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Impact of Digital Media on Information Needs and Seeking Behavior of University Teachers in Pakistan

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The core objective of this study was to examine the impact of digital media on information needs and seeking behavior of university teachers in Pakistan: A study of federal area universities. There are thirteen (13) federally chartered universities located in the federal capital, having faculties of applied/natural sciences, social sciences/humanities, and engineering covered by the study. With the insurrection of Information & Communication Technologies (ICTs) flow of information is rapidly enhanced. User needs are fulfilled through a single mouse click. Wide-ranging reading of volume of information is an additional dilemma. It is a reality that wide mountain range information creates ambiguity in pickings final decisions. In this context, an inspired information quest is exceedingly tricky. The subject area examined and realized the faculty of the university towards the information, to investigate the main sources of literature consulted, to determine faculty' awareness of the resourcefulness available to them, to establish whether faculty have had any pedagogy on use of resources or not. The summary of findings revealed that there is significant link between the respondents with attentiveness to their information needs, use of information sources, awareness of digital information of the respondents, searching acquirement and atonement about competence of information. With the help of findings some concrete recommendations are listed at the end of study.

Keywords: Information Need Behaviors, Information Seeking behaviors, Digital Impact, Pakistan

Introduction

Developing world is taking a paradigm shift in the educational system. Digital media is playing a key role in this paradigm shift. The revolutions in digital media have broadened the educational systems and authorities to think differently. New approaches towards the learning and teaching process can be implicated definitely with the launch of new age digital media. Digital media and its impact are numerous. Information seeking opportunities has been offered in a variety of approaches in a progressive era of technology, including electronic information resources for example CD-ROMs, network sources as the primary media for the storage and communication of recorded information.

Bandara (as cited in Majid & Kassim, 2000) states that if the library is to provide any meaningful information services, the user's {information seeking} habits should be taken into careful consideration. Furthermore, the information dissemination professionals should be well aware of how the information needs and information seeking behavior of faculty members are changing. It is crucial for them to gain access to study that provides insight on the purpose that faculty members are using electronic resources for understanding such behavior that can help librarians and other information professionals to design services and products in a manner that transmits the requisite information in the most effective manner. To judge how teachers are responding to the evolving methods of information dissemination.

Information

The concept of information is much more complicated, requiring considerable in-depth analysis, than one might generally presume. This is emphasized through the voluminous range of definitions and attributes assigned to 'information'. Although it is an indubitable fact that the concept of information is as old as the sun – that it affects, and is defined by, all aspects of human actions – no consensual definition of the word exists in literature. The available definitions imitate the emphasis, and perhaps chauvinism, of their supporters. Information is a multidisciplinary thought. Ajewole (2001) proposed a classification of the definition information into three (3) distinct categories. The first is the scientific and technical information (STI). This is within the domain of scientific and technological communities. The second class is socio-cultural. In this perspective, information is viewed as knowledge that is transferable in the conduct of various programs. In the last category, information is considered as a basic resource. It is an essential and unique link between a wide range of activities, both intellectual and material, in the service of society, institutions and individuals. However, within each of these categories, there is again no consensual definition of the concept. Thus, Gilchrist (1982) rightfully lamented that setting a definitive definition for the term is something that information professionals have always struggled with, and it is unfortunate that scholars of the present day are still faced with the same predicament.

Information Seeking Behavior (ISB)

Wilson (2000) explained Information seeking behavior encompasses the human behavior in relation to sources and channels of information, for both active and passive information seeking and information use. It includes face-to-face or direct communication with others; as well as the indirect acquisition of information. For example, while merely watching TV with the desire of

entertainment, we are simultaneously viewing advertisements and there is an unconscious transfer of information, which we may later feel inclined to act upon. Information searching behavior is the micro-level of behavior engaged by the seeker while interacting with information systems of all kinds. It consists of all modes of interactions with the system. It can be a human computer interaction, for example, using the mouse and navigating across different links. It can also be a cerebral level activity, for example, adopting a Boolean search strategy or determining the criteria for deciding which of the two books selected from the same library shelf is most useful. It can even pertain to an intellectual act, such as judging the significance of data or information retrieval.

