

Scientists as Information Users: A Survey of National Institute of Biotechnology and Genetic Engineering, Faisalabad

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Abstract

A study was conducted to examine the information needs and seeking behavior of Scientists of National Institute for Biotechnology and Genetic Engineering (NIBGE) at Faisalabad. The purpose of study was to assess the information needs, potential library services and to transmit the desired information that would help in designing services more effective and useful. Data were collected through questionnaire from the users and the questionnaire rate of return was about one hundred percent. Out of forty participants 50% were Scientists, 30% Ph. D scholars, 15% M. Phil students and others. The results showed that 35% of users visited the library weekly and more. They rated adequate 70% for books, while 65% for Thesis and 45% for technical reports. Among respondents 80% gained their information from conferences, 75% by making discussion with scientists and 60% from subject expert/specialists. The findings indicated that 65% of users consulted the library for research purpose and 65% borrowed books /journals. Moreover, 60% of scientists were familiar with the availability of digital sources via internet and 85% of users traced their information by using the method of search engines. Similarly a total of 65% participants preferred the library as a place to study while 75% chose the monthly loan period for issuance of materials. However, a number of areas had been identified for improvement.

Keywords: Information seeking; User information needs; Information sources.

Introduction

National Institute of Biotechnology and Genetic Engineering (NIBGE), Faisalabad is the prime institute functioning under the patronage of Pakistan Atomic Energy Commission (PAEC). This institute was formally inaugurated in 1994 to combat the problems of agriculture, health, environment, industry and to improve socio-economic growth of the country. The institute offers several services and marketable products. The academic programs leading to M. Phil and Ph.D have been incorporated for human resource development in modern sciences. NIBGE library has been declared the National Library for Biological Sciences. Thus, library has emerged as a dynamic digital library. In any research and development (R & D) Institution library plays a vital role to abet in enhancing research based activities. Fidel *et al.* (1999) enumerated that infinite categories of information, number of diversity containers and in various locality are universally available every where. Zawawi and Majid (2001) depicted that biomedical scientists employed various sort of information sources to satisfy their perceived information needs and those wholly entailed in research job considered the research papers of scientific journals the most preferred source for information seeking. Majid (2000) focused that users mostly preferred to consult primary sources to get their information obligation particularly from searching research articles and paper reviews. Anderson (2002) discussed that how library clients explore the requisite material in order to satisfy emerging information needs. Numeral models

regarding information need and seeking behavior have been proposed by Ellis (1993), Eisenberg, Berkowitz and Kuhlthaw (1992). These models could be assessed in variety of ways.

Kurbanoglu (1998) indicated that form of information needs and information seeking behaviour of scholars vary from their area of studies from one area to another and such studies help to devise a model for library services and products. Sheeja (2010) revealed that accessible services of single organization libraries are not entirely oriented towards to satisfy the research activity and scholars showed dissatisfaction with existing resources and services. Mellon (1998) investigated that users faced hurdles such as library uncertainty regarding seeking behavior and information needs. Bokhari (1976) conducted the study to trace out the information needs of the engineers of heavy mechanical complex taxila and revealed that participants were acquiring their information by using the formal and informal sources together for completing their information needs. Chaudhary (1977) elaborated that 94% of science teachers were utilizing the textbooks while 43% of respondents were consulting the journals. Science teachers, generally, utilized the current journals to keep up to date with new knowledge in their related field. Perveen (1976) carried out the study to ascertain the information needs of teachers and research staff serving in department of social sciences, University of Punjab, Lahore. The study explored that mostly teachers needed the perceived information and they used both formal and informal sources for teaching purpose. They also utilized the other sources likewise abstracts, reviews, conferences, books, and library holdings catalogue.

Purpose of this study was to trace out what sort of information was required for research and development institute. What kind of research methods were utilized for acquiring the scientific information and what type of information technologies were used for information seeking manner and information need by scientists during research. What kinds of barriers were faced by the researchers during their study and how these problems and difficulties were solved.

Materials and Methods

Survey was carried out on the basis of distribution of a questionnaire among the scientists and it consisted of fifteen questions that captured the various aspects of information needs and seeking behavior of scientists and research scholars. A total number of forty people comprising 50% scientists, 30% Ph.D Scholars, 15% M. Phil. leading to Ph.D students and 5% others were nominated. Respondents were asked to convey their perception on library information science activities. Users properly completed and returned the questionnaires within stipulated period which was one week only. A total of forty questionnaires received back from users with an overall reply rate of hundred percent for the extraction of results.

