IMPACT OF IT ON INFORMATION SEEKING BEHAVIOUR OF USERS IN INSTITUTION OF EDUCATION IN RAJASTHAN

A Thesis

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to the

University of Kota, Kota

by

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Under the Supervision of

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UNIVERSITY OF KOTA
KOTA (RAJ.)

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Certificate

I feel great pleasure in certifying that the thesis entitled "**IMPACT OF IT ON INFORMATION SEEKING BEHAVIOUR OF USERS IN INSTITUTION OF EDUCATION IN RAJASTHAN**" by **Reena Anand** under my guidance. She has completed the following requirements as per Ph.D regulations of the University.

(a) Course work as per the university rules.

(b) Residential requirements of the university (200 days)

(c) Regularly submitted annual progress report.

(d) Presented his work in the departmental committee.

(e) Published/accepted minimum of one research paper in a referred research journal,

I recommend the submission of thesis.

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Dr. Umesh Kumar Agarwal
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Abstract

Information-seeking behaviour depends, to a great extent, on the mental make-up of a researcher - the extent of his/her painstaking ability for details, correctness, analytical ability, grit and above all, the love and care with which one conducted. This behaviour is revealed from one's work and help to give a clue to a library keeper as to what all kinds of information is important for a seeker, and from such a study a pattern is determined and the pool of information can be built up accordingly, to the benefit of both the seeker and provider.

However, it has originated from the recognition of some needs of the users, who makes demand upon on formal system such as libraries and information centers, or some other person in order to satisfy his/her information need. Thus, information-seeking behavior essentially refers to locate discrete knowledge elements but it is changing with the applications of information and communication technologies in the library services. Hence, it has become essential to study information-seeking behaviour of the library users in the digital environment.

The present study “Impact of IT on Information Seeking Behaviour of Users in Institution of Education in Rajasthan” is such an attempt to study user behaviour of faculty members and students for their information seeking in changing environment of information technology. The study has been conducted in the following 12 education institutions of Jaipur, Banasthali and Udaipur (Rajashtan):

- Biyani Girls B.Ed College, Jaipur
- Department of Education, Jaipur National University, Jaipur
- Department of Education, Rajasthan University, Jaipur
- ICG Institute of Education, Research & Development, Jaipur
- Lokmanya Tilak T T College, Udaipur
- Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur
- S S G Pareek P G College Of Education, Jaipur
- S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur
- Sanjay Teacher's Training College, Jaipur

- Shiksha Mandir, Bansthali University
- Sri Balaji Teachers Training College, Jaipur
- Vidya Bhawan Teacher's College, Udaipur

The whole work comprises six chapters:

The First chapter is the Introduction which discusses the information, information needs and information seeking. Further the chapter is elaborated for information-seeking behaviour where different models of information seeking behavior are also discussed.

The Second chapter presents a review of literature just covering the studies from 1990 and onwards for different aspects of information-seeking and studying the user behaviour. More than 60 studies are covered in this chapter.

Research methodology adopted to study the present problem is discussed in third chapter. Questionnaire method is used to collect the data from librarians and the users respectively. The data collected from the librarians are used to present the state of art of the colleges studied and data collected from the users are used to study their information seeking behaviour from different angles. Further, the objectives of the study and hypotheses framed to study the problem and scope of the study, are also described in this chapter.

The Fourth chapter of the thesis is about the “Teacher Education Institutions and Present Status of its Library Resources”. A brief introduction of the teacher education is presented first, and then details about teacher education in Rajasthan are given. Further, the state of the art of the colleges is presented based on the information received from the librarians and also from their respective websites. Information about the library collection, their timings, services and library staff etc. are also given in this chapter. The details on various aspects of the libraries are presented and discussed through 12 tables.

Chapter fifth is about the data tabulation and analysis pertains to the user’s behaviour study. This chapter is supplemented with 77 tables and 76 charts which cover various types of the information related to the users comprising of the

faculty members and the students of teacher education.

Discussion and Conclusion about the work carried out to study the users' information seeking behaviour is made in chapter sixth. Objectives of the study and hypotheses are verified and tested in this chapter. Some suggestions and recommendations are also made about the future prospects.

The thesis is supplemented with the bibliography and two appendices on the questionnaire used to collect the data from librarians and to collect the data from users of teacher education institutes.

Candidate's Declaration

I hereby, certify that the work, which is being presented in the thesis, entitled "**IMPACT OF IT ON INFORMATION SEEKING BEHAVIOUR OF USERS IN INSTITUTION OF EDUCATION IN RAJASTHAN**" in partial fulfillment of the requirement for the award of the Degree of Doctor of Philosophy, carried under the supervision of **Dr. Umesh Kumar Agarwal** and submitted to the University of Kota, Kota represents my ideas in my own words and where others ideas or words have been included. I have adequately cited and referenced the original sources. The work presented in this thesis has not been submitted elsewhere for the award of any other degree or diploma from any Institutions. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will cause for disciplinary action by the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Ms. Reena Anand

Date:

This is to certify that the above statement made by **Reena Anand** Registration No. RS/1503/13 is correct to the best of my knowledge.

Date:

Dr. Umesh Kumar Agarwal
Research Supervisor

Acknowledgement

I am thankful to the Almighty for the unseen but powerful inspiration He gave me in my research work which could not have been possible without his grace that empowered me throughout the tenure of my research work and something I could feel as an impelling force.

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REENA ANAND

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INTRODUCTION

Libraries have existed in the world since the time immortal. But the earlier libraries were not like the present libraries; rather they were treated as mere storehouse of information. Now days, they are treated as not only the producer of the information but also the disseminator of information to the right users at right time at a right place. However, due to information explosion it is now very difficult for any library to hold all the information available even in a specified subject area.

Ahmad and Dar (2017) state that the challenges of information explosion, rising costs of publications, shift of publishing trends from print to digital or electronic, use of internet resources, increase in research activities, changing needs and increased expectations of users from the libraries in terms of services have to be faced by librarians. They have to perform the tasks of collection of qualitative information resources which may fulfill the desire of library users and also provide better services from the available resources of library. Today's the libraries are also making use of free resources available over the internet. Thought, the practices followed in the libraries in digital era are changing but both the users and library professionals are facing the challenges posed due to e-resources and its effective use.

Thus, a paradigm shift has emerged from stand-alone libraries to library and information networks development for accessing information using internet and the ICT that supports end-users in getting seamless access to anyone available at any place. The present trends in libraries are based on electronic information usage and internet-based services, use of e-resources, databases, development of network based environment consortium and economical ways in getting information resources etc. which along with s are the main factors in shifting the traditional practices in libraries. But multimedia and the internet have made the profession of library and information science more challenging. Inspite of that today's libraries are slowly-slowly shifting towards automated, digital and virtual libraries and providing information to the needers.

Our lives are based on information where rapid changes in every field have made the information a key resource for survival in this age of information explosion for us. Every moment of our life depends on information, without which, it would be difficult to exist in the present information oriented society. This process does not stop anywhere as technical, economical, commercial and cultural fields changes are occurring almost every moment. Further, ever-growing competition among nations in the field of trade, education, technology etc. leads to the acquirement of information and knowledge and with the revolution in information and communication technologies, flow of information is tremendously increased.

The access to information has also become rapid and cheap which the people can get to know a lot of everything without going anywhere. Now they can enter in libraries, information centers, documentation centres or an organization in cyber environment and may use their resources without entering into their walls. Thus, the physical movement of people in this age has decreased while the movement of information has increased. There are so many electronic channels and sources available by which speedy and rapid communication of information has become possible.

But whatever the kind of a library may be – traditional or digital but one thing is common and that is libraries are meant for providing information residing in different kinds of the documents to their users. The ultimate motto of every library is to provide right information to the right person at the right time.

1.1 Information

The term information has been derived from two Latin words 'Forma' and 'Formation' and both have more or less the same meaning of giving shape to something and forming a pattern. Information is a concept, an idea, a statement, a fact, news etc., but at the same time and without which no human activity is possible. Each and every action of an individual being is linked with information – most of the individuals gain this by means of observation, experience and experiments.

Information is the knowledge or quest in human brain, abstract or concrete - love, fear or book, pen. For example, when an individual begins to think, a variety of images and emotions flash through his mind. But where information is concerned, there are the have and have not. It is a well known fact by now that information is vital to every individual and there is no area in life of a person where information is not required. Thus, information is of utmost importance and is indispensable.

Information is mankind's most valuable resource, which has played and continues to play a vital role in building human civilization and society because it is one of the major resources of a country and therefore, it must be ensured that it is exploited, mobilized, organized and utilized for the betterment of people. Information is very crucial in any decision making process.

Information is variously defined by different scientists time to time as given below:

- "Information is a name for the content of what is exchanged with the outer world as we adjust to it, and make our adjustment felt upon it. The process of receiving and of using information is the process of our adjusting to the contingencies of the outer environment and of our living effectively within that environment" (Wiener, 1956).
- Information according to Hayes (1969) is the "result of data, usually formalized in processing".
- Information is the "data that has been processed into a form that is meaningful to the recipient and is of real perceived value in current or prospective decision" (Davis, 1974).
- It is the "news, facets, statistics, reports, legislation, tax code, judicial decisions, resolutions and the like" (Bell, 1979).
- Information is the essential need of the human being. Information is a concept, an idea, a statement, a fact, a news etc. and the ability to grasp things and establish relationship between item of information in understanding or intelligence. Information constitutes knowledge and knowledge is power, which is very much essential for the well being of man and his society (Vashistha, 1981).

McCreadie and Rice (1999 a, b) have reviewed the concepts of information over the clast fifty years and presented a summary of the concepts as given below.

- **Information as a Representation of Knowledge:** Information is a stored knowledge which traditionally was stored in books, but increasingly electronic media are becoming the media for storing the same.
- **Information as Data in the Environment:** Information is obtainable from a range of environmental stimuli and phenomena of any activity or even emotion, those that are moving, not all of which are intended to 'convey' a message, but which can be informative when appropriately interpreted.
- **Information as Part of the Communication Process:** Information that can be conveyed or carried to another set of people meaningfully is what matters, not the figures or data. But timing and social factors play a significant role in the processing and interpretation of information from the people mind.
- **Information as a Resource or Commodity:** Information is transmitted as the message from sender to receiver, where the receiver interprets the message as intended by the sender. But there may be added value as the information is disseminated or exchanged.

1.2 Types of Information

The information can be classified in various ways. However, Shera (1972) has divied the information into following six categories:

- **Conceptual Information:** Here the relation can be linked with ideas, theories and hypotheses, which exist among the variables of a study in question.
- **Empirical Information:** That needs information related to data and experience of research proven by facts or arguments, those which may be drawn from oneself or communication from others.
- **Procedural Information:** That deals with procedures, methodology and other factual data as information derived from attitudes which are scientific. Such type of the information has to have investigative reports, which are obtained, manipulated and tested.

- **Stimulatory Information:** Stimulatory information mimics and is similar to environmental realities.
- **Policy Information:** This information is focused on the decision making, stressing on the procedures.
- **Directive Information:** Such information is classified as those which are used for coordination and for enabling effective group activity.

1.3 Information Needs

Information needs and users have become the central focus of attention to serve the readers better. Wilson (1981) says that "it has become necessary to keep up it on the rails of relevance to its user group through a careful initial planning and constant monitoring of need and demand". Thus, information need of the users is of central concern to providers of information service but the ultimate aim of any information -retrieval system is to supply and deliver the information, which can precisely match the information requests or requirements.

Information need is to satisfy a requirement that arises in the mind of a person who wishes to satisfy a particular object. It is a factual situation interconnected with to feed the need with 'inseparable' and categorized information to make it functional. Information needs is related to:

- Subject or theme approach, where it is seen that information which is needed pertains to the subject or theme. It presupposes that any and all information about the requested subject will somehow satisfy the information need;
- Other approach is situational approach which is rather different. If user wants information on a certain subject then it is ascertained - what can be done to fulfill or satiate this need? What does the user wants and at which level of detail and abstraction etc. It specifies the intrinsic characteristic of information, whatever the subject may be.

Thus, there exists an inextricably interwoven between information and need. Information originates and is generated because there exist a need and interest but the information need is something different that comes into existence when a person recognizes something wrong in his or her state of knowledge and wishes to resolve

the anomaly; or when there is insufficient knowledge to cope with voids, uncertainty or conflict in knowledge area. It is consonant with the 'objective information'. Such 'information needs' of users have to be satisfied. The need for information with specific content is an objective demand of the user. If an individual is in need of specific information for realizing specific tasks, then the need for information is an objective information need i.e. qualitatively, and quantitatively determined information needed by an individual for solving an objectively assigned task.

Line (1974) has defined information needs as: "what an individual ought to have, for his work, his research, his edification, his recreation, etc. In the case of a research, a needed item of information is one that would further his research. There may be an implied value judgment in the way the term is used; however, a need may or may not be identified as a want".

While according to Soper (1990) information need is "that need which library services or materials are intended to satisfy".

Dervin (cited in Verma and Rawat, 2017) "an information need is an impediment preventing an individual from moving forward in cognitive time and space". For example, a person is faced with a gap that must be brought by asking question creating ideas and for obtaining resources such gaps do not occur in the abstract but arise out of a particular critical event and situation.

Chen and Hernon (1982) opined that "an information need is more than a question asked of an information provider. It occurs whenever people find themselves in situations that require some form of knowledge for resolution".

These definitions are concentrating on the need of people who are engage in the specific studies. It also commented on the specific requirements of the people. It shows that people need information and they search it through several modes.

But there are other related terms, like want, requirement and the demand though they are differ in context. Line (1974) discusses them as under:

- **Need**: It is something one ought to have. For the completion of his work, research etc. a potential demand.
- **Want:** It is the individual's requirement - what he/she would like to have, whether or not the want is actually translated in to a demand on the library. It is just like a need that has a potential demand.
- **Requirement**: Those needs or requirements without which the objective would remain unattained. It can mean what is needed, what or what is demanded, and can therefore be usefully employed to cover all three categories. Many studies of needs have in fact been studies of requirements.
- **Demand:** What is requested from the users for an item of information believed to be wanted when satisfied.

However, above terms reflect the critical lack of exclusivity and it is noted that these terms have been often used interchangeably but without an attempt to have a clear distinction in the meaning. Infact, there is often confusion due to imprecise use of the above terms in context to user needs.

Therefore, Wilson (1977) has measured the information need on the basis of the following questions:

- Does this person or group need information in a study of any social role?
- Does he know he needs information influencing problem recognition ability.
- What kind of information he/she needs (Influencing factor - level of performance of role, nature of specific problem environment).

However, it is very difficult to answer above questions, as they imply that the people who need information may not have defined the need. Further, the information need may be expressed or unexpressed.

1.4 Information Seeking

Information is sought through various means and ways, which reflects the human aspect of the individual searcher. The channels of information involve activities of two types; active and passive. For example, active information seeking

includes face to face communication, survey papers, and the passive reception of information includes gathering information from TV, advertisement, newspapers etc.

However, the sources of information can be many, but it depend mainly on the temperament of the seeker as to how and to what preparation he ascribes to while gathering and garnering information which reveals individualist pattern. The need for information is one of the cognitive needs of humankind.

Thus, as Wiberley and Jones (1989) mentions "information seeking is a basic activity for all scholars. It is the aspect of scholarly work of most interest to academic librarians because academic libraries strive to develop collections, services, and organizational structures that will facilitate it". However, information need causes information-seeking behaviour and these concepts complement one another.

1.5 Information Seeking Behaviour

Ayres and McKinnie (1916) study on library survey is considered as the first trace of study in the information seeking direction. Later, the study of McDiarmid's (1940) 'Library survey' referred to various kinds of surveys. These library surveys were focusing on how people used libraries to satisfy their needs. However, in India, the user studies were highlighted by Ranganathan (1970) through his "Annotation on 'User's Survey'". Later, many studies in this direction were carried out by different scientists, like that of Panwar and Vyas (1976) on the libraries of the two women colleges affiliated to the University of Delhi under name "User's Survey of the Women College Libraries".

The concept of information seeking behaviour has emerged as the studies based on users because the user studies cover users' characters, needs, and dependency and satisfaction level by nature. User studies according to Wilson (1994) covers a wide range of research areas in Information Science and which can be expanded to include parts of Computer Science, Communication Studies and other fields. Its associated terms are information seeking behaviour and information needs.

Information seeking behaviour is a pattern information learning which may turn out to be far more important in the long run than specific pieces of knowledge. The seeking of information involves processes; any set of actions individual talks to express one's need for information and seeks satisfaction in obtaining and disseminating through a behavioral way individual to him. But the manifestation of the behaviour pattern may depend also on ones temperament, whether scholar, service oriented, organizational, academic pursuits etc.

Information seeking behavior or ISB originates from the recognition of some needs of the users, who makes demand upon on formal system such as libraries and information centres, or some other person in order to satisfy his information need. Information seeking behavior essentially refers to locate discrete knowledge elements. Singh and Satija (2006) mention that "it is concerned with the interactive utilization of the three basic resources namely, people, information and system. Further in order, to satisfy the information needs, the user actively undergoes to the information seeking process. [However], the attempt of the user in obtaining the needed information results from the recognition of some needs, perceived by the user".

Information seeking behaviour is a process in which users engage themselves to change their state of knowledge and this process may inherently be interactive as information seekers direct attention, accept and adapt to stimuli, reflect on progress, and evaluate the efficiency of continuing. For example, an individual who seeks information - he might know that in all probability the information will not come to him on its own, therefore he has go to about seeking it. But the strategies a user resorts to in order to satisfy the need for information, is the focus of study in information seeking behaviour.

But the present era is the era of information and revolutionary knowledge where printed documents are not widely used by the information seekers ratherwith the advent of the modern information age, traditional system of learning and information seeking behaviour has been changed tremendously. Today's information

is available as electronic resources and also on the web – all these have affected the information seeking behaviour.

1.6. Models of Information Seeking Behaviour

Various information seeking behaviour models are formulated by different scientists and the researchers to find the correlation between the information system and users. These models are often diagrammatic representations of a flowchart of how a document move through to address that issue in particular, that attempts to describe information seeking activity, the various stages involved in their relationships to go through stages in line with their seeking. It is up to the researcher which of the available models will be best suited for his/her purpose.

The following are some selected theoretical models which will be of immense help for libraries – most of these sharing some fundamental concepts of information-seeking behaviour. Most models are so designed as to tell which ISB gets triggered by being aware of an information need, knowledge gap, or a problem. These triggers takes the user onto a set of actions, in a quest for the right information which will satisfy an information need and bridge the knowledge gap, or solve the information problem.

1.6.1 Girja Kumar's Model of Information Seeking Behaviour

Girja Kumar (1990) emphasizes in his information seeking behaviour model the following three aspects.

- Who requires information of any kind and for what purposes?
- The way to find information, those that have been evaluated and used.
- How these can be identified for the sake of satisfying a need.

But the key factor is the satisfaction of the user seeking information on the basis of convenient and direct access to the information system, so that it stands firm upon their being examined. He has mentioned the following processes necessarily take place in information seeking behaviour.

- **Identifying Objective** - The goal should be focused, clearly spelt and cogent.

- **Defining Needs** - What objective the study will serve and satisfy.
- **Accessing Information System**- After defining the need of information, how the user accesses the information system/model to acquire his/her information.
- **Establishing Sources of Information** - Establishing the source of information where required information is available.
- **Information Acquisition** - After learning the sources of information, the user should be able to cite them in an orderly/convincing fashion.
- **Use of Information** -: After seeking the information the user uses it.
- **Satisfaction/ Dissatisfaction** - If the acquired information is useful then the user is satisfied. If information is not useful then user is dissatisfied.

But information seeking process he says, is cyclical in nature. The various steps in the process have a relation to the other, and acting and reacting upon each other form a sequential order, as well as in interacting with the information seeking behaviour in general, simultaneously.

Here, the user requires information to fulfill his aims and objectives. To satisfy these needs, the user adopts many ways and methods to search information sources, and as shown in third and forth steps, users try accessing information sources on the regulars/irregular basis, the pattern being indeterminable, he accumulates these sources with predetermined aims. Lastly, his needs are fulfilled and he feels satisfied or dissatisfied according the aims.

1.6.2 Wilson Models of Information Seeking Behaviour

Wilson (1981, 1997 and 1999) has put forth a series of models of information seeking. Wilson's first model outlined the factors leading to information seeking, and the barriers inhibiting action. This model clearly identifies that information-seeking behaviour arising as a consequence of a need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information. If successful, the individual then makes use of the information

found and may either fully or partially satisfy the perceived need - or, indeed, fail to satisfy the need and have to reiterate the search process.

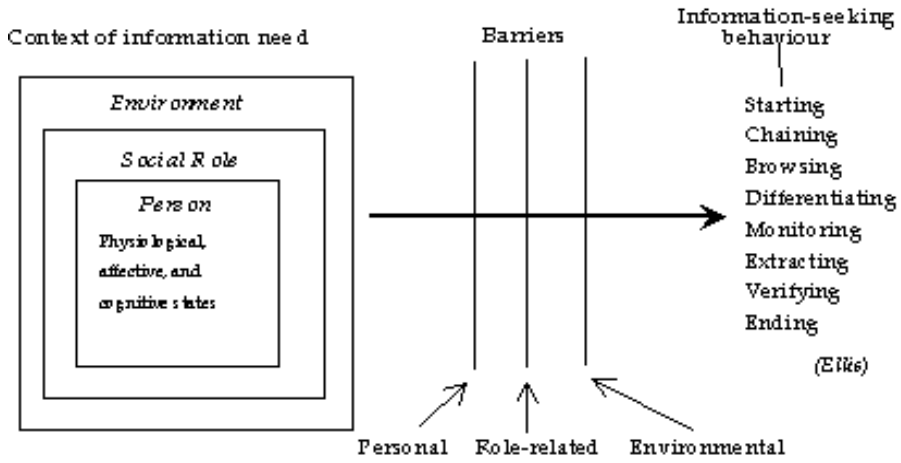


Figure 1.1: Wilson First Model of Information Seeking Behaviour

Wilson's first model was based on an understanding of human information seeking behaviours that are best understood as three interwoven frameworks: the user, the information system, and the information resource. But his second model is based upon two main propositions: first that information need is not a primary need, but a secondary that arises out of needs of a more basic kind; and second, that in the process, is likely to discover information to satisfy a need, the enquirer will meet with various kinds of obstructions to take one away from the objective or goal.

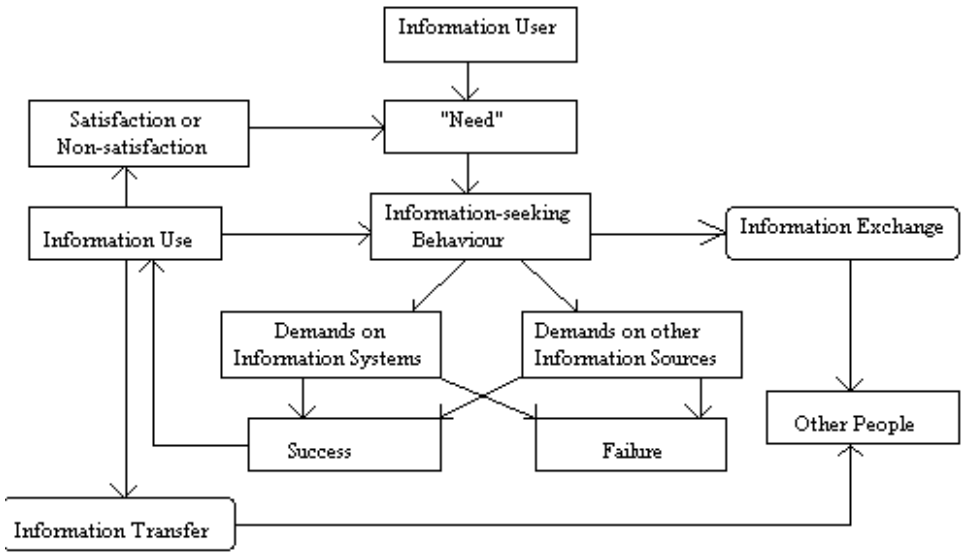


Figure 1.2: Wilson Second Model of Information Seeking Behaviour

According to Wilson – "the basic needs can be defined as physiological, cognitive or affective. The context of any one of these needs may be the person him- or herself, or the role demands of the person's works or life, or the environments (political, economic, technological, etc.) within which that life or work takes place. He then suggests that the barriers which impede the search for information will arise out of the same set of contexts."

Wilson (1997) revised his earlier model after drawing upon research from a variety of field other than information science, including decision making, psychology, innovation, health communication and consumer research.

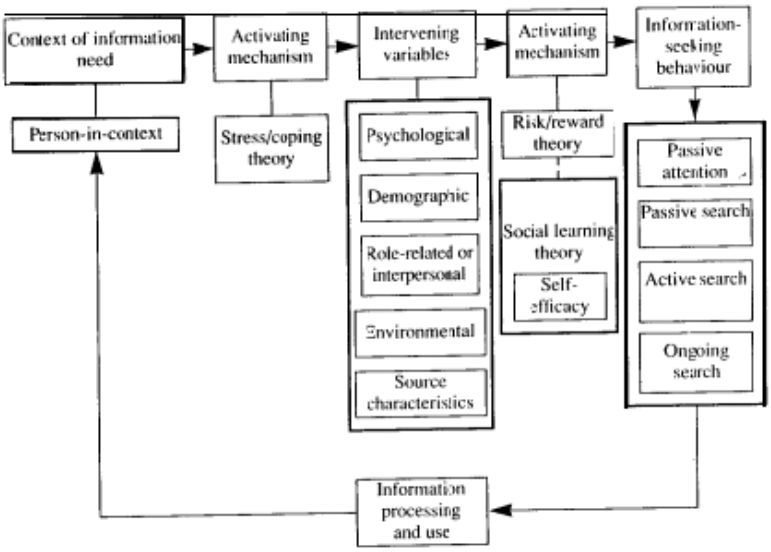


Figure 1.3: Wilson's Third Model of Information Behaviour

Wilson's third model is derived from his two models which incorporates several new elements that helped to demonstrate the stages experienced by the 'person in context', or searcher, when looking for information. He says – there is "an intermediate stage between the acknowledgement of a need and the initiation of action, a redefining of the barriers he proposed in his second model as "intervening variables" to show that factors can be supportive or preventative, a feedback loop, and an "activating mechanism" stage. Here, 'activating mechanisms' identify relevant impetus that prompt a decision to seek information, and integrate behavioural theories such as 'stress/coping theory', 'risk/reward theory' and 'social learning theory''.

1.6.3 Dervin's Model

Dervin (1992) has given two models as discussed below:

(i) Dervin's Sense Making Model of 1983

Dervin's sense making model is a set of assumption, a theoretical perspective, a methodological approach, a collection of research methods and practices. This model is designed in a form of a triangle to cope with information perceived and contains three constituent elements- (i) a situation in time - a space which defines the information problems arise, (ii) a gap - which identified the difference between the contextual situation and desired situation; (iii) outcome - the consequences of the sense making process.

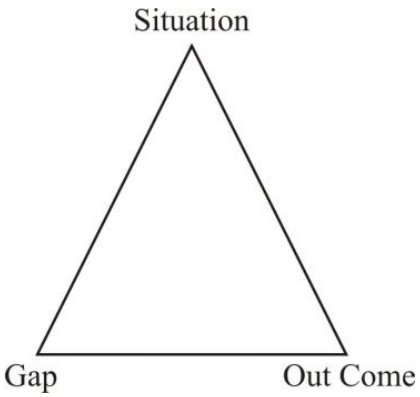


Figure 1.4: Dervin's Sense-Making Triangle (1983)

(ii) Dervin's Sense Making Model of 1996

Later he revised his model and included a fourth state that is - a bridge which is a mean of closing the gap between situation and outcome. Rest three steps were the same.

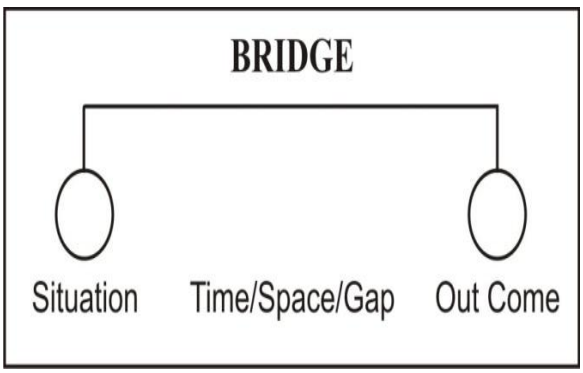


Figure 1.5: Dervin's Sense Making Model (1996)

Thus, the use of bridge metaphor is more preferable to present the model as shown in Figure 1.5.

1.6.4 Ellis' Model of Information Seeking Behaviour

Ellis's information seeking behaviour model of social scientists include the following six generic features: starting, chaining, browsing, differentiating, monitoring and extracting. Ellis (1993) reveals in the information seeking behaviour model these homogeneous features are used by the users in information retrieval system to design hypothesis to seeking information.

Various stages of the model are explained below:

1. **Starting -** Comprising of activities of the research cycle, characteristic of the initial search, such as identifying references which could serve as staring points. Consulting literature reviews, online catalogues, and indexes and abstracts often initiate starting activities.

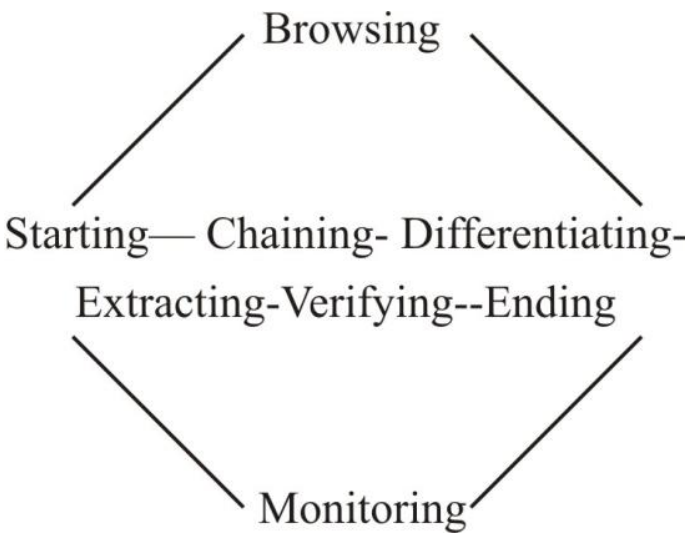


Figure 1.6: Ellis's Model of Information Seeking

2. **Chaining** –Here, a chain of citations or other forms of referential connection between materials or sources identified during "starting" activities are followed. Chaining can be backward or forward; in backward chaining, the tasks place when reference from an initial sources are followed but in its

reverse direction, while forward chaining identifies and follows up on other sources that refer to an original source.

3. **Browsing –** Information in areas of potential interest are looked up in a casual manner. Browsing does not only include the scanning of published journals and tables of contents, but also of references and abstracts of printouts from retrospective literature searches.

4. **Differentiating –** It is the known difference between the sources as a way of filtering the amount of information is obtained.

5. **Monitoring –** It is concerned with the keeping abreast with the recent developments in an area by regularly following particular sources. The core journals, newspapers, conferences, magazines, books and catalogues may be cited as the example of monitoring.

6. **Extracting –** Activities associated with going through a particular sources and selectively identifying relevant material from those sources. Sets of journals, series of monographs, collections of indexes, abstracts or bibliographies and computer databases may be cited as the examples.

7. **Verifying-** It is concerned with the checking of accuracy of the information.

8. **Ending-** It is the tying up of loose ends through a final search.

Here, it is seen that Ellis used her model for physical and chemical scientists. Using certain measures, she finds this model could be used for other scientists to test the validity his information seeking behaviour.

According to this model, "information seeking behaviour arises as a consequence of a need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information. If successful, the

individual then makes use of the information either fully or partially satisfy the perceived need- or, indeed, fail to satisfy the need and have to reiterate the search process. It also shows that information seeking behaviour may involve other people through information exchange and that information perceived as useful may be passed to other people, as well as being used by the person himself."

1.6.5 Taylor Model of Information Seeking Behaviour

Taylor (1968) model focuses over the activities occurring before the actual direct interaction with information, with three decision points in which the actor decides what to do next. However, the main purpose of model is based on the interviews with special librarians on his own experience and was to help the librarians to structure reference interviews.

Later, Taylor presented information seeking behaviour model which was the product of information use environment elements. This model has following elements:

- **The people operate in an environment**: - People who are working in the environment.
- **The kinds and structure of the problem**: - Types and construction of the problems to solve it and seek the needed information.
- **The constraints and opportunities of a typical environment**: What opportunities and restrictions appear in information seeking behaviour?
- **What constitutes a solution or resolution of problem and what makes information useful and valuable in their contexts**: Information is useful or not. If the useful then use it or it is not useful then ignore it.

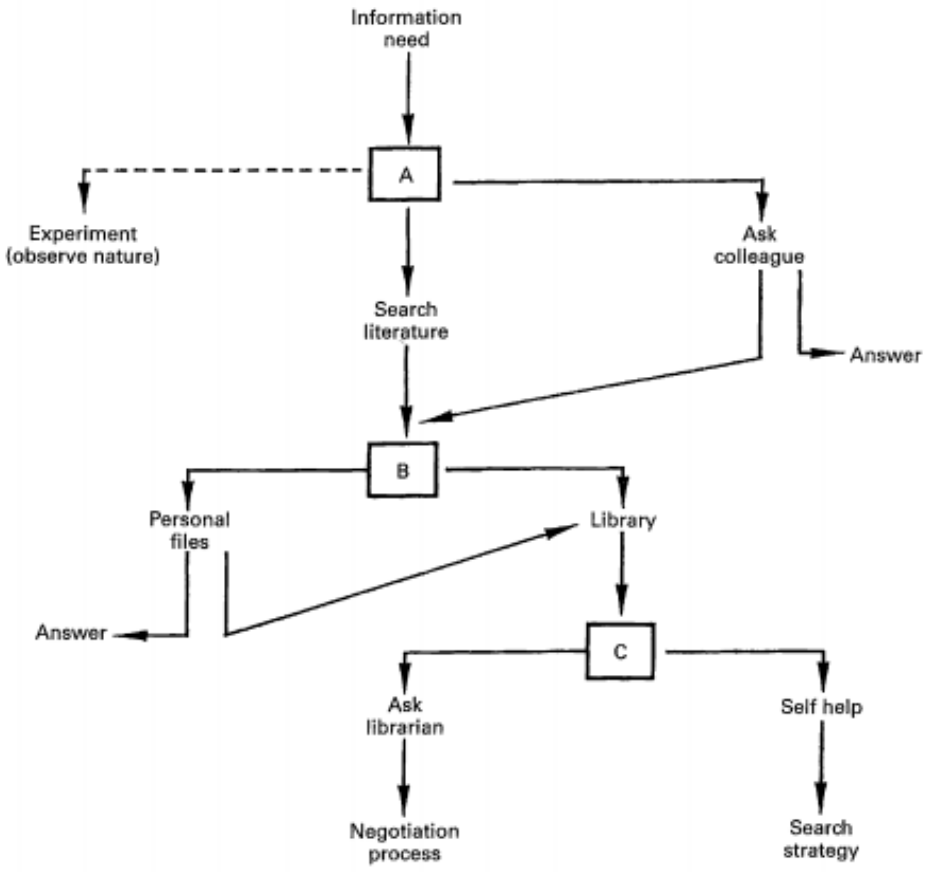


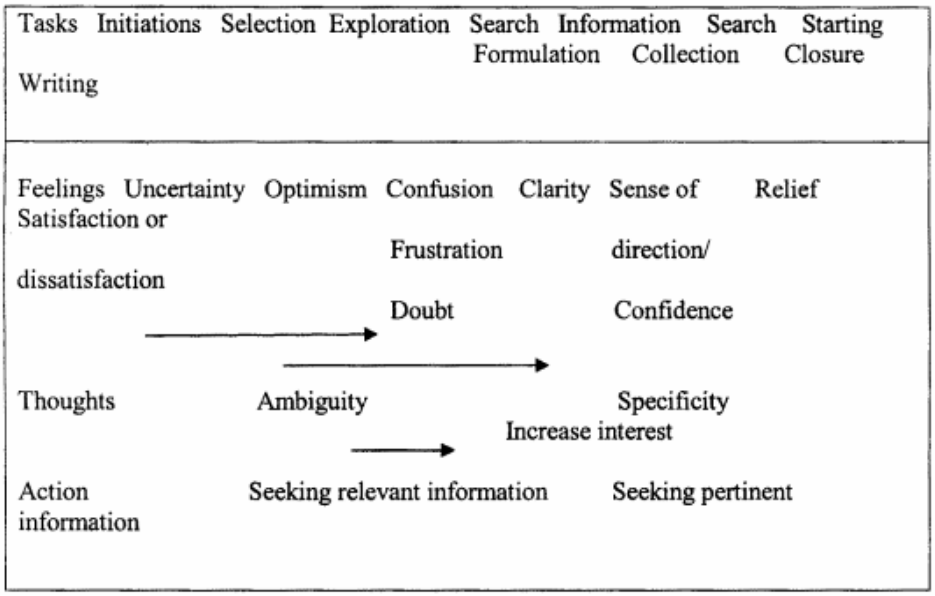
Figure 1.7: Taylor Model of Information Seeking

Thus, based on the above elements the model of information behaviour moving around the environment, the problems are solved in the environment premises.

1.6.6 Kuhlthau's Model of Information Seeking Behaviour

Kuhlthau (1993) says that information seeking is a critical process of garnering knowledge, which is based on range of sequential steps. Every stage creates new logical chain through the appropriate process to next action. Kuhlthau's model focus on the search process, the acts associated with finding information, rather than how to use, synthesize and evaluate the information.

There exist six stages in information seeking process from the perspective of the user in a sequence in Kuhlthau's model. These stages are: initiation, selection, exploration, formulation, collection and presentation. This model incorporates feelings, thoughts and action to each of the six stages.



Source: Kuhlthau C.C., 1993.

Figure 1.8: Kuhlthau's Model of Information Seeking Behaviour

1. **Initiations:** The stage when a researcher first recognizes that the needed information is complete to complete an assignment or solve a problem and where the user identifies and perceives information need in a given environment.
2. **Selection:** The pursuance after identifying and selecting a general topic to be investigated, and what approach is to be applied.
3. **Exploration:** The information on a topic of general interest are investigated at this stage in order to expand one's personal understanding as well as to provide a focus for the topic. This stage involves gathering information which is general information, not those that are specific or especially pertinent.
4. **Formulation:** User now forms a focused perspective on the topic from the pre-focus exploration stage on the basic of the information found. Thus, a clear focus enables the user to move to the next stage. The information search can be more focused and directed to investigate information on general topic as the students' understanding of the topic grows.
5. **Collection:** User can now interact with information system at this stage, for example, the librarians, experts, friends, etc., effectively and efficiently.

Here, the information specifically related to the defined focused topic is gleaned and garnered.

6. **Presentation**:- User has to prepare a written document upon completion of the search. The search closure may be done on the ongoing course of action because all the necessary information has been obtained.

It is seen that researchers collect the information in the search process through various steps. But the fifth step is the maximum effective and efficient step, where information searcher is mutually associated with information retrieval system to information collection. This model is helpful to user in examining the mutual relationship with information system.

1.6.7 Kirkelas's Model of Information Seeking Behaviour

Krikelas model (1983) is one of the early models that are applied widely. This model contains approximately thirteen components. It is a general model that is applicable to all spheres of life. In this model, the twin actions namely information gathering and information giving are given at the top priority.

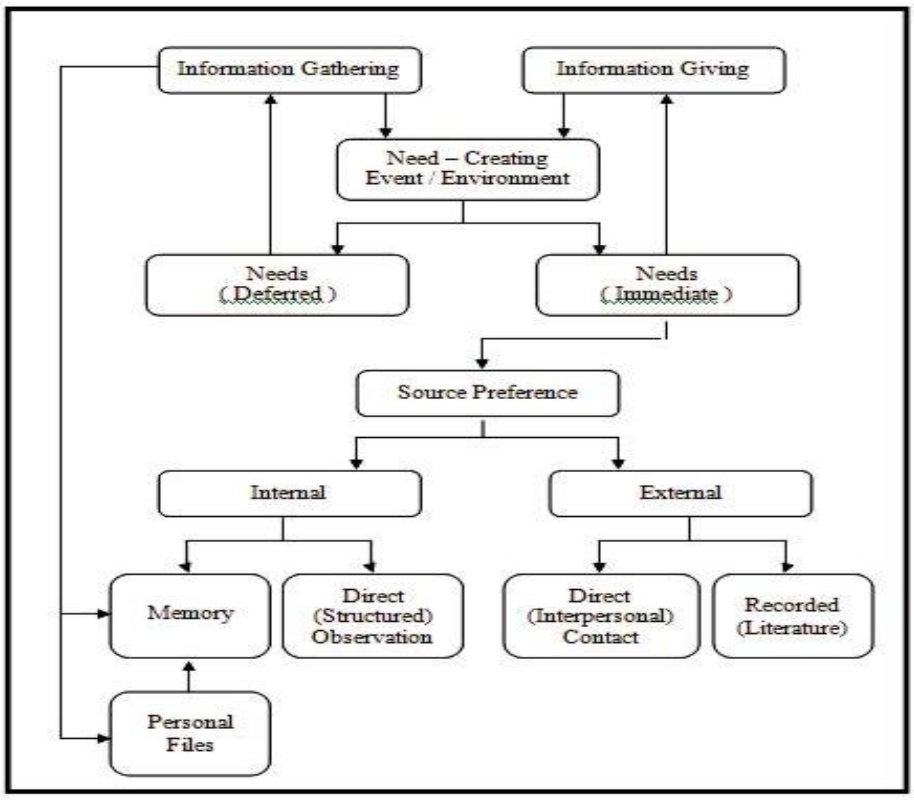


Figure 1.9: Kirkelas's Model of Information Seeking Behaviour

The information gathering process is carried out based on the needs required at a later date which are kindled by an event or the surroundings or happening of the person who seeks information. The model shows that the gathered information is directed to memory or personal files.

Another action termed 'information giving' is carried out based on the immediate needs for which the information seeker desired to select preference i.e. internal or external source of preference. When the internal source leads to memory and personal files, the external source makes it to direct (interpersonal) contact and recorded material (literature). But one appealing aspect of the Krikelas's model is its simplicity.

1.7 Information Seeking Behaviour in Digital Era

Information seeking behaviour has been studied since the 1950s, where early studies concentrated primarily on researchers and scientists (Furi and Balog, 2016). But the digital environment has brought new ways and practices of information seeking behaviour. Now, digital information environment has attracted the users the world over and there are abundant material to be utilized. The mode and the process being user friendly and properly delineated and categorized will in all their future possibility, become the technology of the ongoing generation spreading to the next generation.

Now, people use the web as information to support their research activities and to meet day today information needs. The mode of information seeking on the web depends on the nature of information needs, information seeking tactics, and the purpose of information use. Thus, the behavioural patterns of information seeking are guided by the availability of web – based information resources and successful operation of search engines. Users find it quite interesting and useful to browse the web than to search the library documents. Hence, it can be concluded that the web – based information search has influenced the users since it is congenial in a digital environment.

Now, Generation Z learner as Digital Natives and Generation Alpha Information seekers terms are used for information seeking in digital era (Mukh, 2017). Chitkara and Natarajan (2015) says that "Generation Z are a little nebulous than the other generations, with a variety of opinions for the actual start date. Some people claimed that this generation started around 1996, but others claim it started back to the middle 80s". Generation Z has amazing potential with so many advantages that past generations did not have as this generation mostly stays in touch with each other through social networking; for example, the facebook, linkedin, twitter and quicker etc.

While, Alpha generation is expected to be more "tech savvy, educated and materialistic than the previous generations. Generation Z is followed by digitally superior and well informed generation Alpha. Generation Alpha being considered as Google kids want to adopt the technology faster and need information in more effective and efficient way, according to their day to day needs". Therefore, information seeking behaviour is also changing with the technology but the fundamentals are same.

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Chapter 2
Review of Literature

CHATPER 2
REVIEW OF LITERATURE

2.1 Introduction

The review of literature plays a very important role in the research process. Since effective research is based upon past knowledge, this step helps to eliminate the duplication of what has been done, and provides useful hypotheses and helpful suggestions for significant investigation.

It suggests a method and a technique of dealing with a problematic situation, which may provide avenues of approach to the solution of similar difficulties to a scholar. It can also provide the investigator with new ideas and approaches, which may not have occurred. It assists the researcher in evaluating own research efforts by comparing them with the important studies related to his research.

A brief review of earlier studies carried out by different authors related to the information needs and information seeking behaviour is presented below:

2.2 Previous Studies

Wilson (1981) has reviewed the work on information seeking behaviour and information need in a number of disciplines, other than information science. The aim of his work is to identify models and methods which may be applied to information science.

Brember and Legate (1982) have conducted a survey in UK for the pattern of library services available to National Health Services (NHS) staff. The study was conducted using both questionnaire and interview techniques and it reveals that "keeping update was primary reason to see information followed by writing papers, research and problem solving". However, clinical problem was a significant reason for seeking information by clinical staff while teaching was ranked first by clinical staff. But the purpose of using a library was primarily to have adequate access to current and back issues of journals. However, most of the staff never or rarely

sought advice or guidance from library staff. Further, some critical comments are centered on libraries stock, journal- binding policy, photocopying services, etc.

Karisiddappa, Sangam and Maheswarappa (1989) in their study on the "Information Use Pattern of Indian Historians" note that books and monographs were the most frequently use information sources (74.38%) followed by periodical articles, discussion with colleagues, library catalogue. Majority of the respondents have pointed out that they had no difficulty in locating information. However, overall observation on the situation emphasized the need for intensive user education programmes in the library and information centres for optimum utilization of the resources and services.

Saraf, Binwal and Mishra (1990) in their study entitled "Information Seeking Behavior of Research Scholars in North Eastern India: Case Study of Northern Eastern Hill University and Manipur University" have observed that the concept of co-partnership between the users and library staff in information search was still not duly recognized. Periodicals and books were two major sources being used by researchers to obtain information. The finding of the study further revealed that there was heavy dependence by the research scholars on a small proportion of the literature available to them. The best sources of accessibility to the information were undoubtedly indexing and abstracting journals and bibliographies. But the lack of use of these retrieval tools suggests that library users need instructions as how to search information.

Das and Basak (1991) made an attempt to delineate the scope of various trends related to information seeking behaviour and discuss its various aspects. The authors also point out the change in the trend of researches in the field.

Sethi (1991) in a study on the information seeking behaviour of social scientists in Indian perspectives reveals that different categories of social scientists displayed semi-balance in their approach towards what information they seek. But they do not tend to differ in respect to 'how they seek their information in their choice of channels and source of information'.

Kuhlthau (1993) has proposed a principle of uncertainity by six corollaries when he observed the results of a series of studies conducted on the user's perspective of the information search process. He has explained the constructive process of information seeking and its use by bringing affective considerations to what has usually been regarded as a cognitive process.

Abifarin (1994) has examined in selected Nigerian Universities, the information seeking behaviour of agricultural students that reveals that students make less use of the library than expected as only over 58.5% of respondents indicated that after attending formal lectures, they first turn to their lecturers for further information rather than to library. He corroborates the general findings that the library shelves are disorganized as users have a little idea about the systematic library usage. It means library orientation programme focused on information gathering should be organized where they are conducted and intensified where they already are conducted.

Sasikala (1994) has studied the library use behaviour of 436 managers from 20 industrial organizations in Andhra Pradesh of India. The managers were grouped in 3 levels: Senior (30), Middle (138) and Junior (268). The survey shows that managers occasionally visit libraries rather they get satisfied from other sources. They mostly need data type information and descriptive information on specific topics and they collect information for keeping themselves abreast of current knowledge, solving immediate practical problems. Managers also need additional information relating to job. But there were some differences in searching and using behaviour among the three groups of managers.

Hammond and Mitchell (1997) have conducted a survey on the information seeking behaviour of practitioners in accounting, architecture, psychology and recreation/tourism to improve the information skills instruction programmes for students. It is seen that fewer than half of the survey respondents had discipline-specific library instruction. But the practitioners identified the need for information on a low use of electronic resources. Further, the data collected support the necessity of information skills for those entering the professionals. Instruction should be

information centered rather than library centered and continuing education for professional's information is needed.

Devi, Akoi and Lahiri (1997) in their study entitled "Information Seeking Behavior of the Agricultural Scientists in Manipur" reveals that most of the scientists responding to the questionnaire, seek agricultural information for records, experiments and paper writing. However, their basic area of their research concerned is related with different aspects of agriculture, but the larger sections of the scientists responded were found to use the libraries, ICAR Units and Department of Agriculture. Most of them consider seminars/ conferences as the better medium for dissemination of their research results.

Kanungo (1997) investigates the information seeking behaviour of women researchers in the disciplines of history and political science in the University of Delhi (DU) and Jawaharlal Nehru University (JNU). The study has been conducted in the form of a 'user survey' using questionnaire and interview methods and a comparative analysis method is adopted by the researcher in finding, accessing and acquiring information.

Reddy and Karisiddappa (1997) have conducted a survey on information seeking behaviour on 160 medical scientists on the use of formal and informal channels of communication, which showed that journals are the preferred formal source on information for preparing course/teaching materials. However, the books are used more for providing consultation and offering therapeutic/ diagnostic services. The time spent in borrowing / reading literature for various purposes has also been studied.

Fidzani (1998) has conducted a study on the needs and seeking behaviour of graduate students in Library and Information Centre of University of Botswana by using questionnaire method for data collection. The findings of the study reveal that most of the graduate students lack basic skills on how to use the library services and resources. However, the study discovered that graduates do not have adequate

training in the use of the library and some of the students are not aware at all of the services the library can offer them.

Prasad and Tripathi (1998) have conducted a study on the Physical and Social Scientists to ascertain their information seeking behaviour. They also enumerated the sources of information used by the scientists. It is seen that the primary journals were used by both groups of scientists, but there was a difference in the usage of abstracting and indexing periodicals.

Coles (1999) has examined the preference of using electronic sources, especially the CD-ROMs in public libraries. He discusses the reasons for use and non-use of CD-ROMs and looks at the types of CD-ROM databases used both in the library and in general. He is of the opinion that that at some of the problems inherent in studying end – users in public libraries find the difficulty in obtaining reliable data.

Dresang (1999) has pointed out that the environment for youth has changed dramatically in the digital age, but the paradigm for studying their information seeking behaviour has not. He proposes not only more research in the field, but also the adoption of a new research paradigm which involves studying youth in serious yet informal information seeking situations. The new paradigm presents two opportunities - a closer collaboration with youth themselves as partners in constructing research (rather than as objects of it); and a fresh look at how children and teenagers define success in their searches.

Fabritius (1999) has discussed the methodological triangulation employed in the process of data gathering for a study where the information seeking behaviour of journalists is investigated. The purpose of this study was to examine the role of digital information technology, to what extent the information sought is put, and how well or badly the digital systems support journalistic work. He also describes various types of the ways in which the method varied and developed in the course of the fieldwork, and how the interaction between the research setting and methods applied took place.

Shanmugam (1999) has studied the information seeking behaviour of the trainee teachers of the two Teacher Training Colleges of Malaysia. This study brings to light that trainee teachers' information was influenced greatly by the course requirements centered on their course. It is also revealed that there is a general lack of interest in reading books and newspapers. However, the computers were used largely for typing rather than for handling information.

Srinivasaragavan (1999), in his doctoral thesis entitled "Information Needs and Information Seeking Behaviour Pattern of Scientists in Biological Sciences in Academic Universities of Tamil Nadu" revealed that biological scientists differ significantly in their information seeking based on factors of sex, age, marital status, professional experience, designation and in participation of the professional activities with regard to different universities. It is also revealed that information needs of academic, current scientific, factual information did not differ, whereas research and development, product information differed significantly among the respondents.

Wilson (1999) has presented the outlines of the models of information seeking and other aspects of information behaviour, showing the relationship between communication and information behaviour in general with information seeking, searching and searching and information retrieval systems. He suggests an alternative of those models which address similar issues that can be related by envisaging a 'nesting' of models. He says that the related ways and that the models are complementary rather than conflicting. Finally, an alternative, problem-solving model provides a basis for related the models in appropriate research strategies.