Marchioni (1995) describes it as a process in which humans purposefully engage themselves in order to improve their knowledge base. Case (2002) says that it is a conscious effort to acquire information in response to a need or gap in your knowledge. Kuhlthau (2004) articulates that there is a process of construction within information seeking, which involves fitting in information with what one already knows and extending this knowledge to create new perspectives. In layman's terms, information seeking is done to fulfill a need for some purpose or to accomplish a task. It is a mental process that occurs in the mind of the user when he/she perceives a need that requires satisfaction. They search for information through information channels such as the library information center, online services, or referring to other people. This pattern is known as 'information seeking behavior'. We can say that it is the behavior one exhibits in response to experiencing a need for information. It is the "complex pattern of actions and interactions which people engage in when seeking information of whatever kind and for whatever purpose", as articulated by (Ellis, 2009). Chen (1982) observes that "Information seeking patterns are the paths pursued by the individual in the attempt to resolve a need".

Literature Review

User studies continue to be a significant field of library research, as studying the information-seeking behavior of specific user groups has contributed to the expansion of a variety of library services. Many research studies on the information-seeking pattern of arts and humanities scholars are found in the literature of library and information science. Information-seeking behavior refers to how a person feels about their knowledge, information acquisition, and use (Case & Given 2016). Agarwal (2018) debate on Information seeking as a social behavior occurs when an individual realizes the need for contextual information and takes deliberate action to address that need. These steps can include a number of strategies, including consulting peers,

searching for relevant and scholarly databases, and testing the Internet until this need is met. Robinson's (2010) studies suggest that in behaviors for seeking information at work, individuals rely on both other people as well as information databases (e.g. documents and databases), and invest the same amount of time referring each option (7.8% and 6.4% of work time, respectively, 14.2% in total). Watson, Blakeley & Abbott (1998) performed a study on the use of communication technologies in teacher education. Results revealed that instructor teachers, whether in colleges or educational institutions, exhibited limited understanding and experience with ICTs. They had a complicated viewpoint that lacked practicality. The lab staff in universities did not understand the users' needs of allocated and range systems. Suriya, Sngeetha & Nambi (2004) performed a study on information needs and seeking behavior at Government Art Colleges in Cuddalore Region. The objective of their research was to examine how faculty members seek information from the library collections. On a similar theme, Lewin & Stokes (2004) researched the information seeking behavior of a group of instructors. Teachers attributed significance to the role of the selection staff in the information seeking process.

Fazalul-Haq (1976) performed an analysis to learn about the information needs of instructors. The main sources of obtaining the latest information were recent publications, guides, newspapers, magazines, analysis reviews and conference papers. Perveen (1976) has examined the information needs of teachers and research staff working in the Social Sciences department of the University of Punjab, Lahore. The analysis revealed that instructors needed information mostly for teaching purposes and they used both official and informal resources. Chaudhary (1977) examined the information needs of science teachers. The analysis revealed that 94% technological innovation instructors were using books and 43% consulted recent publications. Anjum (1978) examined the information needs of Humanities lecturers at the University of Punjab. Understanding the information needs and information seeking behavior of clients is vital for developing collection selections, improving facilities, and offering solutions to effectively fulfill the information needs of the library patrons. Shahzad (2007) performed a study to discover the information seeking behavior of faculty members of Government College University, Lahore. He acquired the data from all three faculties, i.e. Sciences, Technology, Social Sciences and Humanities. Tahir, Mehmood & Shafique (2008) studied the information needs and seeking behavior of Arts and Humanities Teachers of University of the Punjab. Tahira (2008) studied information needs and seeking behavior of Science &Technology teachers at University of the Punjab for her M. Phil

study. Bhatti (2009) conducted her study on the information needs and seeking behavior of the faculty members in the Islamia University of Bahawalpur.

Objectives of the Study

1.   To explore the information needs and seeking behavior of the faculty.

2.   To investigate the resources and methods used by teachers to acquire information.

3.   To examine the relevance of conventional paper based libraries in the digital age in terms of user's information seeking behavior.

4.   To determine the impact of digital media on information seeking behavior.

Methodology

The population of this study consists of all faculty members working in the public sector universities of Islamabad, Pakistan. A questionnaire was designed after meticulously reviewing available literature in both print and electronic forms. Two thousand five hundred and eighty (2,580) faculty members are currently working in thirteen public sector universities in the Federal Area. The questionnaires were personally distributed among 337 participants drawn as a representation of the overall population. The response rate was 80%. The collected data was analyzed in SPSS.