Results and Discussion

Users Satisfaction with Adequacy of Library Collection

Among the participants 70% considered books adequate which were the highest percentage level, while 30% considered books to some extent useful. On-line journals and abstracts/indexes were regarded adequate with equal percentage 50% by respondents. While reference material 55% and thesis 65% of the respondents considered as adequate. Mostly, other materials like bibliographies, serial publications, technical reports and e-resources also regarded as adequate by users; however, 55% of the respondents were satisfied with e-resources to some extent. Shokeen and Kushik (2002) measured that mainstream of the social scientists gave their preference to visit library on daily basis and preferred the books and current journals as vital source for acquiring information.

Table 1
Users Satisfaction with Adequacy of Library Collection

Satisfaction of material	Adequate (%)	To Some Extent (%)	Inadequate (%)
Books	70	30	0
On line journals	50	40	10
Abstracts/ Indexes	50	35	15
Reference material	55	40	5
Bibliographies	45	40	15
Subscription of Journals	35	60	5
Serial Publications	40	35	0
Thesis	65	25	10
Technical reports.	45	40	15
Others/E. Sources	35	55	10

Useful Sources for Seeking Information

According to Table 2 60% of Scientists consulted the subject expert/specialist as a knowledgeable source for the purpose of seeking information, while 25% by discussion with heads, 75% got knowledge by discussing with their colleagues . While 25% discussed with librarian, 50% of the respondents sought information through seminars, 80% got information from conferences and 55% through workshops. In the current study 80% of the respondents sought their maximum information through conferences. Uncuk and Kurbanoglu (1998) narrated that conferences and meetings presented the immense chance and key podium for seeking information. Similarly, such scientific gatherings were not only the useful way for gaining knowledge but also build the public contact and interrelationships. Nevertheless, the library customers and humanitarian intellectuals faced difficulties in seeking perceived information in their field of research.

Table 2
Method for Information Seeking

Subject expert/specialist	60%
Discussion with Heads	25%
Discussion with Scientists	75%
Discussion with Librarian	25%
Seminars	50%
Conferences	80%
Workshops	55%

Purpose of Library Consultation

According to results 65% of respondents consulted library for research to furnish their research needs in the field of biotechnology and genetics engineering. Forty five percent of respondents considered that they visited the library to look for scientific journals articles, 55% sought information to guide the students and researchers, 40% for literature searching, 55% visited the library to use it as place of study, 45% to review newly received books/journals, 65% to borrow the books/journals and 35 % consulted the library for the purpose to complete their M. Phil. and Ph.D research assignments. In the same way, 30% users indicated that they used the library for writing and presenting papers, 15% showed interest for recreational purpose, reading newspapers and 25% visited the library for accessing on line journals to meet the research needs. Khan, Shakeel and Shafique (2011) reported that most of

respondents sought information for the purpose of preparing the lectures (mean =4.28) and reading articles/books (mean=3.17).

Table 3

Purpose of Seeking Information

Research	65%
Look for scientific journals articles	45%
Guiding students and researchers	30%
Literature search	40%
Use as place to study	55%
Review newly received books and journals	45%
Use of computers/e-mail etc.	30%
Writing and presenting papers	30%
Borrow of books/journals	65%
M. Phil and Ph. D	35%
Consults the statistics	0%
Recreational purpose	15%
Reading newspapers	15%
Access on line journals	25%

Difficulties/Problems Faced by Respondents for Seeking Information

Current study reveals that 30% of the respondents encountered difficulties due to lack of awareness of the availability of materials during seeking information from library, 15% storage of latest journals, 10% lack of information retrieval techniques, 20% of unavailability of Internet, 35% considered insufficient HEC digital library access and 35% e-resources while seeking information from library. Patitungkho and Deshpande (2005) worked out that 37% members faced the same general problems and barriers during attaining information such as, unavailability of information and incomplete information materials.

Table 4

Library consultation Difficulties/Problems

Confusing stock management	05%
Lack of awareness of the availability of materials	30%
Material missing from shelf	05%
Difficulty in accessing material	0%
Library staff is not readily available	0%
Computer was too slow	05%
Needed material is not updated	05%
Storage of latest journals	15%
Crowded stack	0%
Lack of information retrieval techniques	10%
Unavailability of Internet	20%
Insufficient HEC digital Library Access	35%
Others (e-resources)	35%

Satisfaction Regarding Existing Journal Subscriptions

The responses received from the users concerning the online journal subscriptions as 55% were satisfied, 10% were not satisfied and 35% were satisfied to some. Likewise, 40% of respondents were

content, 45% were dissatisfied and 15% were satisfied to some extent with hard copies of journals accessible in library for the support of research activities.

