

Academic Library Users, Use and User Studies

Dr. Anil Kumar Dhiman
Information Scientist
Gurukul Kangri University
Haridwar – 249 404 (Uttarakhand)
Email: akvishvakarma@rediffmail.com

0. Introduction

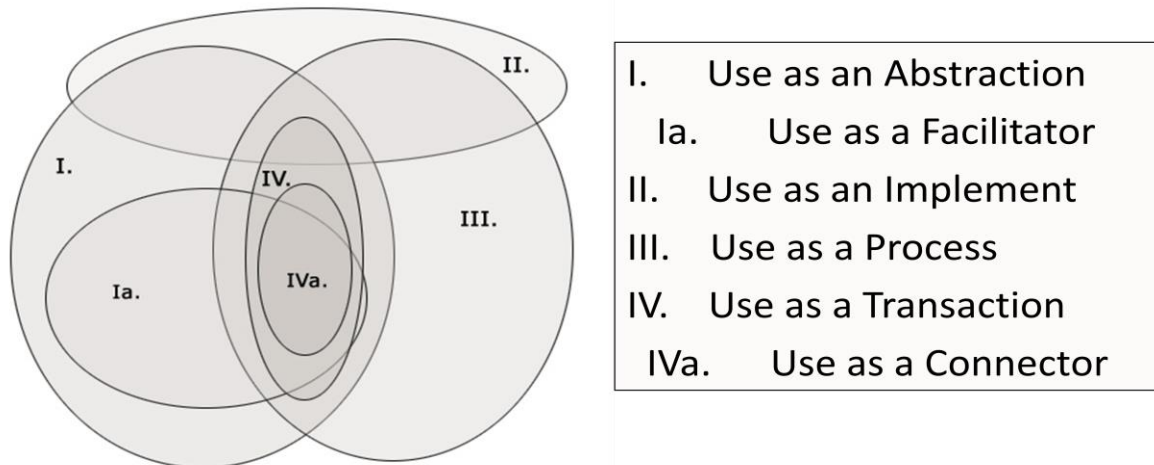
Academic libraries are the libraries which serve the institutions of higher learning, such as a college or a university — libraries in secondary and primary schools are called school libraries. Basically, academic libraries are intended to serve two purposes: to support the curriculum and to support the research of the faculty and students.

Earlier, academic libraries were having print-based reading materials comprising mainly of books and the periodicals. But they have experienced a significant change in their role in relation to information retrieval since the mid-1980s, when the computer was just beginning to make a major impact on how libraries provided information (MacColl, 2010). Anyhow, an academic library has the mission to build and maintain a collection that will support and enhance the instructional needs of the institution. MacColl also supported other researchers that academic library is to provide access to all sources of information. But the collection and services are becoming diluted with the invasion of ICT based services in the academic libraries. In this regard Steve (2009) rightly say that “the university library of the future will be sparsely staffed, highly decentralized, and have a physical plant consisting of little more than special collections and study areas”. Thus, there is a need to retain users in modern academic libraries.

Ultimately, the services of the library depend on processed data from users to understand their information need and make corrections on past mistakes and improve on the future. This can be achieved by library users; they determine the effectiveness and efficiency of the services provided by the academic library (Mason, 2010).

1. What do you mean by ‘Use’?

‘Use’ is often treated as a primitive concept; but it does not rather, it has a singular conceptual meaning in the Library and information science (LIS) domain that can signify many actions, processes and the events (Fleming-May, 2011). He has defined ‘use’ as “an event? and “something that can be measured?” A typology of ‘use’ is depicted in figure 1, where, interwoven stages of ‘use’ as abstraction, as a facilitator, as an implement, as a process, as a transaction and as a connector are shown.



- I. Use as an Abstraction
 - Ia. Use as a Facilitator
- II. Use as an Implement
- III. Use as a Process
- IV. Use as a Transaction
 - IVa. Use as a Connector

Figure-1: Use Typology: Dimensions of Use (Fleming-May, 2011)

Further, it is detailed out that the term ‘use’ is used for all types of library/information use that is disassociated from any specific instance of the phenomenon and as a transaction; it is isolated instances of library or information use, which can be recorded and is quantified and removed from the user (Price and Fleming-May, 2011).