Findings

Gender of Respondents

The data reflects the respondent's gender in frequencies. Majority of the (341) respondents were male 201(59%) and 140 (41%) were female.
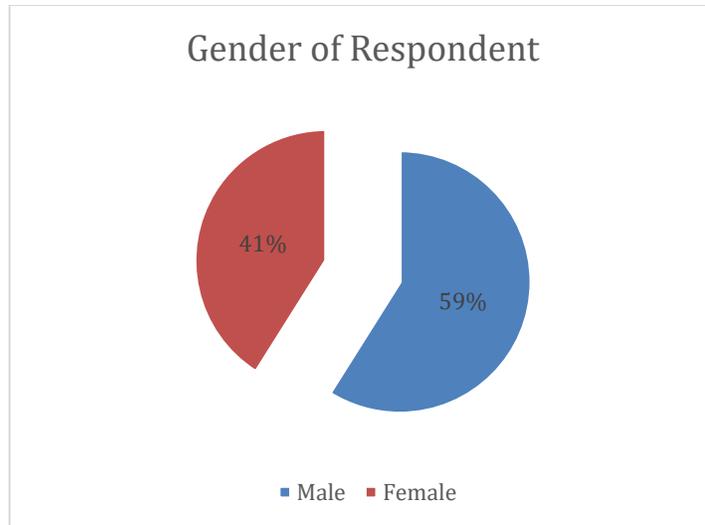
Figure 1: Frequency of Gender of Respondents

Designation of Respondents

The data shows the designation of respondents. Out of the total count, 170 (50%) were Assistant Professors, 131 (38%) Lecturers, 30 (9%) Associate Professors while the smallest ratio 10 (3%) was for Professors.
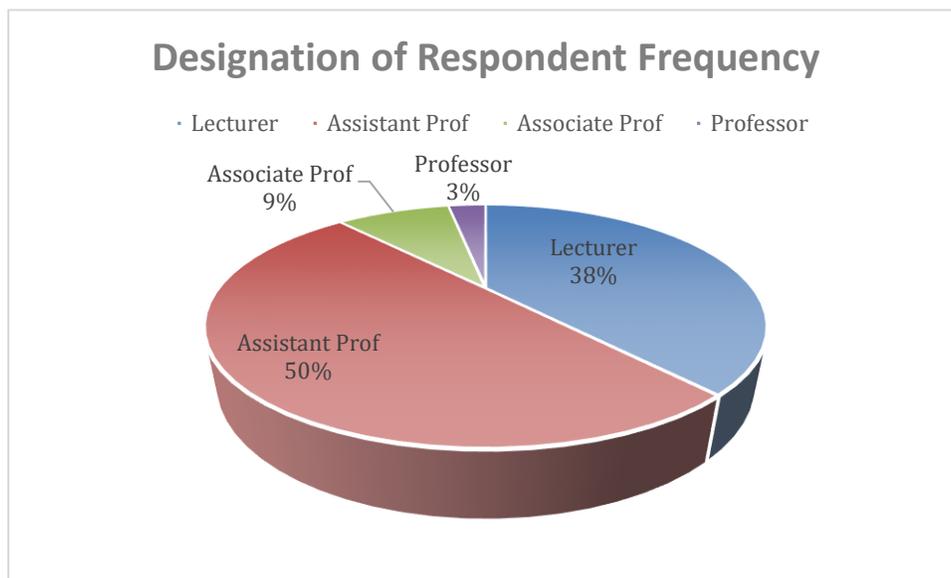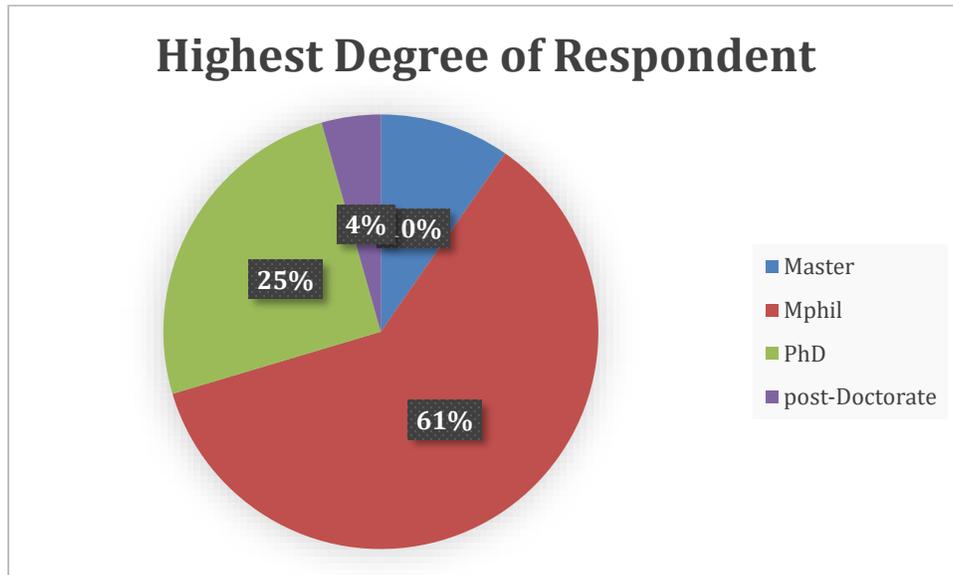