Alemna and Skouby (2000) have carried out an investigation for the information needs and information seeking behaviour of Members of Parliament in Ghana's Legislature. They conclude that a better understanding of this question is fundamental to the achievements of their job objectives.

Fescemyer (2000) has described bibliographic instruction programme to help undergraduate students in World Regional Geography that locate current and

historical resources to create answers for the midterm examination. Student papers were analyzed by citation analysis to determine what types of resources are used to gather the information to create answers. It is seen that the students use a wide variety of sources in print and electronic formats to gather information – the fall semester students are seen to cite print sources 62 percent as compared with citations from electronic sources at 36 percent and lecture notes at 2 percent. However, the spring semester students cite print source 51 percent as compared to electronic sources at 47 percent and lecture notes at 2 percent.

Mahapatra and Panda (2001) have provided an insight into various behavioural patterns of working journalists (WJs) in seeking and searching the information. The study analyses the data received from 226 WJs representing the leading news dailies of the state describe the pattern of their searching and locating information sources and services, mode of communication and strategy employed in seeking needed information, their priority on information sources, and the constraints encountered by them in locating information.

Tripathi and Prasad (2001) have dealt with the information seeking behaviour of scientists in physical and social sciences. The study highlights various sources and methods followed by the scientists to locate required information. It also discusses various types of information and bibliographical sources used by the scientists for seeking information.

Cooper (2002) has studied a second-grade library class "engaged in an information-seeking situation" by conducting individual and group study sessions, as well as the class discussion which were videotaped. The students were observed to be using both print and electronic resources. However, their information- seeking tasks were tied to classroom curriculum and both quantitative and qualitative methods were employed.

Large and Beheshti (2002) have presented the results of an empirical study for gender differences in collaborative web searching, which was conducted in a grade-six classroom of a Canadian Elementary School. The searches undertaken by

16 same-sex groups of two or three students for information to support a class assignment were recorded on videotapes. Search sessions analysis reveals that the boys spent less time on individual pages than the groups of girls and in general were more active while on-line. Overall, the study demonstrates academic, affective and behaviour differences between the grade-six boys and girls working in same- sex groups on a Web- based class project.

Padmamma, Vijaykumar and Vasudevan (2002) have conducted a survey on information seeking behaviour of 84 scientists of Vishweshwaraiah Iron & Steel Limited (VISL), Bhadravathi (Karnataka) which reveals that roughly one-third of the scientists visit information centre to satisfy the information needs of research activity. However, about 31% scientists opined that education of the dependents is one of the factors which hinder their information seeking behaviour.

Singh, Satija and Singh (2002) have conducted a survey to study the information behaviour of the farmers of Punjab. The study reveals that more than 60% of its population still lives in rural areas. There are 12,780 villages in Punjab and the farmers are progressive and since 1960, they have adopted the new technology relating to agriculture, comparatively earlier and faster than their counterparts in other states.

Vijaykumar and Pradeep (2002) have surveyed the reading habits of the library users of college of teachers' education from National College of Teacher Education, Shimoga (Karnataka). The major objectives of the study was to identify the time spent on reading, frequency of reading, place chosen for reading and so on. They have identified that majority of the respondents prefer their own house (93.3%) and (87%) read for gaining knowledge and also large population (46.65%) of the study read more than three hours in their house.

Attfield, Blandfor and Dowellet (2003) have studied the information seeking behaviour as embedded in wider tasks, namely in problem solving and in the design and writing of professional papers. This article considers how writing can be understood in order to account for embedded information seeking. The authors have

treated the writing as if it were a design activity and explored parallels between the psychology of design and information seeking. Interestingly, significant parallels can be found in the ideas from the psychology of design offer explanations. Later, authors developed a design-oriented representation of writing tasks as a means of providing an account of phenomena such as information seeking uncertainty and focus refinement.

Swarna (2004) conducted a study for information resources and services by surveying the users of B.Ed. College Libraries in Andhra Pradesh. The main aim of the study was to know the opinion of students and teachers on library collection, services, opening hours, facilities, rules and regulations, reading facility and organization of documents etc.

Chinnasamy (2005) in his doctoral thesis entitled, "Information Seeking Behavior of Scholars in Biological and Social Sciences in Madurai Kamaraj University: A Comparative Study" notes that social science scholars use more conventional print sources, while the biological sciences scholars use more of the e-resources for their research, again social science scholars visited the library daily, whereas biological sciences scholar did not show much interest, since they spent much of their time in the laboratory. It is also found that biological sciences scholars were using other library facilities to a greater extent than the social science scholars.

George et al (2006) have explored the information behaviour of the students by conducting interviews with one hundred graduate students representing all disciplines and departments from Carnegie Mellon University. The study notes that the graduate students often begin with a meeting with professors who provide direction, recommend and provide resources. However, other students help to shape graduate students' research activities. It is also noted that internet plays a major role but students are continuing using print resources. But the convenience, lack of sophistication in finding and using recourses, and courses requirements are the factors which affect the information seeking behaviour of them.

Kari (2006) has conducted a study where the focus was on the internet searching that what it has to do with personal development of an individual's skills and qualities. It is noted that there are four major types of relationship between the Internet and self–development, which include - the Internet in the context of development; development in the context of the Internet; development affecting Internet use, and the Internet use affecting development. Besides, there were also some informational phenomena which exhibited regression and the converse of development.

Adebayo (2007) study on the library services standards that have been implemented in Colleges of Education in Nigeria reveals that the libraries are rendering basic services as recommended by National Commissions for Colleges of Education but are not providing indexing and abstracting services.

Pratap (2007) in his study that is conducted for 18 colleges of education in 3 districts of Punjab, found that collection size of the libraries is varied considerably where older colleges had comparatively large collections. However, the majority of the libraries were being kept open for 6 to 7 hours a day. He also suggested for the conduction of user education programme and stressed over the need to increase the range and depth of collection and services.

Tilwani and Kumar (2007) have conducted a pilot study on the information use pattern of social scientists from web based information resources which revealed many interesting facts about the major study to be conducted on the basis of this. This study keeps the investigator in choosing the sample size, understanding the questions in the questionnaire and general perspectives in using the web based information resources.

Adekanmbi and Boadi (2008) have conducted a study on the "Problems of Developing Library Collections in the Colleges of Education Libraries in Botswana" by using questionnaire method supplemented by interviews with the senior librarians, deputy principals and the board of the affiliated institutions, to ascertain the availability and use of collection development policies in the college of

education libraries. It is noted that majority of the libraries did not have collection development policies and also there is lack of constant training for librarians. Further, inadequate staff and lack of support from administration and unavailability of collection development policies were noted as the major problems. It is also observed that majority of the libraries did not involve their users in formulation of policies and did not implement these policies for collection development.

Bhatti (2009) has studied the information needs and information-seeking behaviour of faculty members of Islamia University of Bahawalpur using a survey for fifteen departments, namely Urdu, Political Science, History, English, Economics, Education, Islamic, Chemistry etc. The study deals with what types of information materials are required by the faculty members and what information facility provisions are available in the libraries. This study incorporated issues regarding users' knowledge tools, preferences for sources, purposes for using the library, informal channels of acquiring information, language preference, current journals, satisfaction levels, and the problems. It is noted that 17% of teachers use the main library and 17 % their subject library services but 56 % teachers are dissatisfied with the provision of books related to their fields as they find them inadequate for meeting their educational and research needs. 40% teachers think that the current periodicals provide them the required information to some extent and 32% want more journals for supplementing their research programmes. It is also noted that the demand for more databases and internet facilities, is also increasing as 40% of teachers find the current provision is inadequate.

Rani and Jeevan (2009) have studied the information seeking habits and behaviour of teachers and students in schools, to identify the information sources used by teachers and the students and to ascertain the problem faced in using the school library. The study focuses on how teacher and students utilize various resources available in the library for enabling the teaching learning process. It is noted that the books are used more than other type of information resources – both by teacher and the students. However, the journals are preferred formal source of information while preparing course/ teaching material.

Jamali and David (2010) have studied the differences and similarities between different research areas within physics and astronomy with regard to two aspects of information-seeking behavior, including methods used for keeping up-to-date and the methods used for identifying articles. It is revealed in the study that the amount of reading is influenced by the type of activities academics conduct, meaning those who spend more time on teaching read fewer papers and those who spend more time doing research and read more papers.

Raza, Fatima and Upadhyay (2010) have studied the information seeking behaviour of researchers in Central Drug Research Institute (CDRI), Lucknow. It is seen that the services being provided by the library of the institute are worthy services to a researcher and they prove to be helpful for other also. However, the information-seeking behaviour differs from one discipline to another and from one institution or library to another.

Singh (2011) has conducted a study for B.Ed. students studying in Punjab using questionnaire method to know their opinions about the resources and services, frequencies of visit to libraries, purpose of visiting, type of documents used, awareness about library services, use of resources and services and satisfaction with resources and services etc.

Pareek and Rana (2013) in their research entitled 'Study of Information Seeking Behaviour and Library Use Pattern of Researchers in the Banasthali Vidyapeeth' suggested that there is a need to conduct advanced training for the researchers for making use of their library system. It also emphasized over the library sources to be included in research curriculum and in the orientation programmes which are to be conducted periodically. It also suggests that in library handling of technology, computers, network should be developed and access of e-resources should be available at hostels through local network. Also a need is felt to concentrate on proper book shelving and preservation and inter-library loan through document delivery services.

Kumar and Tholkappian (2013) have conducted a study for the library users in Women's Educational Institutions which reveals that 56.94% of the information seekers visit the library once a week, followed by 21.53% who visit every day. Further, majority of respondents (86.11%) obtained educational resources from the college library followed by 73.61% collected materials from their teachers. Majority of the respondents also use the library for updating knowledge (59.03%), while 54.17% use library for writing assignments. It is also seen that various academic institutions (75.00%) were very positive on the adequacy of the information and 74.31% responded optimistically for the sufficiency of comfortable library furniture, good ventilation and lighting.

Sudha (2013) has studied the information seeking behaviour of Ph.D. scholars at Gandhigram Rural University. It is noted that research scholars tend to show a strong interest in searching on-line journals, e-mail daily and their use level is considerably higher than books. Further, all Ph. D. scholars were seen fully aware, well versed with the modern information technologies use in the library as 85% of them used computer and its facilities frequently and 60% use internet and photocopying facilities frequently. 65% of the respondents were seen regularly to visit the library but a few respondents spent over 30 hours per week in a library and most of the scholars were spending less than 5 hours per week in library for their research work. Further, more than 50% of the respondents were getting assistance from the library staff for their information needs. However, most of the scholars were satisfied with the present library services but the study concludes with some recommendations on how the rural university academics can be encouraged to make use of available library resources for their benefit.

Das and Acharya (2014) have studied the information needs, information seeking behaviour and the use of electronic resources by research scholars and faculties in the University and Research Libraries of Odisha. They found that understanding the actual needs of information users and taking steps to satisfy them is the first step towards effective service provision. This can best be achieved through formal in–depth studies. Librarians could redesign strategies intended to improve the provision of library services especially towards information skills

development and information resource awareness. But more professional and skilled staffs should be recruited to handle day to day problems of the library and to provide efficient and smooth library services to the users. Further, the Internet facility should be improved along with increase in computer terminals so that more users can access the e-resources effectively.

Selvaraj and Rathinasabapathy (2014) have studied the electronic information use patterns of faculty members and the students of 16 self-financing engineering colleges in Tiruvallur District (Tamil Nadu). The findings of the study throw light on the important data and insight into the current state of practices of faculty members and their understanding about information use pattern. It is revealed in the study that 102 (25.76%) faculty members visited the library daily while 178 members (44.95%) visited weekly thrice. Further, 108 faculty members (27.27%) visited the library for the purpose of borrowing books, followed by 84 (21.21%) visited library for reference.

Moly (2014) in his article entitled 'Information Need and Information Seeking Behaviour of Information Science Students in Haramaya University, Ethiopia' explained that more than half of the students visit library every day whose main purpose is for writing assignments/research and study. Students mainly use reference services from the library and for which they depend on reference sources. Majority of students feel that there is a need for training for the efficient access and use of library materials. Information science students also mentioned that the number of books and journals available in their field of study are not sufficient. Thus, university library should acquire more resources as well as the library should provide sufficient space for students to refer and study within the library.

Hasrah (2015) has studied the information needs and seeking behaviour of law students studying in Aberystywith University and Sultan Sharif Ali University. This study suggests that out of them 85.48% from Aberystwyth and 100% from UNISSA seek information mainly for assignments. It is also noted that that most participants (51.91%) heavily rely on textbooks.

Abraham, Tamizhchelvan and Sornam (2015) have studied the information needs and seeking behaviour of engineering college faculty, Tiruchirappalli. The study suggests that the user studies necessity be conducted periodically by the library professionals to know the expectations of the users. Besides, latest technologies are to be updated regularly based on the findings of the survey.

Kadli and Hanchinal (2015) in their study on the information seeking behaviour of law students in two law colleges of Mumbai have identified the student's high dependency rate on books along with other online and offline legal databases. E-mail was seen the most popular internet application used by the students and they always become aware about free online databases through friends, teachers, library staff, library website, library blog, brochure etc.

Chinnasamy (2016) has studied the need and information seeking behaviour of Engineering College students in Madurai using pre-tested questionnaires. The study reveals that 55.33% respondents are using the library for preparing for the examination, 38% respondents are using the print copy and 81.33% respondents are using the pen-drive. Further, he adds that the libraries have always welcomed new changes for enhancing their client's satisfaction levels; thus, this is right time that traditional libraries change their approach with the available digital resources in making information users more efficiently competent.

Das and Jadab (2016) have studied the information seeking behaviour of law students in University of Dhaka by assessing the factors affecting the students' use of digital information resources, the problems they faced for seeking electronic legal information, using stratified random sample survey for collecting the quantitative data through questionnaire. The results of the study show that students with higher preference for information seeking were found to use the electronic legal information sources than print. Major e-resources used by them and the influential factors of use were also identified in this study. This study has also identified some crucial problems and suggestions for the development of electronic legal information sources and services. However, majority of the students buttressed the

need for training programme on information literacy, online searching etc. for improving the information skill and meta-cognitive strategies.

Hamid et al (2016) have conducted a study on the role of social media in information-seeking by international students. They have studied 71 articles from various well-known sources after an intensive systematic literature review process of searching, filtering and enforcing the inclusion and exclusion criteria for concluding the study. It is noted in the study that this research identifies the information needs of the international students and categorizes them by the roles played by the social media in fulfilling their information needs.

Kehinde et al (2016) have studied the information seeking behaviour of the master students and the faculty of communication and information sciences at University of Ilorin, Kwara State using questionnaire method. The results of the study show that major information needs of master's students is for academic purpose and their primary purpose of seeking for information is for their reading activities. They also acknowledged that fellow students use internet as their first point of call whenever needs for information arises. However, the respondents are satisfied with the information sources consulted when seeking for information even as they majorly use the credibility of the author to evaluate the information sources consulted but their major problem in their seeking process is the incompleteness of the materials.

Khan and Alam (2016) have conducted a study for 110 users of the Energy Resource Institute (TERI) on the library use. Their findings include- the percentage of daily users of the library was high and majority of the research scholars (44.11) use periodicals and postgraduates (76.19) use for references. Further, the users were also aware of the Internet and reprography services provided by the library. However, they felt the quality of library collection helped them to collect accurate and precise information.

Laltlanmawii and Verma (2016) have studied the information seeking behaviour of faculties and research scholars of the School of Physical Sciences,

Mizoram University, Aizawl. It is found that in teaching and research represented the root of information search behaviour; therefore, university teachers are placed at a higher podium than the teachers of other educational institutions. As the role of faculty members and research scholars is very crucial in the universities, university teachers are expected to teach post-graduate students and guide the research scholars to contribute for enhancing the horizon of their own subject disciplines. Thus, their reading interests, current awareness, subject knowledge have direct bearing on their teaching, learning and research activities and they are expected to be well reader and constantly up-to-date in their fields of specialization, even then heir reading interests, sources of information, information and communication channels, types of information they needs etc. can vary even among the same community and group and time.

2.3 Recent Studies

El-Maamiry (2017) has conducted a study on the use of electronic resources by the students of College of Business Administration (CBA) and College of Information Technology (CIT) of University of Dubai. He says – considering the tremendous technology development in university education and teaching worldwide, it is expected that future students' information seeking behaviour will change tremendously as every level of their study will be online. Information literacy skills will be the key focus from pre-university onwards. It is concluded that though the country is heading towards smart learning, but students will no longer struggle with using software applications as will easily navigate electronic resources interfaces and fully utilize digital tools and none will struggle with basic electronic resources functionality.

Sarala (2017) has conducted a study on the information seeking behaviour of students with special reference to Engineering Colleges in Vellore. It is concluded that information seeking behavior is mainly deals with the way people search for information, identify and utilize information. It is a process by which individuals are seeking, identifying, selecting, evaluating and analyzing information in order to change their state of knowledge. The present study mainly focuses on the frequency of library visits, purposes of Information seeking, searching tools, various factors

influencing the information seeking behaviour and the problems faced by them during the process of information seeking.

Thus, it is seen from the review of literature that a plenty of work has been done in the field of information needs and seeking behaviour but almost no work has been carried out to study the same in teachers' education colleges in the Rajasthan state. Hence, the present problem is chosen for conducting research for the PhD degree.

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Chapter 3
Research Methodology

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Overview

Research is a verdict solution to a problem subsequently over and done with study and exploration of the situational aspects. It is congregation information required to answer a question, and thereby assist in solving a problem.

It is a systematic approach that concerns with the generalization and the formulation of a theory. Hence, enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching at certain conclusions either in the form of solutions towards the concerned problem or in certain generalizations for some theoretical formulation, consist the research.

It involves "significantly redefining problems, framing hypothesis or advised solutions; accumulating, organizing and appraising data; making inference and reaching conclusion; and at last prudently testing the conclusion to determine whether they fit the formatting hypothesis" (Woody, 1927).

Redman and Mory (1933) have defined research is a systematized effort to gain new knowledge". However, it is "a scientific inquiry aimed at learning new facts, testing ideas, etc." (Degu and Yigzaw, 2006).

3.2 Objective of the Study

The proposed study is an attempt to assess the informational needs of the teachers and the students of different education institutions in Rajasthan. This study, while pointing out the problems, endeavours to find out their solutions helping in information seeking by the respondents in new networked environment of information era. Other objectives of the study are:

- To ascertain the frequency of users of visiting libraries and services mostly used.

- To find out the awareness and use of library resources.
- To identify the purpose of their information seeking and examine their information seeking behaviour.
- To analyze the type of information technology (IT) resources currently used by the users.
- To evaluate the collection of information sources in the library of education institutions.
- To explore the extent of use of ICT based services and their impact on their study and research work.
- To study the various problem faced by users while seeking and using the information.

3.3 Research Hypotheses

The study has proposed to test the following research hypotheses:

H01: Users are not aware with the available information services and facilities of the libraries.

H02: Information seeking behaviours of users are different in nature according to their information needs.

H03: There are no proper information systems for providing fast, efficient information services to fulfill users' requirement in the libraries of education institutions.

H04: Majority of the users face problems while seeking information from their respective libraries.

H05: Most of the users are satisfied with the services related to information technology in the libraries.

3.4 Scope of the Study

It is observed that the education sector occupies an important place in the lives of human beings, organization and entire economy, so its study becomes important. The present problem is an effort to study "Impact of IT on Information

Seeking Behaviour of users in Institution of Education in Rajasthan". The study is conducted in following 12 education institutions of Rajasthan:

- Biyani Girls B.Ed College, Jaipur
- Department of Education, Jaipur National University, Jaipur
- Department of Education, University of Rajasthan, Jaipur
- ICG Institute of Educational Research & Development, Jaipur
- Lokmanya Tilak T T College, Udaipur
- Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur
- S S G Pareek P G College of Education, Jaipur
- S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur
- Sanjay Teacher's Training College, Jaipur
- Shiksha Mandir, Bansthali Vidhyapeeth, Tonk
- Sri Balaji Teachers Training College, Jaipur
- Vidya Bhawan Teacher's College, Udaipur

Thus, the present study will be limited to only above institutions imparting education in teacher education field and no other institute will be considered in the study.

3.5 Sampling Design

It is not possible to study all the institutes exist in Rajasthan and further it will be too expensive to collect the data by taking into consideration the entire population. Therefore, smaller samples of a unit sample are chosen to represent the relevant attributes of whole of the units. Thus, the present study is taking a note of this categorization for selected 12 education institutions of Rajasthan only as listed above.

Sampling methods are used to select a sample from the population because they are essential for removing biasness in the selection process. Basically, two types of sampling methods exist - probability and non-probability method. But the sample to be studied for the present study has been selected through probability

sampling method from 12 education institutions of the Rajasthan using by cluster sampling technique followed by lottery method is divided as below:

3.6 Universe of the Study

A sampling plan is detailed outline in table 3.1 which clearly illustrates that the universe of the study will be the users and librarians of 12 education institutions of the Rajasthan state.

Table 3.1: Sampling Plan

1	**Sampling Method**	**Multi-stage or Cluster Sampling Method**
2	Sample size	442 users and 12 librarians will be selected from selected 12 Education Institutions
3	Area of Study	Jaipur, Udaipur & Banasthali (Tonk)

The criteria of sampling plan are shown in table 3.2 and 3.3. It is very clear that 660 questionnaires were distributed in 12 colleges in 55-55 quantities and 442 of them were received back from the users which constitute to 66% of the total sample. Further, 01 questionnaire each was distributed in 12 colleges/institutes and all of them were received back that constitute to 100% to the sample of study. For all practical purposes including data analysis a round off number of 442 respondents will be considered.

Table 3.2: Description of Users of Library as Respondents

S. No.	Name of Institutions	Questionnaire Distributed	Questionnaire Received	Percentage of the Questionnaire Received
1	Biyani Girls B.Ed College	55	36	
2	Department of Education, Jaipur National University, Jaipur	55	42	**66 %**
3	Department of Education, Rajasthan University, Jaipur	55	30	
4	ICG Institute of Educational Research & Development, Jaipur	55	50	
5	Lokmanya Tilak T T College, Udaipur	55	31	
6	Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur	55	33	
7	S S G Pareek P G College of Education, Jaipur	55	35	
8	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur	55	33	
9	Sanjay Teacher's Training College, Jaipur	55	34	
10	Shiksha Mandir, Bansthali Vidyapeeth,Tonk	55	52	
11	Sri Balaji Teachers Training College, Jaipur	55	34	
12	Vidya Bhawan Teacher's College, Udaipur	55	32	
	Total	**660**	**442**	

Table 3.3: Description of Staff of Library as Respondents

S. No.	Name of Institutions	Questionnaire Distributed	Questionnaire Received	Percentage of the Questionnaire Received
1	Biyani Girls B.Ed College	1	1	
2	Department of Education, Jaipur National University, Jaipur	1	1	**100%**
3	Department of Education, Rajasthan University, Jaipur	1	1	
4	International Institute of Education, Research and Development	1	1	
5	Lokmanya Tilak T T College	1	1	
6	Mahatma Jyoti Rao Phoole Women's B. Ed. College	1	1	
7	S S G Pareek P G College Of Education	1	1	
8	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	1	1	
9	Sanjay Teacher's Training College	1	1	
10	Shiksha Mandir, Bansthali Vidyapeeth, Tonk	1	1	
11	Sri Balaji Teachers Training College	1	1	
12	Vidya Bhawan Teacher's College	1	1	
	Total	**12**	**12**	

3.7 Source of Data Collection

Data collection is the method of collecting and evaluating the information or variables of interest, in an established systematic manner that enables one to answer stated research question, test hypothesis and evaluate outcomes. For the present study, data are collected from 12 education institutions by distributing approx 55-55 questionnaires in each institution. So, 660 questionnaires were distributed in all 12 institutes but only 442 questionnaires were received back. Thus, the present study is based on the actual received 442 questionnaires.

3.8 Sample Size of the Study

Table 3.2 depicts that sample size taken into study for different institutes.

In the present study primary data are collected with the help of structured questionnaire based on standard techniques. All the questionnaires were filled by the users and the librarians of the selected 12 education institutes of the Jaipur, Udaipur and Bansthali. Thus, total 454 samples were collected comprising of 442 from users and 12 from the librarians of selected institutes.

However, secondary data are collected from the allied literature consisting of the books, journals, newspapers, magazines, articles and the research paper. Further, Internet also played an important and crucial role in collection of the relevant data for the present study.

Thus, the data collected will be tabulated and presented in the respective tables and further puts on analysis to get the results, using the percentage analysis and depict the analysis in the form of charts.

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Chapter 4
Teacher Education and State of Art of Institutes Selected for Study

CHAPTER 4
TEACHER EDUCATION INSTITUTIONS AND PRESENT STATUS OF ITS LIBRARY RESOURCES

"Guru Brahma, Guru Vishnu, Guru Devo Maheshvaraha
Guru Sakshat Par Brahma Tasmai Shri Gurve Namaha"

It means that Guru, the teacher, is like unto Lord Brahma, Vishnu, and Mahesh. Guru is the visible supreme divinity incarnate; therefore I kneel before that Guru in salutation.

Thus, the seat of 'Guru' who imparts teaches and impart education has been the seat of supreme divinity since the ancient times, when 'Guru-Shishya Parampara' (Teacher-student tradition) was prevalent at that time. The society and the state used to take care of the Guru, the Gurukul and universities where students lived to take and complete their education.

But as said by Rabindra Nath Tagore "a teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame as" **(Ray, 2007)**.

American Commission on Teacher Education also highlighted the importance of education by saying that "the quality of a nation depends upon the quality of its citizens. The quality of its citizens depends not exclusively but in critical measure- upon quality of their education. The quality of their education depends, more than another single factor, upon the quality of their teachers" **(Mohanty, 2003)**.

Thus, a good teacher is teacher who learns lifelong and tries to impart the same to his succeedors, i.e., students. Therefore, the teacher education also occupies a important place in education sector.

Dictionary of Education defines Teacher Education as "All formal and informal activities and experiences that help to qualify to a person to assume the responsibility as a member of the educational profession or to discharge his responsibility most effectively" **(Good, 1945)**.

Teacher education' programme is responsible for equipping the teachers with competence and abilities so that they may guide the destiny of the society and nation through proper handling of future citizens. Since the status of teachers and conditions of teacher education have a direct bearing on the quality of education, efforts should be made /are being made for improving its quality.

4.1 Brief History of Indian Teacher Education

The system of Teacher Education in India is just like the flowing rivers that have been strengthened by several springs and rivulets of the time since its beginning. Teaching education has undergone through various ups and downs during the course of its history. However, for the convenience, teaching education system can be divided into: Ancient period, Muslim period, British period and after independence period. A brief discussion is made on each period **(Bhattacharjee, 2015)** below.

4.1.1 Ancient period (7000 BC to 2500 BC) was the period of outstanding wealth of knowledge where the knowledge was available in the religious scriptures, the Vedas and the Upanishads, on all the facets of learning, be they religious, philosophical, literary, astrological, cosmogonal, mathematical calculations, economics, law or social sciences. During ancient period, in the Hindu community based on castes, it was the Brahmins among the three other classes, Kshatriyas, Vaishyas and Shudras, who was qualified to teach all other community including its own. The other communities, through giving guru dakshina, looked after their financial needs. A guru was thus, a fountain of knowledge and wisdom, and also on embodiment of gyan with exceptional devotion practicing himself and was thus, the most recovered of all. The teachings were in the form of both Shruti (heard knowledge) and Smriti (memorized knowledge).

4.1.2 Muslim period is said to be existed between 16th to 19th centuries but it was diluted with the invasion of Britishers during 17th century. Though, education is advocated as duty in Holy Koran that held in high esteem, but education in the Muslim community was not so widespread. However, Muslim rulers founded Maktabs (school), colleges (Madrassahs) and libraries. Those who taught at Maktabs were mostly Moulvis but in Madrassahs scholarly persons were employed and they taught mainly from their holy scriptures, Quran. As such there was no provision for formal teacher training. It was there teachers who selected bright students to carry on with their jobs of teaching preparing future teachers. It was sort of disciple succession. Thus, the Muslim formal education is limited to their scriptural teaching.

4.1.3 British period was the reign of the British Raj where formal education system got introduced in India, and Britishers established schools, colleges and teacher training modules, but then again, these learned classes they produced were done with a view to their own means, as clerical staffs to look after their affairs of the state. They founded the teacher training institute at Serampur near Calcutta which lasted from 1858-1947 a period of nearly a century. In line with the Bell-Lancaster system, a Monitorial system was formed as a basis of teacher training in Madras by Dr. Andrew Bell. Thus, normal schools founded in 1826 for preparing teacher for district school later went on to developed on Presidency College in Calcutta and in Bombay the Elphinstone institute.

Later, the **Wood's Despatch**, which is popularly known as Magna Charta of English Education in India, was released on 19 July 1854. Lord Stanley, Secretary of State for India, greatly emphasized on teacher training during 1859. Later, Government of India Resolution on Education Policy (1904) and Government of India Resolution on Education Policy came (1913). Sadler Commission during 1917-1919 also suggested that post graduate department be opened in the university studies. This was then further given a fillip by other Commissions and by the year 1947, there were 41 teacher training colleges in India.

4.2 Teacher Education in Independent India

India got independence in 1947 and the first prime minister of independent India Jawahar Lal Nehru was a towering figure and a visionary. Dr. Rajendra Prasad, the first President, the architect of India and other stalwarts of the country - all had left their indelible marks to make India what it is today. They all have their utmost efforts to upgrade the existing system of teacher education as it was received from Britishers.

University Education Commission in 1948 gone through the existing courses in teacher training programme and suggested for flexible and adaptable to local circumstances courses for the teachers. Thus, the commission recommended that the courses should be remodeled, suitable schools to be used for practical training and more time to be given to school practice.

Later, Secondary Education Commission during 1952-53 suggested for the reforming of secondary education and recommended that during the training at least they be trained in two subjects and stressed over the point that the practical training should not consist only of practice in teaching, observation, demonstration and criticism of lessons, but should include such subjects as construction and administration of scholastic tests, organization of supervised study and students' societies by conducting library periods and maintenance of cumulative records.

Kothari Commission during 1964-66 also favoured for a sound programme in professional education for the teachers for qualitative improvement in education at all levels of teacher education to meet out the requirements of the national system of education.

National Policy of Education (NPE) in 1986 also recommended that teacher education is a continuous process and its pre-service and in-service components are inseparable.

Recently, National Curriculum Framework for Teacher Education (NCFTE) in 2010 stressed over the education and training of a prospective teacher which will be effective to the extent that it has been delivered by teacher educators who are

competent and professionally equipped for the job. National Council for Teacher Education (NCTE) took up a number of initiatives during the last decade to improve the quality of teacher education program. Besides, the NAAC (National Assessment and Accreditation Council) also joined the hands with NCTE to foster quality assurance and the sustenance.

Further, RTE – the Right of Children to Free and Compulsory Education Act, 2009, that has become operational from 1st April, 2010 also has implications for teacher education in the country. Besides, Teacher Eligibility Test (TET) for Teachers and Principal Eligibility Test (PET) are conducted at both level at state and at central level to foster the quality of school education. UGC also conducts National Eligibility Test (NET) at national level and State Level Eligibility Test (SLET/SET) at state level for the teachers in higher education.

Table 4.1 briefly depicts the details of various agencies working for improvement of the teacher education system in India.

Table 4.1: Teacher Education Agencies

S. No.	Name of Agency	Functions
1.	UNESCO	It was founded in the year 1945. It states that Everyone has the right to education. Convention against Discrimination in Education adopted in 1960.
2.	University Grants Commission (UGC)	The setting up of the UGC was initiated in the year 1953 and granted the status of an autonomous body in 1956, with the objective of providing healthy support to education system as a whole, deciding on locations (towns or cities) depending on requirement, and also to ensure proper functioning of institutions – central schools, colleges or universities, through further nurturing these institutions, both in terms of educational and financial, deciding of and provision for state support as a means of their growth. Inclusive in this aspect was also the recommendations of the UGC to both the state and central governments towards effective and meaningful functioning of quality education and to ensure that these goals are not thwarted for want of adequate finances.

3.	National Council of Educational Research & Training (NCERT)	NCERT, national council of edification and research training was set up in 1961 in cites like Ajmer, Mysore, Bhubaneswar and Bhopal with headquarters at Delhi, with the goal of identifying and providing fillip to the students who were talented enough and had an inclination by temperament on research activities. As for their encouragement, the NCERT would arrange for high quality material for research and, where necessary, support them through scholarship. Moreover, the ambit of their functioning included teachers in service, those who retired and with their experience and understanding of the problems, to suggest to the NCERT body, to provide them with solutions.
4.	National Council For Teacher Education (NCTE)	NCTE is a statutory body of Government of India that was set up under the National Council for Teacher Education Act, 1993 in 1995. It sees fo the standards, procedures and processes in the Indian education system. But it is facing difficulties in ensuring the maintenance of the standards of teacher education inspite of its successful functioning in terms of educational field.
5.	Indian Council of Social Sciences Research (ICSSR)	ICCSR as autonomous body was established in 1969 to promote research in the field of social sciences at New Delhi. It also started National Social Science Documentation Centre (NASSDOC) which provide library and information support services.
6.	National Institute of Education Planning and Administration (NIEPA)	NIEPA was established in the year 1962 as UNESCO Asian Centre for Educational Planners, Administrators and Supervisors which later became the Asian Institute of Educational Planning and Administration in 1965 and again, inn 1973, it was renamed as National Staff College for Educational Planners and Administrators and again in 1979 rechristened as National Institute of Educational Planning and Administration (NIEPA). However, it has been upgraded up to the level of university in the year 2006.
7.	Institutes of Advanced Studies in Education (IASEs)	IASEs run teacher educator programmes both pre-service (M.Ed.) and in-service (DIET and CTE faculty). Now, there are 29 institutes of advanced studies in the country.

Thus, it is seen that various efforts have been made since the time immortal for quality education and for producing quality teachers who could impart best education and prepare a good citizens for the nation.

4.3 Development of Teacher Education in Rajasthan

Rajasthan has derived its name from "Rajah" "Sthana", which literally means home of Kings. Rajasthan, as a state has great beauty and diversity. Just stretching from the Thar deserts in the west to its southern plains, its topography too is variedly diverse. It comprise of three regions, namely the Aravali hills range, the Great Indian Thar desert and the Eastern part of the state. Rajasthani is the major language of the state but four important dialects being Marwari in the West, Jaipuri in the East, Malwi in South-east and Mewai in North-east are also there. However, Hindi is widely spoken and it is rapidly replacing Rajasthani language.

There are two levels of teacher education available in the state: the elementary level and secondary level. Besides that, distance education and Institutes of Advanced Study in Education & Colleges of Teacher Education are also imparting teacher education. **Paliwal, Sarupria and Dave** (2008) have studied and described the state of art of teacher education in Rajasthan as given below:

4.3.1 Elementary Teacher Education

Basic School Teaching Certificate (BSTC) conducted by DIETs and STC schools under the Department of Elementary School Education are two bodies which conduct two year teacher education courses in Rajasthan state at elementary level.

4.3.2 Secondary Teacher Education

B. Ed. ,B. P. Ed., B.Sc B.Ed. and B.A. B.Ed. courses which are offered by the colleges affiliated either to the state universities or by the approved private universities on approval of NCTE are the secondary teacher education programmes in the state. B.Ed. admissions are made after Pre Teacher Examination Test (PTET) under the directions of the state government.

However, Rajasthan State Department of Secondary Education decides on the selection of secondary teachers, the B.Ed. affiliated colleges and by the central apex bodies like the UGC and the NCTE.

4.3.3 Distance Education Programme

Vardhman Mahaveer Open University, Kota conducts B.Ed course and M.A Education in distance mode. IGNOU also conducts B.Ed. programme through its Study Centres established at various places in the state. IGNOU has recently started M.A in Education Programme.

4.4 Institutes of Advanced Study in Education & Colleges of Teacher Education

MHRD has upgraded 4 colleges of the state to IASEs and 8 colleges to CTEs as part of qualitative improvement in teacher education programme under NPE 1986. Out of the four IASEs, two were government IASEs and the remaining two were non-government IASEs till 2004.

(Source: http://plan.rajasthan.gov.in/content/dam/industries/images/rajasthan-map.gif)

Figure 4.1: Map of Rajasthan

The state government changed the status of two privately managed IASEs to CTEs. Therefore, there are two IASEs and ten CTEs in the state at present. In addition to pre-service programme, these IASEs and CTEs also conduct theme-based and content -based in-service programmes for secondary school teachers, headmasters, principals etc. with the financial support under the IASEs, CTEs scheme of the MHRD.

4.5 Institutes Selected for Study

It is clear from the figure 4.1 that out of total districts of Rajasthan state only 03 districts namely, Jaipur, Tonk and Udaipur were taken into the study. Of the sample study, 09 institutes belong to Jaipur district, 01 to Tonk and 02 are from Udaipur districts.

The names of the institutes/colleges selected for in-depth study to ascertain the information seeking behaviour of education students and the teachers are listed below.

- Biyani Girls B.Ed College, Jaipur
- Department of Education, Jaipur National University, Jaipur
- Department of Education, University of Rajasthan, Jaipur
- ICG Institute of Education, Research & Development, Jaipur
- Lokmanya Tilak T T College, Udaipur
- Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur
- S S G Pareek P G College Of Education, Jaipur
- S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur
- Sanjay Teacher's Training College, Jaipur
- Shiksha Mandir, Bansthali Vidyapeeth, Tonk
- Sri Balaji Teachers Training College, Jaipur
- Vidya Bhawan Teacher's College, Udaipur

A brief detail of each college/institute is given below:

4.5.1 Biyani Girls B.Ed College, Jaipur

Biyani Girls B.Ed. College was established in the year 2006 by Biyani Shikshan Samiti that is formed by young, dynamic and result oriented team of

highly qualified educationists. The mission of the college is to keep pace with the futuristic growing civilised world through women empowerment and the aim to transform the hidden unlimited potentialities of girls into creativity, empowerment and prosperity of the nation with humanity.

Picture 4.1: Biyani Girls B.Ed College

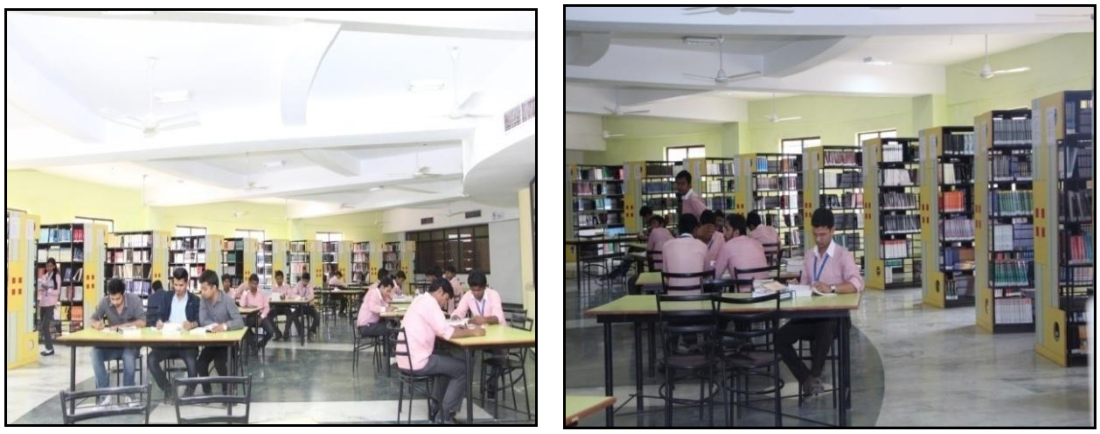
College is providing all facilities which are essential for their betterment to make the pupil teachers all rounder.

Picture 4.2: Library, Biyani Girls B.Ed College

4.5.2 Department of Education, Jaipur National University, Jaipur

The School of Education of Jaipur was created in the year 2005 by Jaipur National University. Now the School of Education is transferred to its new campus at picturesque and pollution- free sight with architecturally well designed and well laid out in Jaipur National University campus.

Picture 4.3: Department of Education, Jaipur National University



Picture 4.4: Library, Department of Education, Jaipur National University

The school has spacious classrooms, innovative and functional laboratories along with facilities like seminar & conference halls, auditorium, computer lab with

latest computer network, with broadband internet connectivity, fully digitalized central library, reading rooms, stacked with latest books and the journals.

It offers Bachelor of Arts (B.A.), Diploma Programme in Yoga, Basic School Teachers Certificate Course (BSTC), B.Ed., Diploma in Early Childhood Care in Education, Integrated B.A-B.Ed, Integrated B.Sc.-B.Ed, Diploma in Environment Education and Sustainable Development and M.Ed. along with Diploma in Guidance and Counseling, and M.Phil. in Education. Ph.D. in Education is also there.

4.5.3 Department of Education, University of Rajasthan, Jaipur

Rajasthan University is a public state university and it is one of the oldest universities in the Indian state Rajasthan that is located in the city Jaipur. It was set up on 8 January 1947 as the University of Rajputana and was given its current name in the year 1956.

Picture 4.5: **Department of Education, University of Rajasthan**

The Department of Education, University of Rajasthan is one of the prestigious institutes for education located at Jaipur that was established in 2000. It is offering many facilities for students' overall growth like library, laboratory, hostel facility, T.V room etc.

Picture 4.6: Library, Department of Education, Rajasthan University

4.5.4 ICG Institute of Educational Research and Development, Jaipur

ICG Institute of Educational Research and Development is established in 2006 the auspicious of Indian Council for International Amity to produce quality teacher in the field of school education. ICG Institute of Educational Research & Development, Jaipur is affiliated with University of Rajasthan Jaipur and approved by National Council of Teacher Education, New Delhi. The College has obtained NOC from the Govt. of Rajasthan to initiate its teacher education programe.

Presently college is offering full time regular 2 years B.Ed and 2 years M.Ed programme only for girls' candidates.

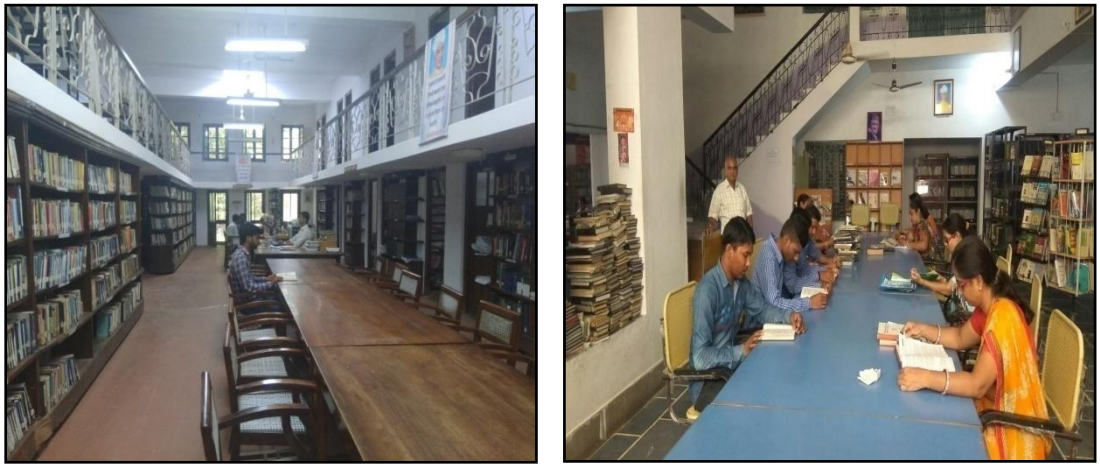
Picture 4.7: ICG Institute of Educational Research and Development

Picture 4.8: Library, ICG Institute of Educational Research and Development

4.5.5 Lokmanya Tilak Teachers Education College-Rajasthan Vidyapeeth, Udaipur

Lokmanya Tilak College of Teacher Education is a college of Janardan Rai Nagar Rajasthan Vidyapeeth (Deemed University), Udaipur that was established as one of the premier institutions of the region in August 1966 with an objective to prepare teachers who could impart quality education in schools. It has attained the status of College of Teacher Education (CTE) for which special grants is received by the college for improving teaching, research and extension.

Picture 4.9: Lokmanya Tilak Teachers Education College-Rajasthan Vidyapeeth



Picture 4.10: Library, Lokmanya Tilak Teachers Education College-Rajasthan Vidyapeeth

B.Ed., B.Ed. (Bal Vikas Integrated Course) and M.Ed. and also the Post Graduate Diploma in Guidance and Counseling are conducted by the college.

4.5.6 Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur

Mahatma Jyoti Rao Phoole Shikshan Sansthan is an independent society registered under the Rajasthan Society Registration Act of 1958. The society purposes to promote quality education, development of mind, strong character and will power to young students.

Picture 4.11: Mahatma Jyoti Rao Phoole Women's B. Ed. College

Picture 4.12: Picture Mahatma Jyoti Rao Phoole Women's B. Ed. College

4.5.7 SSG Pareek P G College of Education, Jaipur

SSG Pareek college was established as primary school in the year 1906 and later it was upgraded to Degree College on July 1955 and in 1993, the college became a Post Graduate College.

Picture 4.13: SSG Pareek P G College of Education

Picture 4.14: Library, SSG Pareek P G College of Education

The college offers two years B.S.T.C/N.T.T. programme, 2 year full time B.Ed and 2 year M.Ed programme.

4.5.8 S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur

S.S. Jain Subodh Shiksha Samiti plays a major role in Rajasthan in the field of education. The institution was started in Jaipur in 1918 with just a registration of two girls but in 1925 it became primary school in 1934 upgraded to middle school, in 1944 as high school and in 1954 as inter college and in 1960 as degree college. It was gained the status of Post graduate college in 1993 and women's college in 1999 was established.

Picture 4.15: S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya

Picture 4.16: Library, S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya

On 31st Aug. 2005 a "Women's College" named "S.S. Jain Subodh Mahila T.T. College" was started with hostel facility which is an incredible effort of the institution towards women's education. This educational institution is making all the efforts to attain heights in the field of educational research and technology at national and international level.

4.5.9 Sanjay Teacher's Training College, Jaipur

Sanjay Teacher's Training College is established by Sanjay Shiksha Samiti (SSS) that is an educational society registered under Rajasthan Society Registration Act 1958.

Picture 4.17: Sanjay Teacher's Training College

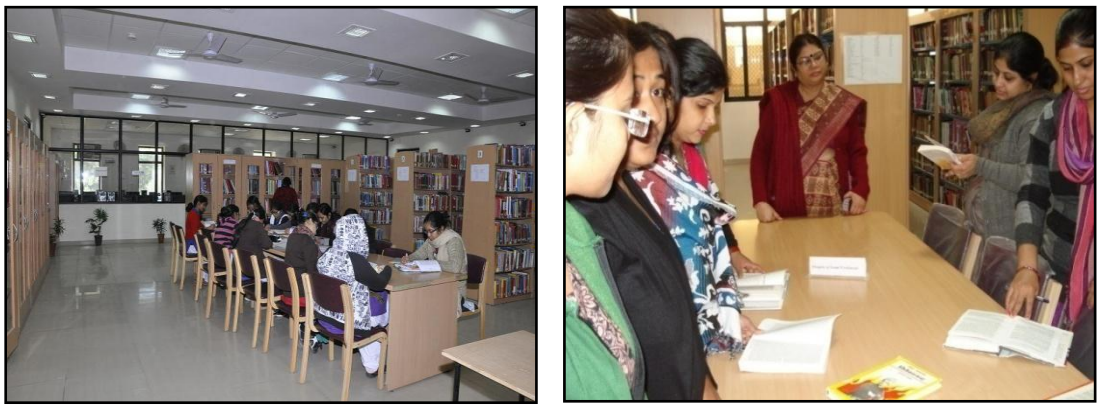
Picture 4.18: Library, Sanjay Teacher's Training College

Sanjay Teacher's Training College is working for the development and promotion of Education among the masses of India. SSS is run by well qualified and experienced professionals. Sanjay Teacher's Training College is effectively running B.Ed, Shiksha Shastri and M.Ed.

4.5.10 Shiksha Mandir, Bansthali Vidyapeeth, Tonk

Banasthali Vidyapeeth Education department was established in the year 1962, and was affiliated to the Rajasthan University as the first residential teacher education for women. In 1983, the Vidyapeeth gained recognition as a Deemed University, the Department of Education and along with this Department of Physical Education was also brought as the Faculty of Education.

Picture 4.19: Shiksha Mandir, Bansthali Vidhyapeeth



Picture 4.20: Library, Shiksha Mandir, Bansthali Vidhyapeeth

The department of the university is recognized as one of the progressive teacher education institutes in the country and its teaching programs involves not only practicing new ideas and concepts but also acquiring skills to act on those concepts to generate personal understanding and articulate the same. It offers Bachelor of Education (B.Ed.), Master of Education (M.Ed.), Doctor of Philosophy in Education (Ph.D.).

4.5.11 Sri Balaji Teachers Training College, Jaipur

Sri Balaji Teachers Training College, Jaipur (Rajasthan) is a recognized institute of education in the Rajashtan state but it is for women only. It was established in the year 2005.

It offers B.Ed and M.Ed courses.

Picture 4.21: Sri Balaji Teachers Training College

Picture 4.22: Library, Sri Balaji Teachers Training College

4.5.12 Vidya Bhawan B.Ed College, Udaipur

Vidya Bhawan G.S. Teachers college Udaipur founded in 1942 by an eminent educationist Dr. Mohan Sinha Mehta, one of the pioneers in the field of progressive education in India. It is one of the best institutes of Vidya Bhawan Society, an association registered under the Mewar Societies Registration Act No. VII of 1941. It offers B.Ed, M.Ed, and Ph.D courses in the field of education.

Picture 4.23: Vidya Bhawan B.Ed College

Picture 4.24: Library, Vidya Bhawan B.Ed College

Now, the comparative discussion is made on the staff and the services being provided by the institutes/colleges surveyed for teacher education.

4.6 Details of Institute's Library Selected for Study

4.6.1 Details of Library Staff

Table 4.2(A) shows the details of library staff. Its a part detailed out the information about the librarians and their qualifications along with working experiences. It is very clear that out of 12 institutes studied, two librarians are Ph.D holders, namely of Banasthali Vidyapeeth, and Department of Education, Jaipur National University, Jaipur. Most of the others are having M.Lib.I.Sc. Degree and one is with NET and B.Ed.

Table 4.2 (A): Details of Library Staff: Librarian

S. No.	Name of the Institutes	Librarian Name	Librarians Qualifications	Total Working Experience
1.	Biyani Girls B.Ed College	Anjana Rathore	M.Lib	6 Years
2.	Department of Education, Rajasthan University, Jaipur	Ram Ray Sharma	M.Lib (Senior Technical Assistant)	10 Years
3.	ICG Institute of Educational Research and Development, Jaipur	Nikita Sharma	M.Lib	3.5 Years
4.	Jaipur National University, Jaipur	Dr. Hema Thakur	M.Lib, PhD	6 –Years
5.	Lokmanya Tilak T T College, Udaipur	Mr. Balwant	M.A. (History), M.Lib	36 Years
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	Prem Kanver	M.Lib	10 Years
7.	S S G Pareek P G College Of Education	Savita Pareek	M.Lib	22 Years
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	Mrs. Manoj Rathore	M.Lib	8 Years
9.	Sanjay Teacher's Training College	G.L.Sharma	M.Lib	20 Yeas
10.	Shiksha Mandir, Bansthali Vidyapeeth	Dr. Laxmi	M.Lib, PhD	33 years
11.	Sri Balaji Teachers Training College	Govind Sharma	M.Lib	11 Years
12.	Vidya Bhawan Teacher's College, Udaipur	Narendar Prajapat	M.A(Hindi & History), SET in Hindi, B.Ed, M.Lib	11 years

Its B part details out the information regarding other staff working in the institutes of education. But sorry to say that only Banasthali Vidyapeeth is having subordinate staff. No other institute is having neither supporting staff or fourth class staff to assist in routine work of the libraries.