2. ‘Users’ in Academic Libraries

‘Users’ are variously known by different names, viz., readers, clientele, customers or patrons but generally they are named as users. A user can be defined on the basis of the sets of criteria, namely objective criteria, such as socio-professional category, specialist field, nature of the activity for which the information is sought, reason for using the information system, and social and psychological criteria such as the user’s attitudes and values with regard to information in general and in his relations with information unit in particular (Guinchat, 1983).

They [Users] constitute one of the important components in the trinity of Books, Readers [Users] and Staff in a library. Though, in an academic library, the users are students, teachers and the researchers but user groups may be divided in a number of ways.

2.1. Ranganathan (1961) has divided user community on the basis of various types of services enunciated by him. They may be: the freshman, ordinary inquirer and specialist inquirer.

- Freshman is the new member of the library.
- Ordinary inquirer is ordinary reader, and
- Specialist inquirer is one who specializes in narrow field where as general readers are the associated groups.

2.2. Ravi Kumar and Phil (2009) have divided users into following categories:

- Potential Users: Who need information which can be provided by specific services.
- Expected Users: Who are known to have the intention of using certain information services.

- Actual Users: Who have actually use an information service regardless of whether he derived advantages from it or not.
- Beneficiary Users: Who derive measurable advantages from information services.

2.3. Further the users may be: general readers, subject readers, special readers and non-readers users (Ravi Kumar and Phil, 2009).

- General Readers: This type of user group, for example associated with public libraries, generally use light lending materials.
- Subject Readers: This type of users concentrate their use of library materials on subject field they are working or specializing.
- Special Readers: The users placed in this group are those with special needs, the result of disabilities of one kind or another physical or mental disability may be distinguished.
- Non-Readers Users: These constitute of sub groups who make use of library materials, but not reading materials. A user coming into the library just to borrow a video or audio-cassette is the best example of non-reading user.

2.4. Users can also be campus users and remote users depending upon the nature of courses and method of study they have undertaken for study.

On-campus uses are those users who come and use libraries personally and remote users are those who generally do not come personally in the libraries. But Cooper et al. (1998) say - remote users are likely to be highly motivated, possess significant experience with library research and familiarity with electronic resources, and demonstrate relatively high success in using information technology. While remote users are those users who are not coming to the library but using libraries in writing or via telephone and now a days, but what is new is: the rapidly increasing number of library customers who access resources from remote sites exclusively or in conjunction with on-site visits.

Distance education students can be kept in remote category of users in case of academic libraries because most of the time they use libraries online (though some of them may come physically to the libraries). But Cooper et al. (1998) mention that distance users are also highly motivated and exhibit ambition due, in part, to their typically older age and a sense of maturity that is often associated with having a family or a well-established career. While some distance learning students may already be familiar with the library, many possess limited experience with library research and are unfamiliar with electronic resources.

2.5. On the basis of information use, users may be: the students, teachers, researchers, engineers and doctors etc. This can better understand through the table 1 (based on Singh, 2013).

2.6. If we talk about the categories of users on the basis of using the library, Mason (2010) has divided them into two types:

- Primary User Group or
- Other User Groups

Primary group users are those who are the regular students, faculty members and the staff of any academic institute. Basically, the collection of any library is developed in considering their requirements in view.

Table 1: Users of Information

S.N.	Area	Types/Categories of Users	Purpose of Seeking Information/Information Needs
1.	Education and Research	Students	For their academic studies (preparing note, assignments etc.)
		Teachers	For providing education to the students, writing books and articles etc.
		Researchers	For their research work, they need on a continuous basis to keep themselves up-to-date etc.
2.	Professionals	Engineers, Doctors, Legal Practitioners, Technologists etc.	To solve their day to day problems.
3.	Executives both in government and non-government departments	Business Managers, Executives etc.	For decision making, policy making, and making plans etc.
4.	Legislatures	MLAs, Ministers etc.	For discussing on the points in the parliament.

Other groups consist of the users those who use academic libraries occasionally. These may include business people doing database searches; visiting faculty; members of industries, checking government documents; and members of the community.

2.7. Further, an academic library user may belong to any of the following types.

- On the basis of library experience: Experienced and Inexperienced Users.
- On the basis of activities: Student, Researcher, Faculty member and others.
- On the basis of their works: Businessman, Managers and Workers, etc.