Table 5

Satisfaction of existing journals subscription

Journals	YES (%)	NO (%)	To some extent (%)
Online journals/Current	55	10	35
Hard Copies of journals	40	45	15

Satisfaction Level of Library Services

The highest proportion 50% of members of the institute were of the view that library reference services were excellent and 40% rated good and 45% rated that photocopy services were poor. 25% of users rated the interlibrary loan services as excellent, 35% good and 25% rated them average. While 40% thought the circulation services were excellent, 35% good and 25% rated average. Similarly, 45% of scientists were of the view that photocopy services were poor and 40% indicated indexing/abstracting and literature searching services were average. Respondent did not go on to mark the poor services of library relating to indexing/abstracting, reference services, circulation services and literature searching. On the other hand, 35% thought library services such as inter-library loan, circulation and photo copy services were good.

Table 6

Satisfaction level of library services

Library services	Excellent	Good	Average	Poor
Reference Service	50%	40%	10%	0%
Inter library loan	25%	35%	30%	10%
Circulation services	40%	35%	25%	0%
Photo copies	0%	35%	25%	45%
Indexing/ abstracting	30%	40%	30%	0%
Literature Searching	35%	40%	25%	0%

Awareness Regarding Availability of Digital Resources via Internet

Moreover, a question was asked from the respondents to indicate the familiarity with digital resources available via Internet and 60% showed they are well aware of digital resources and while 40% indicated that they were not aware of the digital resources available via Internet.

Format of Searching Methods

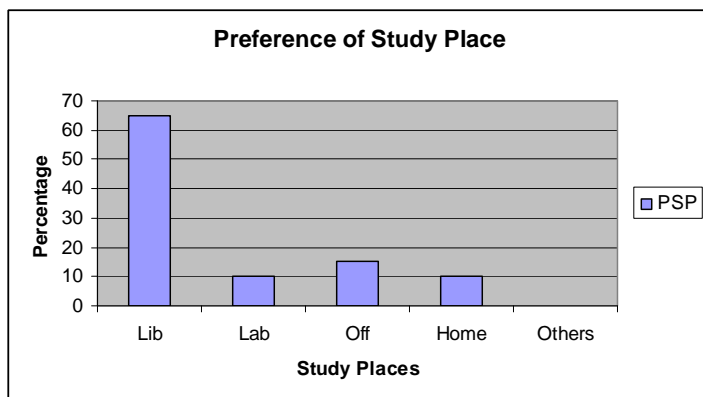
The present study showed that 80% of members preferred getting their information through search engines, while 15% linked pages and 5% others.

Library Encourage the Scientists to Use Digital Resources

Among the scientists 55% showed that library staff encouraged the library users to use the digital resources, 25% indicated that library did not encourage the users and 20% stated that they did not know about it.

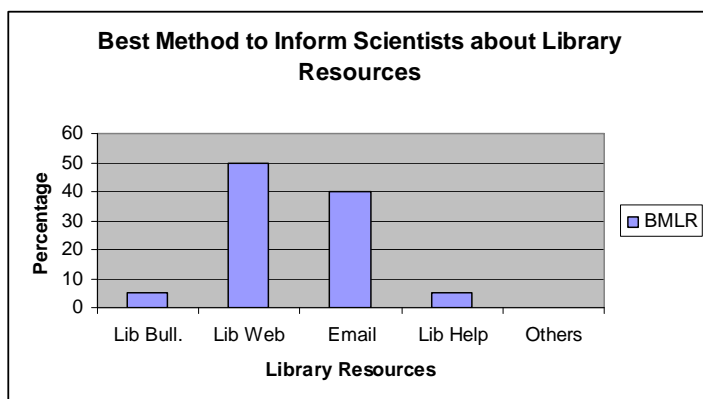
Preference of Study Space

A question was asked from the users to give their preference of study place. 65% of respondents revealed that they used the library as a place for study, 10% preferred the laboratory, 15% rated the office and 10% preferred home (Graph 1).



Best Method to Keep Inform Scientists about Library Resources

50% of the respondents thought that library webpage was the best method to keep them informed about library sources, while 40% showed their interest in email and only 5% considered the library bulletin and library help respectively (Graph 2).



Preference of Loan Period for Library Materials

A question was asked from users to give their preference for loan period of materials. 75% of users preferred monthly loan period for borrowing books etc., from library, while 20% stated weekly and only 2% preferred others (six month etc.).

Preferred Information Format

45% of users showed their interest in electronic format for obtaining information, while 35% rated Internet and 15% preferred print.

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