Table 4.2 (B): Details of Other Staff

S. No.	Name of the Institutes	Deputy / Assistant Librarians		Professional Staff		Non-Professional/ Fourth Class Staff	
		Post Sanctioned	**Post Vacant**	**Post Sanctioned**	**Post Vacant**	**Post Sanctioned**	**Post Vacant**
1.	Biyani Girls B.Ed College	01	-	-	-	-	-
2.	Department of Education, Jaipur National University, Jaipur	01	-	-	-	-	-
3.	Department of Education, Rajasthan University, Jaipur		-	01 (STA)	-	-	-
4.	ICG Institute of Educational Research and Development, Jaipur	01	-	-	-	-	-
5.	Lokmanya Tilak T T College, Udaipur	01	-	-	-	-	-
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	01	-	-	-	-	-
7.	S S G Pareek P G College Of Education	01	-	-	-	-	-
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	01	-	-	-	-	-
9.	Sanjay Teacher's Training College	01	-	-	-	-	-
10.	Shiksha Mandir, Bansthali Vidyapeeth	01	-	01(LA)	-	-	-
11.	Sri Balaji Teachers Training College	01	-	-	-	-	-
12.	Vidya Bhawan Teacher's College, Udaipur	01	-	-	-	-	-

4.6.2 Library Opening Time

Table 4.3 shows the library timings. It is very well seen that except that Vidya Bhawan Teacher's College, Udaipur, no other institute open during holidays or the Sundays. While, the libraries should be remained open during holidays and the Sundays, especially during examination time.

Table 4.3: Library Opening Time

S. No.	Name of the Institutes	Library Hours during Working Days		Library Hours during Holidays/Sundays	
		Opening Time	Closing Time	Opening Time	Closing Time
1.	Biyani Girls B.Ed College	9:00 A.M	4:00 P.M	-	-
2.	Department of Education, Jaipur National University, Jaipur	8 A.M	6.P.M	No	No
3.	Department of Education, Rajasthan University, Jaipur	11:00 A.M	4:00 P.M	-	-
4.	ICG Institute of Educational Research and Development, Jaipur	8:30 A.M	2:30 P.M	-	-
5.	Lokmanya Tilak T T College, Udaipur	10:30 A.M	4:30 P.M	-	-
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	9:00 A.M	4:00 P.M	-	-
7.	S S G Pareek P G College Of Education	11:00 AM	5:00 PM	-	-
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	9:00 A.M	4:00 P.M	-	-
9.	Sanjay Teacher's Training College	9:00 A.M	3:30 P.M	-	-
10.	Shiksha Mandir, Bansthali Vidyapeeth	9:00 A.M	4:00 P.M	Sunday working day and Tuesday off	-
11.	Sri Balaji Teachers Training College	8:30 A.M	4:30 P.M	-	-
12.	Vidya Bhawan Teacher's College, Udaipur	9:00 A.M	5:00P.M	10:00 A.M	3:00 P.M

Further, all the libraries remain open during office or class timings of the institutes, their timings need to be extended so that students could avail the library facility after their classes are off.

4.6.3 Number of Users Registered for Teacher Education / Library Members

How many users including the teachers and students are registered in each institute are listed in table 4.4 It is seen that maximum number of registered users 300 is in Lokmanya Tilak T T College, Udaipur followed by 465 in Vidya Bhawan Teacher's College, Udaipur and 340 in S S G Pareek P G College of Education. However, least number of users is 50 in Department of Education, Rajasthan University, Jaipur.

Table 4.4: Number of Users Registered for Teacher Education / Library Members

S. No.	Name of the Institutes	Total Number of Users in Institutes	Number of Registered Users in Library	Percentage of Users in Library
1.	Biyani Girls B.Ed College	240	220	91.66%
2.	Department of Education, Jaipur National University, Jaipur	300	280	93%
3.	Department of Education, Rajasthan University, Jaipur	50	35	70%
4.	ICG Institute of Educational Research and Development, Jaipur	280	270	96.42%
5.	Lokmanya Tilak T T College, Udaipur	300	280	93.33%
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	280	240	85.71%
7.	S S G Pareek P G College Of Education	340	300	88.23%
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	300	260	86.66%
9.	Sanjay Teacher's Training College	235	225	95%
10.	Shiksha Mandir, Bansthali Vidyapeeth	250	250	100%
11.	Sri Balaji Teachers Training College	240	220	91.66%
12.	Vidya Bhawan Teacher's College, Udaipur	465	420	90.32%

4.6.4 Collection of Printed Materials in Library

The collection details of the institutes surveyed is presented in table 4.5 that depicts that maximum number of books (40,276) is in Biyani Girls B.Ed College and minimum number (3005) of them is in University of Rajasthan, Jaipur.

Further, it is also seen that all institutions are also subscribing education related journals and they also got them bound after their volumes are completed.

4.6.5 Collection of Non-Printed Materials in Library

Table 4.6 gives the details of non-print materials in the libraries surveyed. It is seen that e-journals are being subscribed by only two institutions, namely Department of Education, Jaipur National Univeirsty, Jaipur (Rajasthan), Department of Education, University of Rajasthan, Jaipur and the S S G Pareek P G College of Education and Vidya Bhawan Teacher's College, Udaipur. Further, University of Rajasthan is also subscribing e-books and also the Vidya Bhawan Teacher's College, Udaipur subscribes the e-books.

However, some institutes are also subscribing CD-ROMs for information retrieval. It may be seen that there are 150 CDs in Department of Education, Jaipur National University; 10 CDs in Lokmanya Tilak T T College, Udaipur, and 110 CDs in Vidya Bhawan Teacher's College, Udaipur. Besides, them some institutes are also providing access to few e-books to their users.

4.6.6 Services being provided by the Library

Table 4.7 shows the details various services being provided by different libraries. Issue-return and photocopy services are being provided in all the libraries surveyed. As far as other services are concerned, overnight issue – return facility is being given to their users in Bansthali University, Department of Education, Jaipur National University, Jaipur and Vidya Bhawan Teacher's College, Udaipur.

Table 4.5: Collection of Printed Materials in Library

S. No.	Name of the Institutes	No. of Books	No. of Journals/ Magazine	No. of Bound Volume of Journals/ Magazine	No. of Dissertations	No. of Encyclopedia	Any other
1.	Biyani Girls B.Ed College, Jaipur	40276	50	50	250	25	-
2.	Department of Education, Jaipur National University, Jaipur	18500	40	1200	M.Lib- 379 Phd- 29	10	
3.	Department of Education, University of Rajasthan Jaipur	3005	19	-	-	6	6 (Survey report)
4.	ICG Institute of Educational Research and Development, Jaipur	8906	25	100	150	15	5 (Survey report)
5.	Lokmanya Tilak T T College, Udaipur	21,800	37	547	864	45	04 (Survey Report)
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur	8990	12	-	300	10	
7.	S S G Pareek P G College Of Education, Jaipur	14500	25	100	240	40 vol.	
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur	8750	45	-	300	39 volume	
9.	Sanjay Teacher's Training College, Jaipur	10500	51	115	220	11 volume	22 (Survey report)
10.	Shiksha Mandir, Bansthali Vidyapeeth, Tonk	20000	40	200	M.Lib-600 Ph.D-120	40	10 (Survey report)
11.	Sri Balaji Teachers Training College, Jaipur	8091	26	300	200	07	
12.	Vidya Bhawan Teacher's College, Udaipur	36,346	61	2500	M.Lib-110 Ph.D-246	05	-

Table 4.6: Collection of Non-Printed Materials in Library

S. No.	Name of the Institutes	No. of E-Books	No. of E-Journals	No. of E-Databases	No. of CD	No. of other E-Study Material
1.	Biyani Girls B.Ed College, Jaipur	-	-	-	-	-
2.	Department of Education, Jaipur National University, Jaipur	No	190	06	150	
3.	Department of Education, University of Rajasthan Jaipur	Through N –List services	Through UGC Infornet			E-shodh Sindhu N-LIST JCCC
4.	ICG Institute of Educational Research and Development, Jaipur	-	-	-	-	DELNET
5.	Lokmanya Tilak T T College, Udaipur	427	-	-	10	-
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur	-	-	-	-	-
7.	S S G Pareek P G College Of Education, Jaipur	-	532 through DELNET	-	-	-
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur	-	-	-	-	-
9.	Sanjay Teacher's Training College, Jaipur	-	--	-	-	-
10.	Shiksha Mandir, Bansthali Vidyapeeth, Tonk					
11.	Sri Balaji Teachers Training College, Jaipur					
12.	Vidya Bhawan Teacher's College, Udaipur	202	10	-	110	

Table 4.7: Services being provided by the Library

S. No.	Name of the Institutes	Issue-Return of the Books	Overnight Issue Return	Photocopy Service	Current Awareness Service	Selective Dissemination of Information Service	Online Access of E-Resources
1.	Biyani Girls B.Ed College, Jaipur	Yes	-	Yes	-	-	-
2.	Department of Education, Jaipur National University, Jaipur	Yes	Yes	Yes	Yes	Yes	Yes
3.	Department of Education, University of Rajasthan Jaipur	Yes	-	Yes	Yes	-	Yes
4.	ICG Institute of Educational Research and Development, Jaipur	Yes	-	Yes	Yes	Yes	Yes
5.	Lokmanya Tilak T T College, Udaipur	Yes	-	Yes	Yes	Yes	-
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur	Yes	-	Yes	Yes	-	-
7.	S S G Pareek P G College Of Education, Jaipur	Yes	-	-	-	-	Yes
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur	Yes	-	Yes	-	-	-
9.	Sanjay Teacher's Training College, Jaipur	Yes	-	Yes	-	-	-
10.	Shiksha Mandir, Bansthali Vidyapeeth, Tonk	Yes	Yes	Yes	Yes	Yes	Yes
11.	Sri Balaji Teachers Training College, Jaipur	Yes	-	Yes	-	-	-
12.	Vidya Bhawan Teacher's College, Udaipur	Yes	Yes	Yes	Yes	Yes	Yes

Table 4.8: Status of Automation

S. No.	Name of the Institutes	Library Automation Completed (pl. mention 'yes' or 'no')	If yes, which software is being used	Library Automation not completed (pl. mention 'yes' or 'no')	If not, is the library budget insufficient (pl. tick)	If not, is the library staff not sufficient (pl. tick)	If not, mention other problems
1.	Biyani Girls B.Ed College, Jaipur			No			
2.	Department of Education, Jaipur National University, Jaipur	Yes	KOHA		-	-	-
3.	Department of Education, University of Rajasthan Jaipur	No	-	-	-	Lack of Staff	-
4.	ICG Institute of Educational Research and Development, Jaipur	Yes	Alice		-	-	-
5.	Lokmanya Tilak T T College, Udaipur	Under Process	Foxpro	No	-	Yes due to lack of staff	
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur	Yes	IFW	-	-	-	-
7.	S S G Pareek P G College Of Education, Jaipur	No	-	-	-	-	-

8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur	Yes	Library Manager		-	-	-
9.	Sanjay Teacher's Training College, Jaipur	Under Process	ERP	No	-	-	Due to Technical Problem
10.	Shiksha Mandir, Bansthali Vidyapeeth, Tonk	Yes	Libsys		-	-	-
11.	Sri Balaji Teachers Training College, Jaipur	Yes	Vidya Library Management Software	-	-	-	-
12.	Vidya Bhawan Teacher's College, Udaipur	Under Process	Soul	No	-	Yes due to lack of staff	

Current awareness service is provided by 07 institutes and selective dissemination of information service by 05 institutes. Further, online access of e-resources is being provided by 06 institutes, namely Bansthali University; ICG Institute of Educational Research & Development, Jaipur, Jaipur National University, Jaipur; Rajasthan University, Jaipur; S S G Pareek P G College of Education and Vidya Bhawan Teacher's College, Udaipur.

4.6.7 Status of Automation

Table 4.8 depicts the status of library automation. It can be seen that out of 12 institutes surveyed, 07 are having library automation software but in 03 institutions, namely, in Lokmanya Tilak T T College, Udaipur, Sanjay Teacher's Training College and Vidya Bhawan Teacher's College, Udaipur, the process is under progress. However, 02 of them, namely Rajasthan University, Jaipur; S S G Pareek P G College of Education did not provide any information on this point.

Further, out of 09 institutes, where library automation is there, they are using different software, for example, there is LibSys in Bansthali University; KOHA in Department of Education, Jaipur National University, Jaipur; Library Manager in S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya. Lokmanya Tilak T T College, Udaipur is creating databases using FoxPro. While, SOUL is being used in Vidya Bhawan Teacher's College, Udaipur. But in most of the institutes are lagging behind in completion of automation due to lack of staff in the library, for example Lokmanya Tilak T T College, Udaipur; Rajasthan University, Jaipur and Vidya Bhawan Teacher's College, Udaipur etc.

4.6.8 Status of Information Technology (IT) Infrastructure

Table 4.9 is about the information technology infrastructure of different institutes undertaken for study. It is seen that maximum computer nodes are provided by Department of Education, Jaipur National University, Jaipur followed by 15-15 each in Bansthali University; ICG Institute of Educational Research & Development, Jaipur and Vidya Bhawan Teacher's College, Udaipur. Further in Rajasthan University, the computers are provided in central library only. But all the computers are linked with each other using LAN/WAN technology.

Table 4.9: Status of Information Technology (IT) Infrastructure

S. No.	Name of the Institutes	No. of the Server	No. of the client computers in Library	No. of the Printers in Library	LAN/WAN is there or not? Pl. mention 'yes' or 'no' only
1.	Biyani Girls B.Ed College	01	06	01	Yes
2.	Department of Education, Jaipur National University, Jaipur	01	100	05	Yes
3.	Department of Education, Rajasthan University, Jaipur	01	In Central library only	01	Yes
4.	ICG Institute of Educational Research and Development, Jaipur	01	15	01	Yes
5.	Lokmanya Tilak T T College, Udaipur	01	20	04	Yes
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	01	05	01	Yes
7.	S S G Pareek P G College Of Education	01	06	01	Yes
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	01	01	01	Yes
9.	Sanjay Teacher's Training College	01	05	01	No
10.	Shiksha Mandir, Bansthali Vidyapeeth	01	15	01	Yes
11.	Sri Balaji Teachers Training College	01	12	01	Yes
12.	Vidya Bhawan Teacher's College, Udaipur	01	15	01	Yes

4.9.9 Status of Internet and E-Consortium

Today is the era of digital library where anyone can access e-resources either free or subscribed one. Thus, status of internet and e-consortium was also assessed.

Table 4.10: Status of Internet and E-Consortium

S. No.	Name of the Institutes	Is Internet available in Library? Pl. mention 'yes' or 'no' only	If yes, what is the speed of Internet – mentions Dial Up or Leased Line of Wifi	Is Your Library a member of Library Consortia	If yes, please mention the name of consortium
1.	Biyani Girls B.Ed College	Yes	Wi-Fi	Yes	DELNET
2.	Department of Education, Jaipur National University, Jaipur	Yes	Wi-Fi	Yes	DELNET
3.	Department of Education, Rajasthan University, Jaipur	Yes	Wi-Fi	Yes	UGC-Infonet Digital Library Consortium
4.	ICG Institute of Educational Research and Development, Jaipur	Yes	Wi-Fi	Yes	DELNET
5.	Lokmanya Tilak T T College, Udaipur	Yes	Wi-Fi	-	-
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	Yes	Wi-Fi	Yes	DELNET
7.	S S G Pareek P G College Of Education	Yes	Wi-Fi	Yes	DELNET
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	Yes	Wi-Fi	-	-
9.	Sanjay Teacher's Training College	-	-	-	INFLIBNET
10.	Shiksha Mandir, Bansthali Vidyapeeth	Yes	Wi-Fi	Yes	UGC-INFONET Consortia INFLIBNET Document --Delivery Centre under JCCC Service DELNET
11.	Sri Balaji Teachers Training College	Yes	Wi-Fi	Yes	DELNET
12.	Vidya Bhawan Teacher's College, Udaipur	Yes	Wi-Fi	-	-

Table 4.11: Status or User Orientation Programme

S. No.	Name of the Institutes	Is your Library organizes User Orientation Programme	If yes, whether Users are satisfied or not?	If not, what are the hurdles in organizing them, please mention	Other comment, if any	Is Library staff sent to have the training programme on IT so that he could provide update information to the users ('Yes' or 'no')	If no, what are the reasons for not sending in training programme
1.	Biyani Girls B.Ed College	Yes	Yes	-	-	Yes	-
2.	Department of Education, Jaipur National University, Jaipur	Yes	Yes	-	-	Yes	-
3.	Department of Education, Rajasthan University, Jaipur						
4.	ICG Institute of Educational Research and Development, Jaipur	Yes	Yes	-	-	Yes	-
5.	Lokmanya Tilak T T College, Udaipur	Yes	Yes	-	-	Yes	-
6.	Mahatma Jyoti Rao Phoole Women's B. Ed. College	-	-				
7.	S S G Pareek P G College Of Education	-	-				
8.	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	Yes	-				
9.	Sanjay Teacher's Training College	Yes	Yes	-	-	Yes	-
10.	Shiksha Mandir, Bansthali Vidyapeeth	Yes	Yes	-	-	Yes	-
11.	Sri Balaji Teachers Training College	Yes	Yes	-	-	Yes	-
12.	Vidya Bhawan Teacher's College, Udaipur	Yes	Yes	-	-	Yes	-

Table 4.10 shows that all the institutes have internet facility and wifi is being used to provided to link all the computers. Further, it is clear that all the institutes other than Lokmanya Tilak T T College, Udaipur; S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya; Sanjay Teacher's Training College and Vidya Bhawan Teacher's College, Udaipur, all other institutes are the members of e-consortium.

However, maximum memberships are taken by the institutes for DELNET but Department of Education, Rajasthan University is getting the access of them through UGC- Infonet Digital Library Consortium.

4.6.10 Status or User Orientation Programme

User orientation programmes are necessary to make aware the new users about library premises and the services being provided by a particular library to its uses.

Table 4.11 depicts that all institutes arrange user orientation programmes for their users. It is noteworthy to mention that maximum users are also satisfied with such types of programmes. Namely, the users of Bansthali University; Biyani Girls B.Ed College; ICG Institute of Educational Research & Development, Jaipur; Department of Education, Jaipur National University, Jaipur; Lokmanya Tilak T T College, Udaipur; Sanjay Teacher's Training College; Sri Balaji Teachers Training College and Vidya Bhawan Teacher's College, Udaipur are satisfied with the arrangement of such programmes.

4.6.11 Objectives of ICT Application

Librarians of the colleges/ institutes undertaken for study were also asked their opinions on the objectives of ICT applications in their libraries on 8 points as shown in table 4.12

Table 4.12: Objectives of ICT Application

S. No.	Name of the Institutions	To improve access to collection	To keep the users up to date in their fields	To improve the quality of existing services	To introduce new services	To modernize the library activities	To improve co-operation and resource sharing among library	To participate and utilize national and international library networks	To reduce routing and time consuming clerical work
1	Biyani Girls B.Ed College	Yes	Yes	Yes	Yes	Yes		Yes	Yes
2	Department of Education, Jaipur National University, Jaipur	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Department of Education, Rajasthan University, Jaipur	Yes	Yes	Yes	-	Yes	-	Yes	Yes
4	ICG Institute of Educational Research and Development, Jaipur	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	Lokmanya Tilak T T College, Udaipur	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes

6	Mahatma Jyoti Rao Phoole Women's B. Ed. College	Yes	Yes	Yes	-	Yes	Yes	-	Yes
7	S S G Pareek P G College Of Education	Yes	Yes	Yes	-	Yes	Yes	Yes	
8	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
9	Sanjay Teacher's Training College	Yes	Yes	Yes	-	Yes	-	-	Yes
10	Shiksha Mandir, Bansthali Vidyapeeth	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	Sri Balaji Teachers Training College	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	Vidya Bhawan Teacher's College, Udaipur	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4.13: Steps Taken for ICT Implementation

S.N.	Name of the Institutions	Sending staff for training	Organizing onsite staff training	Visits to automated libraries	Consultation with professional librarians	Training programmes
1	Biyani Girls B.Ed College	Yes	-	Yes	-	Yes
2	Department of Education, Jaipur National University, Jaipur	Yes	Yes	-	-	Yes
3	Department of Education, Rajasthan University, Jaipur	Yes	Yes	Yes		Yes
4	ICG Institute of Educational Research and Development, Jaipur	Yes	Yes		Yes	Yes
5	Lokmanya Tilak T T College, Udaipur	Yes	-	Yes	Yes	
6	Mahatma Jyoti Rao Phoole Women's B. Ed. College	-	Yes	Yes		Yes
7	S S G Pareek P G College Of Education	Yes		Yes	Yes	Yes
8	S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya	Yes	Yes	Yes	Yes	Yes
9	Sanjay Teacher's Training College	Yes	Yes	Yes	Yes	Yes
10	Shiksha Mandir, Bansthali Vidyapeeth	Yes	-		Yes	Yes
11	Sri Balaji Teachers Training College	Yes	-	Yes	Yes	Yes
12	Vidya Bhawan Teacher's College, Udaipur	Yes	Yes	Yes	Yes	Yes

These points were the followings:

- To improve access to collection
- To keep the users up to date in their fields
- To improve the quality of existing services
- To introduce new services
- To modernize the library activities
- To improve co-operation and resource sharing among library
- To participate and utilize national and international library networks
- To provide more current and comprehensive
- To reduce routing and time consuming clerical work

It is very clear from the table that on the first three points and last point, all librarians were positive. However, on fourth point, no response came from Department of Education, Rajasthan University, Jaipur; Mahatma Jyoti Rao Phoole Women's B. Ed. College and S S G Pareek P G College of Education and Sanjay Teacher's Training College. On next fifth point, no response was received from S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya. Further, Department of Education, Rajasthan University, Jaipur, Lokmanya Tilak T T College, Udaipur, Sanjay Teacher's Training College did not reply on sixth point and Mahatma Jyoti Rao Phoole Women's B. Ed. College and Sanjay Teacher's Training College did not reply on seventh point.

Thus, majority of the librarians were very positive about the ICT objectives to be achieved through their implementation in libraries.

4.6.12 Steps taken for ICT Implementation

Lastly, the librarian were also asked – how they will implement ICT in their library on following points.

- Sending staff for training
- Organizing onsite staff training
- Visits to automated libraries
- Study literature on IT
- Consultation with professional librarians

- Training programmes
- Any other, please specify

The analysis of the data made in table 4.13 shows that almost all the librarians replied positively on each and every step on which they were asked to give their opinion. It means keeping above points in view, the ICT can be implemented in libraries for the better services.

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Chapter 5
Data Tabulation and Analysis

CHAPTER 5

DATA TABULATION AND ANALYSIS

Introduction

In this chapter the data collected from the B.Ed, M.Ed, Ph.D students and Faculty members of Education Institutions in Jaipur, Udaipur and Bansthali are presented and analyzed by using appropriate statistical tools comprising of simply percentage and chart presentation.

5.1 Demographic Profile

Demographic profile of the sample taken is presented in table 5.1. The table depicts the detailed information about the **age group, gender** and **category** of the respondents composing of the students and faculty members. It is noted that **68.6%** respondents are of 20-30 years age, followed by **38.8%** respondents who are 30-40 years old, **0.5%** are 40-50 year old and **0.2%** are 50 years or above in age.

Table: 5.1: Demographic Profile

Parameters	Category	Frequency	Percentage
Age	20-30	303	68.6
	30-40	136	30.8
	40-50	2	0.5
	50 above	1	0.2
	Total	**442**	**100.0**
Gender	Male	40	9.0
	Female	402	91.0
	Total	**442**	**100.0**
Category	B.Ed Student	234	52.49
	M.Ed Student	173	39.1
	M.Phil/ Ph.D	20	4.52
	Faculty Members	15	3.4
	Total	**442**	**100.0**

It is also seen that **9%** respondents are males and **91%** are females. Further, it is seen that **52.49%** respondents are B.Ed. students, **39.1%** respondents are M.Ed. students, **4.5%** respondents were M.Phil/Ph.D students and **3.4%** respondents are the faculty members.

5.2 Library Visit Details

Table 5.2 shows that there are different categories of users who visit library at various occasions.

Table 5.2: Frequency of Library Visit

Frequency of Library Visit	Frequency	Percent
Daily	158	35.7
2-3 Times a week	180	40.7
Once in a week	91	20.6
1-2 Times in a month	8	1.8
Rarely	5	1.1
Total	442	100.0

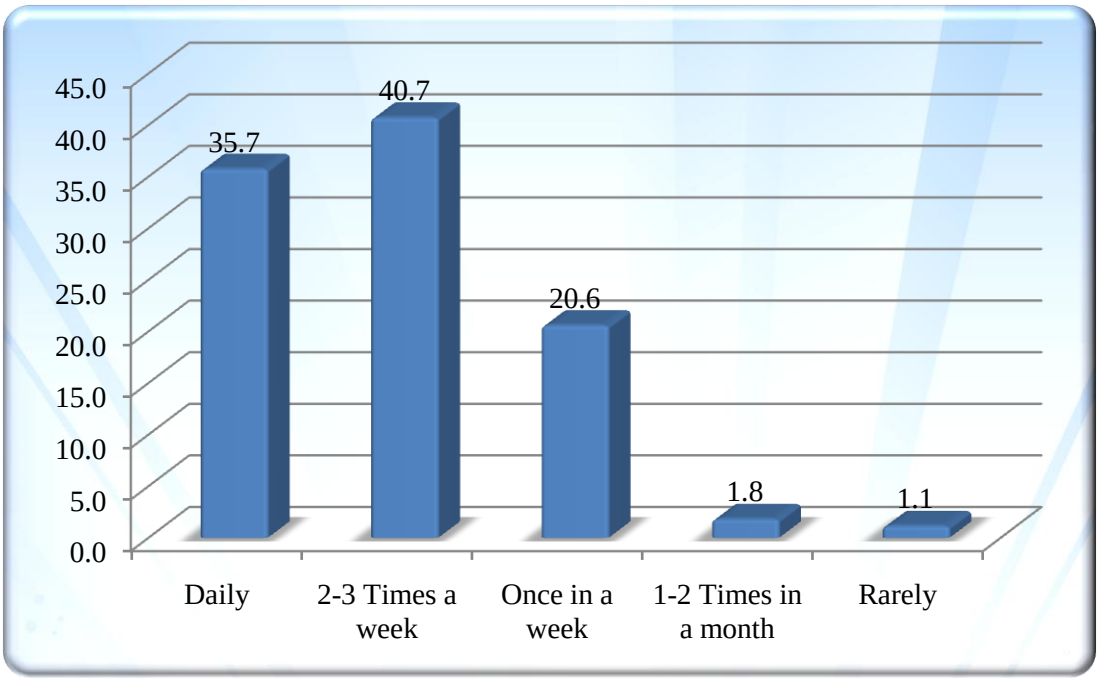

Chart 5.1: Frequency of Library Visits

It is seen that **35.7%** of the respondents used to visit library daily, followed by **40.7%** respondents who visit 2-3 times a week, **20.6%** respondents who used to visit the library once in a week. Further, **1.8%** respondents are there who visit the library 1-2 times in a month, while **1.1%** of them visit the library rarely.

5.3 Time spent on Information Gathering Activities

It is noted that users come into the library for different activities, for example searching journals and magazines, or for searching books or sometimes to have the photocopies of the reading material from the library.

Thus, they spent time for different kinds of activities in the library. Their results are presented in table 5.3 to 5.12.

5.3.1 Searching Journals and Magazines

It is clear from **table 5.3** that most of the time spent by users in searching journals and the magazines is one hour that is 55% followed by the use by 2-5 hours by 32.8% of the users. However, there are a few users comprising of 7 % only who use the library for more than 10 hours per week.

Table 5.3: Searching Journals and Magazines

Per week hours	Frequency	Percent
Up to one hour	243	55.0
2-5 hours	145	32.8
6-7 hours	41	9.3
8-10 hours	10	2.3
More than 10	3	.7
Total	442	100.0

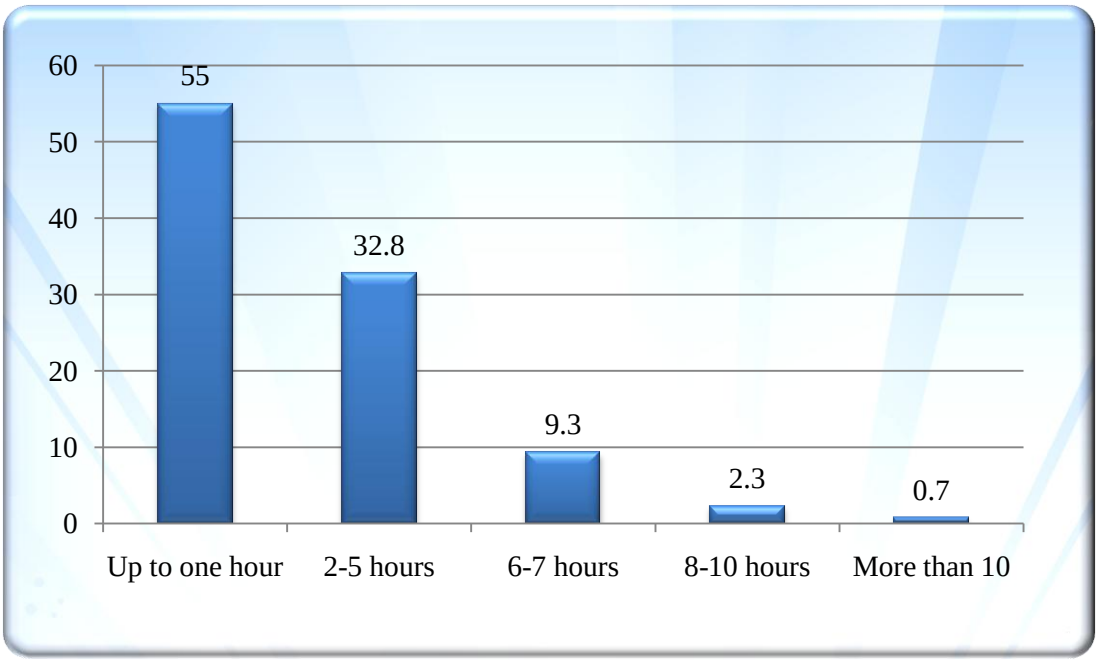

Chart 5.2: Searching Journal and Magazine

5.3.2 Searching Books

Further, users also spent their time in searching books in the library. It is clear from **table 5.4** that 35.5% of the users spent one hour in searching the books, followed by 49.5% users who spent 2-5 hours in library for searching their desired books.

There are also 13.1% users who spent 8-10 hours in library but a few comprising of 1.1% only spent more than10 hours in the library.

Table 5.4: Searching Books

Per week hours	Frequency	Percent
Up to one hour	157	35.5
2-5 hours	219	49.5
6-7 hours	58	13.1
8-10 hours	3	.7
More than 10	5	1.1
Total	442	100.0

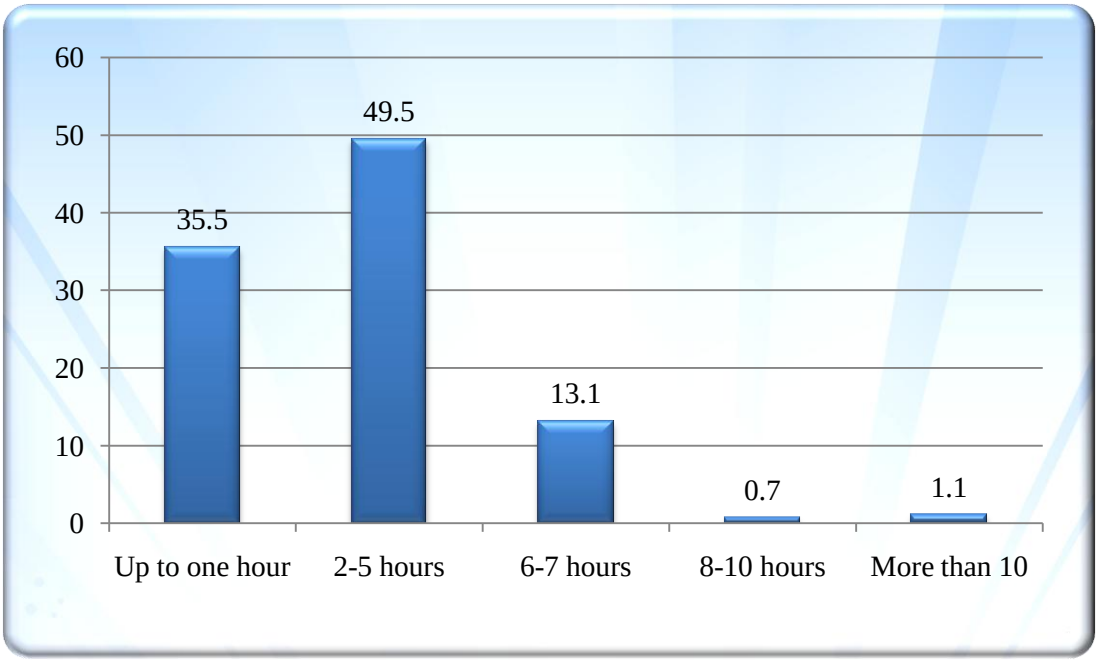

Chart 5.3: Searching Books

5.3.3 Searching Theses / Dissertation

Table 5.5 depicts that 53.4% users spent one hour in searching theses / dissertation etc. form the library. It is followed by 28.1% of the users who spent 2-5 hours and 14.9% users who spent 6-7 hours in the library in searching theses etc.

Table 5.5: Searching Theses / Dissertation

Per week hours	Frequency	Percent
Up to one hour	236	53.4
2-5 hours	124	28.1
6-7 hours	66	14.9
8-10 hours	7	1.6
More than 10	9	2.0
Total	442	100

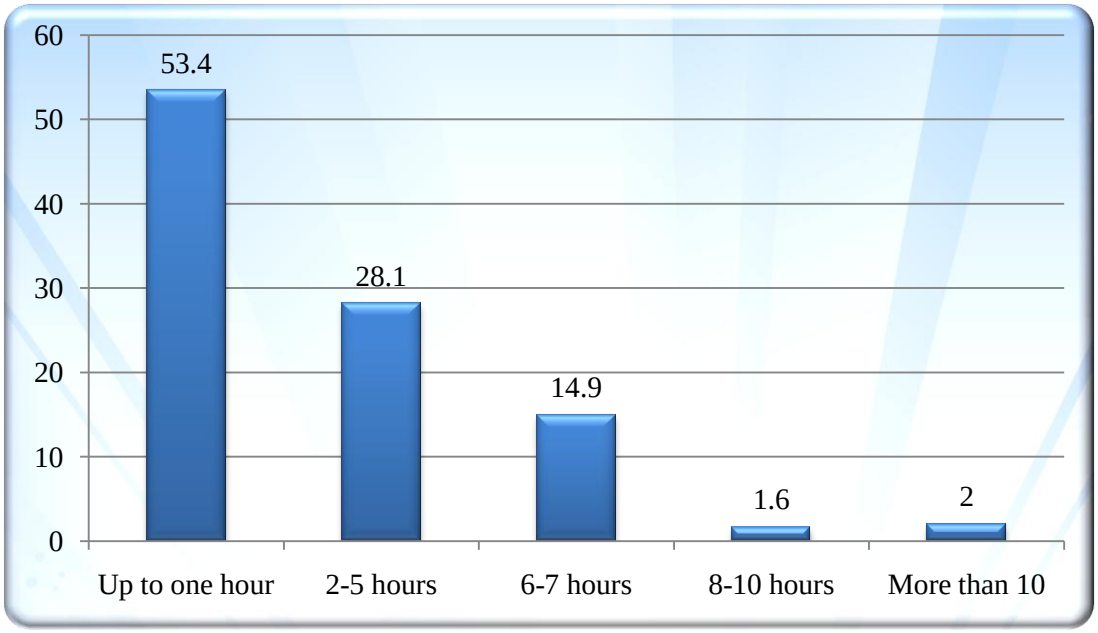

Chart 5.4: Searching Thesis / Dissertation

There are also 1.6% users who spent 8-10 hours in library. A few users are also there who spent more than 10 hours in the library for searching theses etc. in the library.

5.3.4 Browsing E- Journals on Internet

Table 5.6 depicts the time spent in browsing e-journals on the internet in the library.

It is very clear from the analysis of the data that 52% of the users spent one hour in the library for browsing e-journals. It is followed by the time spent 2-5 hours by 33.5% of the users.

Table 5.6: Browsing E- Journals on Internet

Per week hours	Frequency	Percent
Up to one hour	230	52.0
2-5 hours	148	33.5
6-7 hours	43	10.1
8-10 hours	15	3.4
More than 10	6	1.4
Total	442	100

Further, 3.4% users spent 8-10 hours and 1.4% users more than 10 hours in library for browsing internet for e-journals.

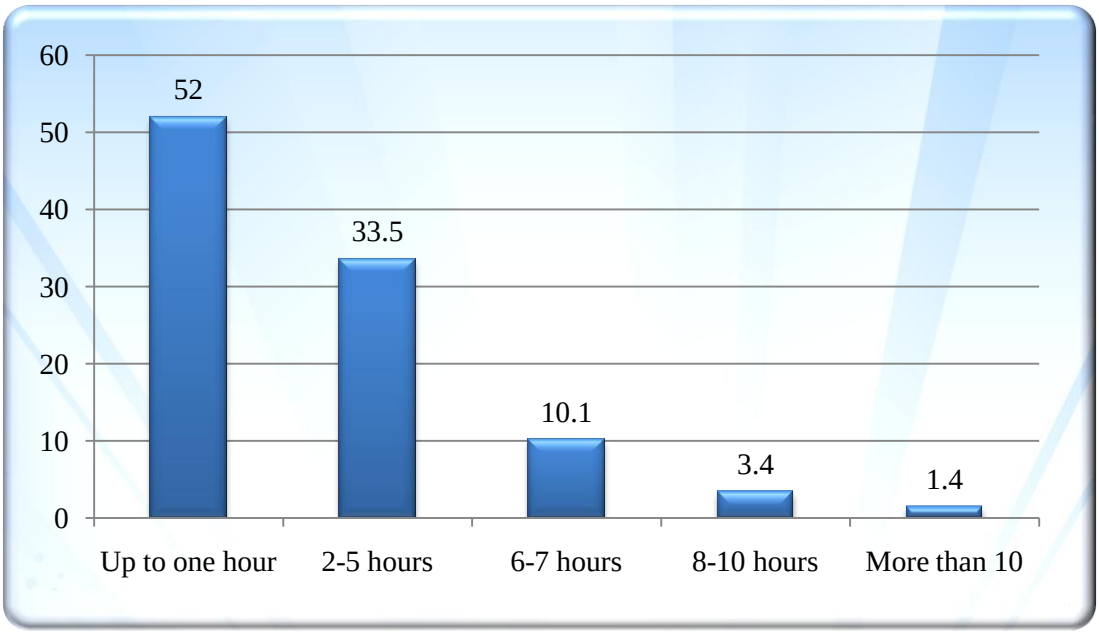

Chart 5.5: Browsing E-Journal on Internet

5.3.5 Searching Online Data

Users also spent their time in searching online data in the library. **Table 5.7** shows that 56.3% users search on the internet about one hour followed by 31.9% of the users who spent their time 2-5 hours in searching online data in the library.

It is followed by the 6-7 hours spent on searching online data in the library by 6.3% of the users. However, there are 4.1% users who spent 8-10 hours in searching the online data in the library. But a few users comprising of 1.4% spent more than 10 hours in the library for the same.

Table 5.7: Searching Online Data

Per week hours	Frequency	Percent
Up to one hour	249	56.3
2-5 hours	141	31.9
6-7 hours	28	6.3
8-10 hours	18	4.1
More than 10	6	1.4
Total	442	100.0

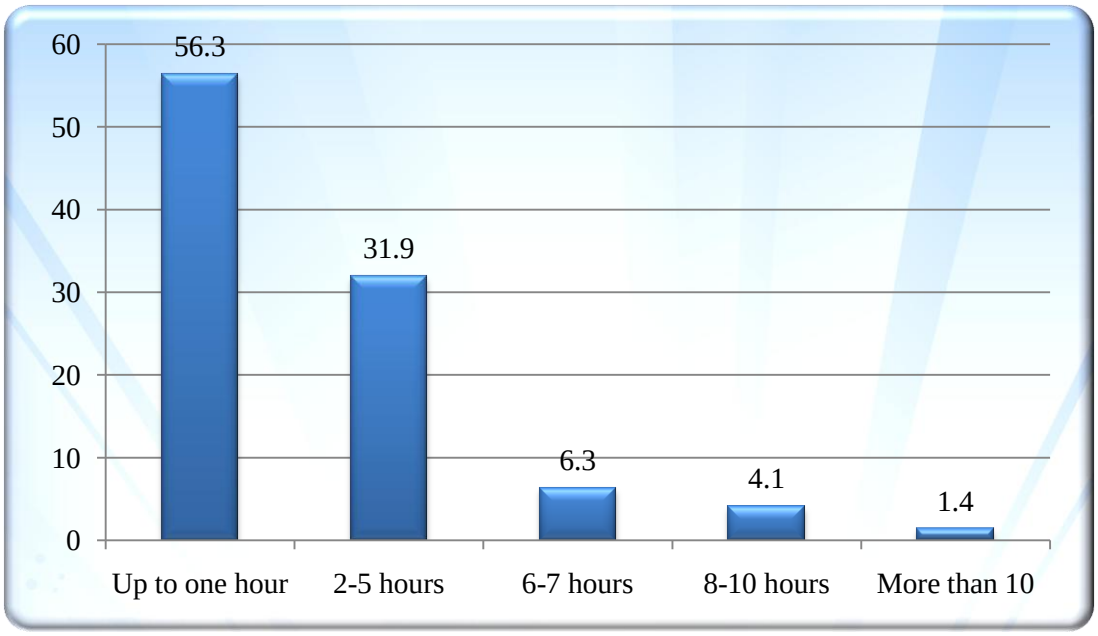

Chart 5.6: Searching Online Data

5.3.6 Searching for Related Website

Table 5.8 details out the time spent in searching websites in the library for relevant information. It is seen that 57.5% users spent one hour, followed by 29.9% users who spent 2-5 hours in the library for website browsing.

Table 5.8 Searching for Related Website

Per week hours	Frequency	Percent
Up to one hour	254	57.5
2-5 hours	132	29.9
6-7 hours	31	7.0
8-10 hours	20	4.5
More than 10	5	1.1
Total	442	100

Further, 7% users spent 6-7 hours in library for web browsing followed by 4.5% users who used to spend 8-10 hours in the library for this work. However, a few (1.1%) users also spent more than 10 hours in the library for website searching.

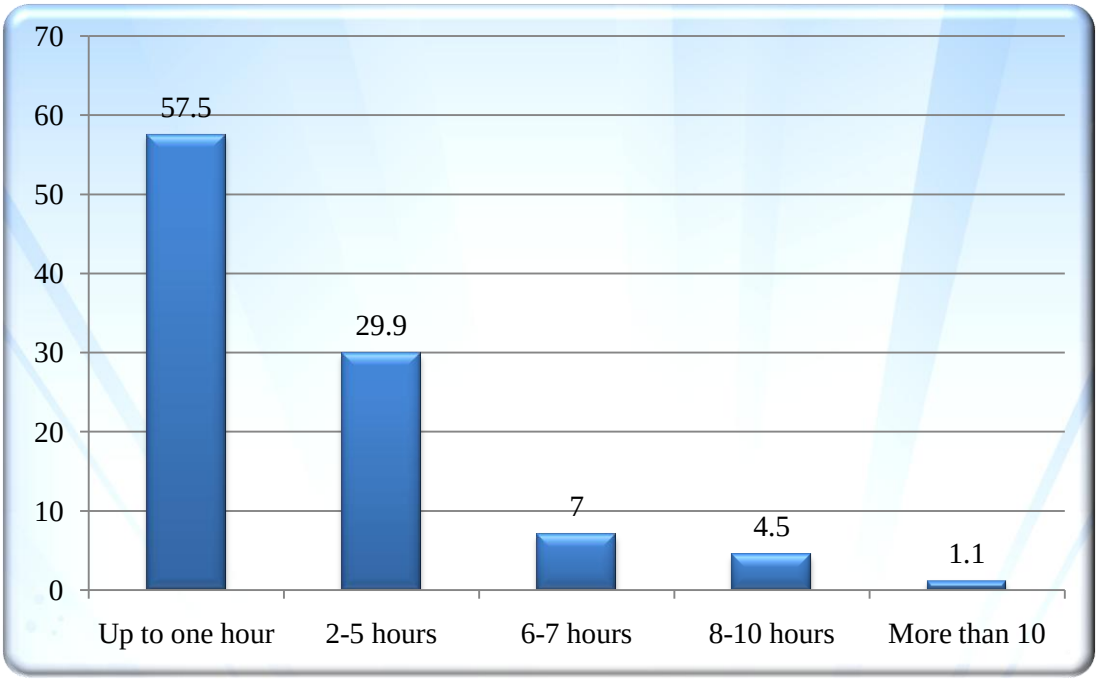

Chart 5.7: Searching for Related Websites

5.3.7 E-mail Alert & Correspondence

Table 5.9 is related to the analysis of the data pertaining to time spent in e-mail and correspondence in the library. It is seen that 62.7% of the users come to the library daily for accessing e-mail etc. followed by 28.3% of the users who access 2-3 times in a week in the library. Further, 2% users come to the library 1-2 times in a month for accessing e-mails etc. They are followed by 1.1% of the users who rarely come and access emails etc. in the library.

Table 5.9: E-mail Alert & Correspondence

Per week hours	Frequency	Percent
Daily	277	62.7
2-3 Times a week	125	28.3
Once in a week	26	5.9
1-2 Times in a month	9	2.0
Rarely	5	1.1
Total	442	100.0

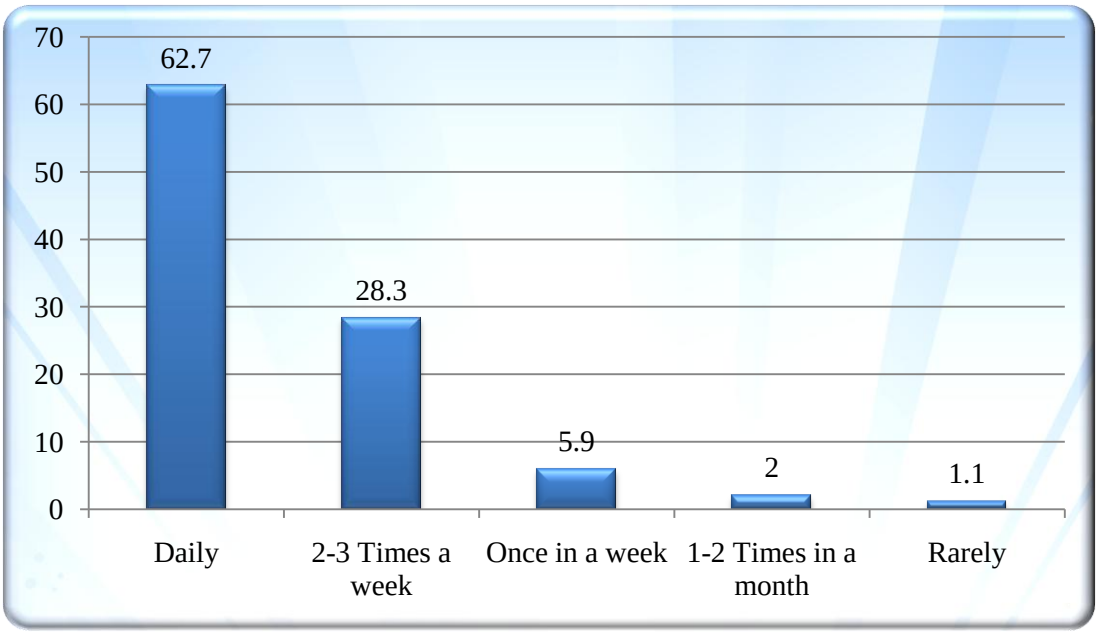

Chart 5.8: E-mail Alert & Correspondence

5.3.8 Accessing E-books

Users also come in the library for accessing e-books. **Table 5.10** depicts their frequency of using library for accessing e-books etc. in the library. It is very clear from the analysis of the data presented in table that 53.6% of the users access e-books etc. daily, followed by 147 (33.3%) users who access them once a week.

However, there are also 7% of the users who never use or come to the library for accessing e-books.

Table 5.10: Accessing E-Books

Per week hours	Frequency	Percent
Daily	237	53.6
2-3 Times a week	147	33.3
Once in a week	39	8.8
1-2 Times in a month	16	3.6
Rarely	3	.7
Total	442	100.0

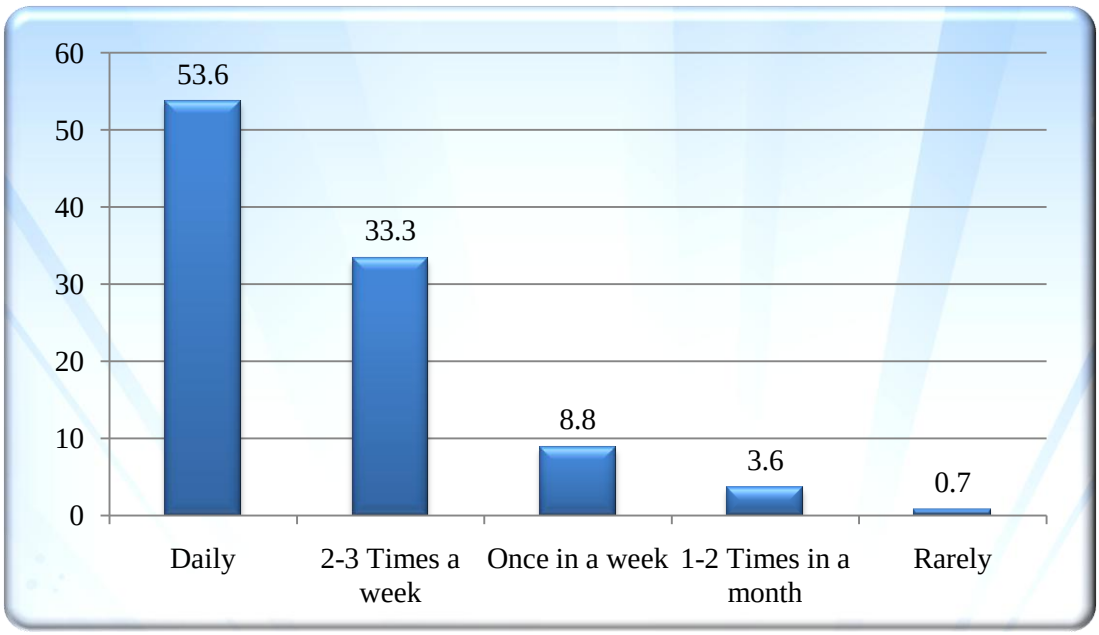

Chart 5.9: Searching Online Data

5.3.9 For Photocopying

Photocopying is also one of the important services given by the library today to its users. **Table 5.11** pertains to the use of library by the users who come for photocopying purpose only.

It may be seen that 284 users comprising of 64.3% to the total sample come for Photostat facility in the library. They are followed by 26% users who take photocopy from the library 2-3 times in a week. Further, there are also 14 users who come 1-2 time in a month and 1.1% users rarely get photocopy from the library.