Figure 2: Frequency of Designation of Respondents

Highest Degree of Respondents

Findings present the data for the level of academic qualification attained by the respondents. 207 (61%) responded that they have an M.Phil degree, 86 (25%) were certified PhD holders, 33 (10%) have a Master's degree, and a limited 15 (4%) have post-Doctorate degrees.


Teaching Experience of Respondents

Frequency Distribution of Respondents' (N=341) prior teaching experience shows that 142 (42%) respondents have 6-10 years of experience, 96 (28%) have 11-15 years of experience, 96 (28%) have up to 5 years' experience and 13 (4%) have 16-20 years of experience.
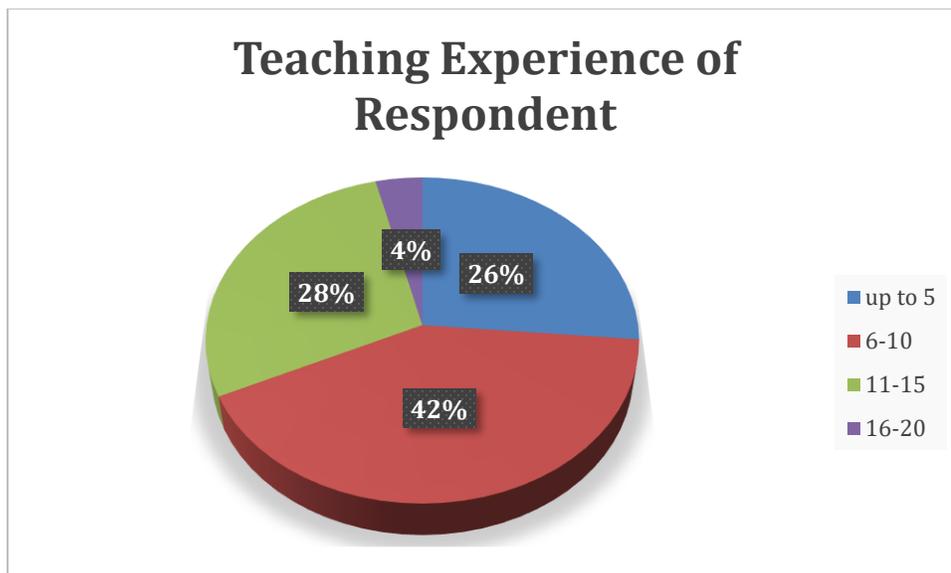
Faculty of Respondents

Out of 341 respondents, 157 (46%) belong to the faculty of Humanities and Social Sciences. 108 (32%) are members of the Pure Sciences department and 76 (22%) are from the faculty of Engineering department.
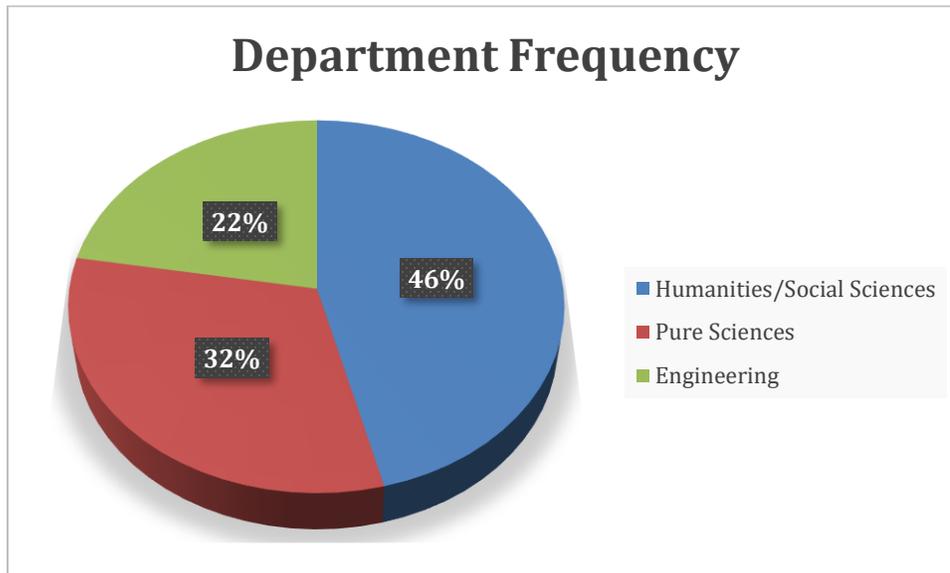
Universities