Besides, a user may be male or female and regular or irregular users based on the usage of libraries.

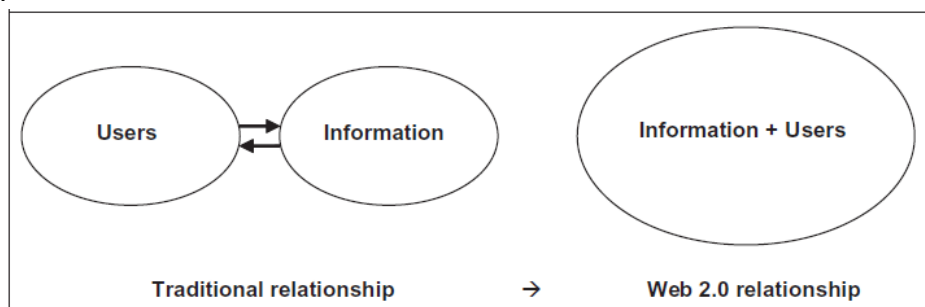


Figure-2: Transformation of the Relationship between Users and Information

Now days, libraries are transforming themselves into digital libraries, where users use the web for its information access and transaction services. Yet, information services are different in many respects, including their look and feel, design, interface and access features. So another category of users may be traditional users and digitally literate users. Thus, a transformational relationship between users and information is developing between the users and information which is shown in figure 2 (based on Liu, 2008). Here, Liu describes the fact that “in the Web 2.0 era, the relationship between users and information is transformed from stand-alone, separate silos to mutually inclusive, mutually reliant, and reciprocal action-and reaction entities”.

3. User Studies

User studies are analogues to the efforts of a manufacture who surveys his market for the product that he proposes to produce. These are the “investigations of the use and users (including non-users and potential uses and users) of documents, information, communication channels, information systems and information services” (http://www.iva.dk/bh/Core%20Concepts%20in%20LIS/articles%20a-z/user_studies.htm). User studies simply means “the study of the users of information” which deals with the kind of information required by the user, the ways and means used for searching for the required information, the use of the information, the use of the information obtained, the satisfaction/dissatisfaction arising from the use of information obtained, the flow of the information and the relationship of studies (Thanuskodi, 2010).

User studies are conducted systematically for the examination of the characteristics and behaviour of the users of the systems and services. Thus, these studies are directly linked with the effectiveness (performance) of the library and information services provided as they aim at satisfaction of user needs. Thus, it is extremely important that in-depth studies should be conducted to acquire the actual and potential needs of the users.

3.1. Categories of Users Studies

User studies are perused for many reasons. But broadly they can be used to evaluate the strengths and weaknesses of any system. Banwell and Coulson (2004) categorized user studies into four major groups based on the focus of the study, such as:

- Studies focusing on the user, which aim to investigate users’ wants, needs, contexts, motivations, expectations and tasks.
- Studies focusing on use, which aim to investigate what one or more specific information sources, are used for, and what the barriers to information access and use are.
- Studies focusing on the information system, which aim to investigate the characteristics of a specific information system or service with reference to its technology, design and evaluation, and
- Studies focusing on the organization, which aim to investigate the organizational setting, management procedures and strategies including internal and external factors that have an impact on the organization.

However, Prabha (2013) have categorized them into following four types.

- First Category: those studies which are conducted to find out the overall pattern of interaction of the users community with the communication system, without reference to any specific information receiving event.
- Second Category: the studies which are conducted to find out the use of any communication medium like primary periodical, etc.
- Third Category: includes those studies which are conducted to find out the pattern of flow of information in the science communication system as a whole.
- Fourth Category: the studies/surveys which are conducted within the limited context of a library or information centre, mainly to find out the extent of use of the services and facilities offered by an agency with the ultimate objective of improving the system or services.

3.2. Why Users Studies are conducted?

User studies are conducted for bridging the gap between the kinds of information services needed and the kind of services in existence. Singh (2013) is of the opinion that any information system would definitely require identification of user requirements. Thus, the need for conducting user studies is necessary requirement for the design and operation of effective and efficient information systems, services and products. However, user studies are generally conducted to identify (Kawatra, 1985):

- Actual strength and weakness of library resources and services.
- Faculty priorities for library resources and services.
- Limitations or problems which seem to discourage the use of the library.
- Level of involvement or participation of faculty and studies in the library programme, and
- Improving the organization and planning for library services at both local and national levels.