Table 5.11: Photocopying

Per week hours	Frequency	Percent
Daily	284	64.3
2-3 Times a week	115	26.0
Once in a week	24	5.4
1-2 Times in a month	14	3.2
Rarely	5	1.1
Total	442	100.0

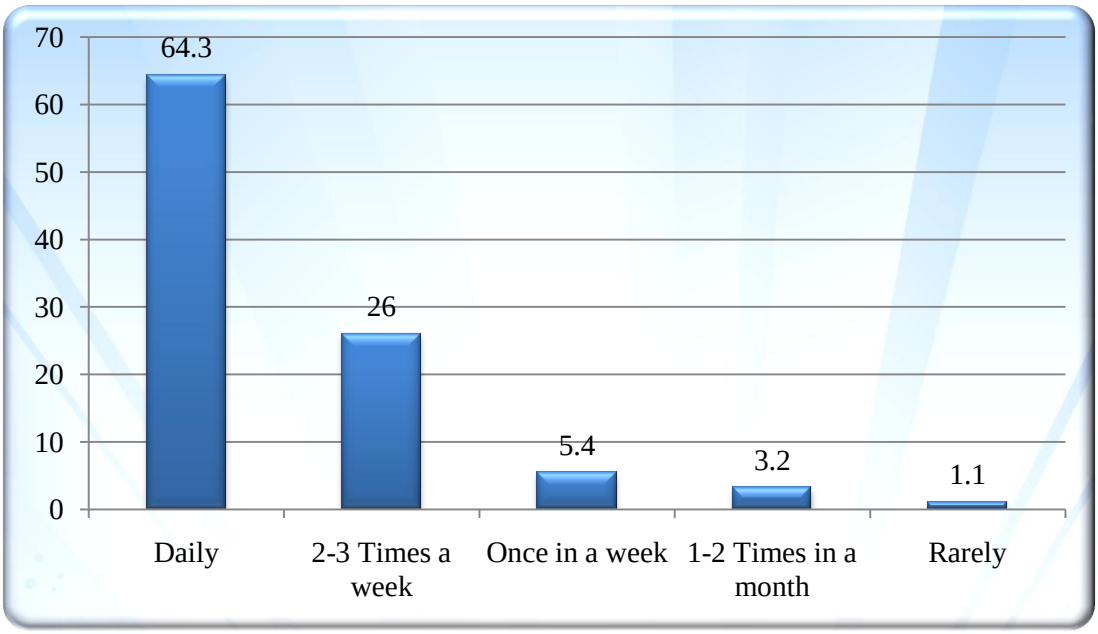

Chart 5.10: Photocopying

5.3.10 For Scanning & Printing

Scanning and print out for the downloaded files are also given by the library. **Table 5.12** depicts that 287 (64.9%) users come in the library about one hour in a week for scanning and printing purposes. Further, there are 84 (19%) users who come to library 2-5 hours per week for this work. But there are also some users (11) only who spent more than 10 hours per week in the library for scanning and printing.

Table 5.12: Scanning & Printing

Per week hours	Frequency	Percent
Up to one hour	287	64.9
2-5 hours	84	19.0
6-7 hours	26	5.9
8-10 hours	34	7.7
More than 10	11	2.5
Total	442	100.0

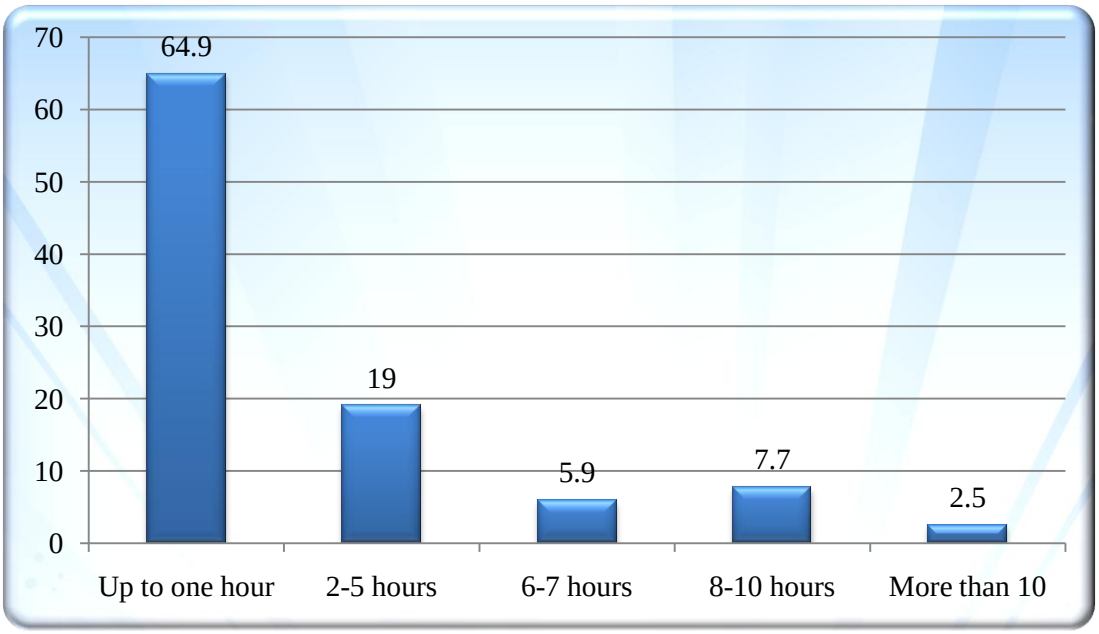

Chart 5.11: Scanning & Printing

5.4 Purposes of Visiting the Library

Further, the respondents were asked to clarify their purpose of visiting the library. Various purposes of visiting the library are shown in table 5.13 to 5.20.

5.4.1 To prepare for Examination

Table 5.13 and chart 5.12 clearly depicts the details of the purposes of the respondents for visiting the library for the preparation of their exams.

It is seen from the analysis that **17%** respondents come to the library daily for the preparation of their exams, followed by **27.6%** of the respondents who come weekly for the preparation of their exams. Further, **31.4%** of the respondents visit the library sometimes for the preparation of their exams.

However, **12.7% of the** respondents rarely visit the library for the preparation of their exams, but **11.3%** of them never visit the library for the preparation of their exams.

Table 5.13: To Prepare for Examination

To prepare for Examination	Frequency	Percent
Never	50	11.3
Rarely	56	12.7
Sometime	139	31.4
Weekly	122	27.6
Daily	75	17.0
Total	442	100.0

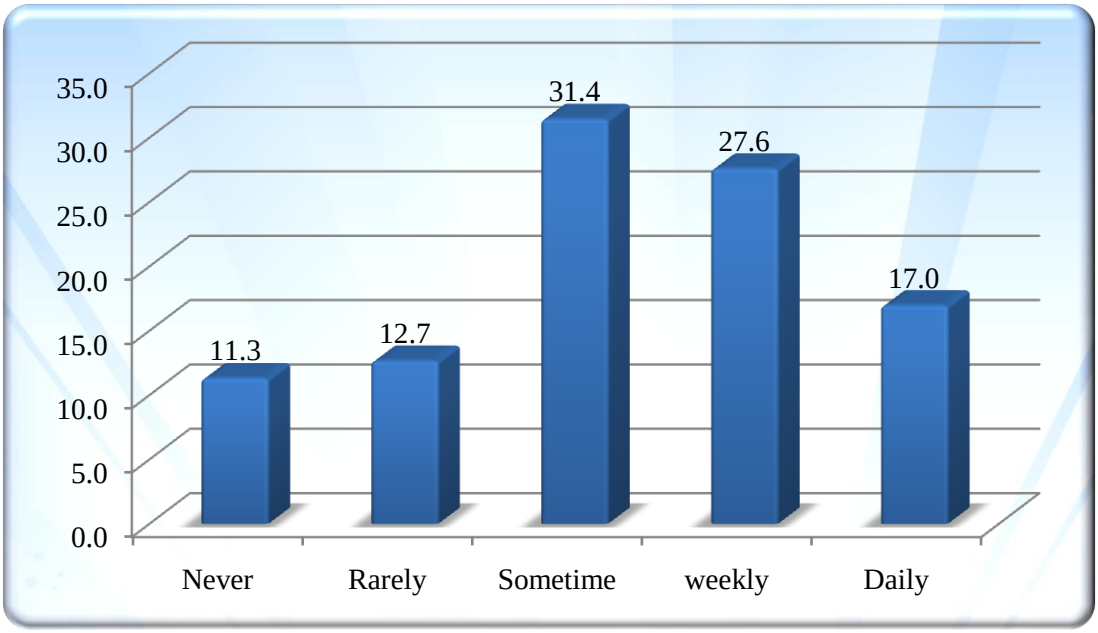

Chart 5.12: Preparation of Examination

5.4.2 Visit for Issue/Return from the library

Table 5.14 shows the analysis of the respondents who come to the library for issue/return the library material. The results drawn from the analysis show that **17%** respondent's daily visit the library for issue/return of the library material, followed by **38.5%** of the respondents who come weekly for issue/return of the library material.

Table 5.14: Visit for Issue/Return from the Library

Visit for Issue/Return from the Library	Frequency	Percent
Never	6	1.4
Rarely	63	14.3
Sometime	128	29.0
weekly	170	38.5
Daily	75	17.0
Total	442	100.0

Further, **29%** respondents come sometimes to visit the library for issue /return of the library material, **14.3%** respondents rarely visit the library for issue /return of the library material and **1.4%** respondents never use the library for issue /return of the library material. Chart 5.13 also clarify the situation very well.

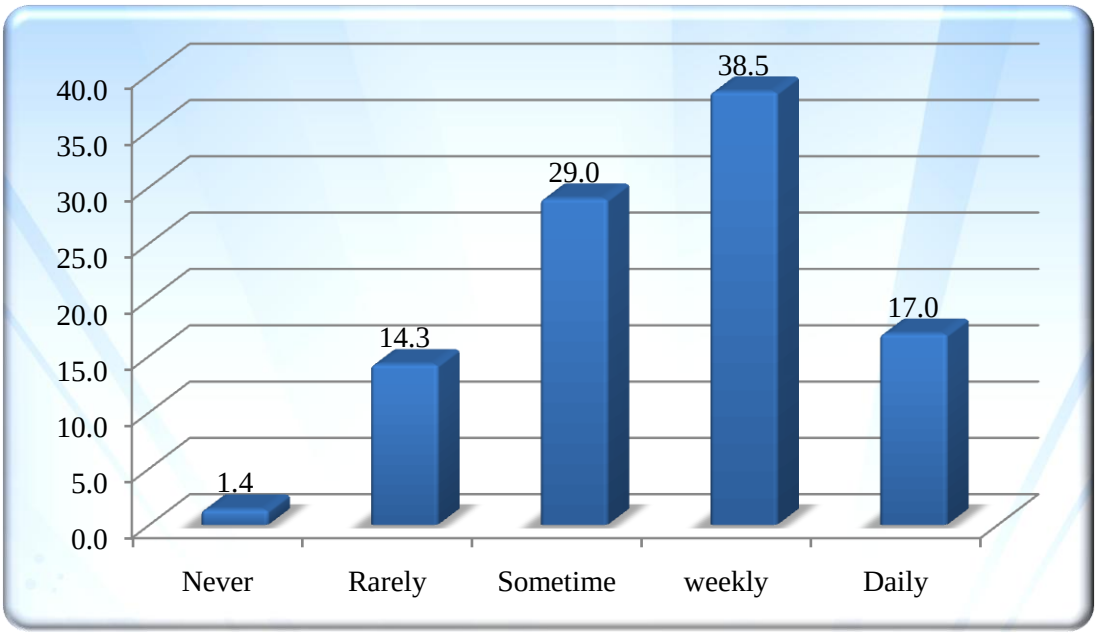

Chart 5.13: Visit Issue/Return from the Library

5.4.3 Visit of the Library for Reading

Table 5.15 shows the results of the respondents who visit the library for reading purpose. The results drawn from the analysis depicts that **23.3%** of the respondents visit daily the library for reading purpose, followed by **31.2%** respondents who weekly visit the library for reading purpose, **28.7%**respondents sometimes visit the library for reading purpose, and **12.2%** respondents who rarely visit the library for reading purpose.

But there **4.5%** respondents who never visit the library for reading purpose.

Table 5.15: Visit of the Library for Reading

Visit of the Library for Reading	Frequency	Percent
Never	20	4.5
Rarely	54	12.2
Sometime	127	28.7
weekly	138	31.2
Daily	103	23.3
Total	442	100.0

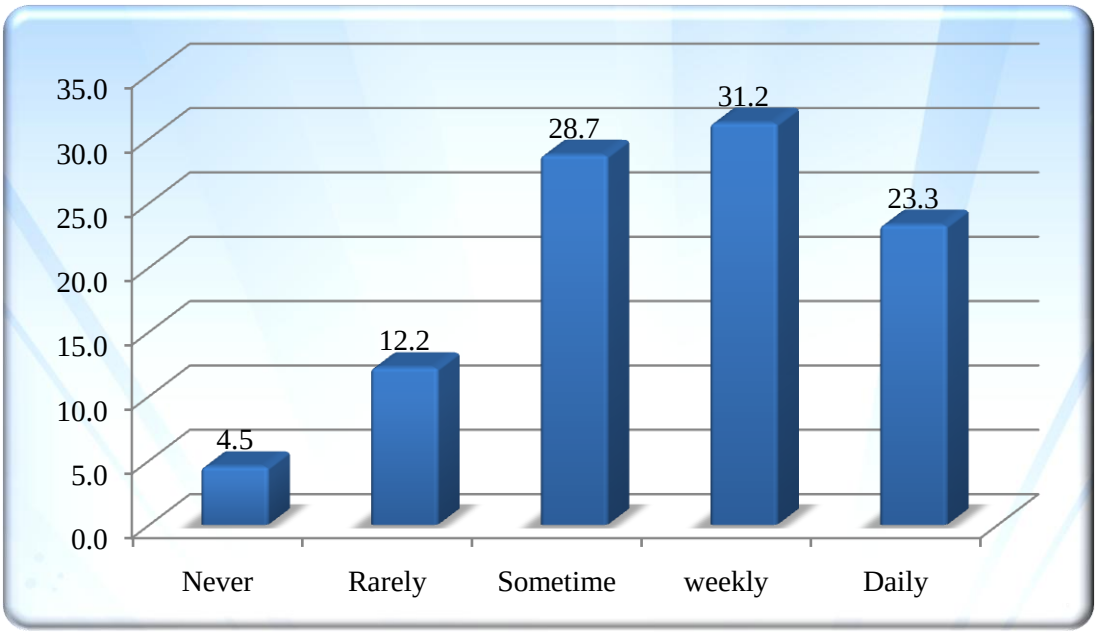

Chart 5.14: Visit of the Library for Reading

5.4.4: Visit for Accomplishing Assignments

Table 5.16 shows that most of the respondents visit the library to complete their assignments. The results drawn from the analysis show that **14.3%** of the respondents daily visit the library to complete their assignments, **35.5%** respondents weekly visit the library to complete their assignments, and **31.9%** respondents sometimes visit the library to complete their assignments. Further, **12.4%** of the respondents rarely visit the library to complete their assignments but a small percent of the (**5.9%)** respondents never visit the library to complete their assignments.

Table 5.16: Visit for Accomplishing Assignments

Visit for accomplishing Assignments	Frequency	Percent
Never	26	5.9
Rarely	55	12.4
Sometime	141	31.9
Weekly	157	35.5
Daily	63	14.3
Total	442	100.0

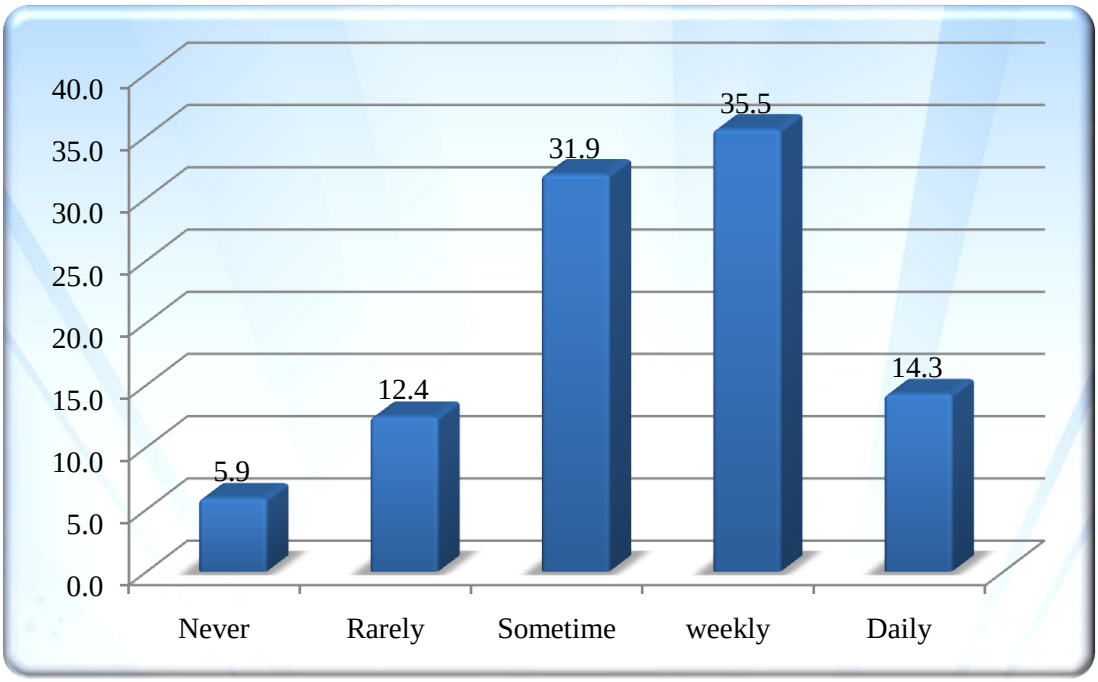

Chart 5.15: Visit for Accomplishing Assignments

5.4.5 Visit for Career Development

Table 5.17 and **chart 5.16** apprehends the respondents visit to the library for career development. The results drawn from the analysis show that **15.8%** of the respondents visit daily the library for career development, **31.9%** respondents visit weekly the library for career development, and **32.1%** respondents visit sometimes the library for career development. Further, **17.6%** of them rarely visit the library for career development but **2.5%** respondents never visit the library for career development.

Table 5.17: Visit for Career Development

Visit for Career Development	Frequency	Percent
Never	11	2.5
Rarely	78	17.6
Sometime	142	32.1
weekly	141	31.9
Daily	70	15.8
Total	442	100.0

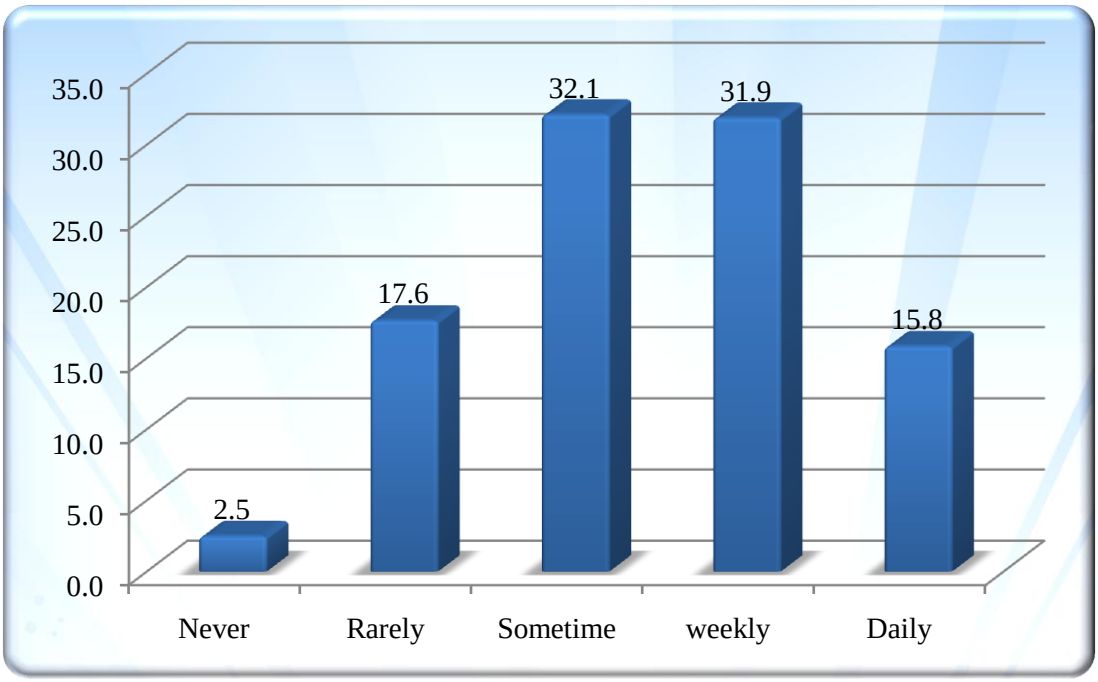

Chart 5.16: Visit for Career Development

5.4.6 Visit for Computer Use

Table 5.18 depicts the analysis of the library users visit for computer use. It is seen that the majority of the respondents visit library for using the computers.

The analysis of the data shows that **17.2%** respondents visit the library daily for using computers, followed by **25.6%** of the respondents who visit weekly the library for using computers, and **29%** respondents who visit the library sometimes for using computers. Further, **17.4%** of the respondents visit the library rarely for using computer and a small percentage of them (**10.9%)** never visits the library for using computer.

Table 5.18: Visit for Computer use

Visit for Computer use	Frequency	Percent
Never	48	10.9
Rarely	77	17.4
Sometime	128	29.0
weekly	113	25.6
Daily	76	17.2
Total	442	100.0

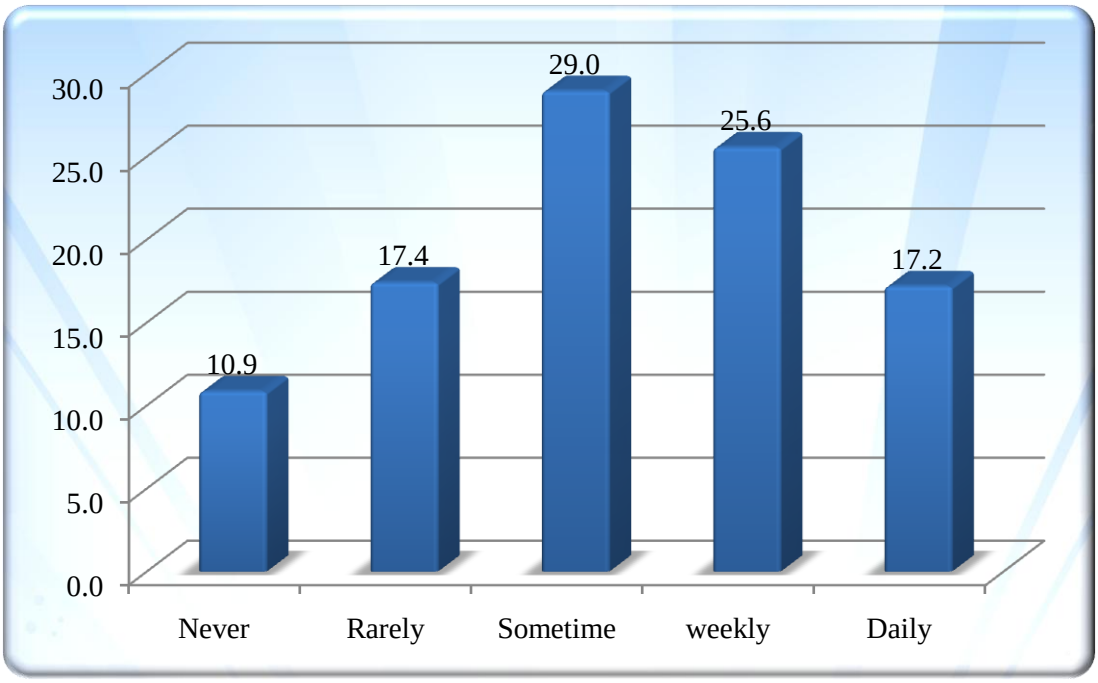

Chart 5.17: Visit for Computer Use

5.4.7 Visit for Preparing Notes

Table 5.19 and **chart 5.18** both show that the respondents visit the library for preparing notes. The analysis of the data collected shows that **13.8%** respondents visit the library daily for preparing their notes, followed by **25.1%** respondents who visit the library weekly for preparing notes, and **41%** respondents who visit sometimes for preparing notes.

Table 5.19: Visit for Preparing Notes

Visit for preparing Notes	Frequency	Percent
Never	16	3.6
Rarely	73	16.5
Sometime	181	41.0
Weekly	111	25.1
Daily	61	13.8
Total	442	100.0

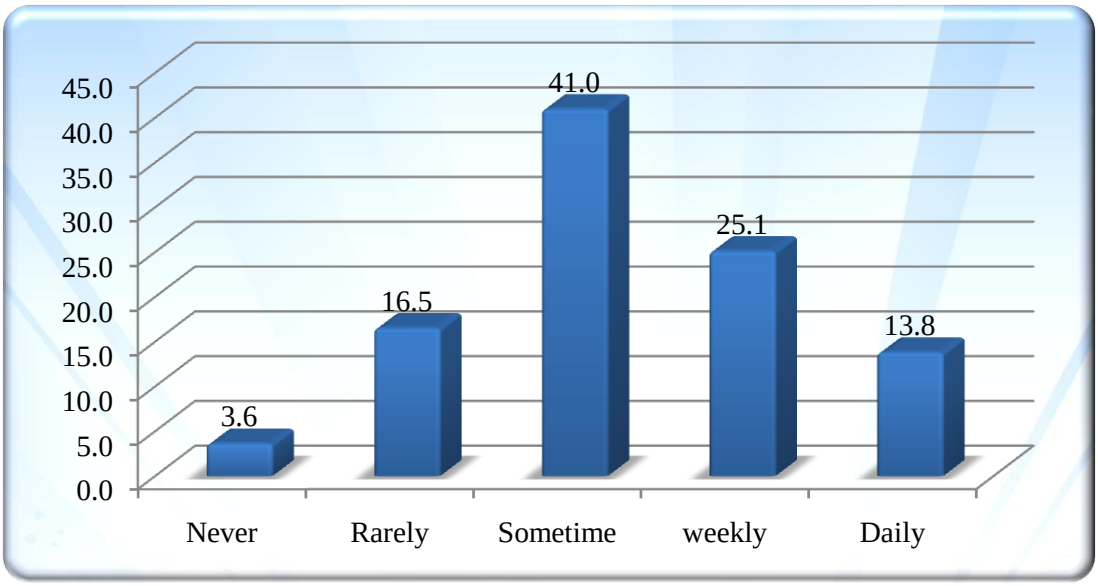

Chart 5.18: Visit for Preparing Notes

However, there are **16.5%** respondents who rarely visit the library for preparing notes and **3.6%** respondents never visit the library for preparing notes.

5.4.8 Visit for collecting Reading Material

Table 5.20 addresses the purpose of their visiting the library is to collect reading material for research work. The results drawn from the analysis depicts that

12.7% respondents visit the library to collect reading material for research work, followed by **22.2%** respondents who weekly visit the library to collect reading material for research work.

However, there are **36.7%** of the respondents who visit the library sometimes to collect the reading material for research work.

Table 5.20: Visit for Colleting Reading Materials

Visit for Colleting Reading Materials	Frequency	Percent
Never	36	8.1
Rarely	90	20.4
Sometime	162	36.7
Weekly	98	22.2
Daily	56	12.7
Total	442	100.0

Further, **20.4%** respondents rarely visit the library to collect reading material for research work and **8.1%**respondents never visit the library to collect reading material for research work. These details are also depicted very well and clearly through chart 5.19.

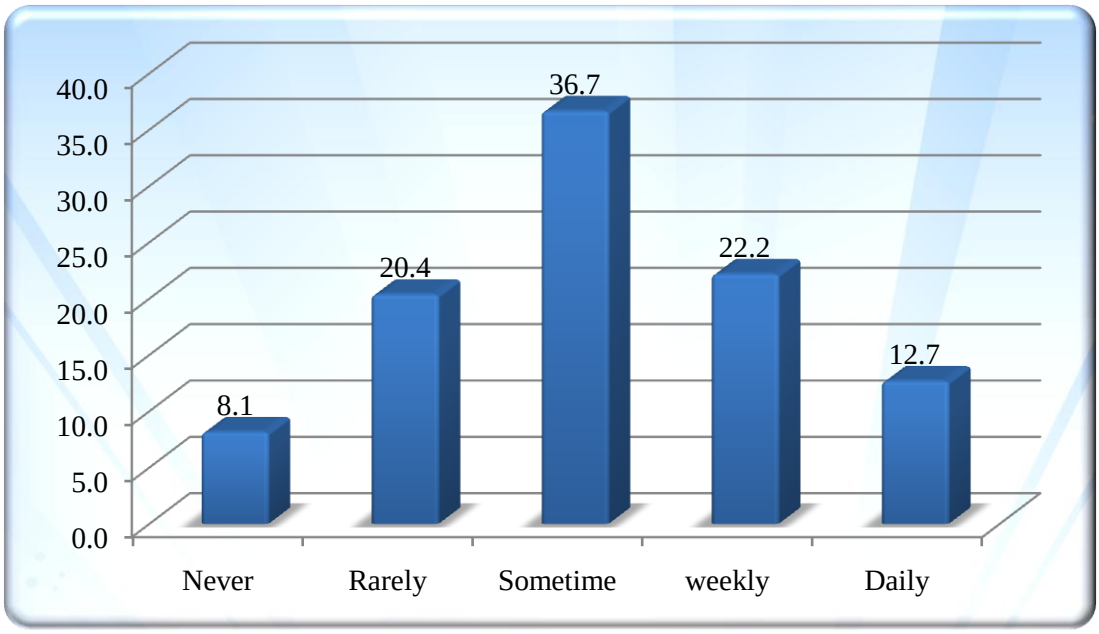

Chart 5.19: Visit for Collecting Reading Materials

5.5 What Material You Find Useful in Your Information Seeking

Further, the respondents were asked that what material you find useful in your information seeking shown in table 5.21 to 5.27.

5.5.1 Visit for Consulting Text Books

Table 5.21 shows that trend of the respondents for using or visiting the libraries for consultation of the textbook. It is observed from the analysis of the data presented that that **22.2%** respondents visit library for consulting the text books in the library, followed by the **36%** respondents who come and use text books in the library weekly, and **31.7%** respondents use them sometimes.

Table 5.21: Visit for Consulting Text Books

Visit for consulting Text Books	Frequency	Percent
Never	9	2.0
Rarely	36	8.1
Sometime	140	31.7
Weekly	159	36.0
Daily	98	22.2
Total	442	100.0

Further, **8.1%** of the respondents rarely visit the library to consult the text books in the library. But there is a small percentage of the users consisting of **2%** who never come to the library and use text books in the library. Chart 5.20 also depicts the trend more clearly.

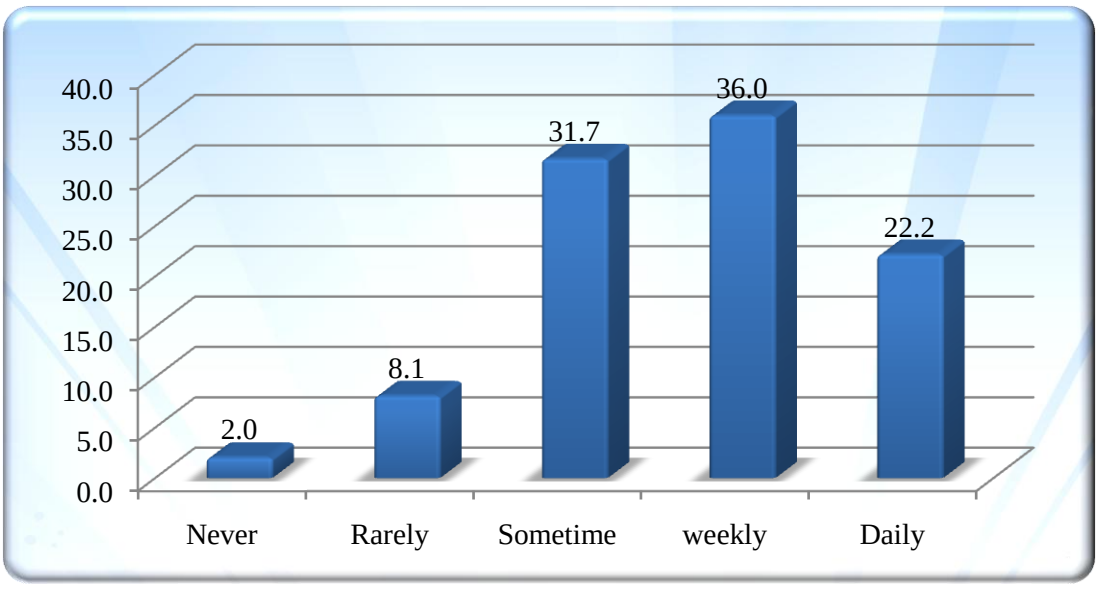

Chart 5.20: Visit for Consulting Text Books

5.5.2 Visit for Consulting Reference Books

Table 5.22 clearly shows that trends of the respondents in visiting libraries for consulting reference books. It is seen that **11.8%** respondents visit the libraries daily to consult the reference books that is followed by **32.6%** respondents use who come and use the library weekly for reference books.

34.8% of the respondents come sometimes and consult the reference books in the library. Further, **18.8%** of the respondents rarely come to the libraries and consult the reference books but **2%** of them never visit the library and consult the reference books. Chart 5.21 also clearly depicts the situation very well.

Table 5.22: Visit for Consulting Reference Books

Visit for consulting Reference Books	Frequency	Percent
Never	9	2.0
Rarely	83	18.8
Sometime	154	34.8
Weekly	144	32.6
Daily	52	11.8
Total	442	100.0

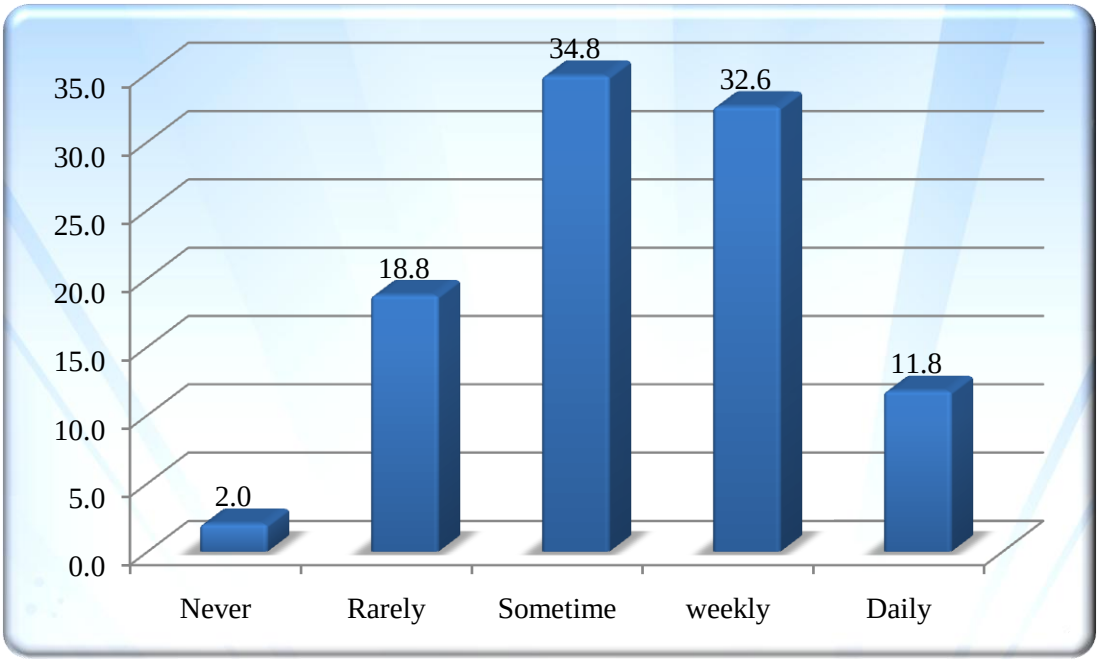

Chart 5.21: Visit for Consulting Reference Books

5.5.3 Visit for General Books

Table 5.23 shows that trends of the respondents for visiting the libraries and using the general books. It can be seen that **11.8%** of the respondents come daily and use general books in the library, followed by **32.6%** of the respondents who come weekly and use general books in the library. Further, **34.8%** of them come sometimes and use general books. **18.8%** of the respondents rarely come to the library and use or consult general books in the library.

However a very small percentage of the respondents (**2%**) never come to the library and use general books.

Table 5.23: Visit for General Books

Visit for General Books	Frequency	Percent
Never	10	2.3
Rarely	101	22.9
Sometime	183	41.4
weekly	96	21.7
Daily	52	11.8
Total	442	100.0

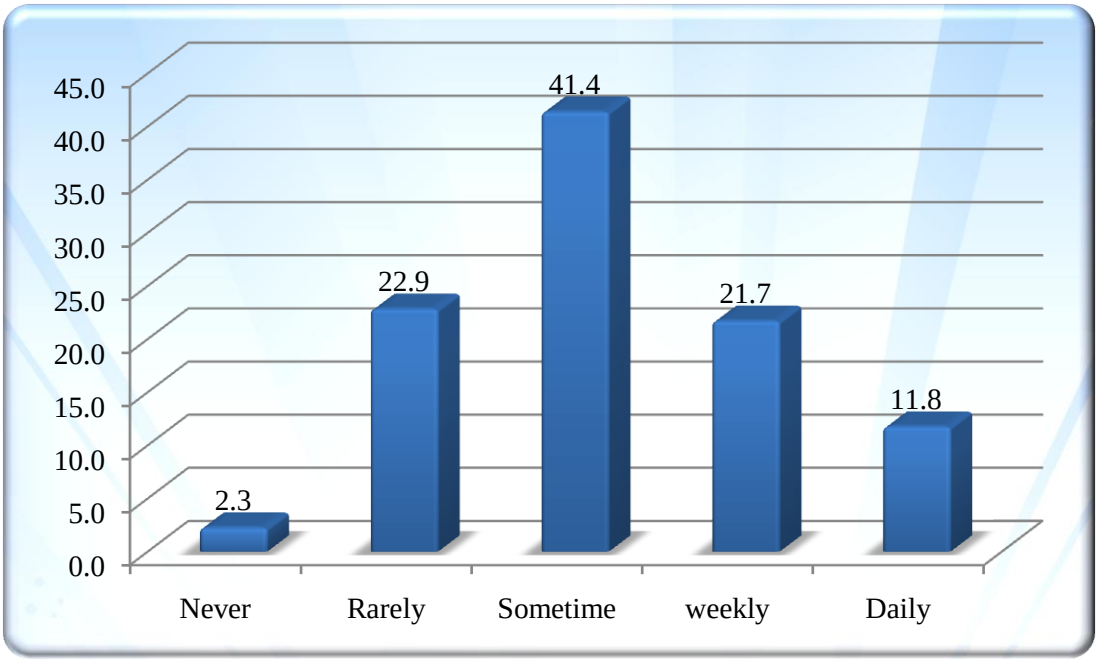

Chart 5.22: Visit for General Books

5.5.4 Visit of the Library for Magazines/ Journals

Table 5.24 shows the views of respondents who come to the library and consult the magazine/journals in the library. The results of the analysis of the data collected shows that **15.2%** respondents come daily and use magazine/journals in the library. It is followed by **33%** of the respondents who visit the library weekly and consult the magazines/journals in the library, followed by **34.4%** of the respondents who come sometimes and consult the magazines/journals in the library.

Table 5.24: Visit of the Library for Magazines/ Journals

Visit of the Library for Magazines/ Journals	Frequency	Percent
Never	13	2.9
Rarely	64	14.5
Sometime	152	34.4
Weekly	146	33.0
Daily	67	15.2
Total	442	100.0

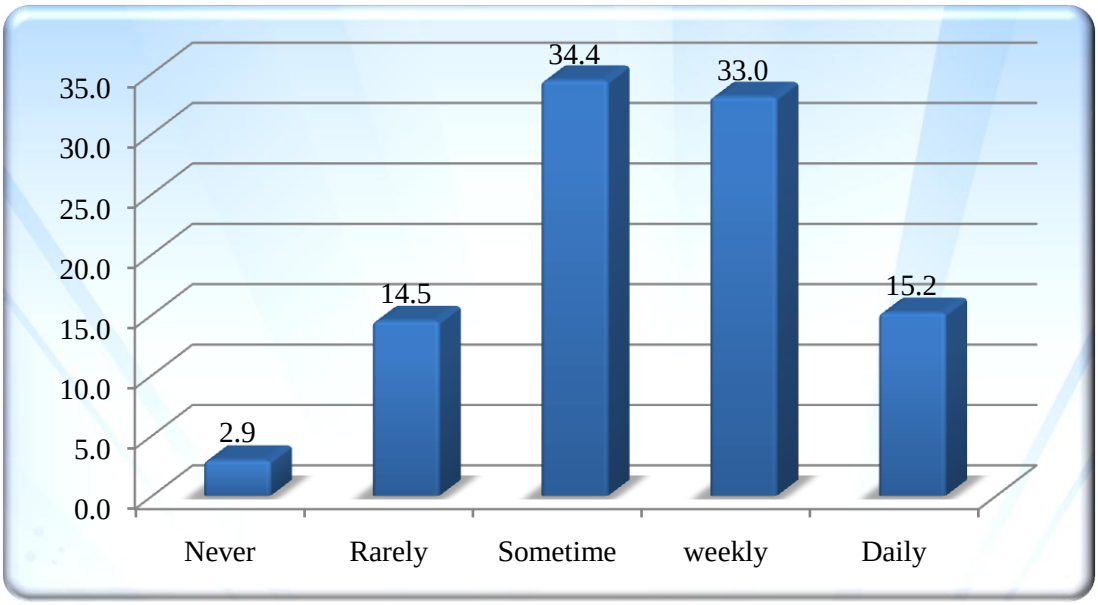

Chart 5.23: Visit of the Library for Magazines/ Journals

Further, **14.5%** of the respondents come rarely in the library and consult magazines/journals in the library but **2.9%** of them never come and consult the magazines/journals in the library.

5.5.5 Visit of the Library for Newspapers

There are also the users who come into the libraries for reading newspapers. **Table 5.25** clearly shows that 45.7**%** of the respondents come daily and read newspapers in the library that is followed by the reading of the newspapers by **18.1 %** of the respondents who come to the library weekly in the library.

Table 5.25: Visit of the Library for Newspapers

Visit of the Library for Newspapers	Frequency	Percent
Never	16	3.6
Rarely	57	12.9
Sometime	87	19.7
Weekly	80	18.1
Daily	202	45.7
Total	442	100.0

Further, **19.7%** of them come sometimes and read newspapers in the library. However, **12.9%** of the respondents come rarely and read newspapers but there are **3.6%** of the respondents who never come and read the newspapers in the library.

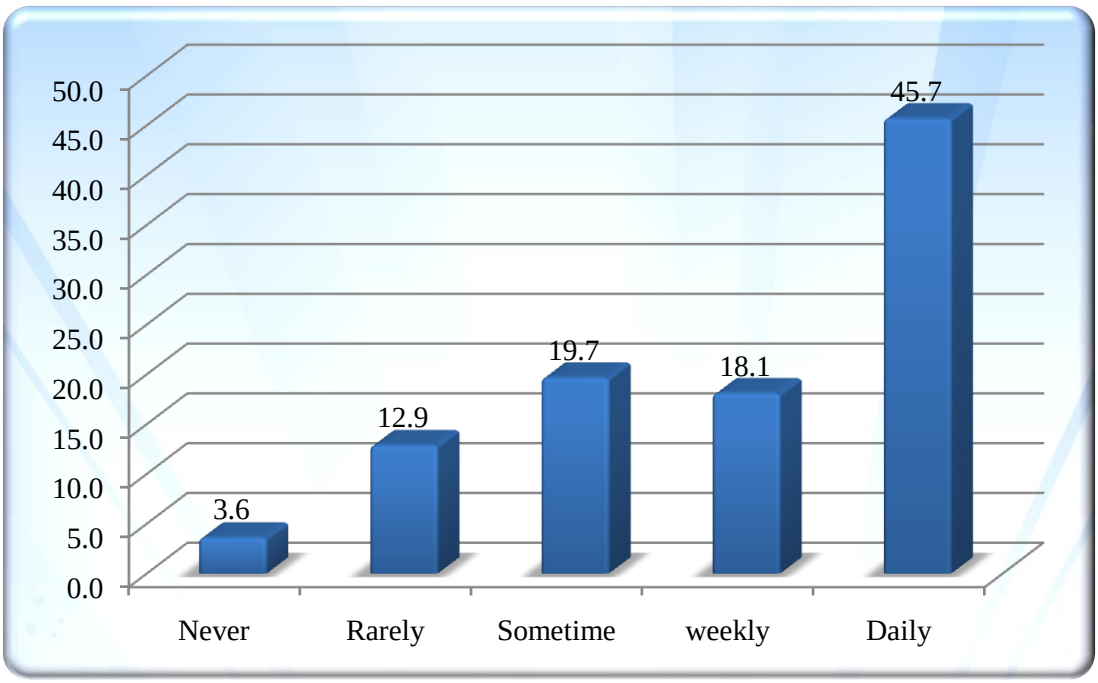

Chart 5.24: Visit of the Library for Newspapers

5.5.6 Visit of the Library for Dissertations / Theses

Table 5.26 shows that trends of the respondents in visiting the libraries for consulting dissertations and the theses.

Table 5.26: Visit of the Library for Dissertations / Theses

Visit of the Library for Dissertations / Theses	Frequency	Percent
Never	73	16.5
Rarely	65	14.7
Sometime	138	31.2
weekly	110	24.9
Daily	54	12.2
Total	442	100.0

The results of the data analysis show that **12.2%** of the respondents come daily in the libraries and use or consult the dissertation/theses in the library. They are followed by **24.9%** of the respondents who come weekly and consult the dissertations/theses in the library. **31.2%** of the respondents come sometimes and consult the dissertation/theses in the library which is followed by **14.7%** of the respondents who rarely visit the library and consult dissertation/theses in the library. However, a small percentage of the users (**16.5%)** never come and consult the dissertation/theses in the library.

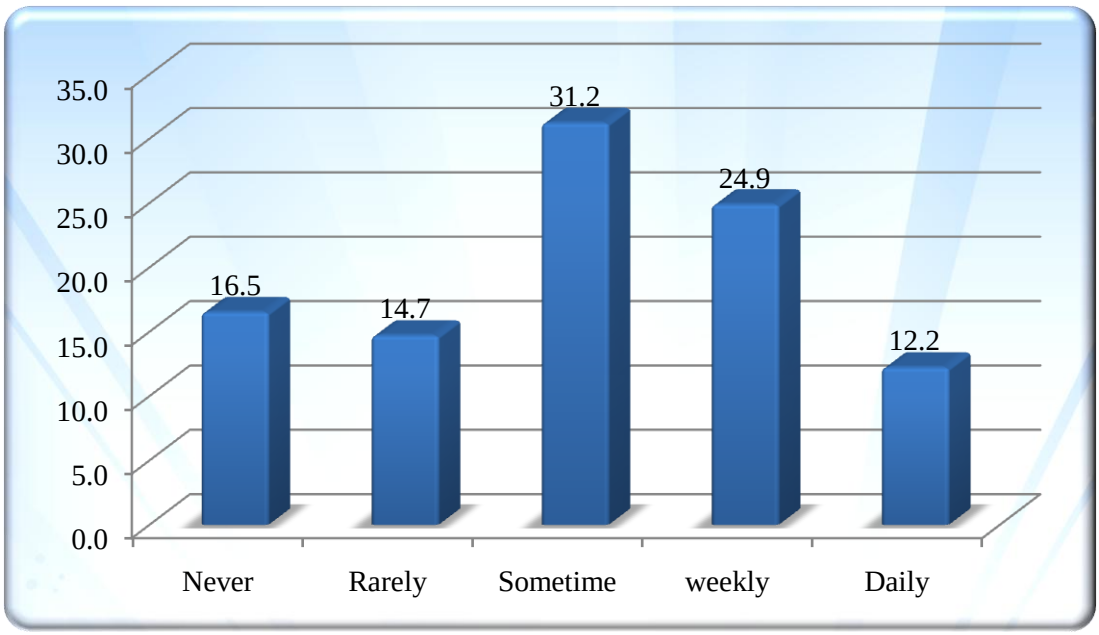

Chart 5.25: Visit of the Library for Dissertations / Theses

5.5.7 Visit for Other Uses

Table 5.27 further shows the details of respondents who visit the libraries on different occasions for other purposes. It is very clear from the analysis of the data that **4.5%** of the respondents come to the library daily for using different purposes that is followed by **15.2%** of the respondents who come weekly in search of other materials. **20.6%** respondents come sometimes in seeking and searching other materials from the library, and **23.3%** respondents come rarely for other materials in the library.

However, 36**%** of the respondents never come to the library. Chart 5.26 also depicts the scenario completely.

Table 5.27: Visit for Other Uses

Visit for other Uses	Frequency	Percent
Never	159	36.0
Rarely	103	23.3
Sometime	91	20.6
weekly	67	15.2
Daily	20	4.5
Total	442	100.0

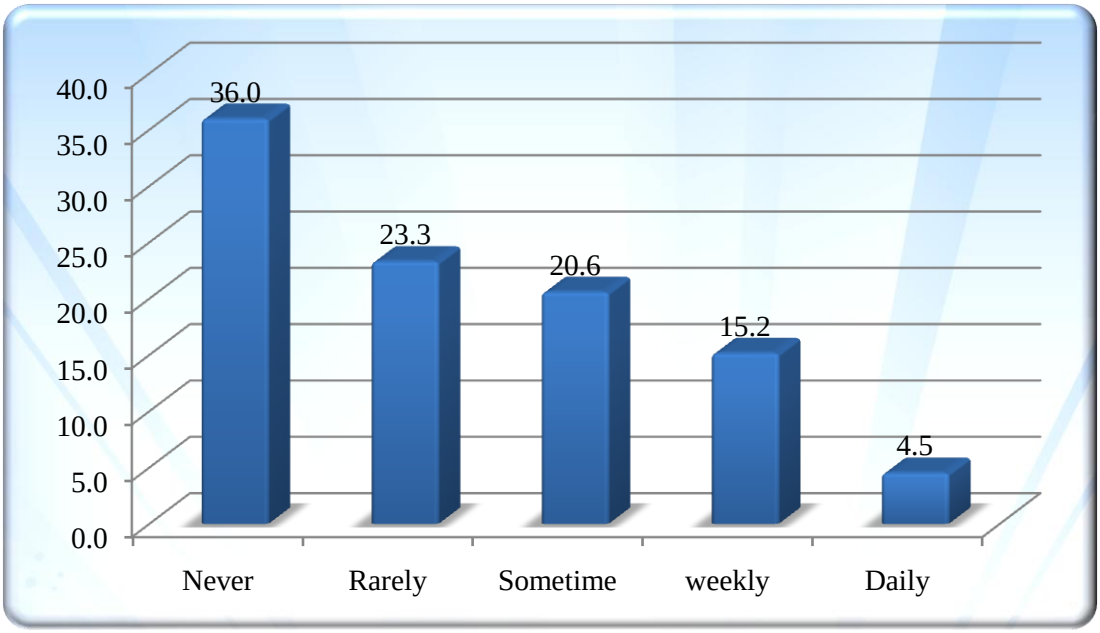

Chart 5.26: Visit for Other Uses

5.6 Rating of Services

It is seen that library provides different kinds of services to their users, for example the circulation service for issuing and return of book from the library, or provide reference services etc. Table 5.28 to 2.30 provides rating of different services provided to their users.

5.6.1 Circulation Services

Table 5.28 shows the level of satisfaction of the users consisting of the students and faculty members.

Table 5.28: Rating of Circulation Service

Rating of Circulation Service	Frequency	Percent
Less Satisfactory	13	2.9
Satisfactory	105	23.8
Good	158	35.7
Very Good	118	26.7
Excellent	48	10.9
Total	442	100.0

Chart 5.27: Rating of Circulation Service

It is clear from the data analysis presented in the table that **10.9%** of the respondents rated this service as excellent, followed by **26.7%** respondents who said it as very good. **35.7%** respondents said this service in the library is good and

23.8% of them have rated them as satisfactory. But **2.9%** of the users rated this service as less satisfactory.

5.6.2 Rating of Reference Services

Table 5.29 shows the level of satisfaction from reference services rated by the users. The results drawn from the analysis show that **6.1%** of the respondents said reference services in the library is excellent, **15.6%** of them said reference services very good. Further, **39.4%** of the respondents have rated reference services as good, followed by **37.6%** respondents who said reference services are satisfactory.

Table 5.29: Rating of Reference Services

Rating of Reference Services	Frequency	Percent
Less Satisfactory	6	1.4
Satisfactory	166	37.6
Good	174	39.4
Very Good	69	15.6
Excellent	27	6.1
Total	442	100.0

But 1.4% respondents said that reference services in the library are less satisfactory. Chart 5.28 also depicts the trend of rating the reference services of different libraries.