Now have the Frequency Distribution of thirteen public sector universities in Islamabad. The result of the collected data shows that 25 (7%) respondents belong to Air University. Allama Iqbal Open University 28 (8%) and 26 (8%) faculty members were from Bahria University. Thirty-nine (12%) respondents in this study were teaching at COMSATS Institute of University, while 32 (9%) respondents belonged to Federal Urdu University of Arts, Science & Technology. International Islamic University had the highest number of respondents of 42 (12%). 15 (4%) respondents were from National Defence University and 28 (8%) from National University of Modern Languages. A further 27 (8%) respondents were from National University of Science & Technology (NUST), 20 (6%) from Pakistan Institute of Engineering and Applied Sciences (PIEAS),12 (4%)from Pakistan Institute of Development Economics(PIDE), 11 (3%) respondents

were from Institute of Space Technology (IST) and thirty-six (11%) of the respondents were from Quaid-e-Azam University.

NAME OF THE UNVERSITY
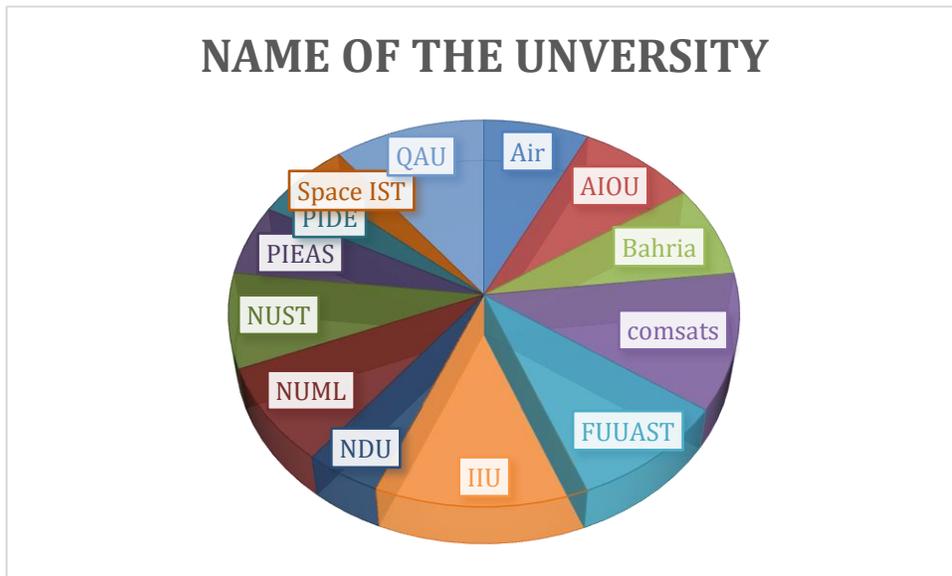
Point of Contact

Results provide insight regarding the first point of contact for the respondents. There is a clear majority of 162 (48%) respondents for whom the first point of contact was a search engine. 65(19%) respondents revealed that their first contact point was referring to a Librarian. For 56(16%) respondents the first contact point of information was their colleagues, 31(9%) respondents answered institutional libraries, and 27(8%) chose the Higher Education Commission Digital Library as their initial point of contact.

first point of contact for Information Seeking

- Search Engine 48%
- Librarian 19%
- HEC Digital Library 8%
- Colleague 16%
- My Institutional Library 9%
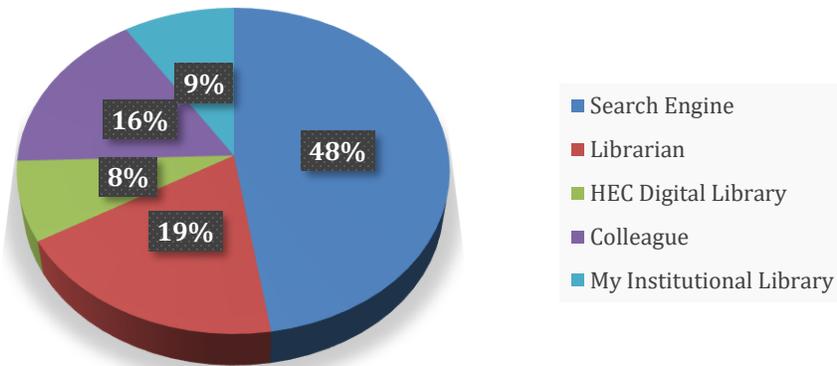
Library Visits