Lihitkar and Rajyalakshmi (2009) have enumerated following more reasons for conducting user studies:

- To identify the actual strengths and weakness of library resources and services.
- To identify the levels and kinds of user needs.
- To identify the limitations or problems which seem to discourage the use of the library.
- To identify the level of involvement or participation of faculty and students in the library programme.
- To improve the organization and planning for Library services at both the local and national levels, and
- For evaluating information systems and networks.

Though, the primary motivation for undertaking user studies research is to focus on user information needs and user seeking behaviour as an independent area of research in its own right (Beaulieu, 2003); however, the libraries being service enterprises are expected to provide better services and they (services) will be better if the nature and the needs of the users are

known. Hence, “user studies are conducted and they are becoming fairly standard in library planning, and attest to a changing concept of what constitutes effective service. At the same time, too much is often expected of use studies, as of any new planning tool, and disillusionment sets in when a library laboriously gathers extensive data and then wonders what to do with it” (Martin, 1976).

So it can be said that the – ultimate motto of conducting user studies is to improve the overall infrastructure and the library services as per users’ requirements.

4. How User Studies are conducted?

We know all the services rendered by a library are meant for the users. Therefore, all the services are [should be] user based and to satisfy their needs. User studies are conducted in number of ways to identify what exactly users want from the library. Broadly, user studies are conducted using following methods (Dhiman and Rani, 2005; Lihitkar and Rajyalakshmi, 2009):

- Direct Method
 - Information Gathering Habits
 - Reading Habits
 - Service Preferences
 - Information Flow among Users
- Indirect Methods
 - Analysis of Library Records/Bibliometric Studies
 - Citation Studies
 - Content Analysis
- Survey Methods
 - Questionnaire Method
 - Interview Method
 - Observation Method
 - Delphi Method
- Other Methods
 - Feedback Services
 - Information Days
 - Unconventional Methods

4.1. Direct Methods

In direct methods, efforts are confined to studying the user’s needs in the context of research and development in universities and industrial research units. These methods have emerged in the recent past to supplement the data acquired by indirect methods that is to analyze library records, to obtain data in the use of materials and user categories.

4.1.1. Information Gathering Habits

Information gathering habits are studies in the context of research and development. It is generally noted that researchers gather information in a number of ways such as:

- Browsing current journals and noting down the latest references to research papers.
- Consulting, indexing and abstracting journals/periodicals.

- Contacting and obtaining information from persons in the same field.
- Seeking information from tutors, guides and senior co-workers in the field, and
- Writing to information supply centers and so on.

The efforts in trying in to find out how a user obtains his information are to study the researcher's dependence on libraries, technical staff in the library and the main journals through which the researcher obtains the information. These studies may enable the library and information professional to know the general behaviour of the researcher in obtaining their information, which in turn help them to organize their acquisition programs, oriented towards actual requirements and to generate appropriate services.

4.1.2. Reading Habits

Reading habit refers to the behaviour which expresses the likeness of reading of individual types of reading and tastes of reading (Sangkao, 1999). In measurable terms, reading habits is often considered as the amount of materials being read, the frequency of reading as well as the average time spent on reading (Wagner, 2002).

Reading habits of the users throw light on the types of documents a user studied, his relative preferences to the different categories of documents, frequency of borrowing and such other data. It is also possible for the library staff to study the time taken by a user for searching literature, browsing and reading. These data help the organization to operate the library, in terms of user needs, physical location of documents, display of current journals, identification intensive users of library, the types of documents frequently consulted etc. and in acquiring digital resources etc.

Now a days, the emerging role of ICT's and in particular the use of e-resources is significantly imparting and dramatically changing the fabric of the reading habits of people. The world is going the digital that is influencing the way people use and/or read library resources. For instance, the concept of electronic books is changing the reading habits among the readers. Internet in particular plays a crucial role in the access of information resources. Sources of information and other opportunities available via the Internet are increasing exponentially (Asemi, 2005). Thus, studies on reading habits in digital environment may prove much beneficial for strengthening online collection.