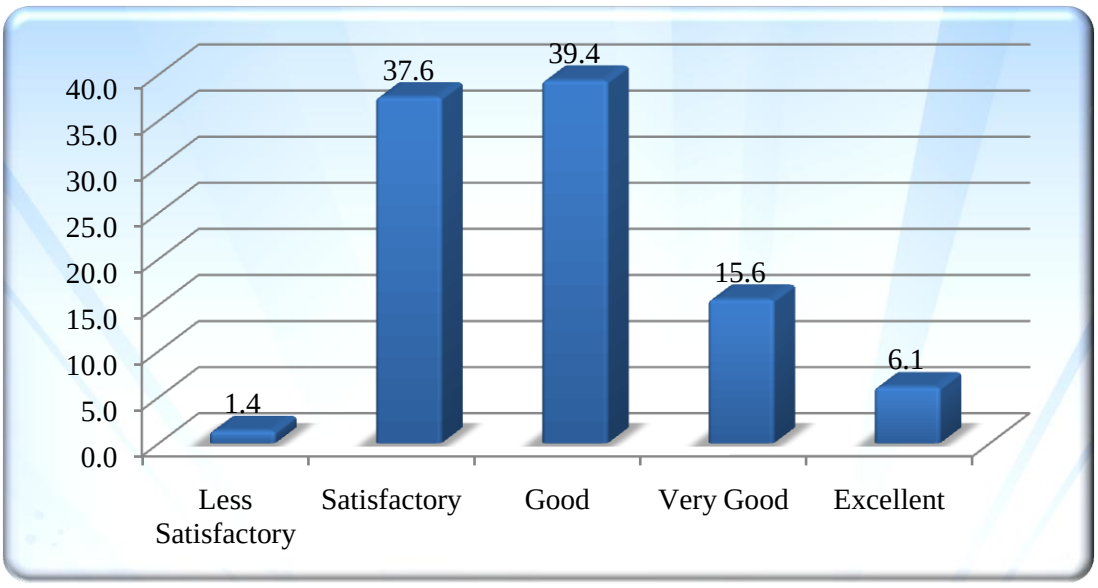

Chart 5.28: Rating of Reference Services

5.6.3 Rating of Photocopy Services

Table 5.30 is all about the satisfaction level from the photocopy services being provided by different libraries under study. It is shown that the level of satisfaction about photocopy services in the library has been rated as excellent by **7.5%** respondents, but is very good as rated by **19%** of the respondents. **26.7%** respondents said that photocopy services in the library is good.

Table 5.30: Rating of Photocopy Services

Rating of Photocopy Services	Frequency	Percent
Less Satisfactory	20	4.5
Satisfactory	187	42.3
Good	118	26.7
Very Good	84	19.0
Excellent	33	7.5
Total	442	100.0

Further, **42.3%** respondents are of the opinion that photocopy services in the library is satisfactory and **4.5%**respondents said photocopy services in the library is less satisfactory.

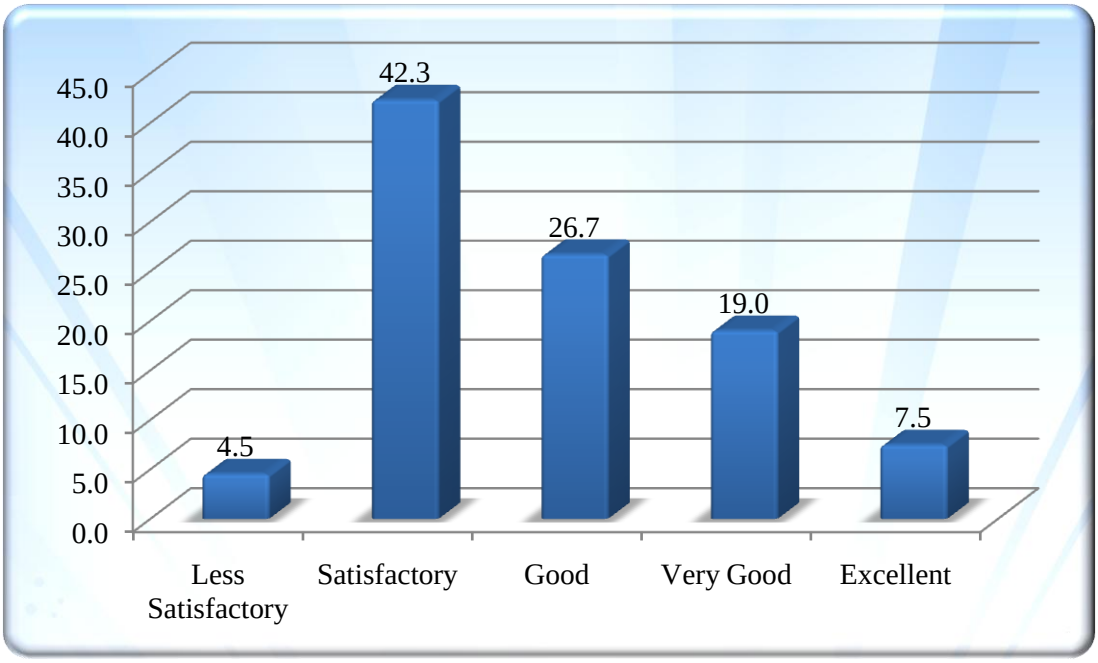

Chart 5.29: Rating of Photocopy Services

5.6.4 Use of OPAC

Table 5.31 shows the level of satisfaction on the use of OPAC facility being provided by respective libraries under survey. The results drawn from the analysis shows that **8.6%** respondents use OPAC facility in the library is excellent, that is followed by **17.6%** respondents who said that OPAC facility in the library is very good.

Table 5.31: Use of OPAC

Use of OPAC	Frequency	Percent
Less Satisfactory	76	17.2
Satisfactory	143	32.4
Good	107	24.2
Very Good	78	17.6
Excellent	38	8.6
Total	442	100.0

Further, **24.2%** respondents are of the opinion that OPAC facility in the library is good, and **32.4%**respondents said OPAC facility is satisfactory. But **17.2%** of the respondents were found to be less satisfied with the OPAC facility. Chart 5.30 also depicts the scenario more clearly.

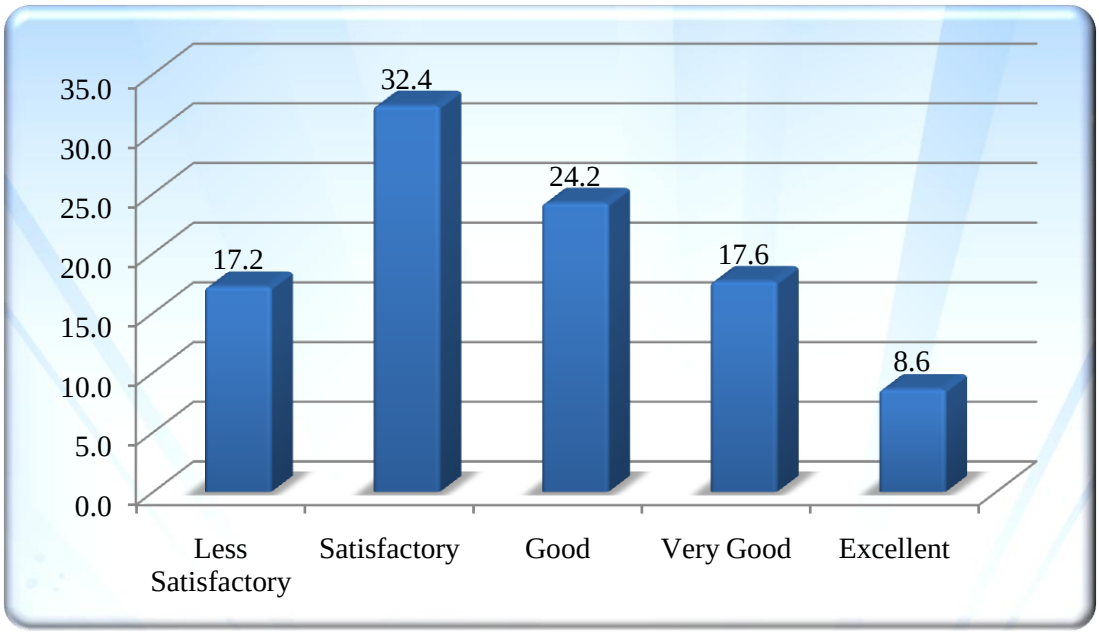

Chart 5.30: Use of OPAC

5.6.5 Co-Operation from Library Staff

Cooperation is the most important factor for user satisfaction. If the staff in the library is co-operative then the users will be highly satisfied but if staff is not cooperative then users will either be less satisfied or not satisfied.

Table 5.32: Co-Operation from Library Staff

Co-operation from Library Staff	Frequency	Percent
Less Satisfactory	27	6.1
Satisfactory	54	12.2
Good	139	31.4
Very Good	142	32.1
Excellent	80	18.1
Total	442	100.0

Chart 5.31: Co-operation from Library Staff

Table 5.32 shows that **18.1%** respondents have rated library staff as excellent cooperative that is followed by **32.1%** respondents who rated them as very good. Further, **31.4%** respondents rated them as good and 1**2.2%** as satisfactory only. But **6.1%** respondents said that the library staff is less cooperative in nature.

5.6.6 Opinion about CAS

CAS or current awareness services are provided to the users to make them update on the current topics. Thus, they along with SDI form as the important services.

Table 5.33: Opinion about CAS

Opinion about CAS	Frequency	Percent
Less Satisfactory	150	33.9
Satisfactory	136	30.8
Good	82	18.6
Very Good	57	12.9
Excellent	17	3.8
Total	442	100.0

Chart 5.32: Opinion about CAS

Table 5.33 shows that **3.8%** of the respondents said that CAS services in the library are excellent which are further rated as very good by **12.9%** respondents. However **18.6%** of the respondents said that CAS services in the library are good and **30.8%** of them rated as satisfactory only. But there are **33.9%** of the respondents who are of the opinion that CAS services are less satisfactory.

5.6.7 Opinion about SDI

SDI is the selective dissemination of the information that is provided on demand to the users, especially who needs in-depth information on any topic.

Table 5.34: Opinion about SDI

Opinion about SDI	Frequency	Percent
Less Satisfactory	177	40.0
Satisfactory	137	31.0
Good	62	14.0
Very Good	49	11.1
Excellent	17	3.8
Total	442	100.0

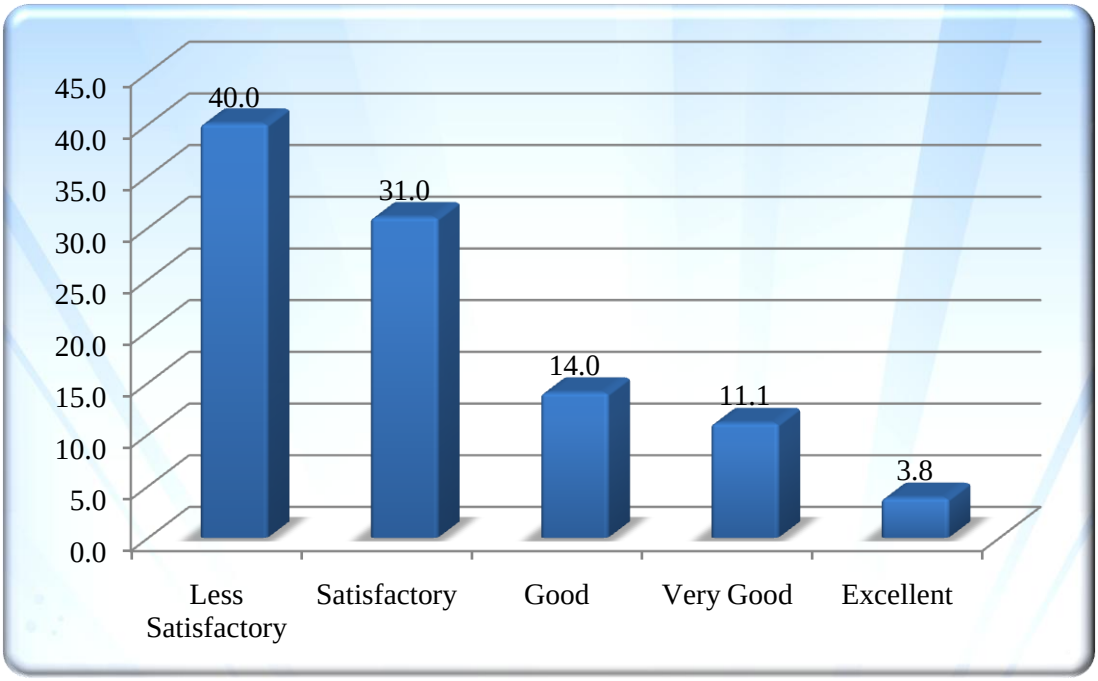

Chart 5.33: Opinion about SDI

Table 5.34 shows that **3.8%** of the respondents said that SDI services in the library are excellent that is followed by **11.1%** respondents who said as very good but **14%** of the respondents have rated that only good.

Further, **31%** of the respondents have said that SDI services are only satisfactory and **40%** respondents have rated them as less satisfactory.

5.6.8 Current Update through E-Mails

Sometimes, the libraries also update their users on various topics through emails. Thus, the data were also collected on this aspect and they are presented in **Table 5.35**. It is seen from the table that **4.3%** respondents have rated on this point as excellent that is followed by the answers of **32.1%** respondents who have rated this very good.

Table 5.35: Current Update through E-Mails

Current Update through E-Mails	Frequency	Percent
Less Satisfactory	197	44.6
Satisfactory	125	28.3
Good	51	11.5
Very Good	50	11.3
Excellent	19	4.3
Total	442	100.0

31.4% respondents have rated this service as good but **12.2%** of them are of the opinion that this service is satisfactory only. However, **6.1%**respondents rated this as less satisfactory.

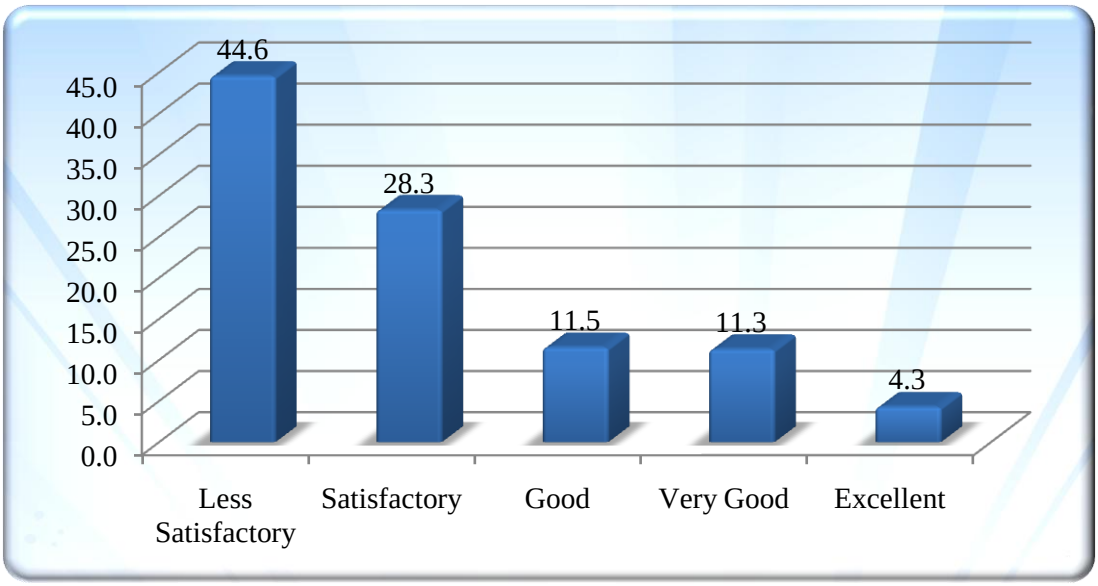

Chart 5.34: Current Update through e-mail

5.7 What Language you Feel Comfortable in Seeking Information

Further, the respondents were asked that what Language you feel comfortable in seeking information shown in table 5.36 to 5.37

5.7.1 Use of English Language

English is the most widely used language worldwide, but on various occasions the users are not found much aquatinted with the use of this language.

Table 5.36: Use of English Language

Use of English Language	Frequency	Percent
Poor	49	11.1
Satisfactory	150	33.9
Good	171	38.7
Very Good	57	12.9
Excellent	15	3.4
Total	442	100.0

Table 5.36 shows that the users face many problems many problems in accessing or finding information from the library. The results drawn from the analysis shows that **3.4%** of the respondents have rated this language excellent, **12.9%** respondents rated very good and **38.7%** of them as good.

But **33.9%** of the respondents found this language as satisfactory and **11.1%** respondents as poor language for them. Chart 5.35 also depicts the scene very well.

Chart 5.35: Use of English Language

5.7.2 Use of Hindi Language

Hindi language seems to be easy language because it is the mother language also. But sometimes, users also face many problems in finding information from the library in this language.

Table 5.37 shows that **32.4%** respondents have rated this langue as excellent that is followed by **37.8%** responses of the users as very good. Further, **20.8%** respondents have rated it as good and **8.6%** respondents as satisfactory. But there are also some users **(0.5%)** who have rated this as poor language in finding information from the library.

Table 5.37: Use of Hindi Language

Use of Hindi Language	Frequency	Percent
Poor	2	.5
Satisfactory	38	8.6
Good	92	20.8
Very Good	167	37.8
Excellent	143	32.4
Total	442	100.0

Chart 5.36: Use of Hindi Language

5.8 Problem Faced in Using Library

5.8.1 Availability of Reading Materials

Table 5.38 depicts the analysis of the data regarding the availability of reading materials in the library. It can be seen that **27.4%** of the respondents were strongly disagree, **26.9%** respondents were disagree, and **26%** respondents were neutral as far the as the availability of the reading material in the libraries is concerned. While, **17.2%** of the respondents are agree and **2.5%** respondents were strongly agree on the availability of the reading materials in the libraries.

Table 5.38: Availability of Reading Materials

Availability of Reading Materials	Frequency	Percent
Strongly Disagree	121	27.4
Disagree	119	26.9
Neutral	115	26.0
Agree	76	17.2
Strongly Agree	11	2.5
Total	442	100.0

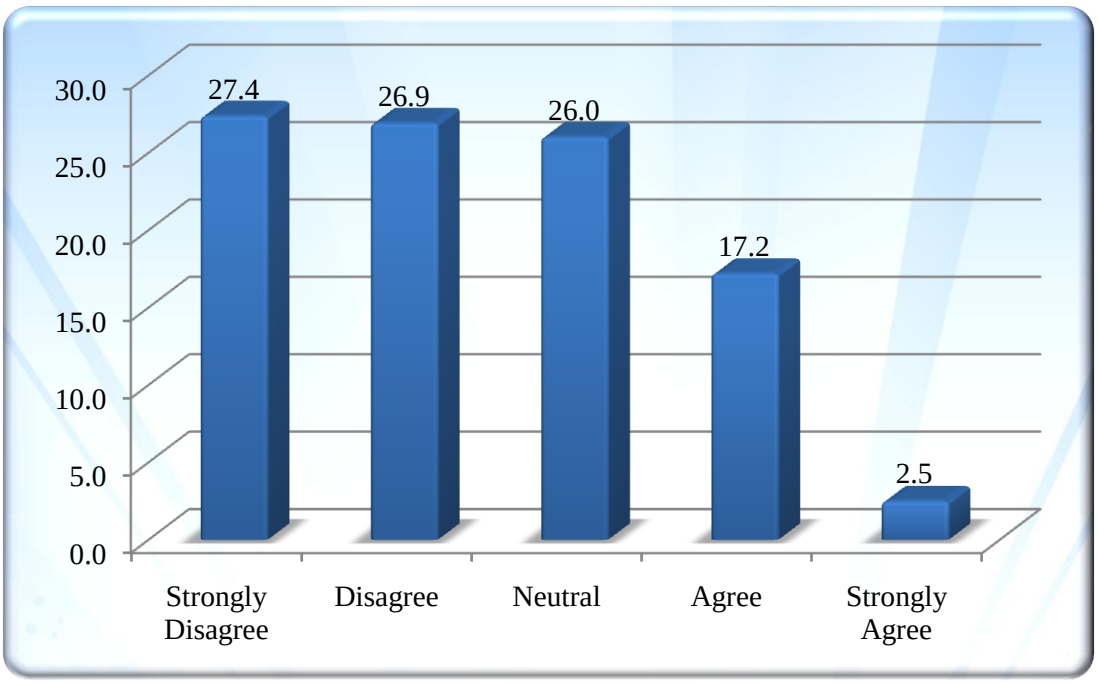

Chart 5.37: Availability of Reading Materials

5.8.2 Vastness of the Information

Table 5.39 depicts the nature of the information in the libraries. It may be seen that **16.3%** respondents were strongly disagree, **24.7%** respondents were disagree, and **25.8%** of them were neutral on the vastness of the information available in the libraries. However, **20.8%** respondents were 'agree' and **12.4%** respondents were 'strongly agree' on the vastness of the information in the libraries.

Table 5.39: Vastness of the Information

Vastness of the Information	Frequency	Percent
Strongly Disagree	72	16.3
Disagree	109	24.7
Neutral	114	25.8
Agree	92	20.8
Strongly Agree	55	12.4
Total	442	100.0

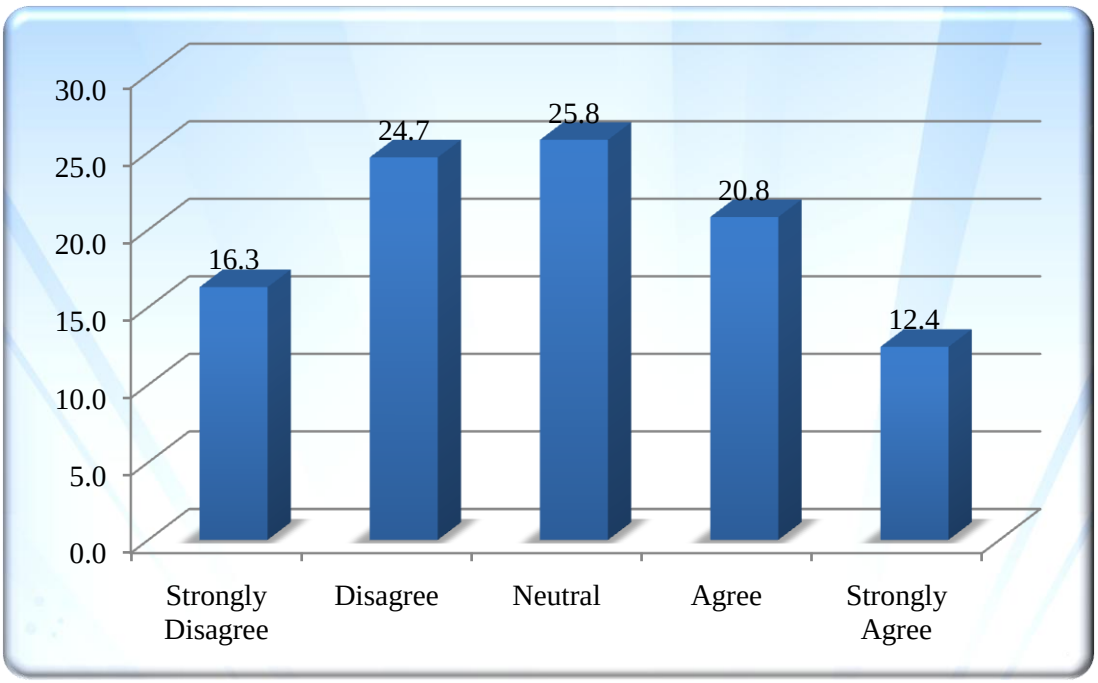

Chart 5.38: Vastness of the Information

5.8.3 Lack of Time

Table 5.40 shows that the respondents face the problem of lack of time in the library**,** means that the library timings are too short that the users cannot sit properly for the long times in the library. The analysis of the data collected for the study depicts that users have diverse opinions. It is seen that **9.2%** of the respondents were strongly disagree, **23.1%** respondents were disagree, and **27.1%** respondents were neutral on this point. Further, **23.3%** respondents were 'agree' and **7.2%** respondents were 'strongly agree' that there is always lack of time in the library.

Table 5.40: Lack of Time

Lack of Time	Frequency	Percent
Strongly Disagree	85	19.2
Disagree	102	23.1
Neutral	120	27.1
Agree	103	23.3
Strongly Agree	32	7.2
Total	442	100.0

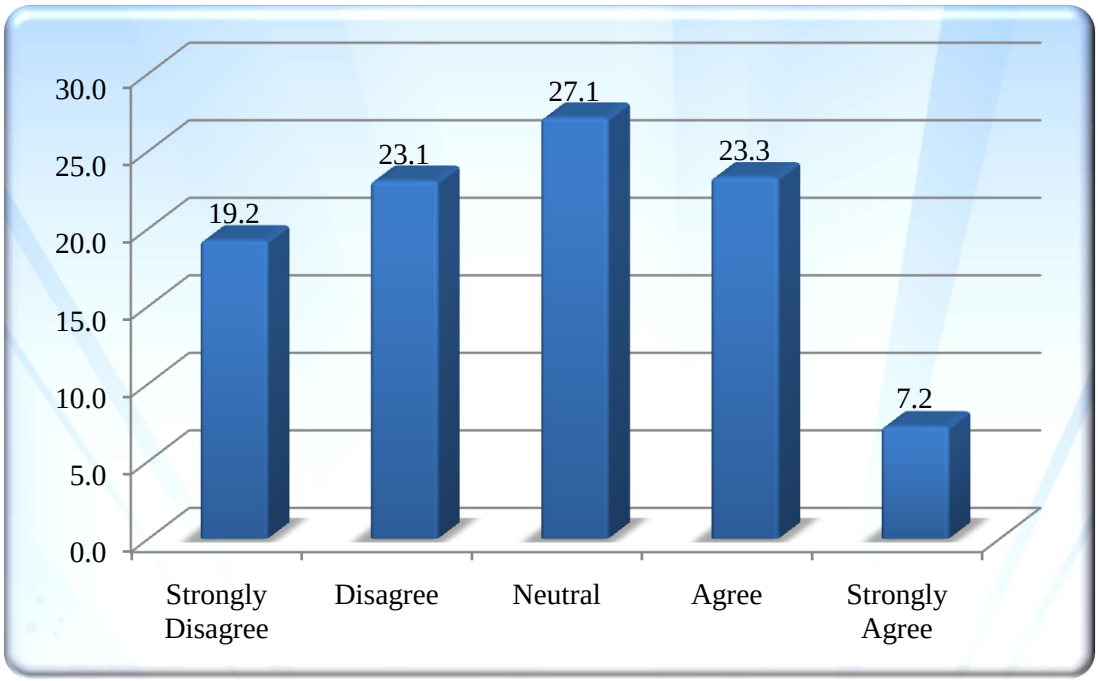

Chart 5.39: Lack of Time

5.8.4 Library Staff Unsupportive

Table 5.41 shows that the staff of the library is unsupportive. Results shows that **51.4%**respondents were strongly disagree, **26.5%** respondents were disagree, **11.5%**respondentswere neutral while **7.9%**respondentswere agree and **2.7%** respondents were strongly agree with the same.

Table 5.41: Library Staff Unsupportive

Library Staff Unsupportive	Frequency	Percent
Strongly Disagree	227	51.4
Disagree	117	26.5
Neutral	51	11.5
Agree	35	7.9
Strongly Agree	12	2.7
Total	442	100.0

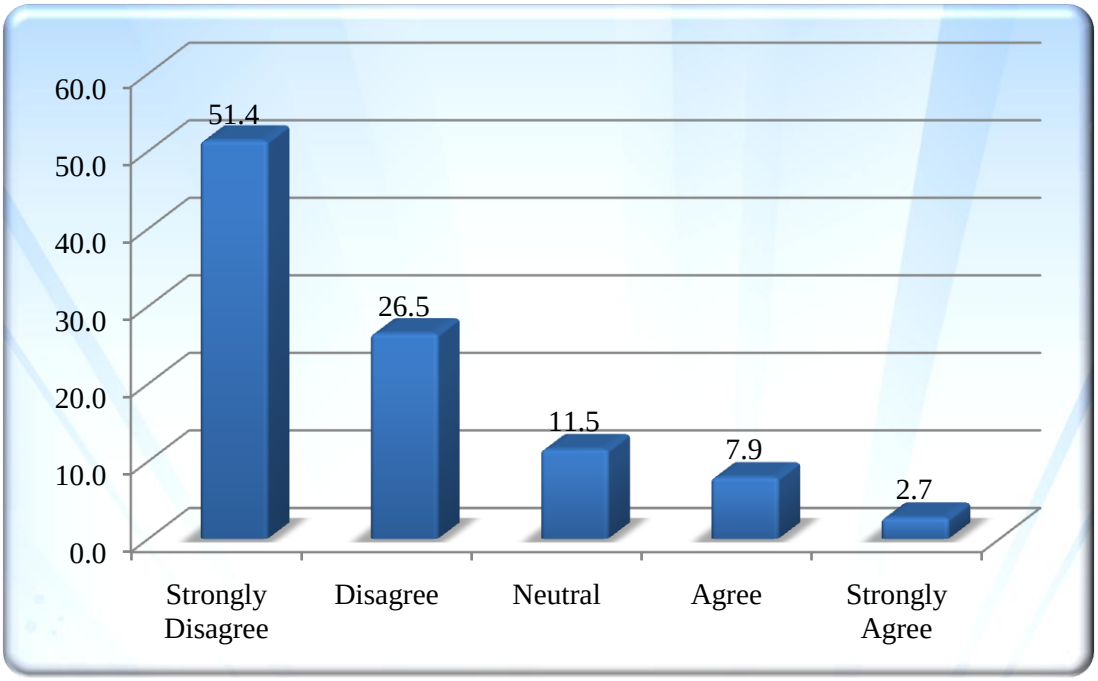

Chart 5.40: Library Staff Unsupportive

5.8.5 Lack of Knowledge

Table 5.42 shows that the major problem in the library is lack of Knowledge Results shows that **33.3%** respondents were strongly disagree, **22.2%** respondents were disagree, **22.6%** respondents were neutral while **16.5%** respondents were agree and **5.4%** respondents were strongly agree with the same.

Table 5.42: Lack of Knowledge

Lack of Knowledge	Frequency	Percent
Strongly Disagree	147	33.3
Disagree	98	22.2
Neutral	100	22.6
Agree	73	16.5
Strongly Agree	24	5.4
Total	442	100.0

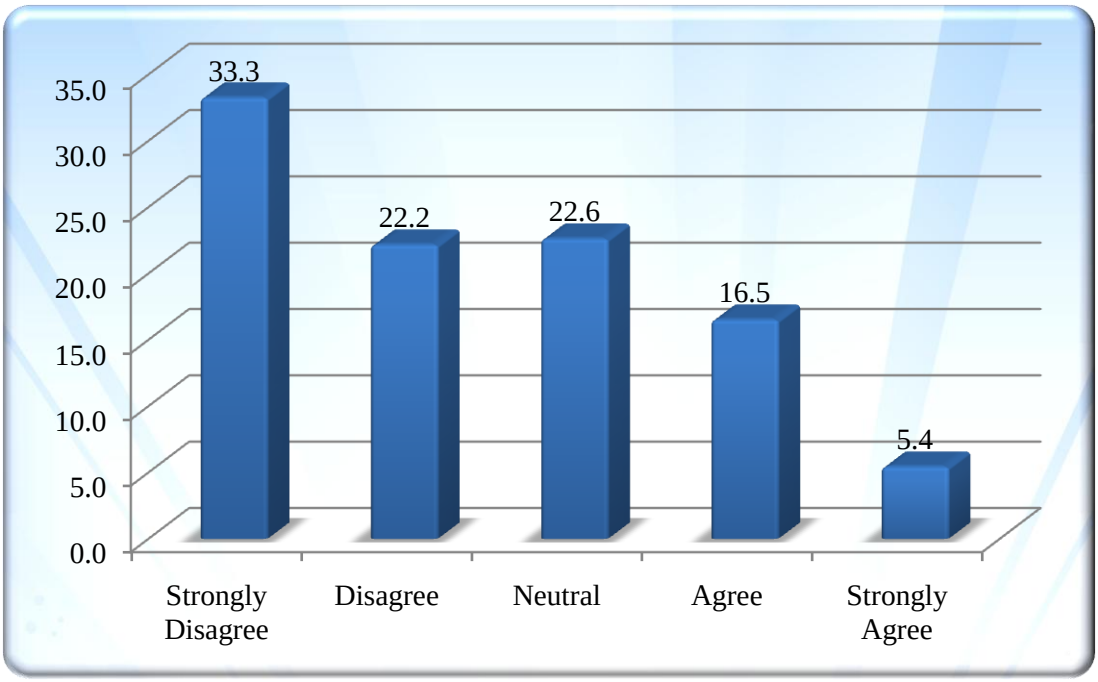

Chart 5.41: Lack of Knowledge

5.8.6 Language Problem

Table 5.43 shows that the users facing language problem in the library. Results shows that **27.4%**respondents were strongly disagree, **21.7%** respondents were disagree, **18.1%**respondentswere neutral while **20.1%**respondentswere agree and **12.7%** respondents were strongly agree with the same.

Table 5.43: Language Problem

Language Problem	Frequency	Percent
Strongly Disagree	121	27.4
Disagree	96	21.7
Neutral	80	18.1
Agree	89	20.1
Strongly Agree	56	12.7
Total	442	100.0

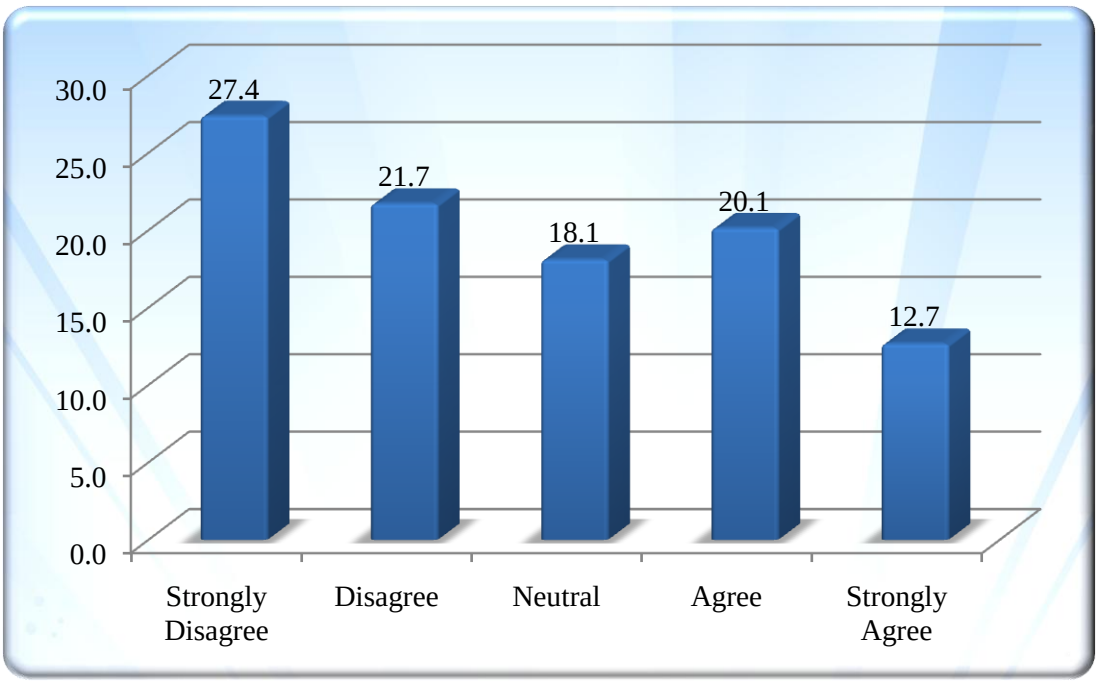

Chart 5.42: Language Problem

5.8.7 Usage of OPAC in the Library

Table 5.44 shows that the users facing problem regarding the usage of OPAC in the library. Results shows that **27.4%**respondents were strongly disagree, **18.6%** respondents were disagree, **17.6%**respondentswere neutral while **19.7%**respondentswere agree and **16.7%** respondents were strongly agree with the same.

Table 5.44: Usage of OPAC in the Library

Usage of OPAC in the library	Frequency	Percent
Strongly Disagree	121	27.4
Disagree	82	18.6
Neutral	78	17.6
Agree	87	19.7
Strongly Agree	74	16.7
Total	442	100.0

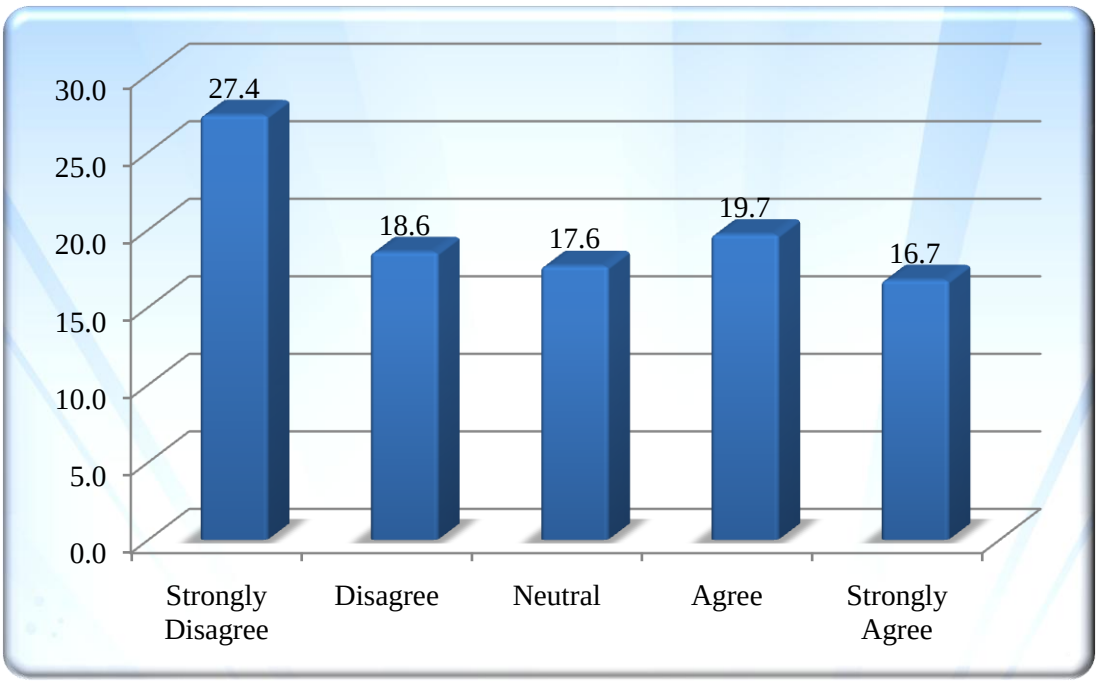

Chart 5.43: Usage of OPAC in the Library

5.9 Type of Information Technology

5.9.1 Use Computer

Table 5.45 it has been observed that the users use computer in the library. Results drawn from the analysis that **31.9%**respondents use computers daily in the library, **29.6%** respondents use computers weekly in the library, **29.4%**respondents use computers sometimes in the library,**7.9%**respondents use computer rarely in the library and **16.5%**respondents never use computers in the library.

Table 5.45: Use Computer

Use Computer	Frequency	Percent
Never	5	1.1
Rarely	35	7.9
Sometimes	130	29.4
Weekly	131	29.6
Daily	141	31.9
Total	442	100.0

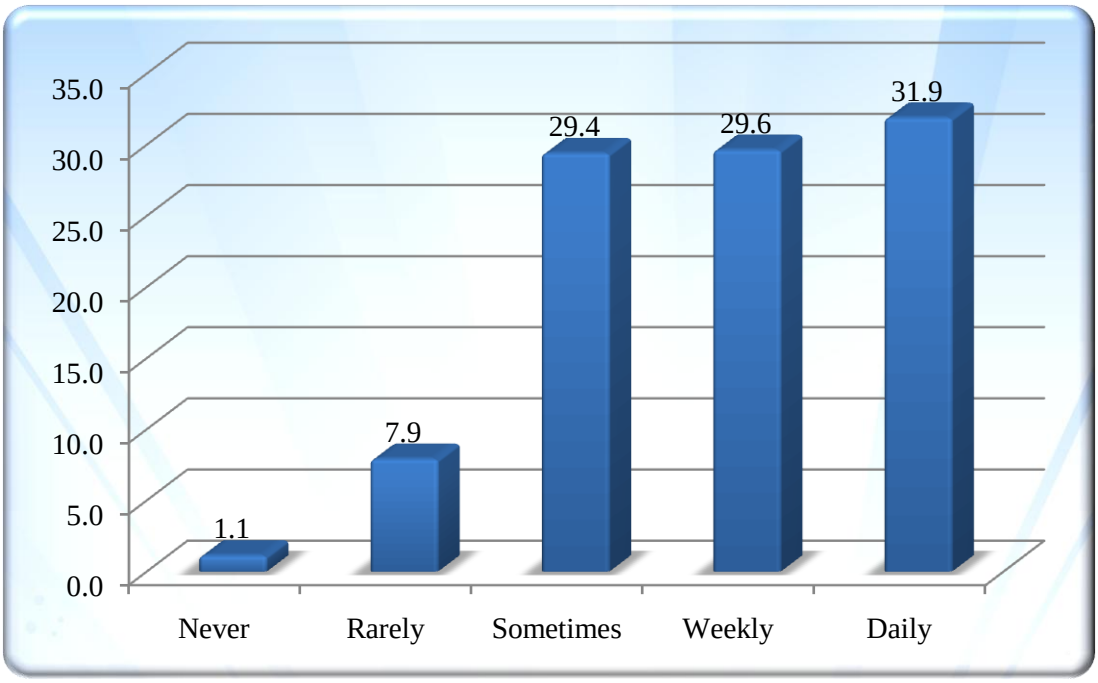

Chart 5.44: Use Computer

5.9.2 Internet

Table 5.46 it has been observed that the users use Internet in the library. Results drawn from the analysis that they mostly use internet in the library **39.6%**respondents use computers daily in the library, **32.1%** respondents use computers weekly in the library, **21.3%**respondents use computers sometimes in the library,**4.8%**respondents use computer rarely in the library and **2.2%**respondents never use computers in the library.

Table 5.46: Internet

Internet	Frequency	Percent
Never	10	2.2
Rarely	21	4.8
Sometimes	94	21.3
Weekly	142	32.1
Daily	175	39.6
Total	442	100.0

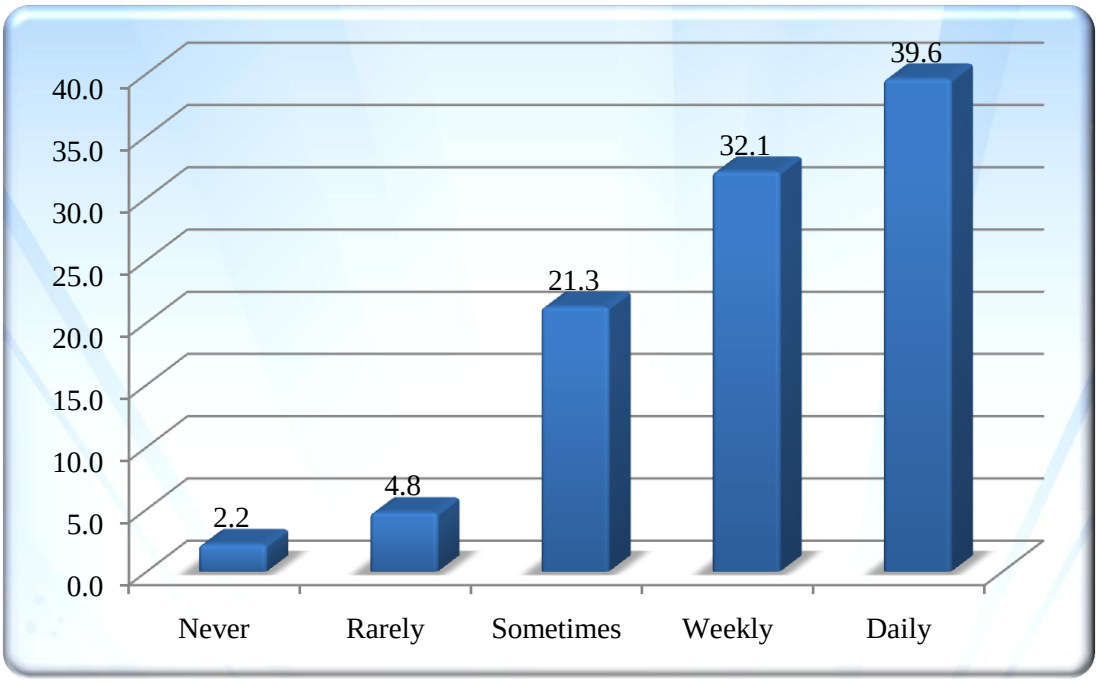

Chart 5.45: Internet

5.9.3 Use of Online Databases

Online resources form an important part in the collection of any library. Thus, a question was asked from the users about the uses of online databases they are using in their respective libraries. **Table 5.47** shows that **14.5%** respondents use online databases 'daily' in the library, **19.7%** respondents use online databases 'weekly' in the library and **43.2%** of them use online databases 'sometimes' in the library. Further, **17%** of the respondents use online databases 'rarely' but **5.7%** respondents are also there who never used online databases in the library.

Table 5.47: Use of Online Databases

Use of Online Databases	Frequency	Percent
Never	25	5.7
Rarely	75	17.0
Sometimes	191	43.2
Weekly	87	19.7
Daily	64	14.5
Total	442	100.0

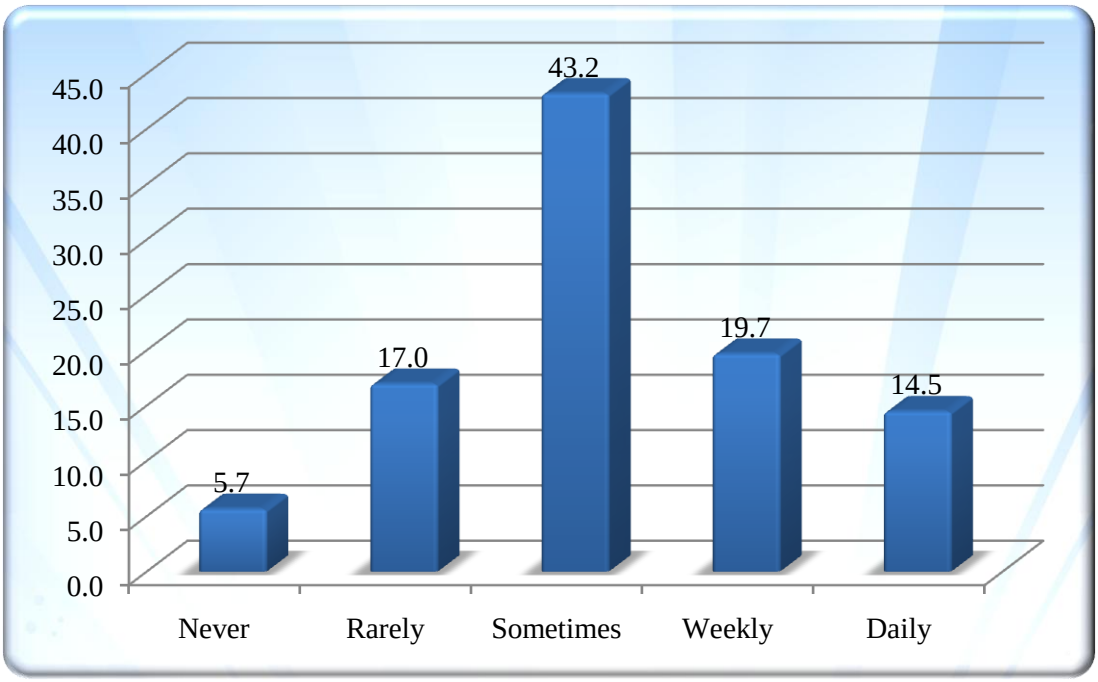

Chart 5.46: Use of Online Databases

5.9.4 Access of E-Journals in Library

Table 5.48 depicts the trends of accessing e-journals in the library. The analysis of the data presented in table shows that **7.7%** of the respondents use e-journals 'daily' in the library, **26.7%** respondents use e-journals 'weekly' in the library and **32.1%** respondents use e-journals 'sometimes' in the library. Further, **24%** of the respondents use e-journals 'rarely' in the library but a small percentage of the respondents (**9.5%)** is also there who never accesses the e-journals in library.

Table 5.48: Access of E-Journals in Library

Access of E-Journals in Library	Frequency	Percent
Never	42	9.5
Rarely	106	24.0
Sometimes	142	32.1
Weekly	118	26.7
Daily	34	7.7
Total	442	100.0

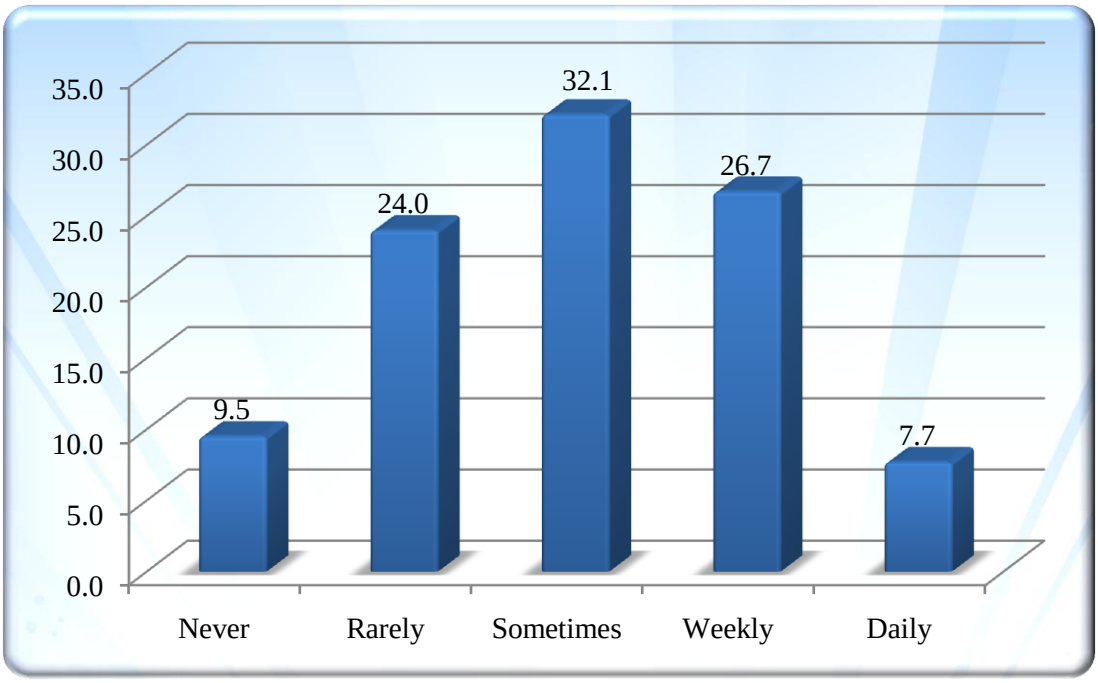

Chart 5.47: Access of E-Journals in Library

5.9.5 Access of CD-ROMs

Further, the libraries of the institutes covered in the study are also providing access of CD-ROM databases to their users. **Table 5.49** shows that **6.5%** of the respondents use CD-ROM databases 'daily' in the library, followed by **13.1%** of the respondents who use CD-ROM databases 'weekly' and **18.8%** respondents who use CD-ROM databases 'sometimes' in the library. Further, **21%** respondents use CD-ROM databases 'rarely' in the library but **40.5%** respondents never use CD-ROM databases in the library.