Findings refer to the frequency distribution of university library visits by the respondents. The chart shows that the majority of the 102(30%) visited the library twice a week, 70(21%) respondents had monthly visits and another 69(20%) visited the library fortnightly. It was also learned that 67(20%) respondents were in the habit of visiting the library daily; whereas 33(10%) rarely went there.

University Library Visits

- Rarely 10%
- Monthly 20%
- Fortnightly 20%
- Twice a Week 30%
- Daily 20%
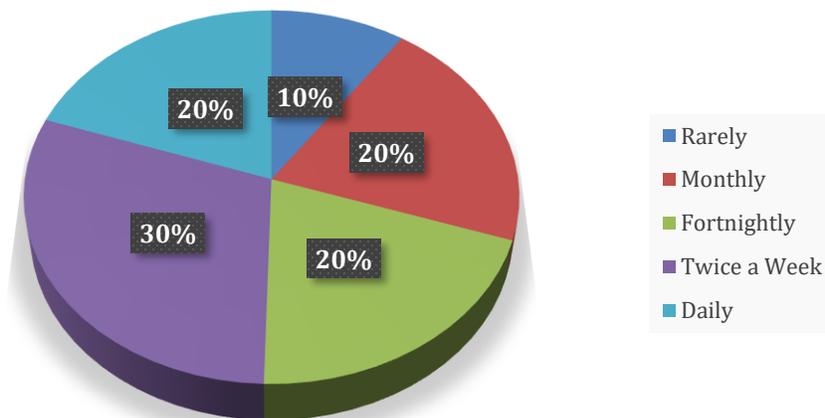
Consulting the Librarian

The results showed that 105(31%) respondents were in the habit of consulting the librarian frequently and 48(14%) always consult the librarian, while 101(30%) consulted them occasionally. 64(19%) respondents rarely ever consulted the librarian; whereas 48(14%) respondents revealed that they were always consulting them and 22(6%) never consulted the librarian.
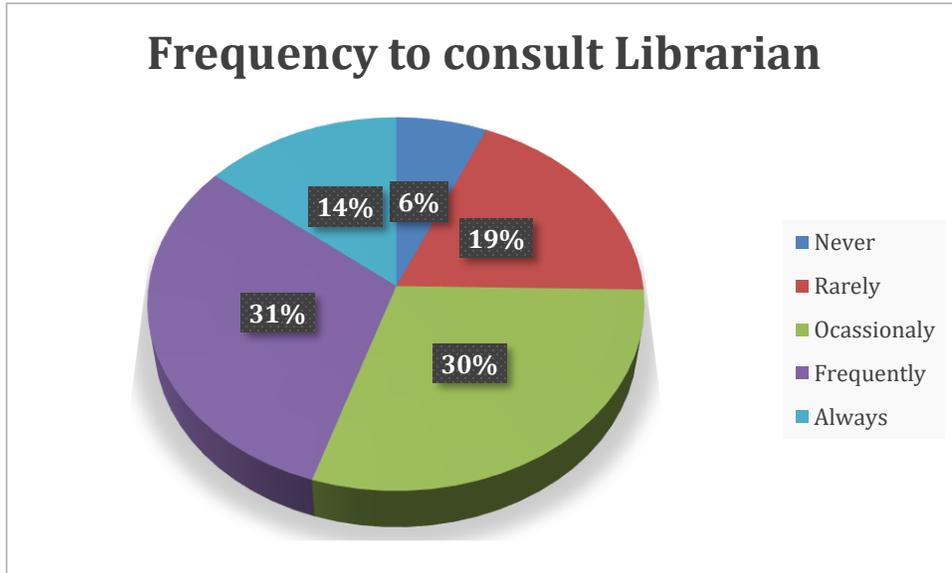
Information Sources

The respondents were asked about information sources to fulfill their information needs. Data indicates that respondents 153 (45%) most preferred 147 (43%) preferred 24 (7%) somewhat preferred 13 (4%) less preferred and 4 (1%) least preferred to use print sources. Use of Electronic/digital material 117 (34%) most preferred 159 (47%) preferred 41 (12%) somewhat preferred 17 (5%) less preferred and 7 (2%) least preferred and 95 (28%) most preferred 114 (33%) preferred 62 (18%) somewhat preferred 46 (13%) less preferred 24 (7%) least preferred audio-visual material were choices overall.