4.1.3. Service Preferences

We know libraries offer a variety of services which have evolved in the course of several decades. The normal services like lending, reference, bibliographic, and hard copy supply etc. have been offered conventionally for a long time. More recently, the libraries and documentation centres have been offering current awareness services, and selective dissemination of information services and repacking services; and also the same in online environment.

It would be a waste of time, if these special series are organized indiscriminately without knowing the users preferences. So, it becomes a necessary to ascertain the kinds of services would be preferred by the users. Only those services which are of any consequences to the users are to be offered.

4.1.4. Information Flow among Users

The research information generated by an individual or a group gradually gets disseminated through personal correspondence, meetings at national and international conferences, publications in current journals or in the form of pre-prints – online or offline. It would be useful to know what medium is preferred by the generators of information for their propagation, to what extents conventional media like printed periodicals or online periodicals are helping into the dissemination and whether language is any barrier in communication etc.

These aspects are studied in information flow from generation to its final destination. Such types of studies throw light on the distribution of responsibilities among the different group of disseminators, such as, the generator of information, the researcher and the editor, the publishers and the printer, the documentalists and the librarians & information specialists. This enables the libraries to organize such efforts with a sense of understating of their responsibilities and ensuring flow of information in right direction.

4.2. Indirect Methods

Indirect methods analyze various types of records of a library maintained on the use and users of the library. Such types of the studies are also known as librametric/bibliometric studies. Indirect methods include: the analysis of library records, citation analysis and content analysis etc.

4.2.1. Analysis of Library Records /Bibliometric Studies

It is well known that libraries maintain statistical records of different services provided by them to their users. For example, the statistics of circulation suggests that a document borrowed most frequently by the same or different borrowers, is more useful than one borrowed less frequently. The circulation data therefore, can be used to measure the degree of utility of the library resources. These data can also be used to decide the acquisition and circulation policies of a library.

Likewise, services such as inter-library loan, reference services, compilation of bibliographies, supply of facts etc. constitute good statistical record for any library. The analysis of such records reveals the nature of use and documents, user needs, types of question posed, gaps and redundancies in books and journal collection, efficiency of reference and documentation services and similar others. The analysis of library records is used for a very long time to determine the policies of library in relation to collection building, organization of reader services, and now may be (being) used introduction of modern gadgets/services like computerized information services for speedy and accurate retrieval of information.

4.2.2. Citation Studies

Citations are the bibliographic references appended to any article or the book chapter contributed by an author. They provide very useful data on the types of documents cited or used in preparing the subject matter. Their [citation] analysis helps in determining the acquisition policy, particularly of journals, and in weeding out the less used collection of the library.

Citation studies also prove as a very useful indicator for identifying institution of excellence, individual experts and similar others in any organization.

4.2.3. Content analysis

Content analysis as a “procedure designed to facilitate objective analysis of the appearance of words, phrases, concepts, themes, characters, or even sentences or paragraphs contained in printed or audio-visual materials” (Busha and Harter, 1980). It is mainly used to analyze the records of human experience and of knowledge, or “it is used to describe the content of communication messages – that is materials such as novels, newspapers, reference tools or a variety of additional media and descriptive tasks relating to their contents.”

Librarians mainly use content analysis as a very useful technique to analyze certain internal features of different media of communication. It is also used to analyze user queries and in designing research formulations. The basic foci of abstracting, digest, synopsis and such other services are derived through content analysis to provide reliable surrogate of documents.

Content analysis is also applied in providing repacking information services. Here, the written key words are recorded but documents are not analyzed rather the users requirements are analyzed and user interest profiles are prepared to organize selective dissemination of information and other services. Similarly in online services, the proper needs of users while searching a database are analyzed and accordingly proper searching procedures of databases are designed especially to avoid false drops and to avoid unnecessary expenditure.

4.3. Survey Method

Various survey methods are used to ascertain information needs of users, their information gathering habits etc. Most prevalent methods include: questionnaire, interview and observation and Delphi method.

4.4. Questionnaire Method

Questionnaire method is a method in which a number of printed questions are used for collecting the data about a study. This list is sent to the respondents by mail and after filling up the questionnaire they return it to the conductor of study. The replies received are analyzed and ultimately presented in the form of a report. Basically, the objectives of the survey are converted into simple and unambiguous questions in this method. The questions are framed in such a way that the answers to most of them can be more or less ‘yes’ or ‘no’ type without any necessity for detailed descriptions.