Table 5.49: Access of CD-ROMs

Access of CD-ROMs	Frequency	Percent
Never	179	40.5
Rarely	93	21.0
Sometimes	83	18.8
Weekly	58	13.1
Daily	29	6.5
Total	442	100.0

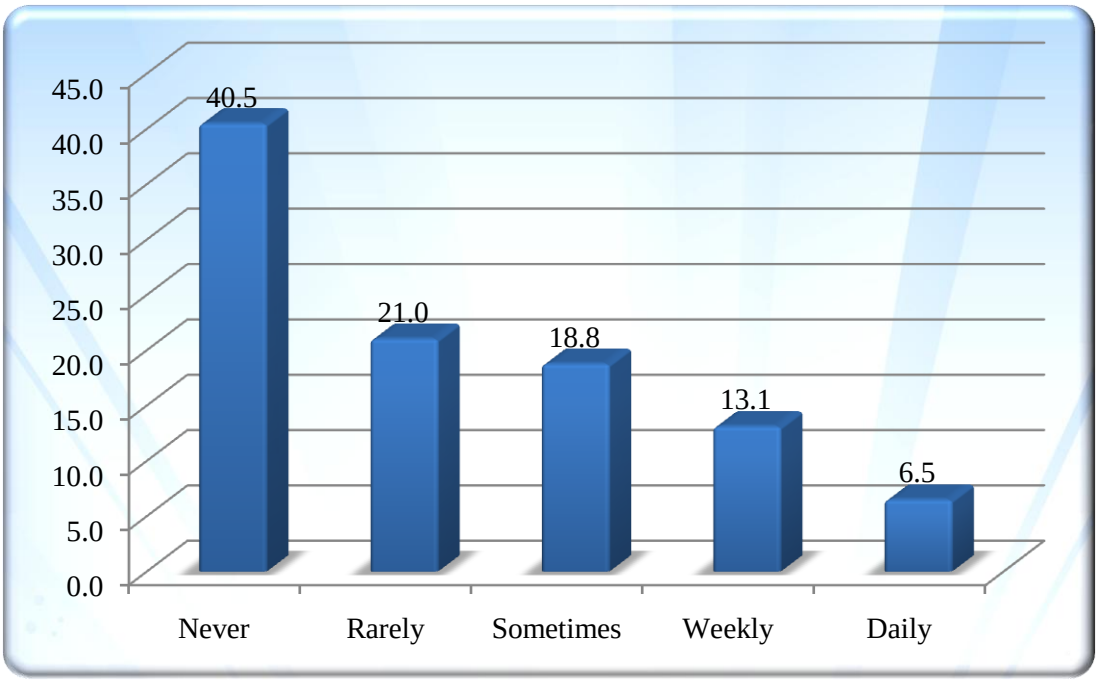

Chart 5.48: Access of CD-ROMs

5.9.6 Printing Facility in the Library

Table 5.50 shows the details of printing facility being provided by the libraries to their usres. It can seen that **7.2%** of the respondents use printers 'daily' in the library, **15.6%** respondents use printer 'weekly' in the library and **22.6%** respondents use printer 'sometimes' in the library. But **32.1%** of the respondents use printer 'rarely' and **22.4%** respondents never used the printers in the library.

Table 5.50: Printing Facility in the Library

Printing Facility in the Library	Frequency	Percent
Never	99	22.4
Rarely	142	32.1
Sometimes	100	22.6
Weekly	69	15.6
Daily	32	7.2
Total	442	100.0

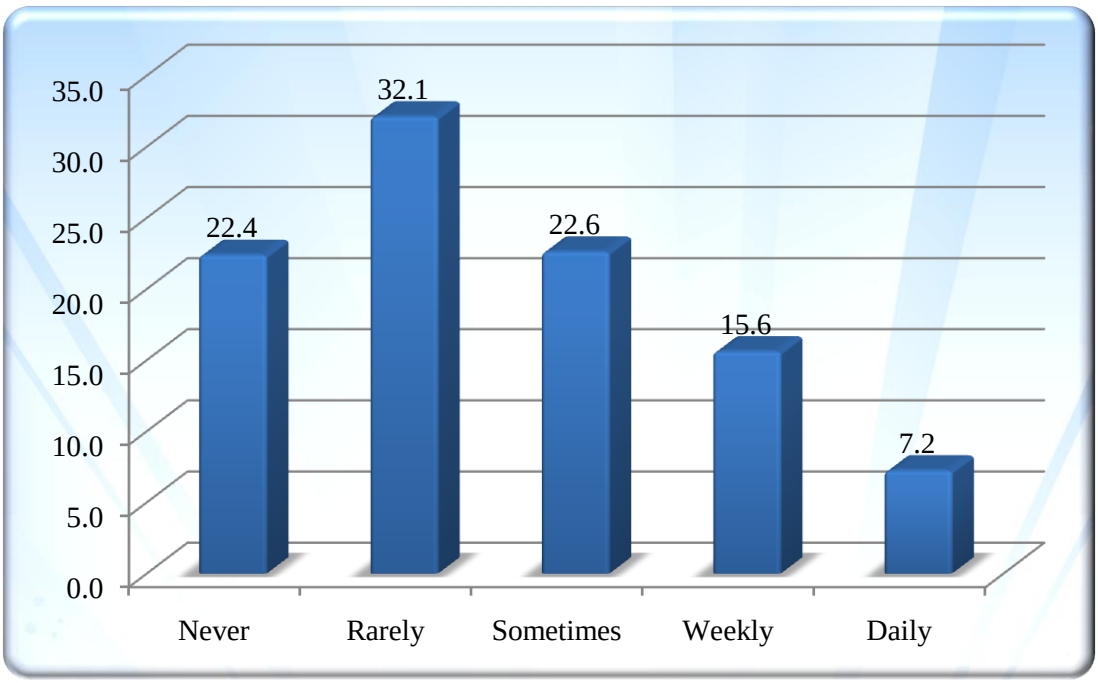

Chart 5.49: Printing Facility in the Library

5.9.7 Availability of Photocopy Services

The libraries of various institutes are also providing photocopy services to their users. Thus, respondents also opined about this point. **Table 5.51** depicts that **13.3%** of the respondents use photocopy service 'daily' in the library, followed by the use by **17.6%** respondents who use photocopy 'weekly' and **38.2%** of the respondents use photocopy 'sometimes'. Further, **25.1%** of them use photocopy services 'rarely' in the library but **5.7%** of the respondents never used the facility of photocopy services in the library.

Table 5.51: Availability of Photocopy Services

Availability of Photocopy Services	Frequency	Percent
Never	25	5.7
Rarely	111	25.1
Sometimes	169	38.2
Weekly	78	17.6
Daily	59	13.3
Total	442	100.0

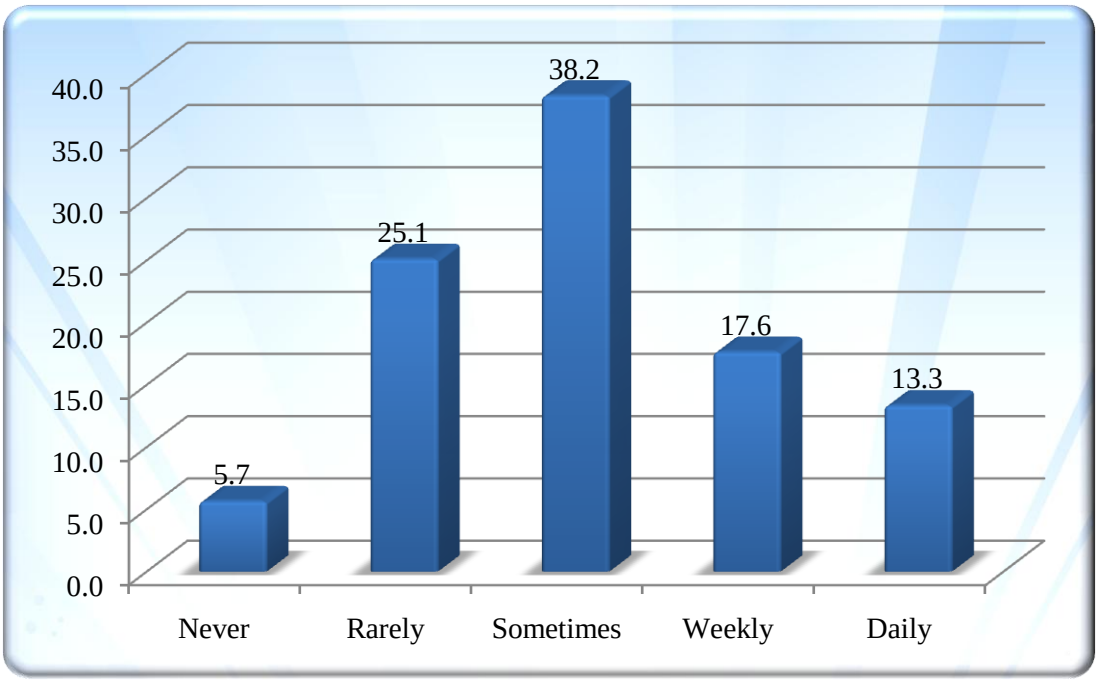

Chart 5.50: Availability of Photocopy Services

5.9.8 Availability of Scanning

Table 5.52 details about the scanning facilities being provided by the respective libraries to their users. It may be seen that **8.1%** respondents use scanner machine 'daily' in the library, **10.4%** respondents use scanner machine 'weekly' and **23.1%** of the respondents use scanning facility 'sometimes' in the library. **21%** of the respondents use scanning 'rarely' but there are also some respondents **(37.3%)** who never avail the scanning facility in the library.

Table 5.52: Availability of Scanning

Availability of Scanning	Frequency	Percent
Never	165	37.3
Rarely	93	21.0
Sometimes	102	23.1
Weekly	46	10.4
Daily	36	8.1
Total	442	100.0

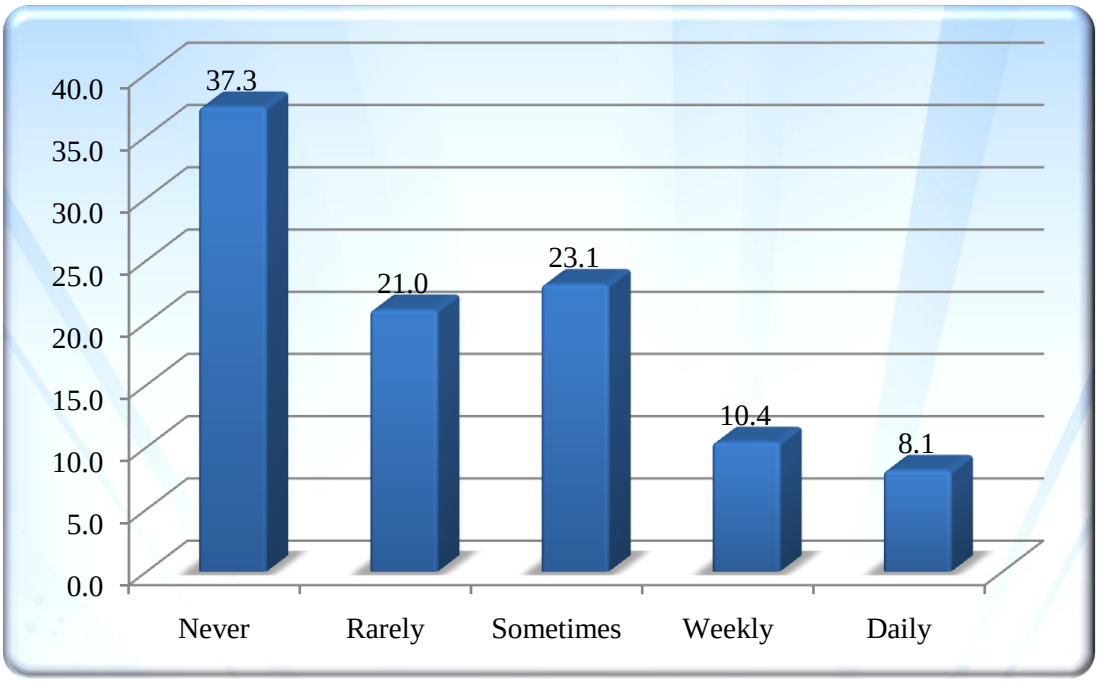

Chart 5.51: Availability of Scanning

5.10 Frequency of using Computers for Seeking Information

5.10.1 For Study

Table 5.53 tells us about the frequency of using computer for study in the library. Conclusions drawn from the analysis that **31.4%** respondents daily use computer for study in the library, **32.1%** respondents weekly use computer for study in the library, **25.6%** respondents use computer for study sometimes in the library,**7%** respondents use computer for study rarely in the library and **3.8%** respondents never use computer for study in the library.

Table 5.53: For Study

For Study	Frequency	Percent
Never	17	3.8
Rarely	31	7.0
Sometimes	113	25.6
Weekly	142	32.1
Daily	139	31.4
Total	442	100.0

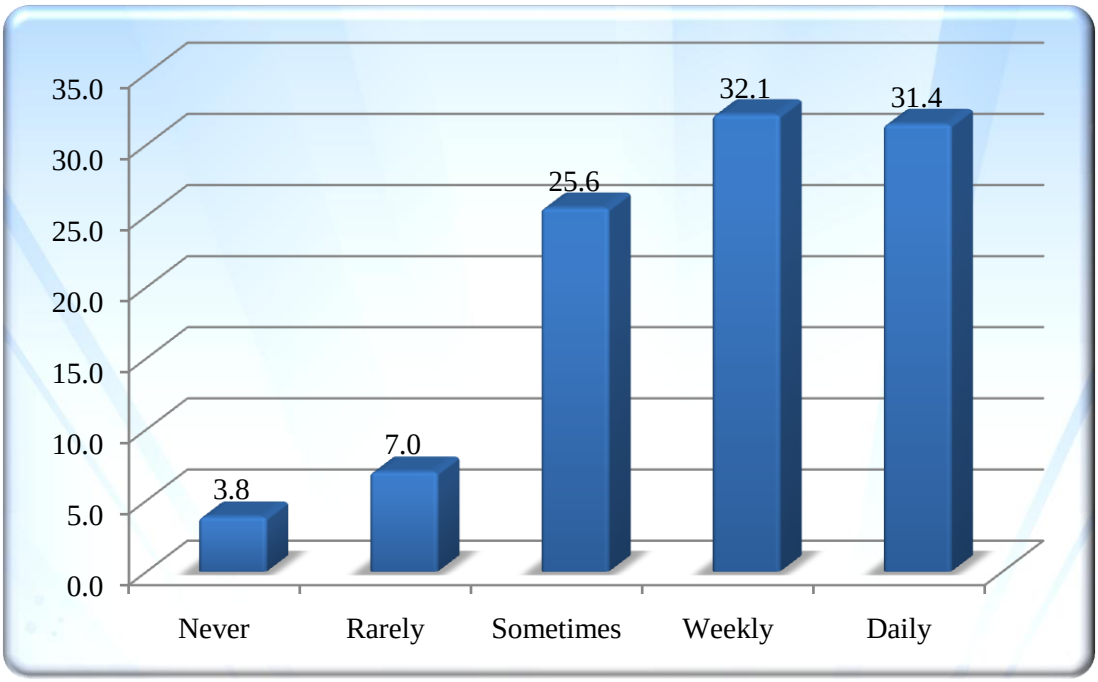

Chart 5.52: For Study

5.10.2 For Research

Table 5.54 tells us about the frequency of using computer for research work in the library. Conclusions drawn from the analysis that **19.9%**respondents daily use computer for research work in the library, **18.1%** respondents weekly use computer for research work in the library, **31.4%**respondents use computer for research work sometimes in the library,**18.8%**respondents use computer for research work rarely in the library and **11.8%**respondents never use computer for research work in the library.

Table 5.54: For Research

For Research	Frequency	Percent
Never	52	11.8
Rarely	83	18.8
Sometimes	139	31.4
-Weekly	80	18.1
Daily	88	19.9
Total	442	100.0

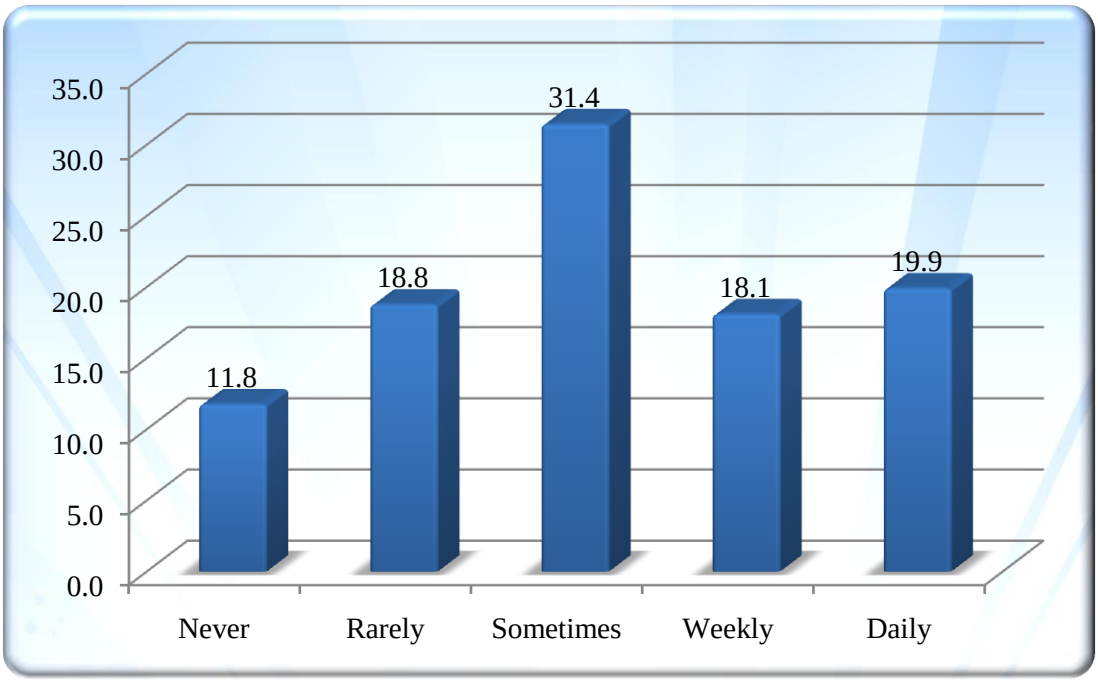

Chart 5.53: For Research

5.10.3 Search Internet

Table 5.55 tells us about the frequency of using computer to search the internet in the library. Conclusions drawn from the analysis that **25.8%**respondents daily use computer to search the internet in the library, **24.7%** respondents weekly use computer to search the internet in the library, **31%**respondents use computer to search the internet sometimes in the library,**15.8%**respondents use computer to search the internet rarely in the library and **2.7%**respondents never use computer to search the internet in the library.

Table 5.55: Search Internet

Search Internet	Frequency	Percent
Never	12	2.7
Rarely	70	15.8
Sometimes	137	31.0
Weekly	109	24.7
Daily	114	25.8
Total	442	100.0

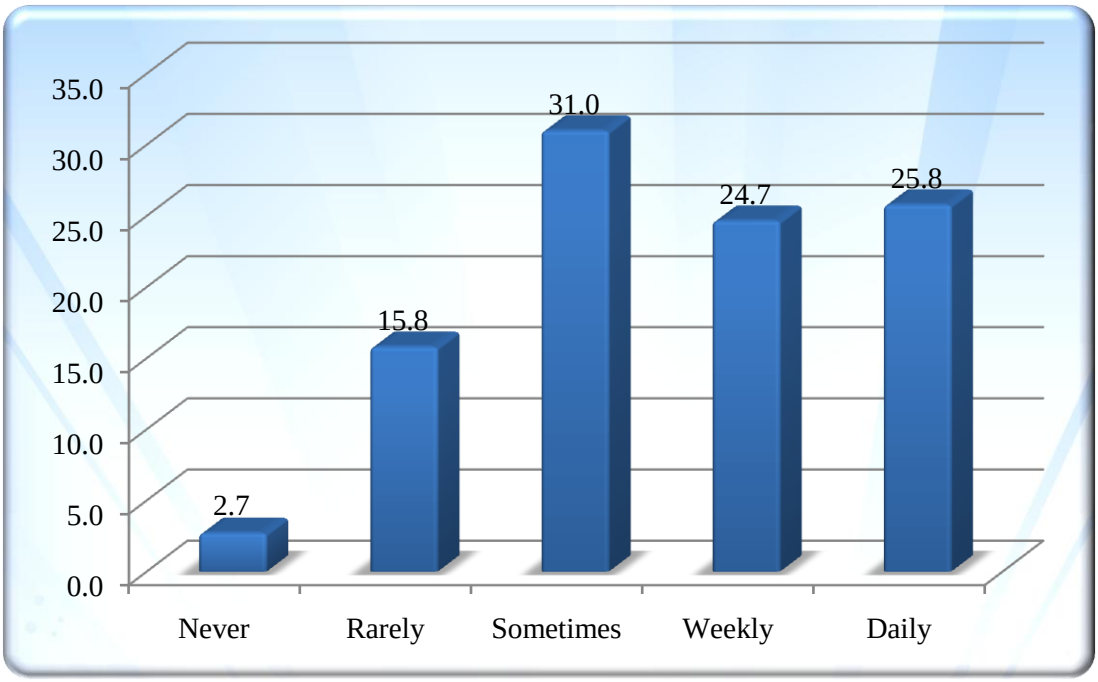

Chart 5.54: Search Internet

5.10.4 For Academic Assignments

Table 5.56 tells us about the frequency of using computer for academic assignments in the library. Conclusions drawn from the analysis that **15.8%** respondents daily use computer for academic assignments in the library, **27.4%** respondents weekly use computer for academic assignments in the library, **37.6%** respondents use computer for academic assignments in the library, **8.8%** respondents use computer for academic assignments rarely in the library and **10.4%** respondents never use computer for academic assignments in the library.

Table 5.56: For Academic Assignments

For Academic Assignments	Frequency	Percent
Never	46	10.4
Rarely	39	8.8
Sometimes	166	37.6
Weekly	121	27.4
Daily	70	15.8
Total	442	100.0

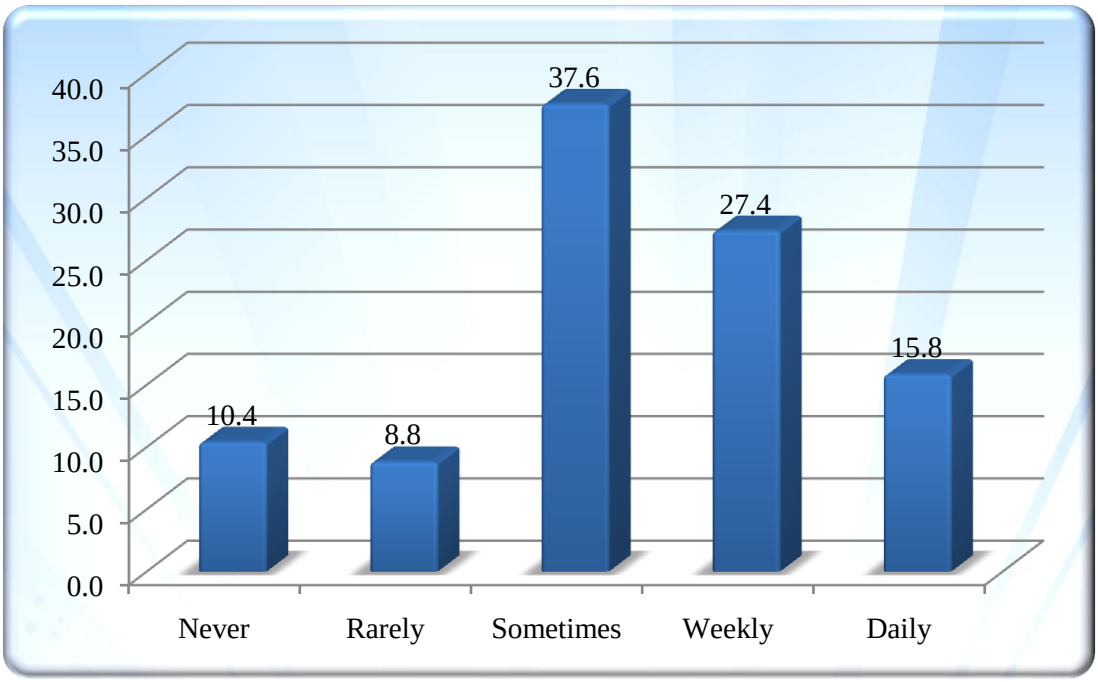

Chart 5.55: For Academic Assignments

5.10.5 To Prepare Presentations

Table 5.57 tells us about the frequency of using computer for academic assignments in the library. Conclusions drawn from the analysis that **13.1%** respondents daily use computer for academic assignments in the library, **22.9%** respondents weekly use computer for academic assignments in the library, **42.8%** respondents use computer for academic assignments in the library, **13.6%** respondents use computer for academic assignments rarely in the library and **7.7%** respondents never use computer for academic assignments in the library.

Table 5.57: To Prepare Presentations

To Prepare Presentations	Frequency	Percent
Never	34	7.7
Rarely	60	13.6
Sometimes	189	42.8
Weekly	101	22.9
Daily	58	13.1
Total	442	100.0

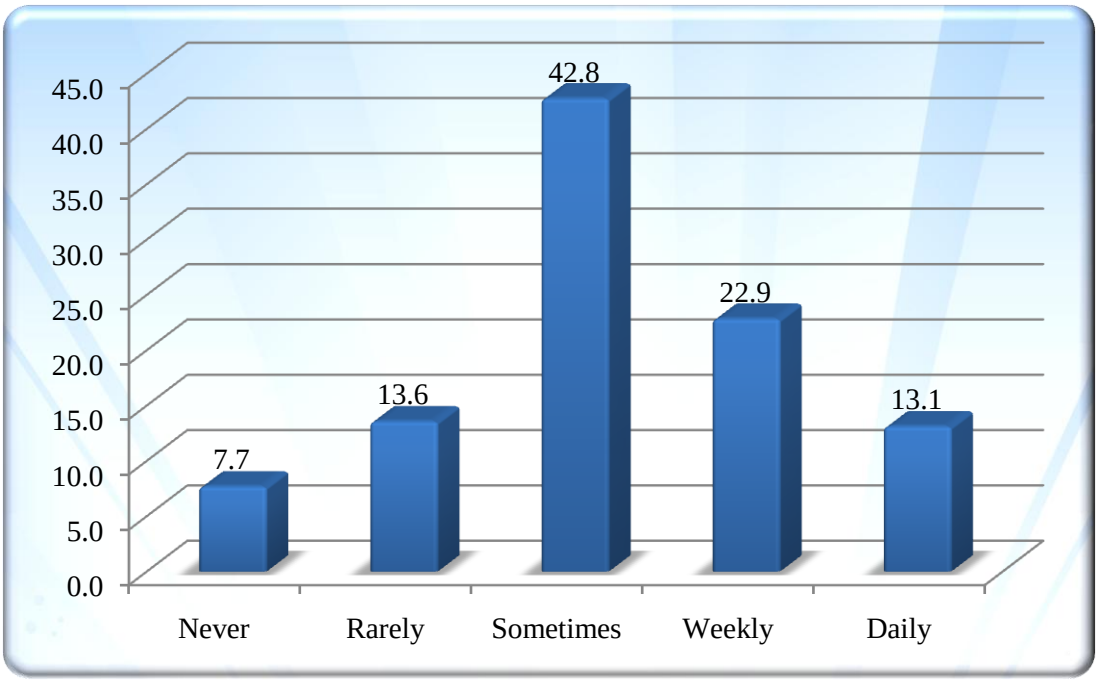

Chart 5.56: To Prepare Presentations

5.10.6 For Entertainment

Table 5.58 tells us about the frequency of using computer for entertainment in the library. Conclusions drawn from the analysis that **13.1%** respondents daily use computer for entertainment in the library, **22.9%** respondents weekly use computer for entertainment assignments in the library, **42.8%** respondents use computer for entertainment in the library, **13.6%** respondents use computer for entertainment rarely in the library and **7.7%** respondents never use computer for entertainment in the library.

Table 5.58: For Entertainment

For Entertainment	Frequency	Percent
Never	37	8.4
Rarely	109	24.7
Sometimes	119	26.9
Weekly	91	20.6
Daily	86	19.5
Total	442	100.0

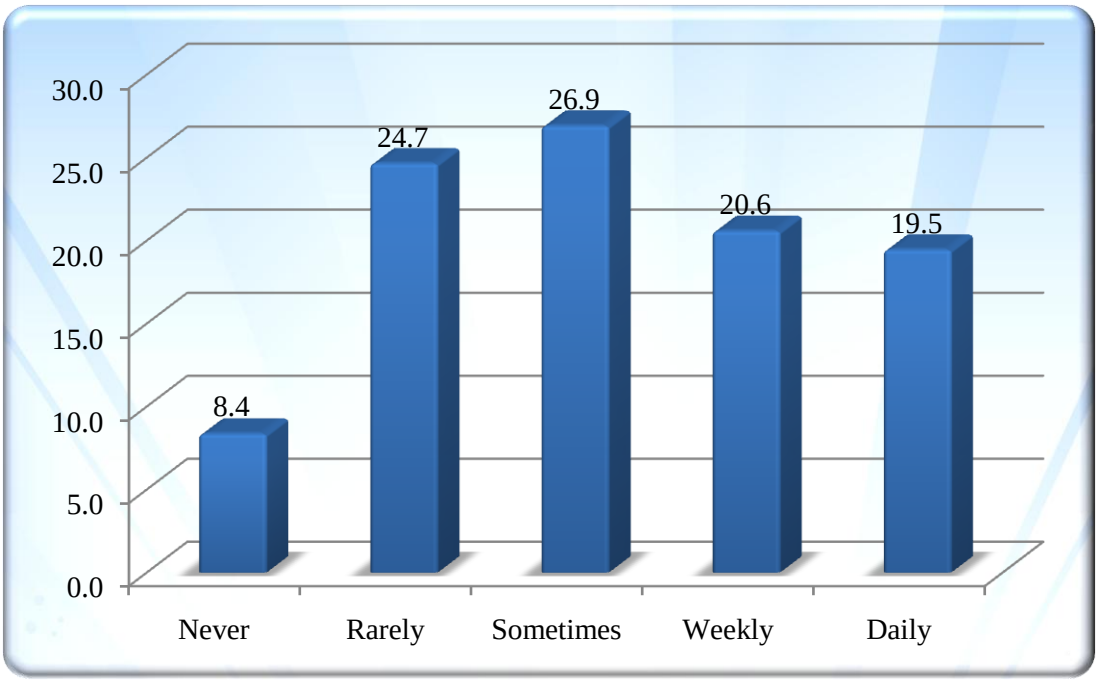

Chart 5.57: For Entertainment

5.11 Frequency of using Internet for Seeking Information

5.11.1 Internet for Research Project

Further, the users also use the computers in library for completing their research projects. **Table 5.59** shows that **13.6%** of the respondents use computers for research project in the library daily that is followed by **24.4%** respondents who use weekly the computer for research projects in the library.

Table 5.59: Internet for Research Project

Internet for Research Project	Frequency	Percent
Never	59	13.3
Rarely	112	25.3
Sometimes	103	23.3
Weekly	108	24.4
Daily	60	13.6
Total	442	100.0

Further **23.3%** respondents use computers for research project in the library sometimes and **25.3%** respondents for research project rarely in the library. But **13.3%** respondents are also there who never uses computers for research project in the library.

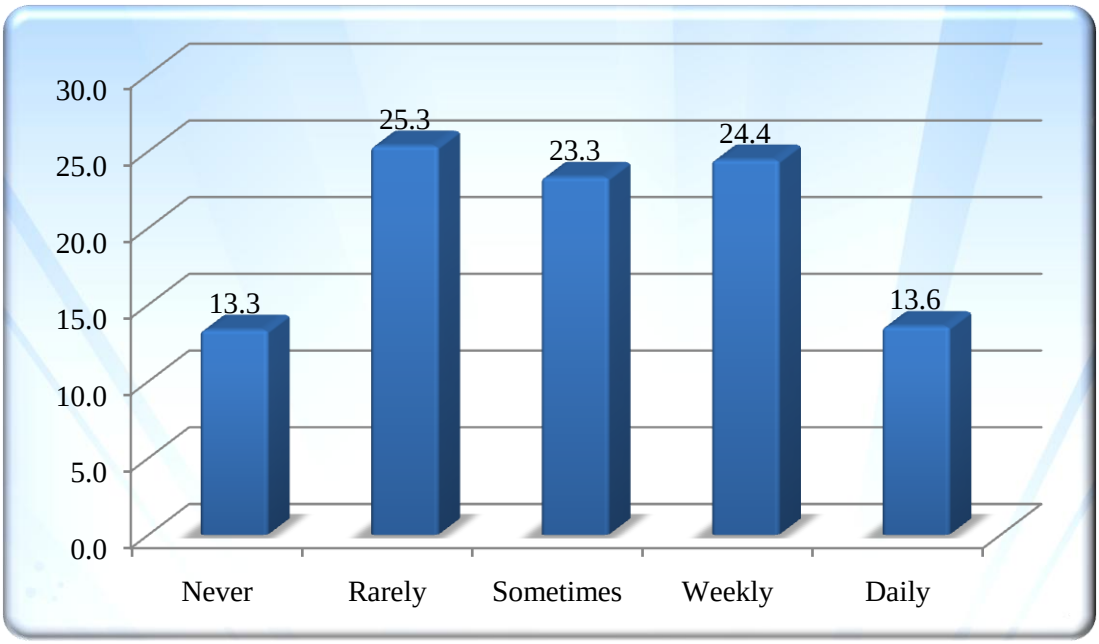

Chart 5.58: Computer for Research Project

5.10.2 Internet for Downloading Programmes

Table 5.60 depicts the frequency of using internet for downloading programs in the library. It is seen that **10.2%** of the respondents use internet daily for downloading programs in the library, followed by **20.8%** respondents who use weekly internet for downloading programs in the library. Further, **20.1%** of the respondents use internet for downloading programs in the library sometimes, while **23.6%** of the respondents use internet for downloading programs 'rarely' in the library.

Table 5.60: Internet for Downloading Programmes

Internet for Downloading Programmes	Frequency	Percent
Never	72	16.3
Rarely	144	32.6
Sometimes	89	20.1
Weekly	92	20.8
Daily	45	10.2
Total	442	100.0

But there are also a small percentage of the respondents (**16.3%)** who never used internet for downloading programs in the library.

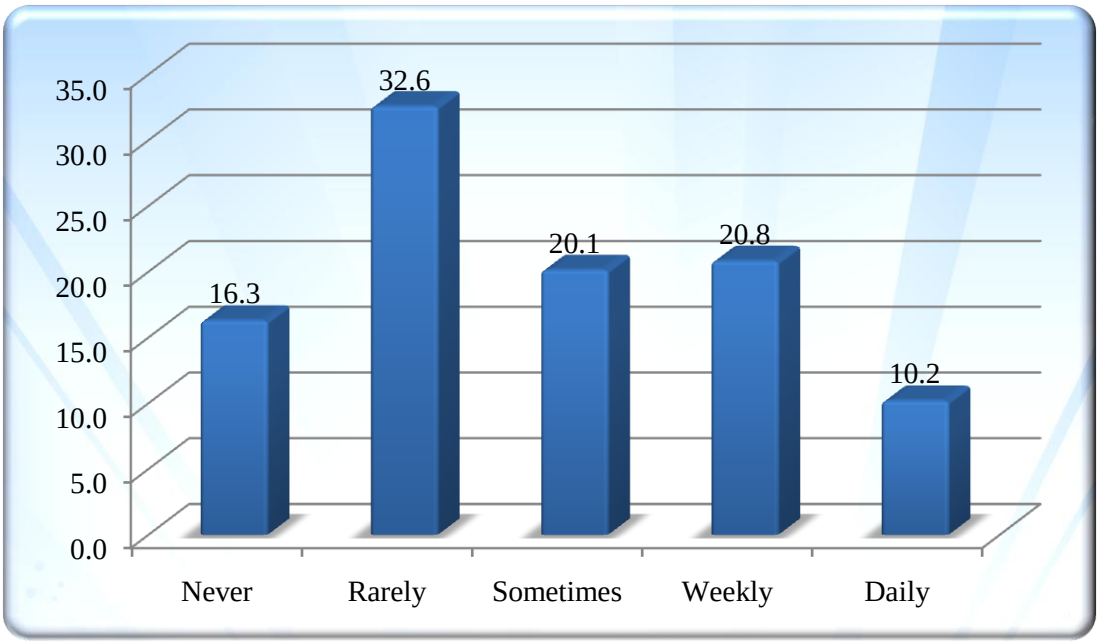

Chart 5.59: Use of Internet in Library

5.11.3 Internet for Communication

Table 5.61 shows the trends of using internet for communication purposes. It is seen from the analysis of the data that **18.8%** respondents use internet daily to communicate with friends and colleague that is followed by **22.2%** of the respondents who use weekly internet to communicate with friends and colleague. Further, **25.8%** of the respondents use internet 'sometimes' and **24.2%** of the respondents use internet 'rarely' to communicate with their friends and colleagues. But **9.0%** respondents never use internet to communicate with friends and colleagues.

Table 5.61: Internet for Communication

Internet for Communication	Frequency	Percent
Never	40	9.0
Rarely	107	24.2
Sometimes	114	25.8
Weekly	98	22.2
Daily	83	18.8
Total	442	100.0

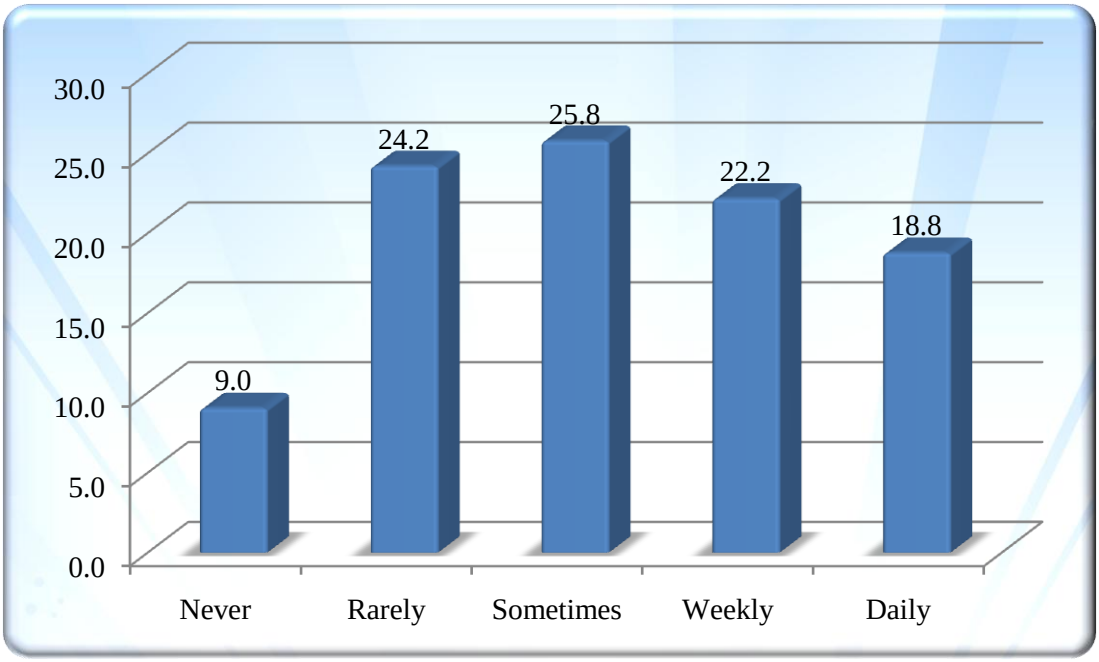

Chart 5.60: Internet for Communication

5.11.4 Internet for Accessing E-Journals

Table 5.62 tells about the frequency of using internet to access e-journals from the library. It is seen that **13.6%** respondents use internet daily to access e-journals in the library, followed by the use by **27.8%** respondents who use weekly internet to access e-journals in the library. **31.4%** of the respondents use internet to access e-journals in the library 'sometimes', and **18.8%** respondents use internet to access e-journal 'rarely' in the library. But **8.4%** respondents are also there who never used internet to access e-journals in the library.

Table 5.62: Internet for Accessing E-Journals

Internet for accessing E-Journals	Frequency	Percent
Never	37	8.4
Rarely	83	18.8
Sometimes	139	31.4
Weekly	123	27.8
Daily	60	13.6
Total	442	100.0

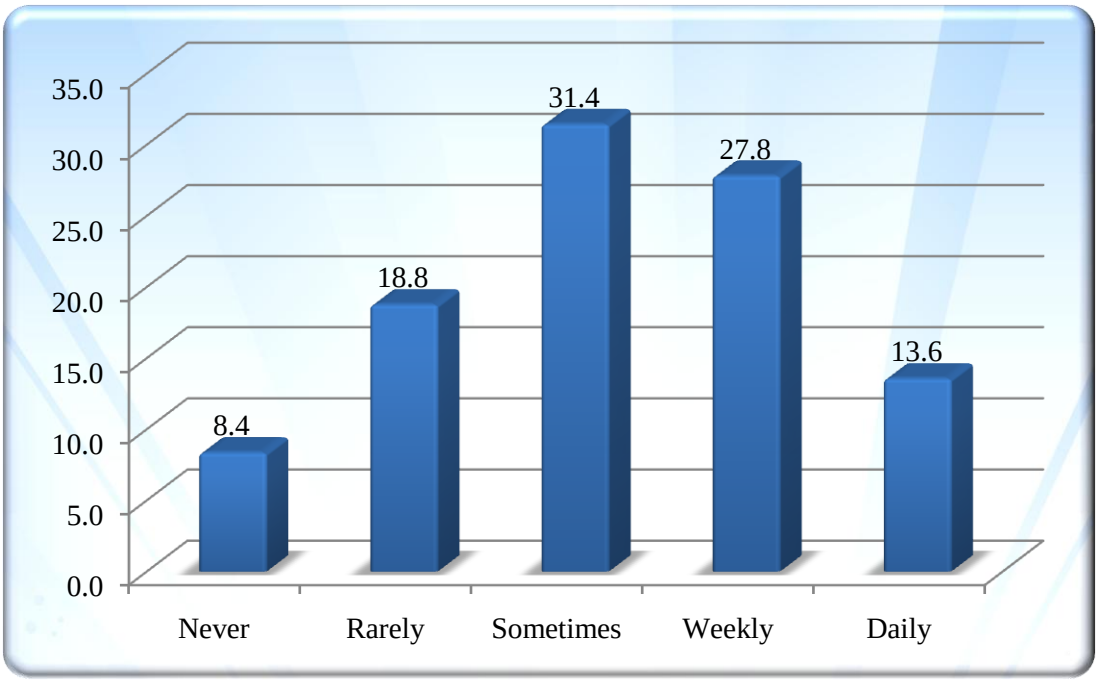

Chart 5.51: Internet for Accessing E-Journals

5.11.5 Internet for Professional Development

Table 5.63 shows the trends of using internet for professional development in the library. The analysis of the data that is presented in table shows that **13.3%** respondents use internet for professional development daily in the library, **33.7%** respondents use 'weekly' the internet for professional development in the library and **26.9%** respondents use internet for professional development in the library 'sometimes'. **21.3%** respondents use internet 'rarely' for professional development in the library but **4.8%** respondents never use the internet for professional development in the library.

Table 5.63: Internet for Professional Development

Internet for Professional Development	Frequency	Percent
Never	21	4.8
Rarely	94	21.3
Sometimes	119	26.9
Weekly	149	33.7
Daily	59	13.3
Total	442	100.0

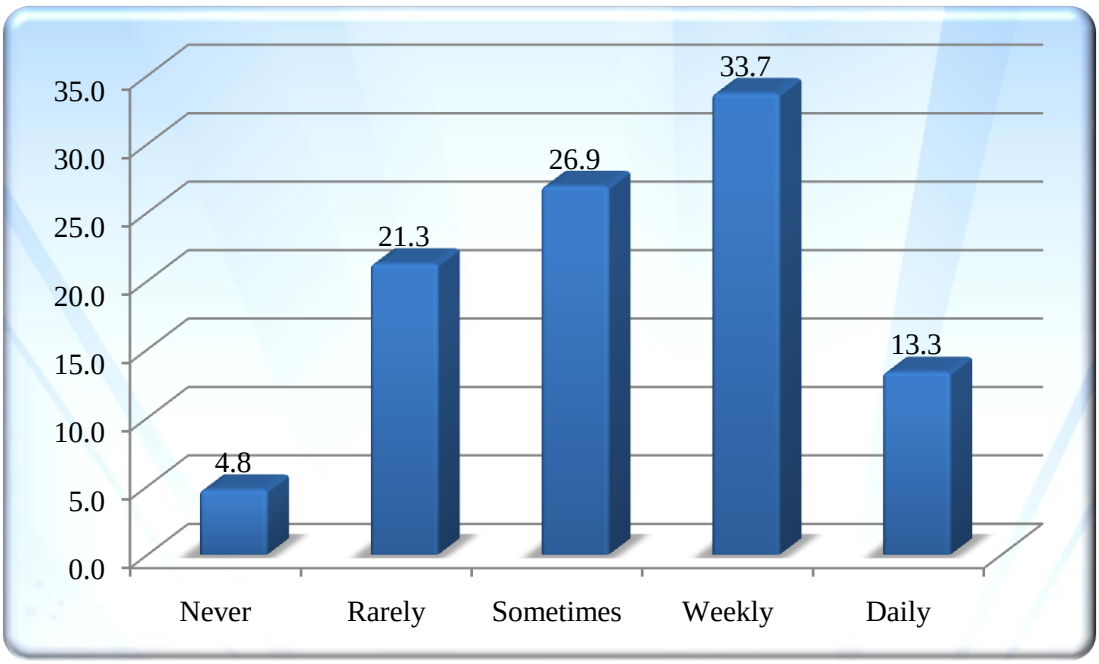

Chart 5.62: Internet for Professional Development

5.11.6 Internet for Entertainment

Table 5.64 shows the frequency of using internet for entertainment purposes in the library. It can be seen very well that **24.9%** of the respondents daily use the internet for entertainment in the library, **16.7%** respondents use 'weekly' and **23.1%** of them use internet for entertainment in the library 'sometimes'.

Further, **21.9%** respondents use internet for entertainment 'rarely' in the library but **13.3%** respondents never use internet for entertainment in the library.

Table 5.64.: Internet for Entertainment

Internet for Entertainment	Frequency	Percent
Never	59	13.3
Rarely	97	21.9
Sometimes	102	23.1
Weekly	74	16.7
Daily	110	24.9
Total	442	100.0

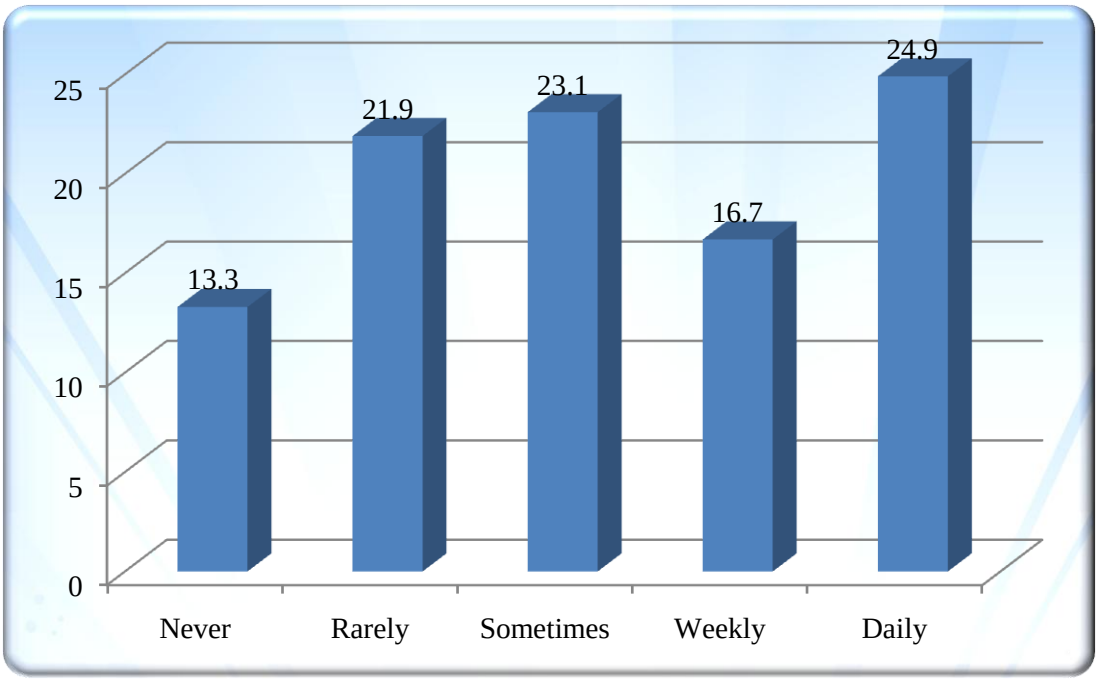

Chart 5.63: Internet for Entertainment

5.12 Problems Faced in Internet Access

5.12.1 Slow Access Speed

It is seen that most of the users are availing computer access and internet access in the libraries. But they also face some problems in using internet and computer access. **Table 5.65** show that **14.9%** of the respondents are 'not at all satisfied', **11.8%** respondents are not 'satisfied' and **27.6%** respondents are 'partially satisfied' with the internet access in the library. But **35.1%** of them are 'satisfied' and **10.6%** respondents are 'highly satisfied' with the provision of internet facility.

Table 5.65: Slow Access Speed

Slow Access Speed	Frequency	Percent
Not at all satisfied	66	14.9
Not satisfied	52	11.8
Partially satisfied	122	27.6
Satisfied	155	35.1
Highly satisfied	47	10.6
Total	442	100.0

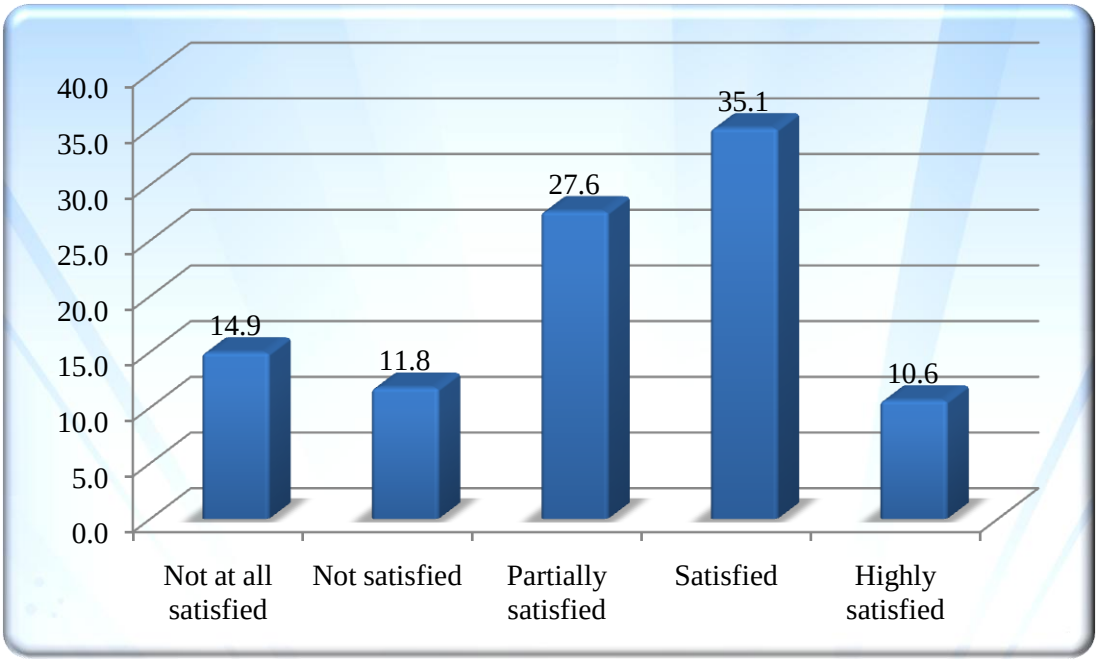

Chart 5.64: Slow Access Speed

5.12.2 Problems in Finding Relevant Information Over Internet

Table 5.66 shows that users are facing difficulty in getting relevant information from the IT resources. It is seen that **11.3%** of the respondents are 'not at all satisfied', **20.1%** respondents are 'not satisfied' and **32.4%** of them are 'partially satisfied'. But **28.3%** of the respondent are 'satisfied' and **7.9%** respondents are 'highly satisfied' with the same.

