitator could be played by a librarian".

Respondents of the interview stated that emerging technologies and tools should be implemented in the library so that all operations and procedures of the library could be made automatic and users may be served easily, quickly and efficiently and no problems could occur in the dissemination of requisite information resources.

One respondent explained in this regard that:

"All libraries of the leading universities were adopting emerging technologies, implementing latest tools to apply modern services, automating collections, digitizing unique information resources so our university library that has a rich treasure of unique archives, rare books, personal collections, institutional publications must implement emerging technologies for preserving all this priceless heritage to disseminate to future generations".

Participants of the study elucidated that training workshops related to Information Literacy need to be conducted. Advanced searching skills of online databases should be conducted by library professionals. Majority of the respondents explained:

"Library staff should help users in developing requisite skills of locating information resources through Information Literacy workshops. Faculty members should also be taught as how literature could be searched through subscribed and open access online resources. The librarians should facilitate their users in the searching and finding of required material."

Informal talk with the respondents also provided precision to the researchers. These discussions highlighted the essential role of a university library in satisfying the information and research needs of the faculty members of the university. These discussions and observations revealed that library professionals needed entirely an unconventional approach in the modern age of IT to serve the users. Social websites had brought a flood of information and reduced the book-reading-habits and in this context, the university level librarians could become highly productive in the establishment of a user centric system to play a supportive role in meeting objectives of the organization.

In light of in-depth literature review, quantitatively driven data, qualitative data, informal talks, discussions and observations, following-given Figure 2 shows solutions to be implemented for the development of a user centric system in the university level libraries to better serve the academicians and other types of users:

Figure 2

10. Recommendations:

Based on the results, conclusions, findings of the quantitative and qualitative results, following recommendations are furnished:

1. Budget of the library should be increased.
2. Multiple copies of the syllabus related books should be managed.
3. Library should stay open till late night.
4. There should be an amicable environment in the university's library.
5. Special sections should be developed in the library.
6. Discussion rooms should be built.
7. Remote access to HEC Digital Resources should be provided.
8. Subject Librarians should be recruited.
9. Technology specialist staff should be appointed.
10. Mini Theatre should be available.
11. Cafeteria facility should be available.
12. Emerging technologies and tools should be implemented.
13. Information commons should be developed.
14. Virtual tours should be formed.
15. Conference Hall should be available in library premises.
16. Book Bank should be developed.
17. Book Club should be formed to promote reading culture.
18. Training workshops related to Information Literacy need to be conducted.
19. Library services need to be designed in accordance with the needs.
20. A user centric system should be developed keeping in view the requisite needs.

11. Practical Implication:

This study has practical implications for Higher Education Commission Pakistan, competent authorities of the universities and top administration of the university library to reshape the library system through new policy-making in the best interests of the users.

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