The benefit of using questionnaire method is that a large scattered sample over long distances may be covered, but the response may be low and often replies are incomplete and also manipulated.

4.5. Interview Method

Interview – a two-way systematic conversation between an investigator and an informant, initiated for obtaining information relevant to as a specific study, is another major method of data collection. Interview is taken either through a structured questionnaire where all the questions are set prior to the interview or through unstructured questionnaire, where the interviewer does not possess a set of questions already framed, but he goes to the respondents keeping in view his objectives and accordingly asks questions and notes down their answers.

Questionnaire and structured interviews are two types of extensive research methods that are used most of the time. Though, they can be relatively easy and inexpensive to administer, but they are limited in the types of questions they can address. Thus, more open-ended interview process, such as that used by Kuhlthau et.al (1990) to compare the search processes used by the patrons of academic, public and school libraries can be more useful. Here, a Process Survey, which included a number of open-ended questions, for example – describe your topic in a short paragraph; a perceptions questionnaire, through which people rated the cognitive and affective aspects of the process; and a flowchart of the search process, to be drawn by the study participant, are used for user studies.

4.6. Observation Method

Observation is the seeing and listening of the things with a purpose. It provides the opportunity to document activities, behaviour and physical aspects without having to depend upon peoples' willingness and ability to respond to questions (Taylor-Powell and Steelo, 1996). Two types of observation can be there: participative or non-participative. When, observer participates with the group under study, it is called participative observation and when observer does not participates in the study but he observes the group from distance, it is known as non-participative observation.

In observation, the data like, the time spent by users in a library, types of documents they consult, and number of documents they takes on loan etc. can be gathered in observation method. Such data are finally analyzed to improve the quality of the library services and also to strengthen the collection of any library.

4.7. Delphi Method

Delphi is a survey which is steered by a monitor group, comprises several rounds of a group of experts, who are anonymous among each other and for whose subjective-intuitive prognoses a consensus is aimed at. After each survey round, a standard feedback about the statistical group judgement calculated from median and quartiles of single prognoses is given and if possible, the arguments and counterarguments of the extreme answers are fed back (Wechsler, 1978).

Delphi method can be used for the improvement of library science education; library planning; technology assessment; the future of the library and information science profession; future development of electronic journals; strategic intelligence and networked business; web site selection and the digital libraries etc.

4.8. Other Methods

There are certain other methods for conducting user studies. They may include the feedback from the users and / or the information days and some unconventional methods comprising of studying autobiographies and diaries of users.

4.8.1. Feedback Services

Feedback is “the obtaining of information of good (corresponding to a norm) or bad (diverging from a norm) quality of what the pupils produce (or reproduce)” (Elshout-Mohr, 1994). It is a mechanism that allows saving of time and provides better understanding between

people by conveying the result quickly. It is usually more rapid than face to face communications (Bayraktar, 2006). A library can acquire feedback information on the variety of services it provides to its users. For example, under SDI, every document supplied to the users is appended with a feedback data card which contains questions as to the relevancy of information, timeliness of supply and the descriptors use etc. The analysis of such feedback data throws light on the efficiency of services and also provide considerable clue to build up pertinent user profiles.

Feedback is easy in online environment. That is why feedback system is following in many of the university libraries in India. For example, Himachal Pradesh University has framed a "Feedback Questionnaire on Reader Services in Himachal Pradesh University Library" (www.hpuniv.nic.in/pdf/IQAC_10314_Appn_j.pdf) for their user studies.

4.8.2. Information Days

Information days are organized in many of the libraries which provide the occasion for the users to come in close contact with the library staff. It creates a better understanding between the users and the supplier of information in the library and creates a sense of cordiality and also brings a certain amount of credibility to the library. This practice is seen in the Russia where on a particular day of a month, the library has an 'open day' and obtains direct feedback from the users on its services and collection. This method has enabled the libraries in Russia to improve their quality of services.

4.8.3. Unconventional Methods

Unconventional methods may comprise of studying autobiographies, diaries or accounts of library users, such as of scholars and writers which may provide useful hints as to their own experience in the collection of information. This study throws light on the users' approach to information and provides pointers which may not be possible to obtain through any investigation. It should be noted however, that this method is rather unusual method and may or may not fetch any additional data at all. Other method may include quantitative approaches, such as the analysis of the logs of users' online interactions in digital environment.