Table 5.66: Problems in Finding Relevant Information Over Internet

Problems in finding Relevant Information over Internet	Frequency	Percent
Not at all satisfied	50	11.3
Not satisfied	89	20.1
Partially satisfied	143	32.4
Satisfied	125	28.3
Highly satisfied	35	7.9
Total	442	100.0

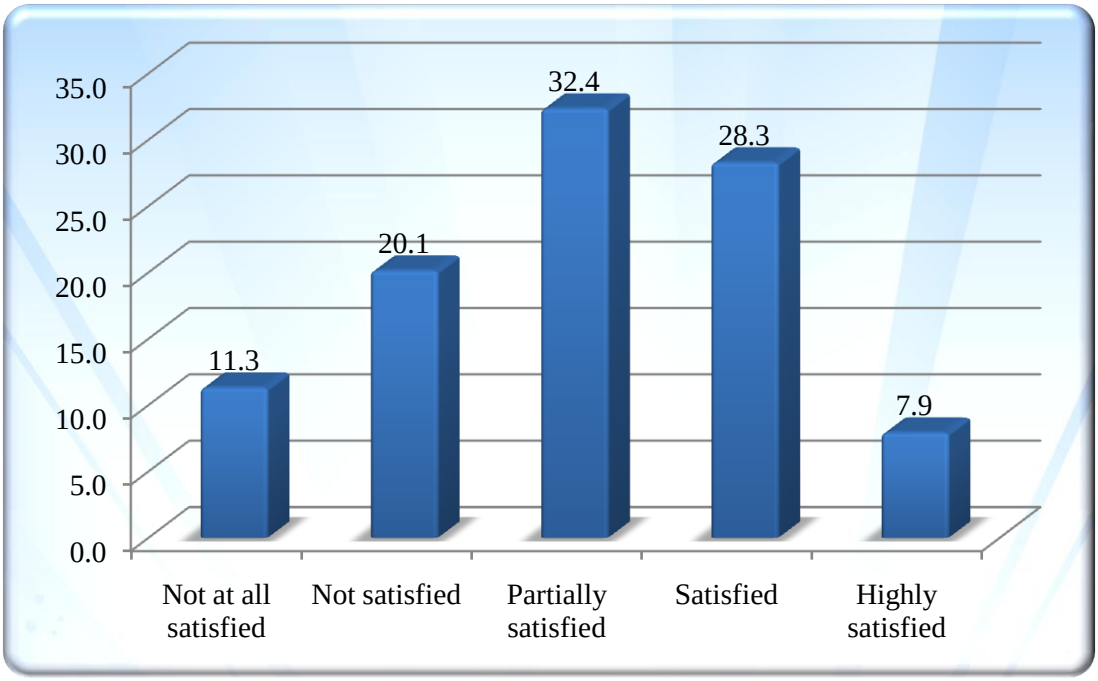

Chart 5.65: Problems in Finding Relevant Information Over Internet

5.12.3 Overload of Information

Overload of the information is another major problem due to which sometimes users find themselves in very frustrating situation. **Table 5.67** observes that **13.6%** respondents are 'not at all satisfied', **19.9%** respondents are 'not satisfied' and **31.9% are** 'partially satisfied'. Further, **27.1%** of them are 'satisfied' and **7.5%** respondents are 'highly satisfied' with the availability of the information.

Table 5.67: Overload of Information

Overload of Information	Frequency	Percent
Not at all satisfied	60	13.6
Not satisfied	88	19.9
Partially satisfied	141	31.9
Satisfied	120	27.1
Highly satisfied	33	7.5
Total	442	100.0

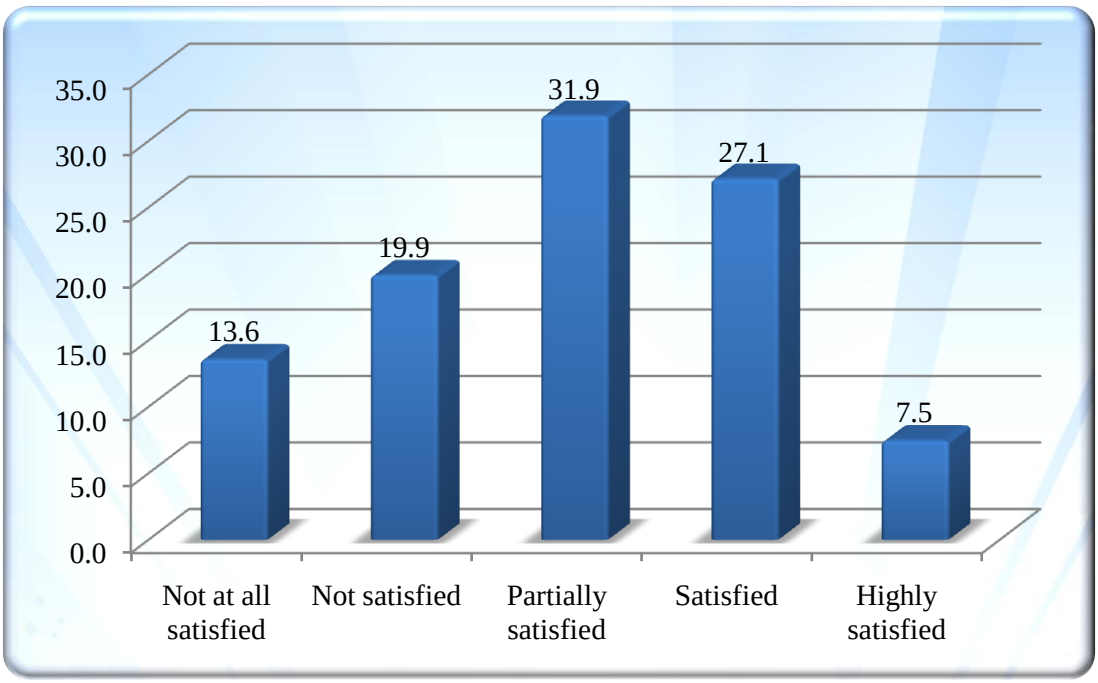

Chart 5.66: Overload of Information

5.12.4 Lack of Awareness about Electronic Resources and Services

Table 5.68 depicts the details of the users facing the problem of lack of awareness about electronic resources and services. It is seen that **10.4%** of the respondents are 'not at all satisfied' and **26%** respondents are 'not satisfied'. Further, **33.9%** of the respondents are 'partially satisfied' and **22.9%** of them are 'satisfied'. However, **6.8%** of the respondents are 'highly satisfied' with the availability of the e-resources and services in the library.

Table 5.68: Lack of Awareness About Electronic Resources and Services

Lack of Awareness about Electronic Resources and Services	Frequency	Percent
Not at all satisfied	46	10.4
Not satisfied	115	26.0
Partially satisfied	150	33.9
Satisfied	101	22.9
Highly satisfied	30	6.8
Total	442	100.0

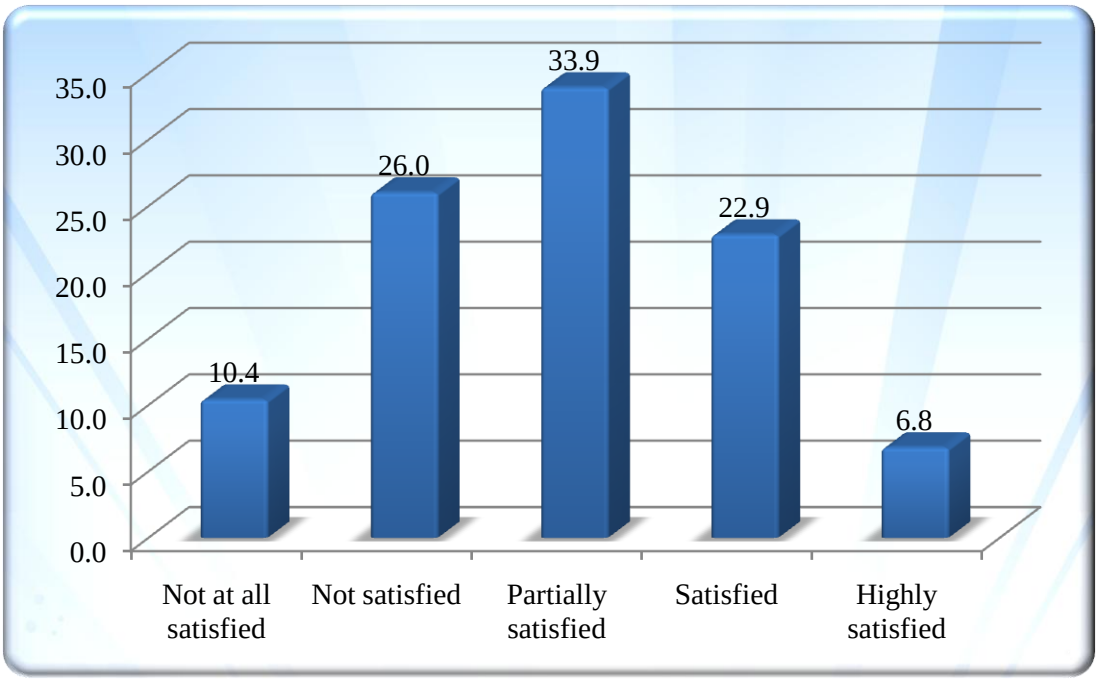

Chart 5.67: Lack of Awareness About Electronic Resources and Services

5.12.5 Long Time to View/Download Information

Internet speed is other problem because the file to view or download takes much time. **Table 5.69** shows that **14.5%** of the respondents are 'not at all satisfied' with the speed of the internet, **18.1%** respondents are 'not satisfied' and **26.9%** are 'partially satisfied'.

However, **27.8%** respondents are 'satisfied' and **12.7%** respondents are 'highly satisfied' with the internet speed.

Table 5.69: Long Time to View/Download Information

Long Time to View/Download Information	Frequency	Percent
Not at all satisfied	64	14.5
Not satisfied	80	18.1
Partially satisfied	119	26.9
Satisfied	123	27.8
Highly satisfied	56	12.7
Total	442	100.0

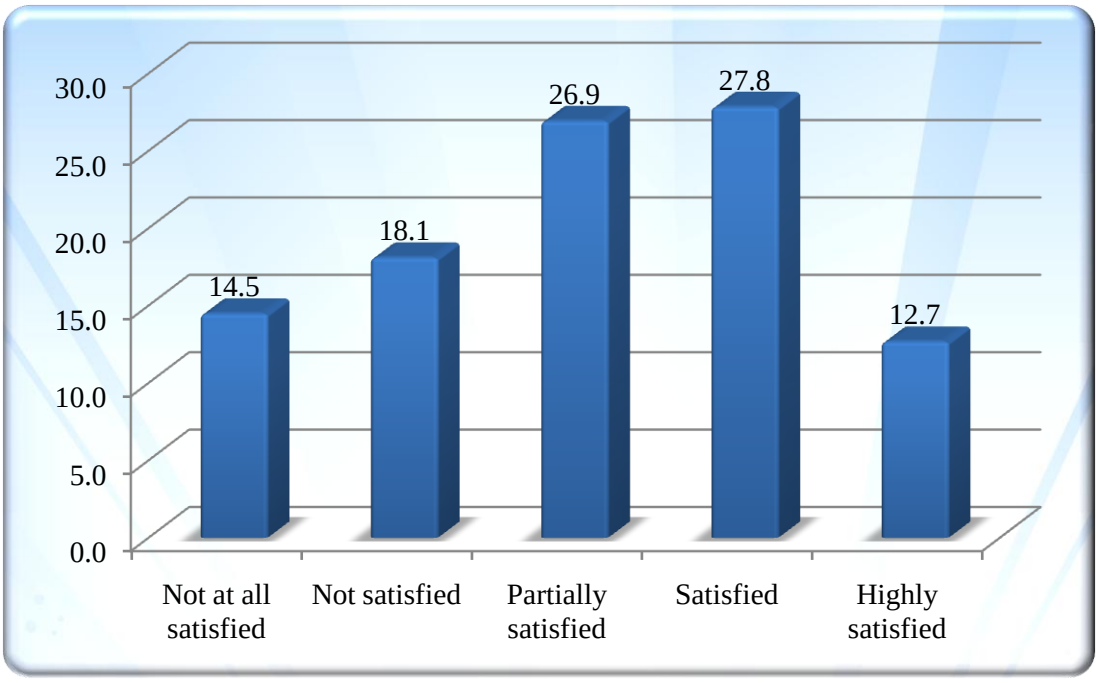

Chart 5.68: Takes Long Time to View/Download Information

5.12.6 Lack of Training in Using Automated Services

There are also some other problems just like the lack of training in the library for the users in getting relevant information from various angles. Further, limited number of computers and shortage of trained library staff are other problems.

Table 5.70 shows the details of lack of training in using automated services.

Table 5.70: Lack of Training in Using Automated Services

Lack of Training in Using Automated Services	Frequency	Percent
Not at all satisfied	108	24.4
Not satisfied	137	31.0
Partially satisfied	100	22.6
Satisfied	78	17.6
Highly satisfied	19	4.3
Total	442	100.0

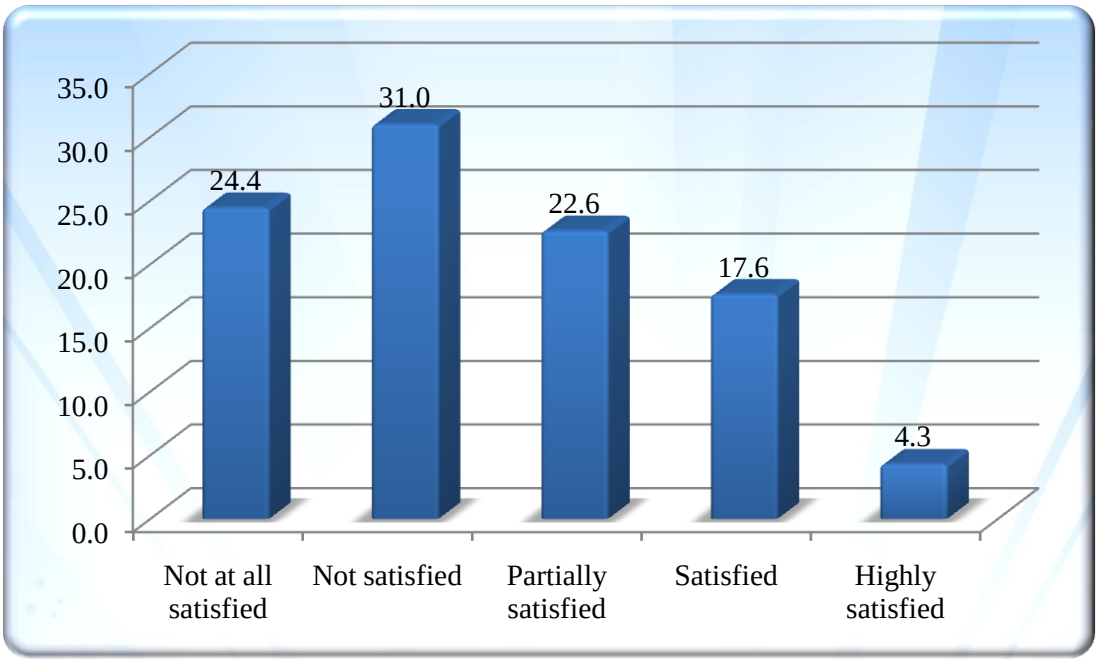

Chart 5.59: Lack of Training in Using Automated Services

It is seen that **24.4%** of the respondents are 'not at all satisfied', **31.1%** respondents are 'not satisfied' and **22.6%** of them are 'partially satisfied' with the training programmes being arranged for library users. Further, **17.6%** of them are 'satisfied' but **4.3%** respondents are 'highly satisfied' with the same.

5.12.7 Limited Number of Computers

Table 5.71 shows that **15.6%** respondents are 'not at all satisfied', **16.1%** respondents are 'not satisfied' and **32.4%** of them are 'partially satisfied' with the availability of the computers in library.

Table 5.71: Limited Number of Computers

Limited Number of Computers	Frequency	Percent
Not at all satisfied	69	15.6
Not satisfied	71	16.1
Partially satisfied	143	32.4
Satisfied	121	27.4
Highly satisfied	38	8.6
Total	442	100.0

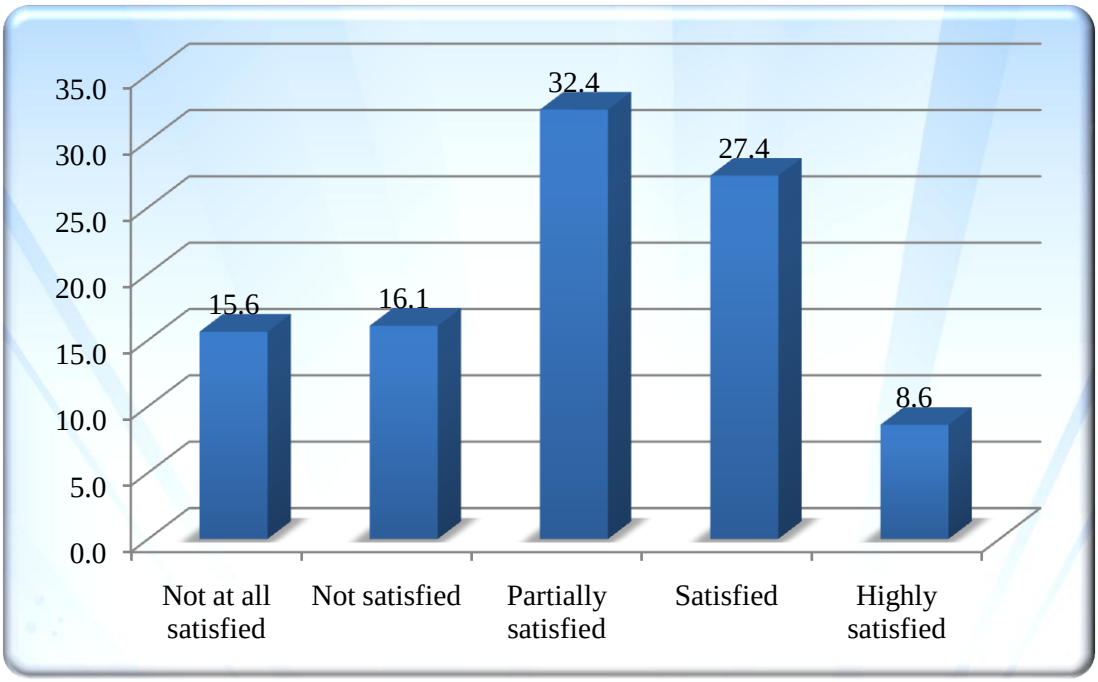

Chart 5.70: Limited Number of Computers

However, **27.4%** respondents are 'satisfied' and **8.6%** respondents are 'highly satisfied' respectively with the availability of the computers in library.

5.12.8 Shortage of Trained Library Staff

Table 5.72 shows the problems of trained library staff in the library. It is seen from the analysis of the data presented in table that **17.6%** of the respondents are 'not at all satisfied', **17.4%** respondents are 'not satisfied' and **15.2%** of them are 'partially satisfied' with the availability of trained staff in the library who could assist them in case of emergency.

However, **33%** of the respondent are 'satisfied' and **16.7%** are 'highly satisfied' with the availability of the staff in their libraries.

Table 5.72: Shortage of Trained Library Staff

Shortage of Trained Library Staff	Frequency	Percent
Not at all satisfied	78	17.6
Not satisfied	77	17.4
Partially satisfied	67	15.2
Satisfied	146	33.0
Highly satisfied	74	16.7
Total	442	100.0

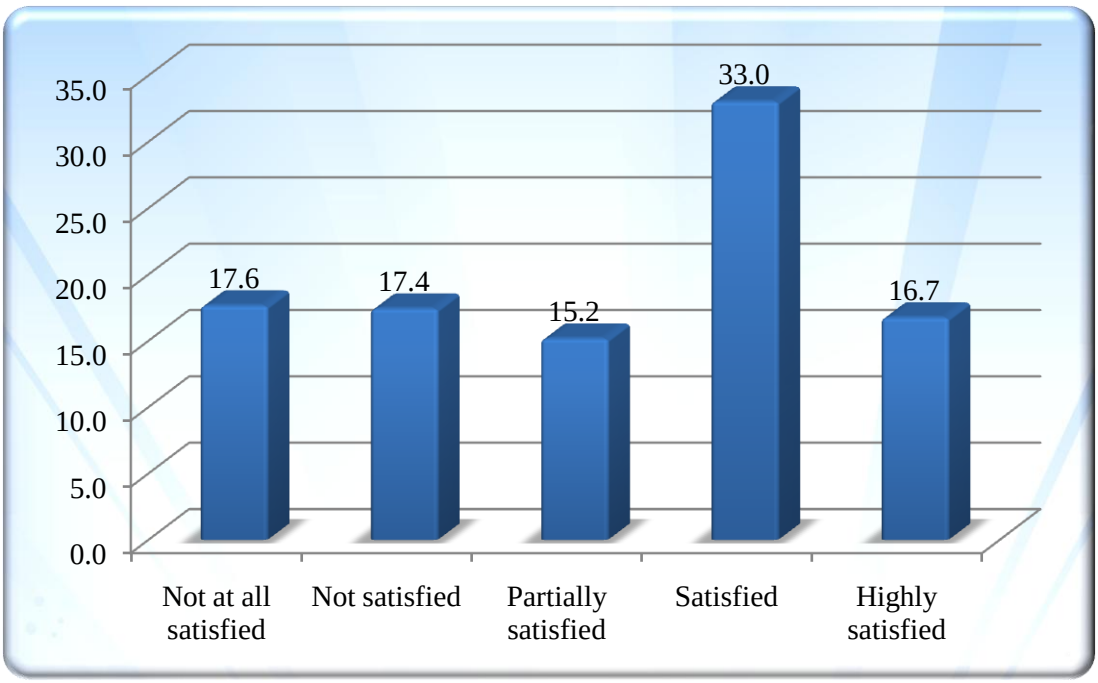

Chart 5.71: Shortage of Trained Library Staff

5.12.9 Lack of IT (Information Technology) Resources

It is also observed that most of the users are also facing the problem of availably of information technology resources other than online access of the resources. **Table 5.73** shows that **24.9%** respondents are 'not at all satisfied', **25.6%** respondents are 'not satisfied' and **29.9%** of them are 'partially satisfied' with the available resources. But **17.9%** of the respondents are 'satisfied' and **1.8%** of them are 'highly satisfied' with the same.

Table 5.73: Lack of IT Resources

Lack of IT Resources	Frequency	Percent
Not at all satisfied	110	24.9
Not satisfied	113	25.6
Partially satisfied	132	29.9
Satisfied	79	17.9
Highly satisfied	8	1.8
Total	442	100.0

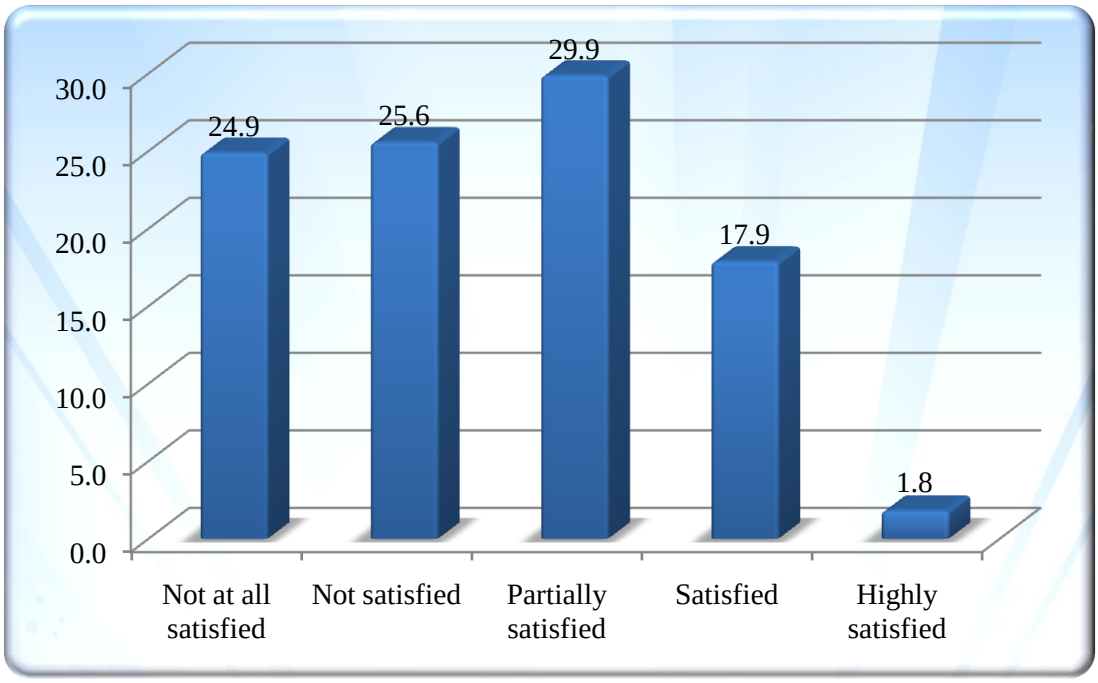

Chart 5.62: Lack of IT Resources

5.12.10 Problem Facing Usages of Technology Tools

Table 5.74 it has been observed that the users facing problem regarding usage of technology tools. Results shows that **19.9%**respondents were not at all satisfied, **14.9%** respondents were not satisfied, **26%** respondents were partially satisfied, **31.2%** respondents were satisfied and **7.9%** respondents were highly satisfied with the same.

Table 5.74: Problem Facing Usages of Technology Tools

Problem facing usages of technology tools	Frequency	Percent
Not at all satisfied	88	19.9
Not satisfied	66	14.9
Partially satisfied	115	26.0
Satisfied	138	31.2
Highly satisfied	35	7.9
Total	442	100.0

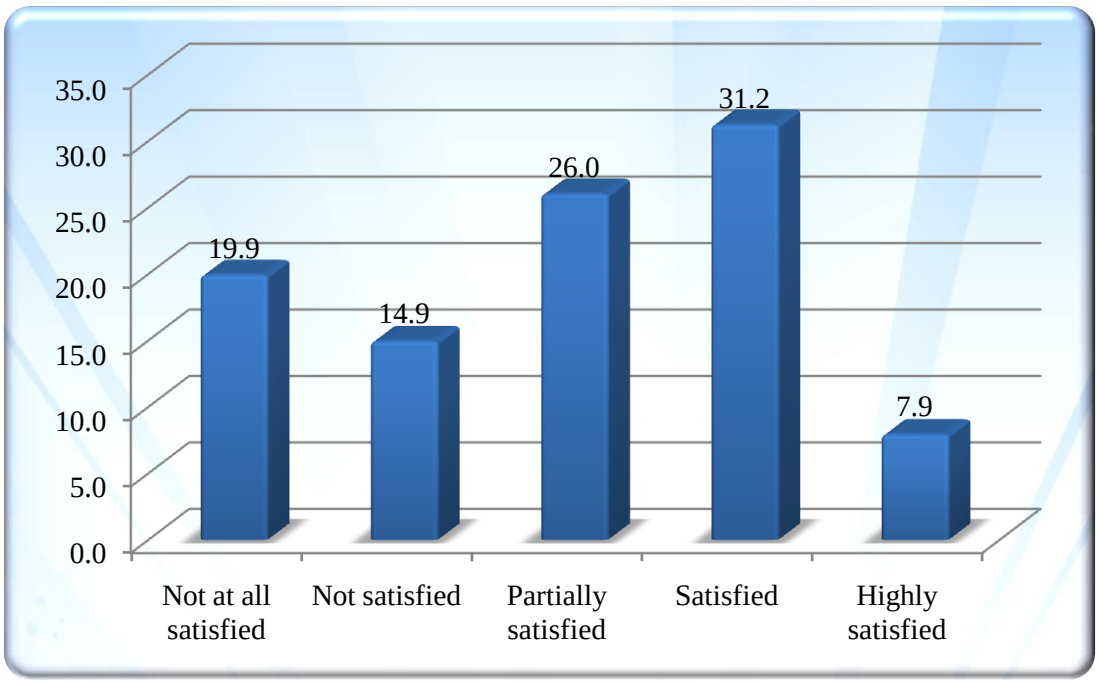

Chart 5.73: Problem Facing Usages of Technology Tools

5.13 Impact of Information Technology on Users

5.13.1 Enable Easier and Wider Access to Electronic Resources

Table 5.75 shows the views of respondents regarding easier and wider access to electronic resources but their opinions are diverse and exhibit that **5.7%** of the respondents are 'strongly disagree', **8.1%** respondents are 'disagree' and **17%** of them are 'neutral' on the limited availability of the e-resources.

Table 5.75: Enable Easier and Wider Access to Electronic Resources

Enable easier and wider access to electronic resources	Frequency	Percent
Strongly Disagree	25	5.7
Disagree	36	8.1
Neutral	75	17.0
Agree	206	46.6
Strongly Agree	100	22.6
Total	442	100.0

However, **46.6%** respondents are 'agree' and **22.6%** are 'strongly agree' on the limited availability of the e-resources.

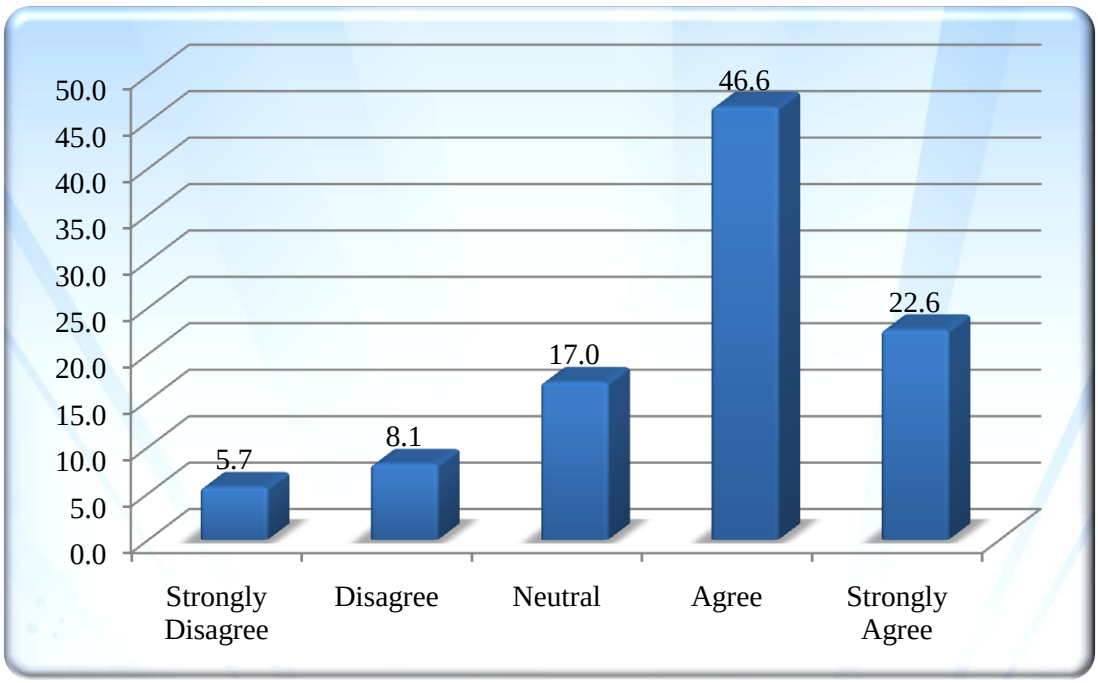

Chart 5.74: Enable Easier and Wider Access to Electronic Resources

5.13.2 Quality of Library Services

Table 5.66 shows the views of respondents regarding improvement on the quality of library services.

Table 5.76: Quality of Library Services

Quality of Library Services	Frequency	Percent
Strongly Disagree	25	5.7
Disagree	32	7.2
Neutral	119	26.9
Agree	182	41.2
Strongly Agree	84	19.0
Total	442	100.0

It is seen from the analysis of the data that **5.7%** respondents are 'strongly disagree', **7.2%** respondents are 'disagree' and **26.9%** are 'neutral' on this point. While **41.2%** respondents are "agree' and **19%** respondents are 'strongly agree' with the quality of library services.

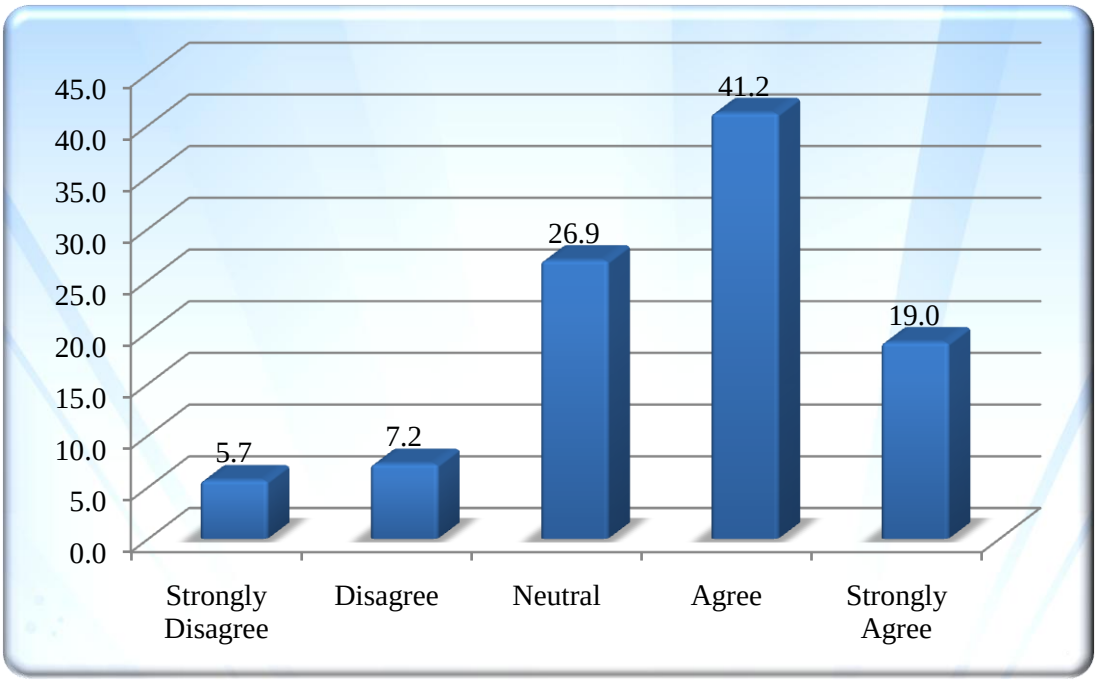

Chart 5.75: Quality of Library Services

5.13.3 Direct Access of the Services and Resources

Table 5.77 shows the views of respondents regarding direct access of the services and resources. It is seen from the table that **4.8%** respondents are 'strongly disagree', **11.3%** respondents are 'disagree', and **31.4%** of them are 'neutral' on this point.

However, **36%** of the respondents are 'agree' and **16.5%** are 'strongly agree' on this point means that they are satisfied with the access of services and resources in their respective library.

Table 5.77: Direct Access of the Services and Resources

Direct Access of the Services and Resources	Frequency	Percent
Strongly Disagree	21	4.8
Disagree	50	11.3
Neutral	139	31.4
Agree	159	36.0
Strongly Agree	73	16.5
Total	442	100.0

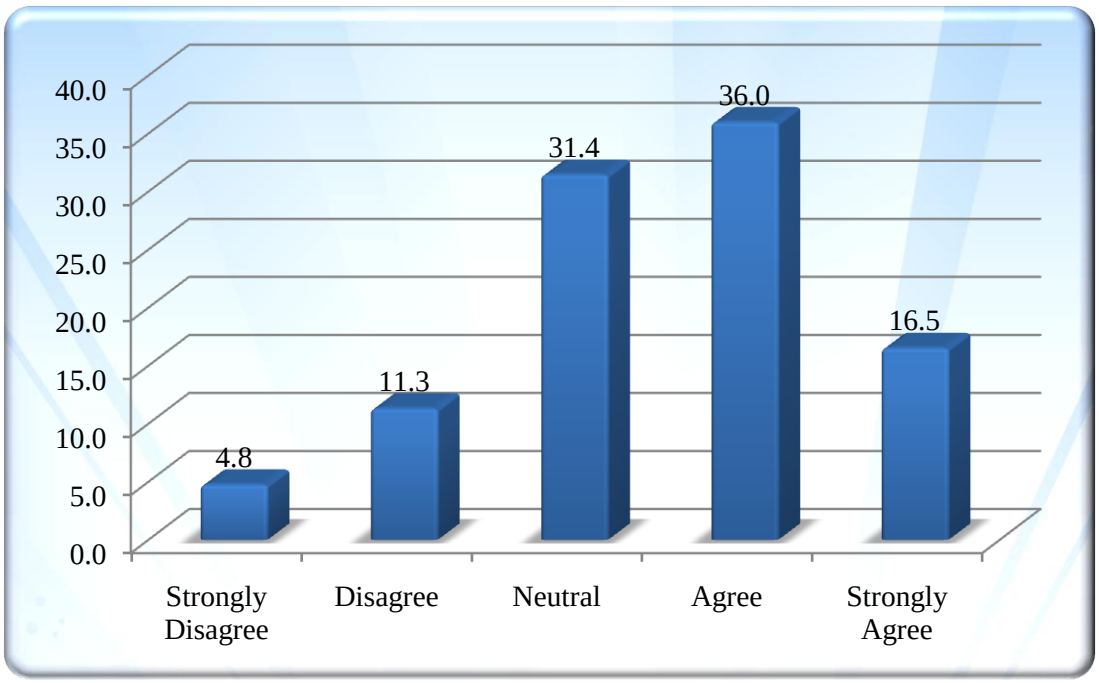

Chart 5.66: Direct Access of the Services and Resources

5.13.4 Access to New Range of Services

Table 5.78 shows the views of respondents regarding access to new range of services which was not possible ever before. It may be seen that **4.3%** of the respondents are 'strongly disagree', **6.5%** are 'disagree', and **24%** of them are 'neutral' on the access of new range of services in the library.

However, **44.6%** of them are 'agree' and **20.4%** respondents are 'strongly agree' on this point means that libraries provide a good range of new range of services to their users.

Table 5.78: Access to New Range of Services

Access to New Range of Services	Frequency	Percent
Strongly Disagree	19	4.3
Disagree	30	6.8
Neutral	106	24.0
Agree	197	44.6
Strongly Agree	90	20.4
Total	442	100.0

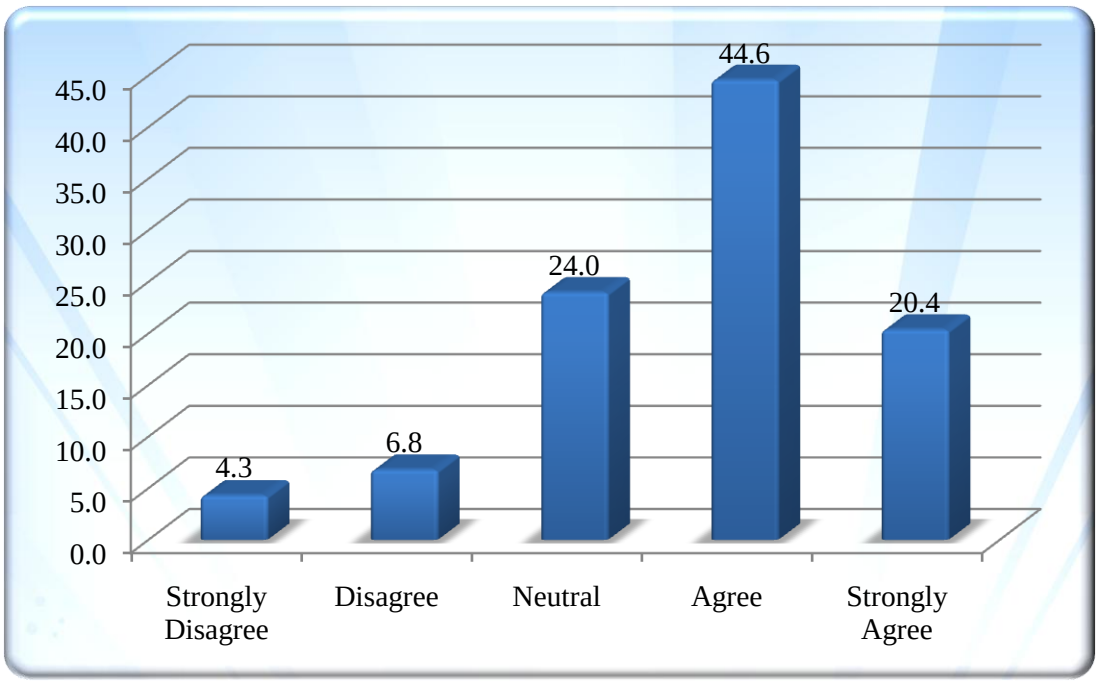

Chart 5.77: Access to New Range of Services

5.13.5 Help in locating material through on-line catalogues

Table 5.79 shows that the views of respondents regarding the locating material through on-line catalogue. Various opinions from diverse respondents exhibit that **2.7%**respondents were strongly disagree, **12%** respondents were disagree, **30.1%**respondentswere neutral while **32.1%**respondentswere agree and **23.1%** respondents were strongly agree with the same.

Table 5.79: Help in Locating Material Through On-Line Catalogues

Help in locating material through on-line catalogues	Frequency	Percent
Strongly Disagree	12	2.7
Disagree	53	12.0
Neutral	133	30.1
Agree	142	32.1
Strongly Agree	102	23.1
Total	442	100.0

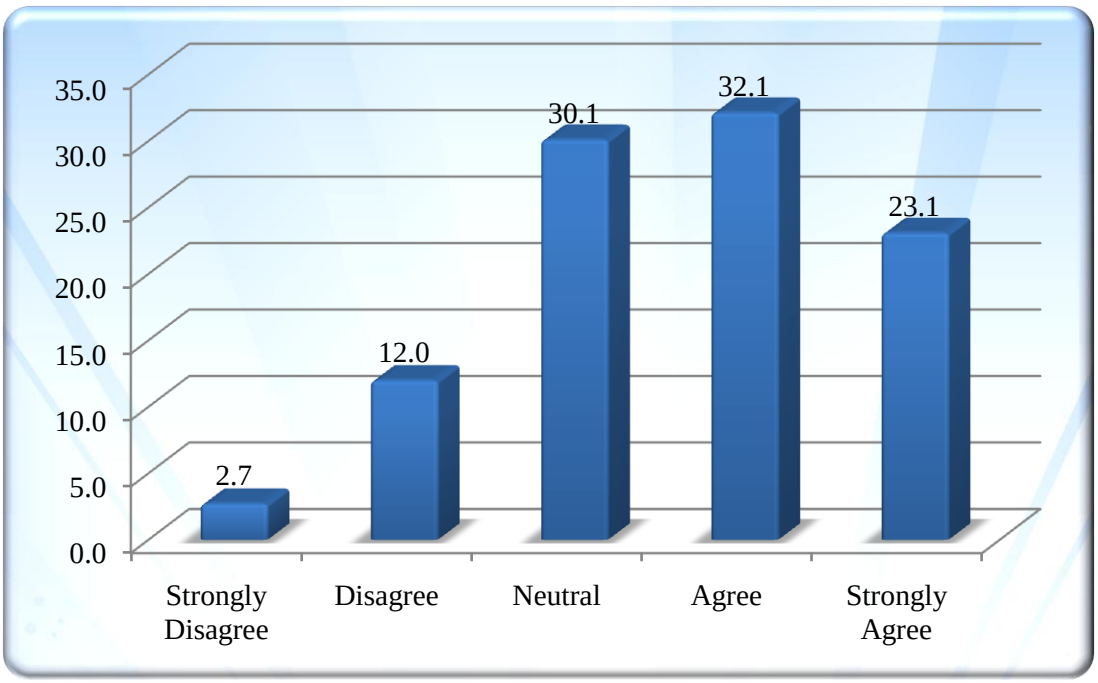

Chart 5.78: Help in Locating Material Through On-Line Catalogues

5.13.6 Flexible and Comprehensive Retrieval of Information

Table 5.80 shows the details on the views of respondents regarding more flexible and comprehensive retrieval of information. It is seen that **5.4%** of the respondents are 'strongly disagree', **15.6%** are 'disagree', and **22.4%** respondents are 'neutral'. However, **36.2%** respondents are 'agree' and **20.4%** respondents are 'strongly agree' on the flexible and comprehensive retrieval of information.

Table 5.80: Flexible and Comprehensive Retrieval of Information

Flexible and Comprehensive Retrieval of Information	Frequency	Percent
Strongly Disagree	24	5.4
Disagree	69	15.6
Neutral	99	22.4
Agree	160	36.2
Strongly Agree	90	20.4
Total	442	100.0

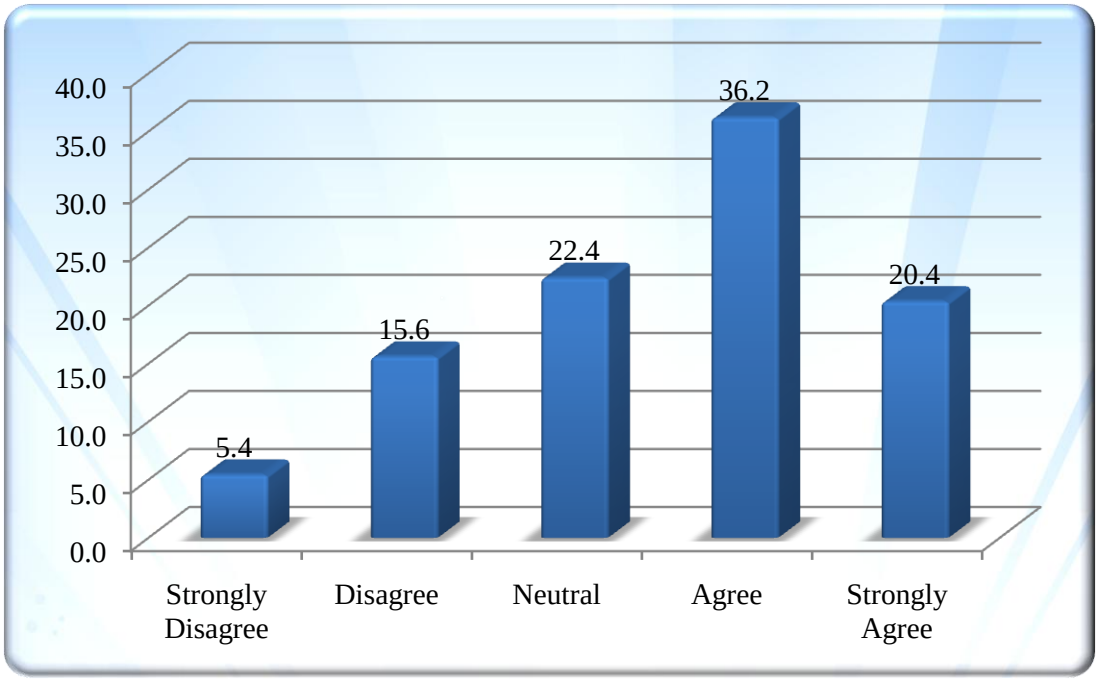

Chart 5.79: Flexible and Comprehensive Retrieval of Information

5.13.7 Up-to-date Information for Academic Growth

Sometimes, up-to-date information is retrieved from the library. It is seen from the **table 5.71** that **4.8%** respondents are 'strongly disagree', **9.7%** respondents are 'disagree', and **24.9%** of them are 'neutral' on that point. However, **36.2%** of the respondents are 'agree' and **24.4%** respondents are 'strongly agree' with the same means that they are getting up-to-date information from the library.

Table 5.81: Up-to-Date Information for Academic Growth

Up-to-date Information for Academic Growth	Frequency	Percent
Strongly Disagree	21	4.8
Disagree	43	9.7
Neutral	110	24.9
Agree	160	36.2
Strongly Agree	108	24.4
Total	442	100.0

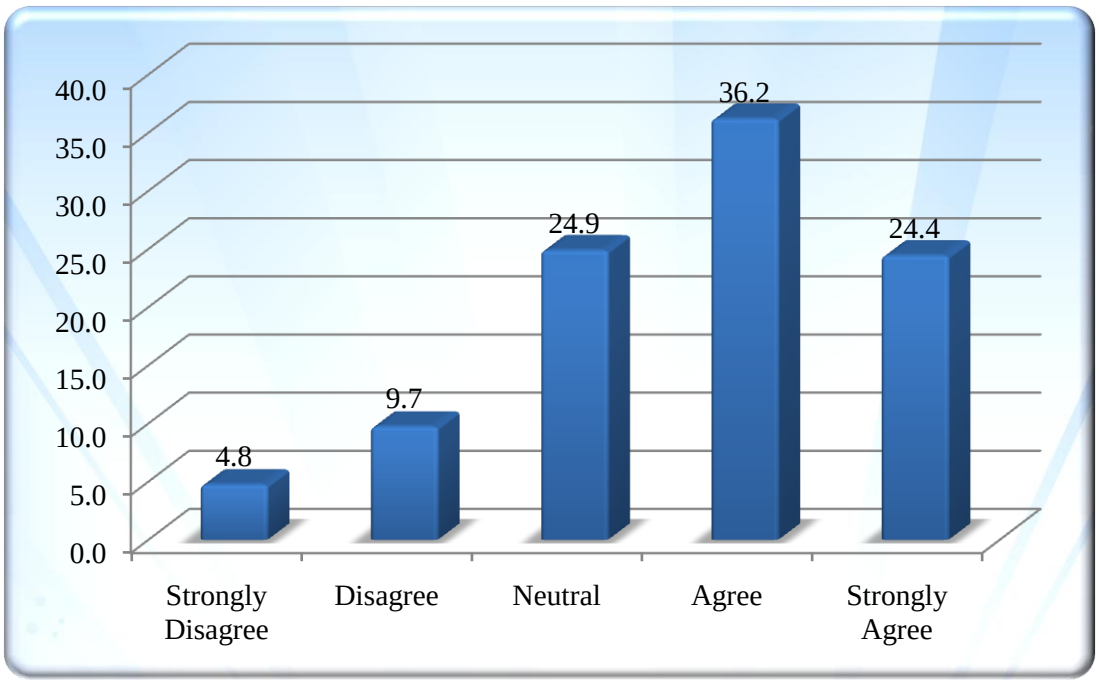

Chart 5.70: Up-to-Date Information for Academic Growth

5.13.8 Enormous Time and Effort

Lastly, **Table 5.82** shows the opinions of the respondents on the IT resources that have saved the time and efforts of them enormously. But different and diverse responses came from the respondents. It is seen from the table that **5.4%** respondents are 'strongly disagree', **9.5%** respondents are 'disagree', and **22.4%** are 'neutral' on this point.

Table 5.82: Enormous Time and Effort

Enormous Time and Effort	Frequency	Percent
Strongly Disagree	24	5.4
Disagree	42	9.5
Neutral	99	22.4
Agree	157	35.5
Strongly Agree	120	27.1
Total	442	100.0

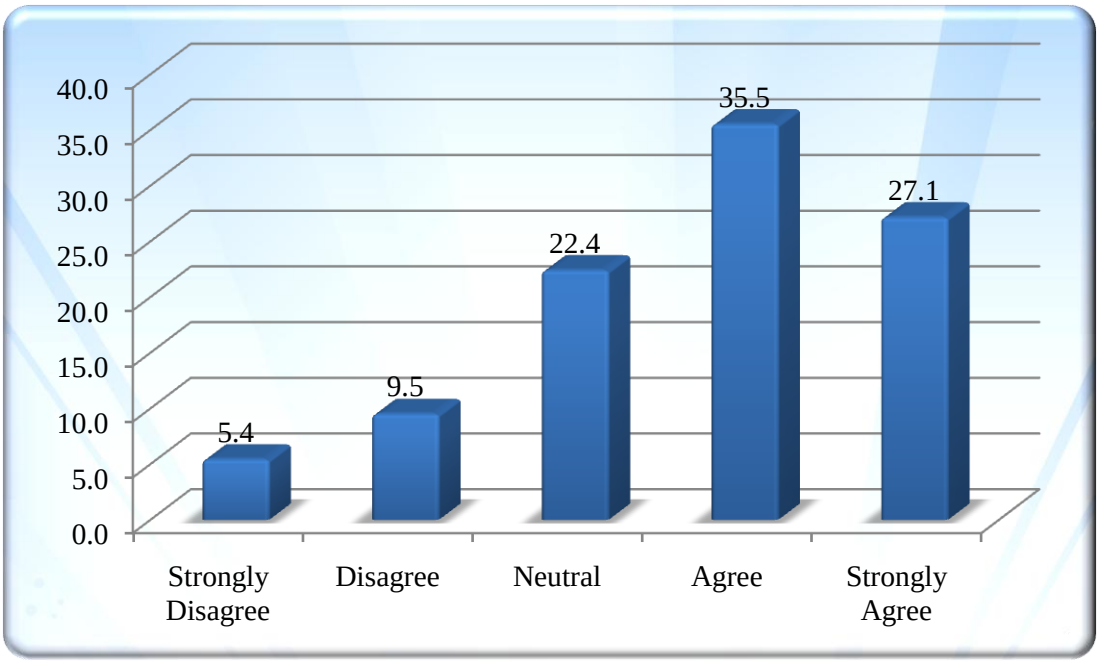

Chart 5.81: Enormous Time and Effort

But **35.5%** of the respondents are 'agree' and **27.1%** respondents are 'strongly agree' on this point means that IT based resources have saved the time and efforts of the users in their respective libraries.