Print Material	Frequency	Percent
Least Preferred	4	1
Less Preferred	13	4
Somewhat Preferred	24	7
Preferred	147	43
Most Preferred	153	45
Electronic/Digital Material	**Frequency**	**Percent**
Least Preferred	7	2

Less Preferred	17	5
Somewhat Preferred	41	12
Preferred	159	47
Most Preferred	117	34
Audio-Visual Material	**Frequency**	**Percent**
Least Preferred	24	7
Less Preferred	46	13
Somewhat Preferred	62	18
Preferred	114	33
Most Preferred	95	28
Total	341	100

Search Engines

Results show how Google is the favorite choice amongst the respondents. Data indicates that respondents 178 (52%) most preferred 154 (45%) preferred 1 (0%) somewhat preferred 6 (2%) less preferred and 2 (1%) least preferred to use Google search engine. Use of Bing search engine 46 (13%) most preferred 89 (26%) somewhat preferred 91 (27%) less preferred 57 (17%) and 58 (17%) least preferred, Use of AltaVista 17 (5%) most preferred 59 (17%) preferred 85 (25%) somewhat preferred 86 (25%) less preferred and 94 (28%) least preferred.Use of MSN 38 (11%) most preferred 79 (23%) preferred 76(22%) somewhat preferred 72 (21%) less preferred and 76 (22%) least preferred.

Google	**Frequency**	**Percent**
Least Preferred	2	1
Less Preferred	6	2
Somewhat Preferred	1	0
Preferred	154	45
Most preferred	178	52
Bing	**Frequency**	**Percent**
Least Preferred	58	17
Less Preferred	57	17
Somewhat Preferred	91	27
Preferred	89	26
Most preferred	46	13
AltaVista	**Frequency**	**Percent**
Least Preferred	94	28
Less Preferred	86	25

Somewhat Preferred	85	25
Preferred	59	17
Most preferred	17	5
MSN	**Frequency**	**Percent**
Least Preferred	76	22
Less Preferred	72	21
Somewhat Preferred	76	22
Preferred	79	23
Most preferred	38	11
Total	341	100

Methods of Getting Information

Data shows that the majority of the respondents "personally visit the library" (mean=4.13) to get information. There are also those who "send an assistant/support staff or perhaps a student to the library"(mean=2.84)and occasionally write an email to the Librarian (mean=3.17) some "call the librarian"(mean= 3.08) occasionally.

	Mean
What are the methods that you use to get required information from a university library like go to the library yourself?	4.13
Send an assistant and support staff and student to library	2.84
Call the library	3.08
Write an email to the library	3.17

Library Services

Result shows that the majority of the respondents had no reason to complain about the environment of their institution's library. Concerning the services it offered like "reference and circulation services" (mean=4.12), quantity and quality of print (mean=4.13) as well as online collections (mean=3.87), internet facilities (mean=3.78) and the official library website (mean=3.63), the response and interlibrary loan facility (mean=3.46).

Please rate your satisfaction towards the following services/characteristics of your university library?	Mean
Environment of your institution's library	4.13
Quantity and quality of print collection. (Books, journals, magazines etc.)	4.13
Circulation Service	4.12
Online book catalog service you used in your library	3.87
How satisfy are you with overall library services to meet your need	3.87
Quantity and quality of E-collection. (Books, journals, magazines etc.)	3.85

Internet service in your institution's library	3.78
Your institution's library web page	3.63
Interlibrary loan facility	3.46

Impact of Digital Media

To understand the perception of respondents regarding the impact of digital media, they were given different statements to consider. The respondents were asked to rate them according to how much they happened to agree or disagree with them.

The results show that respondents strongly agreed that the Internet provided them with easy access for online research about any information they wanted. This was followed by overall agreement with: internet has enhanced my information searching capabilities (mean=4.37); availability of online material has enhanced my research capabilities (mean=4.29); internet has enhanced my information seeking capabilities(mean=4.21); digital media offers me an easy to share mode for information sharing with my peers, students (mean=4.19);information material in electronic formats has positively affected my information seeking behavior(mean=4.17); by using e-information resources, it has become easier to prepare teaching material for classes(mean=4.11), availability of e-information material has enhanced my teaching capabilities(mean=4.09), digital media offers ease in incorporating new information in lectures(mean=4.08), digital media has enabled me to remain updated in my knowledge domain(mean=4.10).