Now a day, it is seen that ICT (Dhiman, 2003; Dhiman and Rani, 2012) has changed the scenario fully, where the main emphasis is given on accessing online information round the clock. Hence, the user studies need to be conducted in current electronic environment where the libraries are facing with new challenges brought about by the digital revolution and rapidly developing new information technologies (Karunanayakea, 2007). Here, user surveys are identified as an accepted method of conducting user studies in libraries.

5. Steps in Conducting User Studies

User studies are conducted through various steps. But generally the following steps (based on Murugan (2011) and Singh (2013) are involved in conducting user studies:

Step 1 – Selection of the Problem: The studies begin with the selection of a problem and formulating objectives of the study which should cover one or more of the followings.

- To identify user information behaviour.
- To assess the information use pattern in the library.

- To assess reasons for using one or more information sources regularly.

Step 2 – Appointment of Staff Members: Second step is to appoint the staff member who may be experienced to conduct different user studies.

Step 3 – Time Table: This is followed by the preparation of time table for the study.

Step 4 – Executing the Sample Design: The number and type of users to be studied is ascertained at this level.

Step 5 – Design of Data Collection Instruments/Techniques: A number of data collection methods are available, such as through questionnaire, survey, observation and interview. But the choice of the method depends upon the nature and type of sample under study.

Step 6 – Analysis and Interpretation of Data: It includes developing suitable procedures for editing, coding and analyzing of the collected data. For this purpose, expert’s consultation may also be sought. After analyzing the data, interpretation is to be done.

Step 7 – Report Writing: This is the next step after analysis and interpretation of the data. The final report consists of the title of the study, need of the study, objectives, methodology adopted, scope of the study, hypotheses formation and limitations of the study with major findings and conclusion.

Step 8 – Publication of Results: This is the last step of the user studies. Once the report is finalized, it is [must be] published.

6. Models of Conduction User Studies

Banwell and Coulson (2004) have presented a Jubilee model for conducting user studies that reflects various techniques and the methods used for user studies and what are the possible outcomes of them. It is presented in Table 2.

This model use a mixed qualitative and quantitative approach including a literature review; questionnaires in paper and e-mail versions; face-to-face and telephone interviews; focus groups; and developmental workshops with practitioners etc.

Table 2: JUBILEE Model of Conducting User Studies

Methods/ Methodology	Outputs/Outcomes
User Study: <ul style="list-style-type: none"> • Qualitative and quantitative, social survey • Multi-method • Applied research, action research 	Overall framework for study: <ul style="list-style-type: none"> • Longitudinal, discipline – based, monitoring and evaluating user behaviour
Monitoring user behaivour <ul style="list-style-type: none"> • Survey, sampling (higher/further education, discipline etc.) 	Understating user behaviour <ul style="list-style-type: none"> • Detecting changes • How people use EIS (electronic information

<ul style="list-style-type: none"> • Questionnaire, interview, focus group • Literature review 	<ul style="list-style-type: none"> • services) • Longitudinal data model of EIS behavior to underpin toolkit for use in institutions
<p>Evaluation methodology</p> <ul style="list-style-type: none"> • Evaluation/impact studies • Toolkit design, analysis framework for improvement (themes, development stages) 	<p>Evaluation toolkit/action plan for managers, to improve institutional practice</p>
<p>Impact and outcome assessment</p> <ul style="list-style-type: none"> • Data collection, rev-visits, questionnaires • Action research projects-feedback 	<p>Basis for staff development activities for LIS (library & Information Science) staff</p> <ul style="list-style-type: none"> • Participation in project giving changes in academic practice • Feedback leading to re-design/extension of subsequent cycles of project

Thus, above model of methods / methodology may be used to get possible outcomes of the study as shown in right column of the table 2.