Respondents were mostly in agreement with the statements concerning digital media ameliorating their information seeking behavior. This was followed by the HEC-digital library providing enhanced access to required information (mean=3.91). The respondents agreed that digital media has boosted their confidence in meeting their information needs(mean=3.89).Other statements that yielded general agreement were: I always use e-journals to meet my information needs(mean=3.89); digital media has had a positive impact on my professional efficiency(mean=3.83); I cannot meet my teaching and research information needs without digital media(mean=3.83); online databases have enhanced my information searching capabilities(mean=3.81); if internet is not available I cannot meet my information needs(mean=3.72); I cannot meet my information needs without HEC digital library resources(mean=3.68); social networking sites like Face-book, Twitter etc. help me in meeting my information needs; blogs help me in meeting my information needs(mean=3.42); I prefer reading e-books instead of the conventional print book(mean=3.60).

How much impact of digital media (internet, digital video, e-book, e-journals, digital TV etc.) do you perceive on your information seeking?	Mean
Internet enhanced my information searching capabilities:	4.37
Availability of e-information material enhanced my research capabilities	4.29
Internet offers me easy access to information of my interest.	4.26
Internet enhanced my information seeking capabilities	4.21
Digital media offer ease to share information with peers, students, etc.	4.19
Information material in electronic formats have positive impacts on my information seeking behavior	4.17
By using e-information resources, it is easy to prepare teaching material for teaching	4.11
Digital media enable me to remain update in my knowledge domain	4.10
Availability of e-information material enhanced my teaching capabilities	4.09
By using e-information and digital media, my research output has been enhanced	4.09
Digital media offer ease to incorporate information in lectures	4.08
HEC-Digital Library enhanced my access to required information.	3.91
Digital media positively transformed my information seeking behavior	3.91
I always use e-journals to meet my information needs.	3.89
Digital Media give me confidence in meeting my information needs	3.89
Digital media have positive impacts on my professional efficiency	3.83
E-databases enhanced my information searching capabilities.	3.81
I cannot meet my teaching and research information needs without digital media	3.81
If internet is not available, I cannot meet my information needs	3.72
I cannot meet my information needs without HEC-Digital Library resources	3.68
I prefer to find out e-book instead of print book.	3.60
TV channels help me a lot to meet my information needs	3.43
Social Networking sites (Face book, etc.) help me to meet my information needs	3.42
Blogs helps me to meet my information needs	3.42
I watch TV to fulfill my information needs	3.37

Conclusion and Recommendations

The findings of this study provide a basis for improving the present library and information systems in the concerned universities in order to meet the information needs of the faculty members more effectively. Following conclusions are drawn based on the findings of this study.

Majority of the respondents are Assistant Professors. Qualification of the most of the respondents is M. Phil. 58.9% of the respondents are male faculty members and 41.1% are female. Most of the respondents belonged to the comparatively younger age group of 30-39 years. Most of the faculty members have up to five years teaching experience at university level. E-journals and books indicated the greatest preference by the respondents, followed by Journal articles, indexing and abstracting, reference material, review articles, communication with colleagues and friends, conference and seminar papers, bibliographies, thesis, newspapers, databases, emails, online catalogues, list serve, portals, FTP. E-journals and books are the most used by the respondents, followed by Journals articles, indexing and abstracting, reference material, review articles, communication with colleagues and friends, conference and seminar papers, bibliographies, thesis, newspapers, databases, emails, online catalogs, list serve, portals. The most common first point of contact for information seeking is Google search engine and the second preferred point is university librarian. The respondents mostly visited their university library twice a week. The respondents frequently consult a librarian to fulfill their information needs. Print format of information is preferred by the respondents followed by electronic and audio-visual formats. Google search engine is the most preferred search engine by the respondents, followed by Bing, Alta Vista, MSN and others.

The results of the study support the library specialists in modifying their library management practices and understanding services to satisfy the users' understanding needs in a powerful as well as effective approach. University management should arrange conferences and workshops for its faculty members so that the respondents are encouraged to participate in these programs in order to improve their research skills and fulfill their information needs more effectively. Information literacy programs should be arranged by the university libraries so that the faculty members may use library resources effectively.

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