7. What to do with User Studies

User studies have a number of implications related to use of library resources/sources and services. Generally, they may provide answer to the following types of specific questions as listed by Busha and Harter (1980):

- Why do people use or not use certain types of libraries?
- What groups borrow which kind of library materials?
- What influences do libraries and librarians exert on reading habits and tests of library clientele?
- To what extent are the clienteles satisfied or dis-satisfied with library materials, services, personnel, physical resources etc.?
- What groups use various kinds of library services?
- What are the significant factors related to uses or non-uses of libraries by various individuals and groups?
- What means are effective to stimulate the use of the informational, recreational and inspirational materials and the various services offered by libraries?
- What communication media are consulted most frequently in libraries and for what purposes?
- How do urban, sub-urban and rural libraries use patterns differ?
- Does exposure to certain mass media of communication like – radio, television, newspapers [and Internet] etc. affects the library usage?

Further, the global changes particularly the introduction of Information and Communication Technologies (ICTs) have impact on the functioning of academic libraries. It is seen that the recent developments in ICT have changed the users' expectation from the academic libraries in many times. The ways to build collection and services to the end users have also been changed so much. Thus, the academic libraries need to identify and adopt good practices and benchmarks to meet the end-users demands effectively.

8. Possible Actions to be taken on the basis of User Studies

More elaborately following types of the actions can be sought after conducting user studies in library and information science field/centres.

8.1. Library Timings: In-library use survey can be a good indicator for library times. If users come more than expectation and use the library for a long time, on their demand the timings of the libraries can be extended.

8.2. Collection Building : Collection of the libraries may be developed or improved on the basis of user studies, for example the bibliometric studies are very useful in deciding which and what types of the literature is mostly used by the users in any library. Ranking of most cited journals prepared on the basis of citation studies can also be used to strengthen library journal collection (Dhiman, 2015a, b).

User studies are also essential as they are practical ways to assess, design, and improve the digital libraries for maximum user-friendliness. Thus, user studies based on digital sources, including log file analysis, social media, and bibliometric / informetric/ weobmetric source analysis can also conducted to strengthen digital collection in online environment.

8.3. Weeding of the Collection: Libraries are the growing organisms where there is a continuous growth of the literature every time. If we do not weed out the collection, space problem may become a major problem. So just like collection building, the unused material based on bibliometric studies can be weeded out from the collection to give the room for new additions. Circulation statistics and in-house reading statistics regarding the book/journal collection may be used to weed out the collection.

8.4. Implementation/Discontinuation of Services: User based information services may be started with the help of user studies which are carried out to ascertain whether the new service will be useful or not? Further, on the basis of user studies, existing services which have lost their significance may be discontinued.

8.5. Training of Staff for enhancing ICT Skills: On the basis of user studies, it can be ascertained– whether new service is to be started or not? On this basis, how much manpower, money and training will be required; can also be determined for enhancing the skills of present staff.

8.6. Improving Library Techniques: There are certain techniques available for the organization of the knowledge in libraries and information centers. On the basis of user studies or their opinion, suitable changes can be incorporated in present running services (Singh, 2013).

Besides, users studies may also be used for the support of development of own library systems, either for individual library or for a consortium of libraries. Moreover, user studies can also be conducted for information marketing. There are two approaches for them: **traditional** and **user centric approach**. In traditional approach, the concern is how much and how an information product, service or system is used, and what are the difficulties and satisfaction with its use. This approach examines only group and demographic characteristics of users (Silva

et.al 2002). While user centric approaches is focused on the characteristics and perspectives of individual users.

Thus, as Beaulieu (2003) says “the integration of the concepts and principles of information marketing and users studies in the context of information supply and demand management can [also] contribute to enhance the knowledge of the professionals involved in the management of supply and demand of information products, services and systems”.

9. Conclusion

User studies including user satisfaction and dissatisfaction studies and information use pattern have been the creamy area of research in library and information science (Balasubramanian et. al, 2010) for a long time. They could be seen as planning tools in the context of information management in organizational environments, and these kinds of studies can assist information managers responsible for information products and services supply to all kind of information users in their organizational environment (Angélica do Amaral, 2013). User studies can also be a parameter for assessing performance of the library and library staff as suggested by (Powell, 1988).

But it is observed that the libraries built after 1995 have a different look and feel that defines “intellectual information centers” where people and technology interact. They likely also cost more to build (Bazillion, 2001), therefore, user studies can be beneficial there to build digital collection through consortia purchasing (Dhiman and Sharma, 2013) or individually to solve the problem of financial crunch and similar problems.