Chapter 6
Conclusion and Suggestions

CHAPTER 6

DISCUSSION AND CONCLUSION

The present study was conducted to ascertain the information seeking behaviour of the users studying and working in 12 teacher education imparting institutes of Rajasthan. A total of 442 users from 12 institutes interacted during the course of study and analysis were presented in the last chapter. Now this is the time to confirm the objectives and cross verify the hypotheses formed for the study.

6.1 Objective of the study

The main objectives framed for the study are verified point wise as discussed below:

- To ascertain the frequency of users of visiting libraries and services mostly used.
    - Table 5.2 confirms the frequency of the visits made by the users comprising of the B.Ed., M.Ed., Ph.D / M.Phil students and the faculty members. This is clear from the table that out of 442 users, 158 users visit the library daily, 180 users 2-3 times a week. Thus, majority of them (76.4%) visit library more frequently for seeking relevant information.
    - They come for searching books, journals & magazines and browsing e-resources as depicted mainly through the tables 5.3-5.12 and for issue-return of the books, consulting reference books and dissertations etc. as shown in table 5.13 to 5.20.
- To find out the awareness and use of library resources used by the users.
    - It is noted that most of the users are aware about the library resources and services being provided to them by their respective libraries.
- To identify the purpose of their information seeking and examine their information seeking behaviour.
    - Table 5.13 to 5.20 shows that users visit the library for various purposes. They come in the library not only to avail the issue-return facility of the library but also for preparing for examination, completing their assignments, using computers, collecting reading

material, for consulting reference books and text books and also for consulting dissertations etc. Thus, they come for different purposes but the faculty especially comes for updating their knowledge.

- To analyze the type of information technology (IT) resources currently used by the users.
  - It is seen from table 4.9 that all the surveyed institutes have computers in their library which are attached to the server either through LAN or Wifi. Maximum number of computers are there in Department of Education, Jaipur National University, Bansthali University, ICG Institute of Educational Research & Development, Jaipur but least number of them is recorded from Mahatma Jyoti Rao Phoole Women's B. Ed. College and Sanjay Teacher's Training College and S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya.
  - Further, table 4.10 confirms that internet that is an essentially today, is there in all the educational institutes.
- To evaluate the collection of information sources in the library of education institutions.
  - It is noted during the study that not only the print collection is sufficient in the institutes surveyed but also the table 4.10 confirms that all institutes except that of Lokmanya Tilak T T College, Udaipur, S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya and Vidya Bhawan Teacher's College, Udaipur are the member of DELNET or UGC – INFONET Digital Library Consortium. Thus, they are subscribing e-books, e-databases and the e-journals for their users.
- To explore the extent of use of ICT based services and their impact on their study and research work.
  - As far as ICT based services are concerned, only Internet and access of e-resources is being provided by most of the institutes to their users. However, library automation is yet on the move, only Department of Education, Jaipur National University, Jaipur,

Bansthali Vidyapeeth University, ICG Institute of Educational Research & Development, Jaipur has automated its library services and others are on the way of progress (table 4.8).

- To study the various problem faced by users while seeking and using the information.
    - Table 5.43 shows that the users face English language problem in finding information from the library. Further, Table 5.66 shows the Problems in finding Relevant Information over Internet from the library where it is clear that 26.7% of the users are not satisfied or not satisfied at all. However, 36.2% of them seem to be satisfied.
    - Table 5.67 shows the overload of information and table 5.68 shows the lack of awareness of users in getting information, where only 29.7% users are aware of how to access information over the internet. But most of them the problem of downloading where they have to wait for a long time for it.
    - Others problems include, lack of knowledge in using automated services (table 5.70), limited number of computer nodes (table 5.71) and shortage of library staff (table 5.72) for helping them and limited number of e-resources (table 5.73) in education sector.

6.2 Research Hypotheses

Besides, the objectives discussed above, some hypotheses were also framed for the study. They are cross-verified with the analysis of the data collected from the users that is presented in chapter 5.

H01: Users are not aware with the available information services and facilities of the libraries.

Table 5.2 shows that inspite of computers and internet access, library is visited by most of the users either daily or 2-3 times in a week. It means still users prefer to use library physically instead of digital format from remote places, i.e. means from their home or the class room etc. They visit and use the library not only

for issue-return of the books but also for reading popular magazines, newspapers and reading reference books in the library.

As far as the technology based services are concerned, most of the users are aware as table 5.31 shows that out of 442 respondents, except that of 76 users who are less satisfied, others are satisfied with the OPAC facility of the library which gives information about the holdings of a particular library on computer screen. However, as table 5.37 shows some of the users who are from Hindi background found themselves in problem while seeking information over internet because information over internet is available in English language. Further, access of e-journals from library consortium is also time-consuming and needs expertise which is lacking among the users, especially in students.

Thus, this hypothesis is not correct as most of the users are aware of information technology and the services being provided to them by their respective library.

H02: Information seeking behaviours of users are different in nature according to their information needs.

Yes, information seeking behaviour of users is found different under different circumstances and the environment. For example, most of the users want the information in Hindi language (table 5.37) instead of English (table 5.36) while this language is preferred language over Internet and most of the resources are in English language.

Further, most of the users use computers for different purposes, table 5.53 shows that some of them use for study purpose, some of them (table 5.54) use in research, some use them for access of internet (table 5.55) and some for making their presentation (table 5.57) and some of them for entertainment purpose (table 5.58).

H03: There are no proper information systems for providing fast, efficient information services to fulfill its users' requirement in the libraries of education institutions.

This hypothesis is not correct. It is seen from the table 4.10 that all libraries except that of Lokmanya Tilak T T College, Udaipur; S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya and Vidya Bhawan Teacher's College, Udaipur are the member of DELNET or UGC – INFONET Digital Library Consortium. Thus, they are providing information services to their users on different aspects of education field through library consortium.

H04: Majority of the users face problems while seeking information from their respective libraries.

Yes, this hypothesis is partially correct. Table 5.36 and table 5.37 shows that mostly the users want information in Hindi language but the information over internet and library consortium is available in English language. That is why they face the problem.

Table 5.66 presents the details of the problem in internet access due to slow speed, further overload of information (table 5.67) is there on internet as vast information is available on the internet but the refined information can only be provided by the library staff which is not available in most of the libraries. Table 5.58 also presents the lack of awareness among the users in accessing e-resources.

Table 4.2(B) shows that out of 12 libraries surveyed, only Banasthali Vidyapeeth is having additional staff in the library and in rests of the libraries there is no additional staff given. They are running with the solo librarian, though there should be more staff, at least one clerk and one gate keeper with library attendant should be there in any library. Thus, the non-availability of the staff hinders the use of information technology based services in the library.

Table 5.72 also shows the shortage of trained library staff in most of the libraries.

H05: Most of the users are satisfied with the services related to information technology.

It is seen from different tables presented in chapter 5, most of the users are satisfied inspite of the problems they faced during their visit to the libraries for various purposes.

6.3 Recommendation

The following recommendations are being made after the study revealed of corrective measures to be taken.

- Most of the libraries are running under sole librarian while there should be at least 05 library staff including library clerk, library attendant and gatekeeper.
- Satisfaction level of the users of libraries subscribing e-resources was much higher as compared to the libraries not subscribing sufficient e-resource. It is recommended that libraries must subscribe more and more r-resources to meet information needs of their users.
- Most of the libraries are getting access of e-resources under UGC-INFONET and DELNET. But a few are not the member of any consortium; hence, they are recommended to have the membership of any consortium or may subscribe education related e-journals through independent purchase.
- It is also recommended that the colleges/ institutes of teacher education should have a separate budget to develop ICT infrastructure and to provide ICT based services to their users, which is in most of the cases is either absent or not up to the standards.
- Table 4.12 and 4.13 also depict the willingness of the librarians providing ICT based services not only through ICT implementation but also by sending their staff for continuous training in such field.
- It is also seen (table 4.3) that libraries of most of the institutes do not open during Sundays or the holidays except that Vidya Bhawan Teacher's College, Udaipur. All of them should be open for a long time and also during the holidays and Sundays.

6.4 Limitations of the Present Study

The present study was limited to the following institutes of education:

- Biyani Girls B.Ed College, Jaipur
- Department of Education, Department of Education, Jaipur National University, Jaipur
- Department of Education, Rajasthan University, Jaipur
- ICG Institute of Education, Research & Development, Jaipur
- Lokmanya Tilak T T College, Udaipur
- Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur
- S S G Pareek P G College Of Education, Jaipur
- S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur
- Sanjay Teacher's Training College, Jaipur
- Shiksha Mandir, Bansthali Vidyapeeth
- Sri Balaji Teachers Training College, Jaipur
- Vidya Bhawan Teacher's College, Udaipur

No other institute is undertaken for the study. Thus, this study is limited to only to above institutions.

6.5 Future Prospects of the Study

This study will be useful for improving the library services of the present institutes and also will present the example to set up new libraries in the field of education training. But the present study is limited to the institutes exit in Jaipur, Banasthali and Udaipur; thus, the study further can be elaborated for other institutes or by taking all the institutes of Rajasthan as whole, of by taking teachers education institutes of other states, like “Impact of IT on Information Seeking Behaviour of Users of Institutions of Education of Gujarat State” or “Impact of IT on Information Seeking Behaviour of Users of Institutions of Education of Jammu & Kashmir” etc.

Summery

SUMMARY

Libraries which are considered as the backbone of any institution provide not only the resources to their users for their desired information but also links the faculty members and the users. Earlier, the libraries were considered merely the storehouse of the documents but with the cheap and better availability of the information & communication technology, the libraries are undergoing unexpected changes. Today's, the expectations of users from the libraries in terms of services have to be faced by librarians.

They have to perform the tasks of collection of qualitative information resources which fulfill the desire of library users and also provide better services from the available resources of library. Today's the libraries are also making use of free resources available over the internet. The practices followed in the libraries in digital era are changing and both users and library professionals are facing the challenges posed due to e-resources and its effective use.

Thus, a paradigm shift has emerged from stand-alone libraries to library and information networks development for accessing information using internet and the ICT that supports end-users in getting seamless access to anyone available at any place. The present trends in libraries are based on electronic information usage and internet-based services, use of e-resources, databases, development of network based environment consortium and economical ways in getting information resources etc.

But whatever the kind of a library may be – traditional or digital but one thing is common and that is libraries are meant for providing information residing in different kinds of the documents to their users. The ultimate motto of every library is to provide right information to the right person at the right time. For that, periodic assessment of the library services has become essential and the study of information seeking behaviour of users is one of the best techniques to assess the quality of the services being provided by the libraries to its users and to improve further the existing services.

Information Seeking Behaviour

The concept of information seeking behaviour has emerged as the studies based on users because the user studies cover users' characters, needs, and dependency and satisfaction level by nature. However, it has originated from the recognition of some needs of the users, who makes demand upon on formal system such as libraries and information centres, or some other person in order to satisfy his information need. Information seeking behavior essentially refers to locate discrete knowledge elements.

Various models of information seeking, such as Wilson Models (1981, 1997 and 1999), Dervin's (1992), Ellis (1993) and Taylor (1968) etc. have been given to study the users behaviour from different angles. However, Girja Kumar (1990) emphasizes in his information seeking behaviour model the following three aspects.

- Who requires information of any kind and for what purposes?
- The way to find information, those that have been evaluated and used.
- How these can be identified for the sake of satisfying a need.

Present Study

It is seen from the review of literature that various types of the studies have already been conducted to assess and study the users behaviour but no comprehensive study was carried out on the information seeking behaviour of users of institutions of education of Rajasthan State, so the present problem "**Impact of IT on Information Seeking Behaviour of Users in Institution of Education in Rajasthan**" was chose as the PhD topic.

Institutes / Colleges selected for the Study

The study was conducted in following 12 education institutions of Jaipur, Banasthali and Udaipur (Rajashtan):

- Biyani Girls B.Ed College, Jaipur
- Department of Education, Jaipur National University, Jaipur
- Department of Education, Rajasthan University, Jaipur
- ICG Institute of Education, Research & Development, Jaipur

- Lokmanya Tilak T T College, Udaipur
- Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur
- S S G Pareek P G College Of Education, Jaipur
- S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur
- Sanjay Teacher's Training College, Jaipur
- Shiksha Mandir, Bansthali Vidyapeeth
- Sri Balaji Teachers Training College, Jaipur
- Vidya Bhawan Teacher's College, Udaipur

No other institute is undertaken for the study. Thus, this study is limited to only to above institutions.

Research Methods Used for the Study

Questionnaire method was used to study the present problem. Two types of the questionnaires (attached as appendices) were prepared – one for collecting information about the state of art of the colleges studied and other for assessing user's behavious.

Verification of Objectives and Research Hypotheses

Some objectives and hypotheses were framed to study the present problem. The data collected from users were tabulated and analyzed for assessing users behaviour as presented in chapter 5. Further, the objectives and hypotheses were verified as discussed below.

Objective of the Study

The main objectives framed for the study are verified point wise as discussed below:

- To ascertain the frequency of users of visiting libraries and services mostly used.
    - Table 5.2 confirms the frequency of the visits made by the users comprising of the B.Ed., M.Ed., Ph.D / M.Phil students and the faculty members. This is clear from the table that out of 442 users, 158 users visit the library daily, 180 users 2-3 times a week. Thus,

majority of them (76.4%) visit library more frequently for seeking relevant information.

- They come for searching books, journals & magazines and browsing e-resources as depicted mainly through the tables 5.3-5.12 and for issue-return of the books, consulting reference books and dissertations etc. as shown in table 5.13 to 5.20.

- To find out the awareness and use of library resources used by the users.
  - It is noted that most of the users are aware about the library resources and services being provided to them by their respective libraries.
- To identify the purpose of their information seeking and examine their information seeking behaviour.
  - Table 5.13 to 5.20 shows that users visit the library for various purposes. They come in the library not only to avail the issue-return facility of the library but also for preparing for examination, completing their assignments, using computers, collecting reading material, for consulting reference books and text books and also for consulting dissertations etc. Thus, they come for different purposes but the faculty especially comes for updating their knowledge.
- To analyze the type of information technology (IT) resources currently used by the users.
  - It is seen from table 4.9 that all the surveyed institutes have computers in their library which are attached to the server either through LAN or Wifi. Maximum number of computers are there in Department of Education, Jaipur National University, Bansthali University, ICG Institute of Educational Research & Development, Jaipur but least number of them is recorded from Mahatma Jyoti Rao Phoole Women's B. Ed. College and Sanjay Teacher's Training College and S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya.
  - Further, table 4.10 confirms that internet that is an essentially today, is there in all the educational institutes.

- To evaluate the collection of information sources in the library of education institutions.
    - It is noted during the study that not only the print collection is sufficient in the institutes surveyed but also the table 4.10 confirms that all institutes except that of Lokmanya Tilak T T College, Udaipur, S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya and Vidya Bhawan Teacher's College, Udaipur are the member of DELNET or UGC – INFONET Digital Library Consortium. Thus, they are subscribing e-books, e-databases and the e-journals for their users.
- To explore the extent of use of ICT based services and their impact on their study and research work.
    - As far as ICT based services are concerned, only Internet and access of e-resources is being provided by most of the institutes to their users. However, library automation is yet on the move, only Department of Education, Jaipur National University, Jaipur, Bansthali Vidyapeeth University, ICG Institute of Educational Research & Development, Jaipur has automated its library services and others are on the way of progress (table 4.8).
- To study the various problem faced by users while seeking and using the information.
    - Table 5.43 shows that the users face English language problem in finding information from the library. Further, Table 5.66 shows the Problems in finding Relevant Information over Internet from the library where it is clear that 26.7% of the users are not satisfied or not satisfied at all. However, 36.2% of them seem to be satisfied.
    - Table 5.67 shows the overload of information and table 5.68 shows the lack of awareness of users in getting information, where only 29.7% users are aware of how to access information over the internet. But most of them the problem of downloading where they have to wait for a long time for it.

- Others problems include, lack of knowledge in using automated services (table 5.70), limited number of computer nodes (table 5.71) and shortage of library staff (table 5.72) for helping them and limited number of e-resources (table 5.73) in education sector.

Research Hypotheses

Besides, the objectives discussed above, some hypotheses were also framed for the study. They are cross-verified with the analysis of the data collected from the users that is presented in chapter 5.

H01: Users are not aware with the available information services and facilities of the libraries.

Table 5.2 shows that inspite of computers and internet access, library is visited by most of the users either daily or 2-3 times in a week. It means still users prefer to use library physically instead of digital format from remote places, i.e. means from their home or the class room etc. They visit and use the library not only for issue-return of the books but also for reading popular magazines, newspapers and reading reference books in the library.

As far as the technology based services are concerned, most of the users are aware as table 5.31 shows that out of 442 respondents, except that of 76 users who are less satisfied, others are satisfied with the OPAC facility of the library which gives information about the holdings of a particular library on computer screen. However, as table 5.37 shows some of the users who are from Hindi background found themselves in problem while seeking information over internet because information over internet is available in English language. Further, access of e-journals from library consortium is also time-consuming and needs expertise which is lacking among the users, especially in students.

Thus, this hypothesis is not correct as most of the users are aware of information technology and the services being provided to them by their respective library.

H02: Information seeking behaviours of users are different in nature according to their information needs.

Yes, information seeking behaviour of users is found different under different circumstances and the environment. For example, most of the users want the information in Hindi language (table 5.37) instead of English (table 5.36) while this language is preferred language over Internet and most of the resources are in English language.

Further, most of the users use computers for different purposes, table 5.53 shows that some of them use for study purpose, some of them (table 5.54) use in research, some use them for access of internet (table 5.55) and some for making their presentation (table 5.57) and some of them for entertainment purpose (table 5.58).

H03: There are no proper information systems for providing fast, efficient information services to fulfill its users' requirement in the libraries of education institutions.

This hypothesis is not correct. It is seen from the table 4.10 that all libraries except that of Lokmanya Tilak T T College, Udaipur; S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya and Vidya Bhawan Teacher's College, Udaipur are the member of DELNET or UGC – INFONET Digital Library Consortium. Thus, they are providing information services to their users on different aspects of education field through library consortium.

H04: Majority of the users face problems while seeking information from their respective libraries.

Yes, this hypothesis is partially correct. Table 5.36 and table 5.37 shows that mostly the users want information in Hindi language but the information over internet and library consortium is available in English language. That is why they face the problem.

Table 5.66 presents the details of the problem in internet access due to slow speed, further overload of information (table 5.67) is there on internet as vast information is available on the internet but the refined information can only be provided by the library staff which is not available in most of the libraries. Table 5.58 also presents the lack of awareness among the users in accessing e-resources.

Table 4.2(B) shows that out of 12 libraries surveyed, only Banasthali Vidyapeeth is having additional staff in the library and in rests of the libraries there is no additional staff given. They are running with the solo librarian, though there should be more staff, at least one clerk and one gate keeper with library attendant should be there in any library. Thus, the non-availability of the staff hinders the use of information technology based services in the library.

Table 5.72 also shows the shortage of trained library staff in most of the libraries.

H05: Most of the users are satisfied with the services related to information technology.

It is seen from different tables presented in chapter 5, most of the users are satisfied inspite of the problems they faced during their visit to the libraries for various purposes.

Recommendation

The following recommendations are being made after the study revealed of corrective measures to be taken.

- Most of the libraries are running under sole librarian while there should be at least 05 library staff including library clerk, library attendant and gatekeeper.
- Satisfaction level of the users of libraries subscribing e-resources was much higher as compared to the libraries not subscribing sufficient e-resource. It is recommended that libraries must subscribe more and more r-resources to meet information needs of their users.

- Most of the libraries are getting access of e-resources under UGC-INFONET and DELNET. But a few are not the member of any consortium; hence, they are recommended to have the membership of any consortium or may subscribe education related e-journals through independent purchase.
- It is also recommended that the colleges/ institutes of teacher education should have a separate budget to develop ICT infrastructure and to provide ICT based services to their users, which is in most of the cases is either absent or not up to the standards.
- Table 4.12 and 4.13 also depict the willingness of the librarians providing ICT based services not only through ICT implementation but also by sending their staff for continuous training in such field.
- It is also seen (table 4.3) that libraries of most of the institutes do not open during Sundays or the holidays except that Vidya Bhawan Teacher's College, Udaipur. All of them should be open for a long time and also during the holidays and Sundays.

6.4 Limitations of the Present Study

The present study was limited to the following institutes of education:

- Biyani Girls B.Ed College, Jaipur
- Department of Education, Department of Education, Jaipur National University, Jaipur
- Department of Education, Rajasthan University, Jaipur
- ICG Institute of Education, Research & Development, Jaipur
- Lokmanya Tilak T T College, Udaipur
- Mahatma Jyoti Rao Phoole Women's B. Ed. College, Jaipur
- S S G Pareek P G College Of Education, Jaipur
- S.S. Jain Subodh Mahila Shikshak Prashikshan Mahavidyalaya, Jaipur
- Sanjay Teacher's Training College, Jaipur
- Shiksha Mandir, Bansthali Vidyapeeth
- Sri Balaji Teachers Training College, Jaipur
- Vidya Bhawan Teacher's College, Udaipur

No other institute is undertaken for the study. Thus, this study is limited to only to above institutions.

Future Prospects of the Study

This study will be useful for improving the library services of the present institutes and also will present the example to set up new libraries in the field of education training. But the present study is limited to the institutes exit in Jaipur, Banasthali and Udaipur; thus, the study further be elaborated for other institutes or by taking all the institutes of Rajasthan as whole, of by taking teachers education institutes of other states, like “Impact of IT on Information Seeking Behaviour of Users of Institutions of Education of Gujarat State” or “Impact of IT on Information Seeking Behaviour of Users of Institutions of Education of Jammu & Kashmir” etc.

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Appendices

Appendix A: Questionnaire

IMPACT OF IT ON INFORMATION SEEKING BEHAVIOUR OF USERS IN INSTITUTION OF EDUCATION IN RAJASTHAN

Dear Staff Members,

I am pursuing PhD on the topic **'Impact of IT on Information Seeking Behaviour of Education Institutions in Rajasthan'** from Kota University, Kota. You are kindly requested to answer on the questions requested below. I assure you that all the information provided in the questionnaire will be used for academic purpose only.

A. General Information

1. Name _____
2. Name of the Institute _____
3. Type of the University/College (please tick)

   A Govt. B. Private C. Govt. Added D. Autonomous
4. **Qualifications**

   (A) Under Graduate (B) Graduate (C) Post Graduate (D) M.Phil/Ph.D
5. Designation_____
6. Experience_____
7. Telephone No. :_____E- Mail: _____

B. **Library Users**

8. Number of library users (please mention the number).

   (i) Faculty Members: _____ (ii) Research Scholars _____

   (iii) P.G. Student _____ (iv) U.G. Students _____

C. Learning Resources

9. Which forms of reading material are available in your library?

Types of the Reading Material	**Number** [please mention the total number]
Books	
Journals / Magazines Current Year	
Number of Back Volumes of Journals	
Theses and Dissertations	
Survey Reports	
Encyclopedia	
Non Book Material	
Audio – Visual materials	
CD- ROM database	
Online database	
Electronic Journal	
Microfilms/ Microfiche	
Others	

10. Resources use by the users

S.No.	**Resource**	**Never (1)**	**Rarely (2)**	**Sometime (3)**	**Weekly (4)**	**Daily (5)**
1	Books					
2	Journals/ Magazine					
3	Newspapers					
4	Survey report					
5	Thesis/Dissertation					
6	Back Volumes of Journals					
7	Encyclopedia					
8.	Old question papers/Syllabus					

D. Human Resources

11. What is total strength of Library Staff:-

Professionals : _____

Semi Professionals :_____

Non Professionals :_____

Others, if any :_____

E. Information Technology

IT Infrastructure

a. Hardware

12. Please mention IT Infrastructure available at present in your library.

S. No.	IT Hardware	Yes	No	If yes, please give the total number
1	Computers			
2	Printers			
3	Server			
4	Scanners			
5	Xerox Machine			

b. Automation

13. Automation Status

S.No.	Particulars	Tick One
1	Fully automated	
2	Partially automated	
3	Manually	
4	In Process	

15. If your library is automated, then please tick the name of software

S. No.	Name of Software	Tick One
1	Alice	
2	Libsys	
3	Sanjay	
4	Soul	
5	CDS/ISIS	
6	E-Granthalaya	
7	Any other (Please specify)	

F. Networking and Information Services

16. Please provide details about status of the information services being offered in your library (Please tick the appropriate columns)

S. No.	Services	Manually Done	Computerized	Not Providing
1	Circulation			
2	Reference services			
3	Current awareness services			
4	Selective Dissemination of Information			
5	Photocopy Service			
6	Internet Services			
7	E-mail			

17. Does your library have Internet Connectivity?

Yes ☐ No ☐

18. If yes, then please tick mark the appropriate box.

LAN ☐ MAN ☐ WAN ☐

19. Is your library participating in any network?

Yes ☐ No ☐

20. If yes, then please tick mark the appropriate box

DELNET ☐ MALIBNET ☐

INFLIBNET ☐ ERNET ☐

(Others) please specify _____

21. Please mention the objectives of IT application

S. No.	Objectives of IT Applications	Yes	No
1	To improve the access of collection		
2	To keep the users up to date in their fields		
3	To improve the quality of existing services		
4	To introduce new services		
5	To modernize various library activities		
6	To improve co-operation and resource sharing among libraries		
7	To participate and utilize national and international library networks		
8	To reduce the routine and time consuming clerical work		

22. Steps taken for information technology implementation

S. No.	Steps taken for information technology implementation	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Sending staff for training					
2	Organizing onsite staff training					
3	Visits to automated libraries					
4	Consultation with professional librarians					
5	Organizing training programmes					
6	Any other, please specify					

23. Please give your suggestion and comments for improving the IT based information resources and services

_____

_____

_____

Appendix B: QUESTIONNAIRE

IMPACT OF IT ON INFORMATION SEEKING BEHAVIOUR OF USERS IN INSTITUTION OF EDUCATION IN RAJASTHAN

- You are requested to fill up the questionnaire and answer which you seem relevant.
- Please tick mark in appropriate bracket (s) and also provide the information where is requested.
- Please tick Mark ( ) and give your views where applicable.

Section 1: Personal Information

1. Name of Institution _____

   Name of Student _____

   Telephone_____ E-mail _____

   1.1 Age Group 20-30 31-40

   41-50 50 and above

   1.2 Gender Male ☐ Female ☐

   1.3 Category B.Ed Student ☐ M .Ed Student ☐

   M.Phil/ Ph.D ☐ Faculty Members ☐

Section -2 Library Related Information

1. Frequency of visit of the Library (Please tick one)

S. No.	Particulars	Tick only one
1	Daily	
2	2-3 Times a week	
3	Once in a week	
4	1-2 Times in a month	
5	Rarely	

2. Time Spent on Information Gathering Activities per week

S. No.	Information Gathering Activity	Amount of Time Spent Per Week (Hours)				
		Up to one hour	2-5 hours	6-7 hours	8-10 hours	More than 10
1	Searching Journals and Magazines					
2	Searching Books					
3	Searching Dissertation & Theses					
4	Browsing e-Journals on Internet					
5	Searching online databases					
6	Searching for related websites					
7	E –mail alert, correspondence					
8	Accessing e-books					
9	Photocopying					
10	Scanning & printing					

3. For what purpose specific do you visit the University Library?

S. No.	Purpose	Daily	Weekly	Sometime	Rarely	Never
1	To prepare for examination					
2	For Issue/Return the library materials					
3	For reading					
4	Visit for Accomplishing Assignment					
5	For career development					
6	For using computer					
7	For preparing notes					
8	Visit for collecting Reading Material					

4. What Material you find useful in your information seeking

S. No.	Reading Material	Daily	Weekly	Sometime	Rarely	Never
1	Text books					
2	Reference Books					
3	General Books					
4	Magazines/ Journals					
5	Newspapers					
6	Dissertation/ Theses					
7	Other (if any)					

5. Please tick your level of satisfaction on present available services in library

S. No.	Library Services	Excellent	Very Good	Good	Satisfactory	Less Satisfactory
1	Circulation service					
2	Reference Services					
3	Photocopy Service					
4	OPAC					
5	Co-operation of library staff					
6	CAS					
7	SDI					
8	Current updates through e-mail					

6. Level of the Language and problems faced in using library

S.No.	Language Level	Poor (1)	Satisfactory (2)	Good (3)	Very Good (4)	Excellent (5)
1	English					
2	Hindi					

7. Do you encounter any problems while seeking information?

S. No.	Particulars	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Reading material is not available					
2	Vasteness of the Information					
3	Lack of times					
4	Library Staff unsupportive					
5	Lack of knowledge					
6	Language problem					
7	Usage of OPAC in Library					

Section 3: Information Technology

8. Please specify the type of information technology you use in library

S. No.	Type of IT	Never (1)	Rarely (2)	Sometime (3)	Weekly (4)	Daily (5)
1.	Computer					
2.	Internet					
3.	Online databases					
4.	Access e-Journals					
5.	CD- ROMs					
6.	Printer					
7.	Photocopy machines					
8.	Scanners					

9. Frequency of using Computers for seeking information

S. No.	Frequency of Using Computer	Never (1)	Rarely (2)	Sometime (3)	Weekly (4)	Daily (5)
1	For study					
2	For research					
3	To search Internet					
4	For academic assignments					
5	To prepare presentations					
6	For entertainment					

10 Frequency of using Internet for seeking information (Please tick)

S. No.	Frequency of Using Internet	Never (1)	Rarely (2)	Sometime (3)	Weekly (4)	Daily (5)
1	For research Project					
2	For downloading Programs					
3	Internet for Communication					
4	To access e-journals					
5	For professional development					
6	For entertainment					

11. What are the biggest problems in using IT resources?

S. No.	Problem	Highly Satisfied	Satisfied	Partially Satisfied	Not Satisfied	Not at All Satisfied
1	Slow access speed					
2	Problems in finding Relevant Information over Internet					
3	Overload of Information on the Internet					
4	Lack of awareness about electronic resources and services					

S. No.	Problem	Highly Satisfied	Satisfied	Partially Satisfied	Not Satisfied	Not at All Satisfied
5	Long Time to View/Download Information					
6	Lack of training on using automated services					
7	Limited Number of Computers					
8	Shortage of Trained Library Staff					
9.	Lack of IT Resources					
10.	Problem facing usages of technology tools					

12. Impact of information technology on Users

S. No.	Reasons	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Enable easier and wider access to electronic resources					
2	Quality of Library Services					
3	Direct Access of the Services and Resources					
4	Access to New Range of Services					
5	Help in locating material through on-line catalogues					
6	Flexible and Comprehensive Retrieval of Information					
7	Provide up-to-date information for academic growth					
8	Enormous save Time and Effort					

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Impact Factor (PIF) 1.675, Indexed in I2OR.

CONTENTS

Information- Seeking Behaviour of Management Students: A Study

*** Reena Anand**
****Dr. Umesh Kumar Agarwal**

Abstract

This study attempts to determine the information- need and seeking behaviour of information resources of library, by Management students. The overall purpose of the study was to determine what their information requirements are and determine their level of satisfaction and what problem are faced by users while seeking and using information. Data were collected from 100 management students for the analysis. Librarians are required to help them for maximum utilization of library services and resources.

Key Words*: -Information Need, Information Seeking Behaviour, library-resource*

1. Introduction

Information Seeking is a process in which humans engage to purposefully change their state of knowledge. The process is inherently interactive as information seekers direct attention, accepts and adapts to stimuli, reflect on progress, and evaluate the efficacy of continuing. Information is the foundation stone of knowledge. It is the resource which helps in decision making, education & management, pursuance of a vocation in any profession. Information-seeking behaviour is a board term, which involves a set of actions that an individual task to express information, and finally use this information to satisfy user's information needs. Information Seeking Behaviour includes the methods of searching information. There are three methods of seeking information namely, finding, accessing and acquiring of information. Information -Seeking Behaviour is the purposive seeking for information as a consequence of a need and to satisfy some goal. In the course of seeking, the individual may interact on the following aspect.

According to T.D. Wilson the word information is used, in the context of user studies research, to denote a physical entity or phenomenon, the channel of communication through which massages are transferred or the factual data, empirically determined and presented in a document or transmitted orally. The information seeking behaviour essentially refers to the strategies and actions undertaken to locate discrete knowledge elements. There are three basic resources namely: i. People ii. Information and system. It can be said that the behaviour, which yields the highest information satisfaction, is the best. The meaning and scope of information seeking behaviour in this study is as follows: The motives and purposes of seeking information, the nature and type of information required, the ways and means of accessing, searching, identifying and acquiring work related information, degree of dependence on sources of

information, communication behaviour, and use of library and user- interactions with the library.

2. Review of Literature

Prasad and Tripathi (1997) Conducted a study with physical and social scientists to find out their information seeking behaviour. They also enumerated the various sources of information used by the scientists. The primary journals were used by both groups of scientists but there was a difference in the usage of abstracting and indexing periodicals.

Pelzer and others (1998) in the study entitled "Library use and information seeking behaviour of veterinary medical students revised in the electronic environment" revealed that students used the library most frequently for photocopies, office suppliers and studying course work; they preferred text books and handouts as sources of current information. Overall use of electronic materials was highest among a group of students receiving the problem based learning method of instruction.

Shokeen and Kushik (2002) studied about information seeking behaviour of social scientists working in the universities located in Haryana. They reported most of the social scientists visit the library daily. The first preferred method of searching the required information by the social scientists followed by searching through indexing and abstracting periodicals, and citations in articles respectively. The social scientists use current journals followed by books

Kuttalikar and Malakulkar (2003) in their study found that the teaching faculty and reason scholars directly make use of the primary sources like journals reports, patents standards etc and secondary source like text books, monograph abstracts, bibliographies.

Mahaparta and Panda (2004) conducted a study of information seeking and searching behaviour of working journalists in Orissa and observed that journalists made personal visit to libraries and information centers to find information. They are also in the habit of scanning the current issues of periodicals and give priority to those information sources which contain current information useful for their work.

3. Objective

- To find out information seeking behaviour of the Management Students
- To ascertain how frequently users visit libraries
- To identify the purpose of seeking information
- To study the various problem faced by users while seeking and using information
- To find out level of satisfaction

***4. Methodology*:** The populations for the study consist of the Management students at The IIS University. A survey method was used for data collection. It received a total response of 100 respondents .The data gained from the responses were analyzed to understand management student's information-seeking behavior, information needs and the extent to which these needs have been fulfilled by the university library system.

5. Data Analysis

Table: 1 Frequency of Library Visit **N-100**

Particulars	Respondents	Percentage (%)
Daily	47	47%
2-3 Times a week	29	29%
Once in a week	15	15%
1-2 Times in a month	09	09%

Table 1 show that 47% respondents used Library daily, followed by 29% respondents who used the library 2-3 Times a week, while 15% visit the library once in a week and 09% visit the library 1-2 Times in a month.

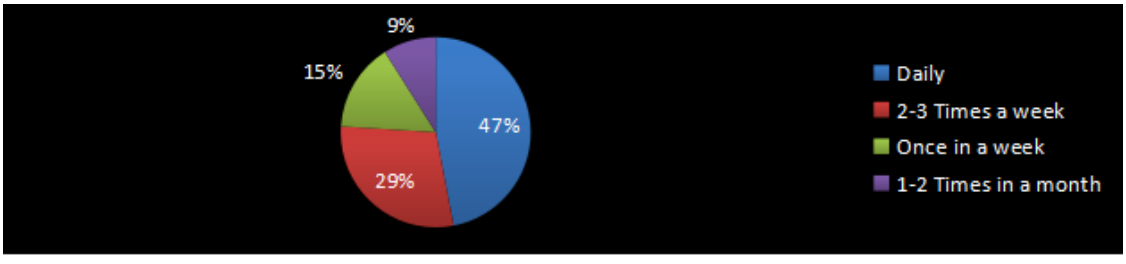

Figure-1: Frequency of Library Visit

Table:- 2 Purpose of Library Visit **N-100**

Purpose	Respondents	Percentage (%)
To reading	20	20%
For Issue/Return	25	25%
To complete assignments	7	7%
Reading Journals	20	20%
Using e-resources	18	18%
For preparing notes	5	5%
For career development	5	5%

Table- 2 indicates in response of purpose of Library visit that 25% respondents are using the library for issue return, 20% respondents are using library for reading purpose, 18% respondents using e-resource, 7% respondents using library for doing complete assignment and 5% for career development & preparing notes.

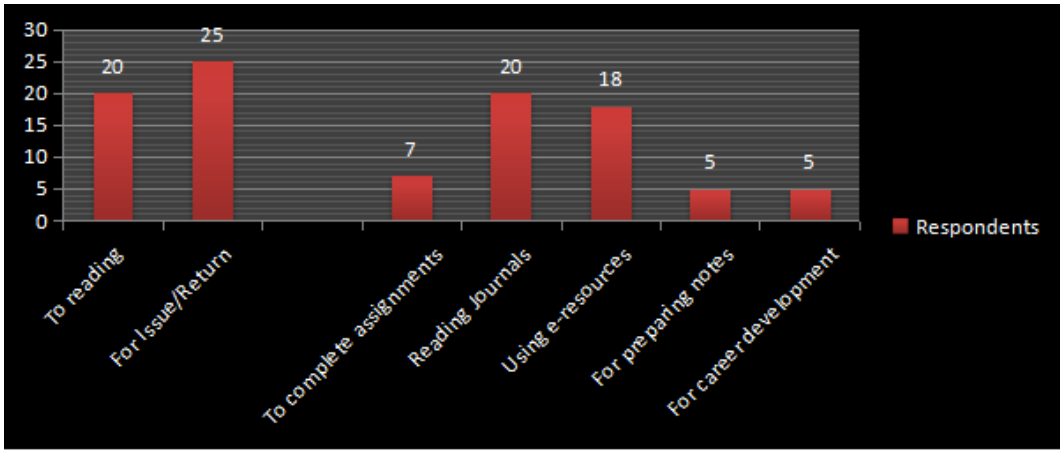

Figure -2 : Purpose of Library Visit

Table 3: Time Spent in the Library **N-100**

Duration in the Library	**Respondents**	**Percentage (%)**
Less than one hour	30	30%
One hour	34	34%
Two- three hours	22	22%
More than three hours	14	14%

As observed from Table- 3, that 34% respondents' time spent in the library one hour, 30% respondents spent time less than one hour, 22% two – three hours and 14% respondents spent time in library more than three hours.

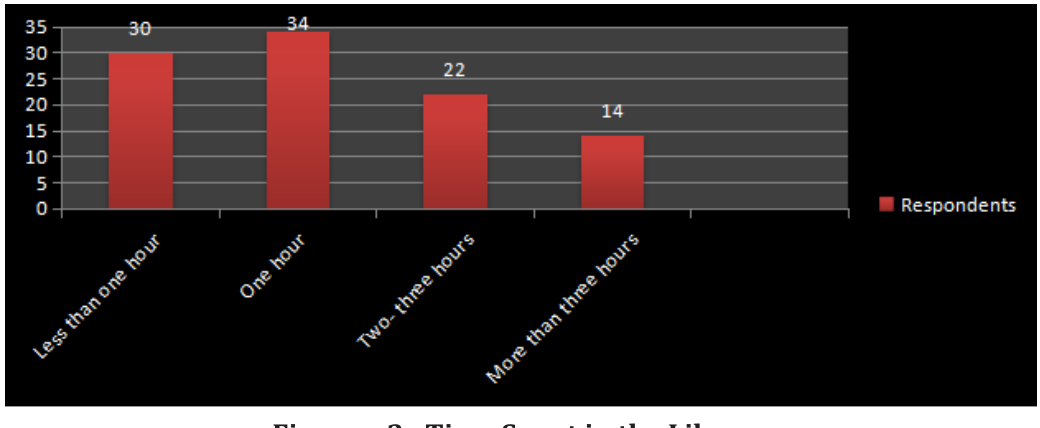

Figure – 3: Time Spent in the Library

Table: 4 what type of materials you seek in your central library **N-100**

Reading Material	Respondents	Percentage (%)
Text books	25	25%
Reference Books	15	15%
General Books	8	8%
Magazine/ Journals	10	10%
Newspapers	5	5%
Dissertation/ Thesis	15	15%
Seminar Reports/Project Report	10	10%
Old question papers/ syllabus	12	12%

As observed from Table – 4, that 25% respondent seek text book in college library, 15% respondents seek reference books & Thesis/ Dissertation, 12 % respondents seek old question paper & Syllabus, 10% seek Journals & Seminar reports, 8% respondents seek general books and 5% respondents seek newspaper in central library.

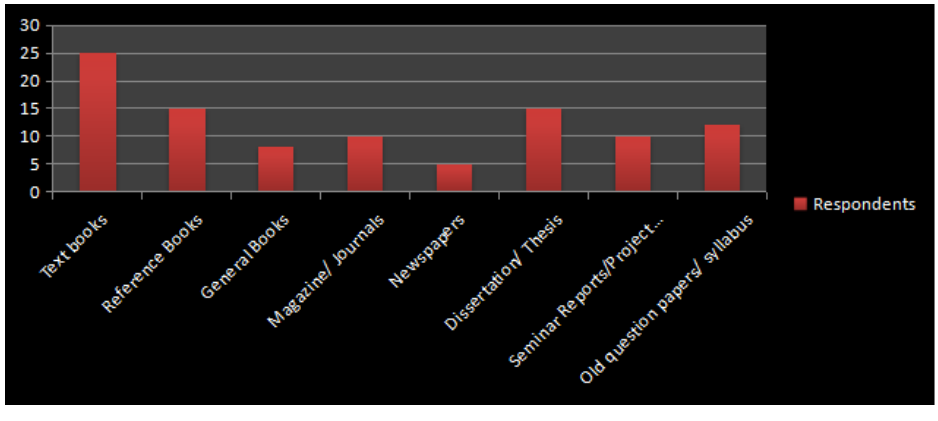

Figure – 4 : **what type of materials you seek in your central library**

Table- 5: Satisfaction Level **N-100**

Satisfaction Level	Respondents	Percentage (%)
Very Good	29	29%
Good	22	22%
Satisfactory	32	32%
Average	17	17%
Below Average	6	6%

Table-5 100 students are having the feedback as good with the library resources. Satisfaction Level of 32% respondents having Satisfactory, 29% having the opinion of very good, 22% having Good , 17% having Average and 6% below average.

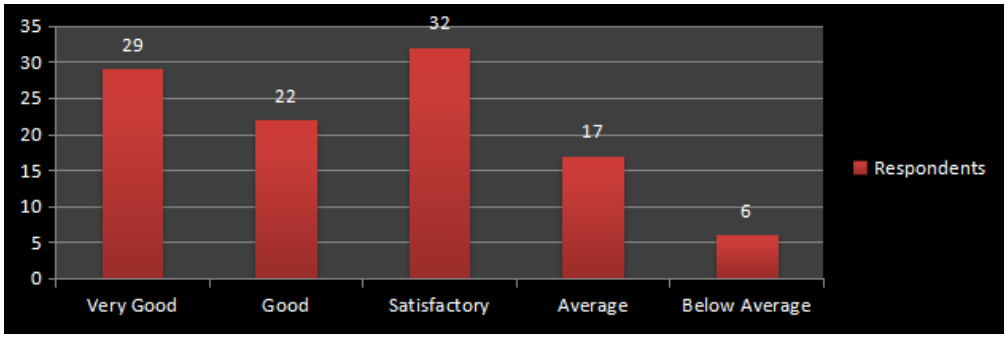

Figure-5: Satisfaction Level

Table: 6 Problem Faced in using library **N-100**

Problems	Respondents	Percentage (%)
Reading material is not available	15	15%
Lack of Time	16	16%
Don't know how to use e-resources	32	32%
Lack of knowledge how to use library	20	20%
Do not how to use the OPAC	12	12%
Library staff not supportive	5	5%

Table 6 indicates in response of problem faced during library visit 30% students don't know how to access e- resources, 20 % students don't know how to use library resources, 16% found that library has students face the problem that library opening hours are not sufficient, 15% found that reading material is not available, 12% students don't know how to use OPAC .

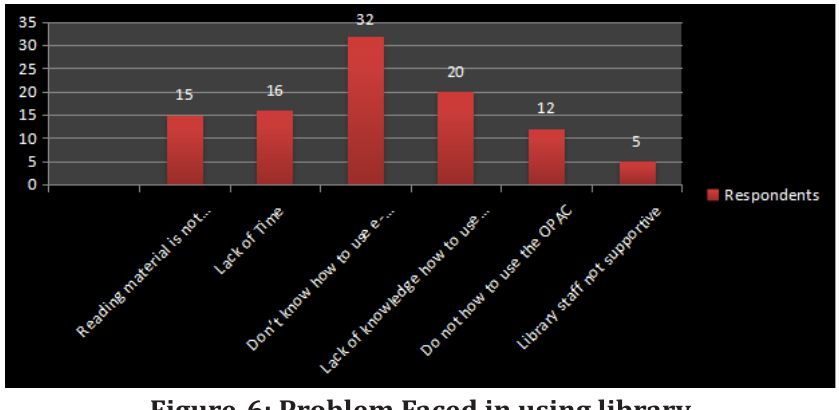

Figure-6: Problem Faced in using library

Conclusion

The study of information – seeking behaviour of the students with the goal of keeping themselves aware and update with the lasted developments is a trait that has undergone little difference since the bygone days when information- seeking was relatively tedious job than what it is today. In the world of internet, this seeking has aroused various others computations and permutations which is possible today on account of advance and fast availability and accessibility due to rapid scientific development.

In the entire process of this study, it was observed that there is still a room for improvement which can make the captioned exercise more meaningful and effective. A furtherance should be given to information- seeking works through use of e-resources like e-journals, e-books etc. The simple requirement is to conduct on orientation programme for the students by first having oneself (the library staff) in the information- seeking business. The collective efforts should, no doubt, prove fruitful and beneficial in the long term. The library should pay attention towards the latest and current information.

**** Research Scholar***
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Information: Seeking Behaviour of Research Scholars in ICT Environment

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Abstract

The Information Communication Technology (ICT) has been instrumental in giving rise to many good impacts on our society and its changing aspects of many widespread benefits. ICT has become, within a very short span, one of the basic building blocks of modern society. No knowledge seeking can function without ICT. Therefore, it is imperative that higher education institutions afford their graduates the literacy and competencies that their future work environments are likely to demand of them. ICT has affected almost all areas of libraries. The ICT application tools and techniques are essential for providing efficient and effective library and information services to the user. The paper presents the results of a survey of the information seeking behaviour of Research scholars in ICT Environment. The purpose of the survey was to explore the use of information communication technology by the research scholars for seeking information and to know how to intelligently they use ICT resources. Data gathering tools used include questionnaires, Interview and observation for collecting the data from research scholars. These questionnaires were then analysed to reach meaningful conclusions. The findings of the study also revealed useful facts about the use of ICT tools and services by the research scholars.

Keywords: *Information Communication Technology, Information Seeking Behaviour, e-resources*

Introduction

The human brain incessantly demands for information as its feed, both concrete and abstract. The word 'imagination' comes from the word,' image'. With a variety of images and impressions that flash across his mind, some individually or collectively, makes inroads into his mind; being ambiguous or incomprehensible they disturb and propels one to seek for solution and answers. The process builds up to make enquires through available information, and forms the very basic of any research work, scientific or philosophical discoveries, and for that matter, any field of knowledge. The modern advancements today make for huge storehouses of information through information Communication Technology (ICT).

The information seeking behavior refers to the way people search for and utilize information. The need could not be directly observed, while how people behaved in seeking information could be observed and investigated. Information behavior as the totally of human behavior in relation to sources and channels of information, including both active and passive information seeking and information use (Wilson, 2000) .With the advent of information communication technology in libraries and their massive use the pattern of information seeking behavior is totally changed. When a user comes to library, his ideas of information sources are very limited. His behavioral approaches also are marginal. While he establishes an interaction with the information intermediary. Similar is the situation

in the web –based information seeking. Today ICT has given ample opportunity to the users to browse a large number of sources.

Objectives of the Study

- To know the frequency of use of ICTs
- To find out the level of a expertise of users regarding the use of ICTs
- To know the favourite search engines used by researchers
- To identify the type of problems faced by users while locating desired information in electronic form
- To determine how ICT has impacted research work

Methodology

Data gathering tools used include questionnaires, Interview and observations for collecting the data from research scholars. The study is conducted with the help of primary and secondary data. The major sources of data are primary, where a structured questionnaire is designed. The sampling is Purposive. Sample size is 80 researcher Scholars.

Data Analysis

The present study was conducted to ascertain the information seeking behaviour of research scholar in ICTs Environment. The collected data are tabulated and analyzed to reach meaningful conclusions.

Table 1: Use of ICT Product

Use of ICT Product	Respondents (N=80)	Percentage (%)
Computer	10	12.5%
Laptop	30	37.05%
Internet	35	43.75%
DVD/CD/Pen Drive	05	6.25%
Total respondents	80	

Table 1 shows that 43.75% research scholar used Internet for their research work. 37.05% researchers used Laptop, 12.05% researchers used Computer and 6.25% researchers used DVD/CD/Pen Drive for their research work.

Table 2: Location of Internet Use

Response	Respondents (N=80)	Percentage (%)
At on Seat	25	31.25%
At home	35	43.75%
Cyber café	05	6.25%
Library	15	18.75%
Total respondents	80	

Table 2 shows that 35% respondents prefer to surf Internet at home, 25% respondents mentioned that they surf at on seat, 15% respondents mentioned the library and 5% respondents use internet at cyber café.

Table 3: Purpose of using Internet

Purpose	Respondents (N=80)	Percentage (%)
For the project	18	22.05%
For the presentation	15	18.75%
For the knowledge	09	11.25%
For the learning	08	10%
For research work	30	37.05%
Total respondents	80	

Table 3 shows the Purpose of using Internet is for the research work results yielded 37.05%. 22.05% researchers using internet for the project work, 18.75% users using internet for the presentation and followed by the knowledge & learning purpose 11.25% & 10% researchers using internet.

Table 4: Frequency of Use of Computer & Internet

Frequency of Using	Respondents (N=80)	Percentage (%)
Daily	47	58.75%
Two to three times in a week	18	22.05%
Weekly	11	13.75%
Monthly	03	3.75%
Occasionally	01	1.25%
Total respondents	**80**	

Table 4 shows that, 58.75%% researchers used Computer & Internet daily; 22.05% researchers used two to three times in a week, 13.75% used weekly. A few researchers used it monthly (3.75%) and occasionally (01%).

Table 5: Expertise in using ICT

Expertise	Respondents (N=80)	Percentage (%)
Very Expert	30	37.05%
Expert	25	31.25%
Average user	20	25%
Poor	05	6.25%
Total respondents	80	

The table shows that, 37.05% % researchers are very expert in using ICTs, while 31.25% users are expert; 25% researchers are average use of ICTs and 6.25% researchers indicated that they are poor user in using ICTs.

Table 6: Preferred Search Engines

Search engines	Respondents	Percentage (%)
Google	58	72.5%
Yahoo	20	25%
Alta vista	01	1.25%
Bing	01	1.25%
Total respondents	80	

Table 6 shows that Google.com is the most preferred search engine with 72.05% positive responses, followed by yahoo with 25%, other search engines like Alta vista & Bing used only 1.25% researchers.

Table 7: Problems faced while using ICT's

Problems	Respondents (N=80)	Percentage (%)
Lack of awareness	09	11.25%
Lack of software	08	10%
Lack of time	07	8.75%
Limited number of computers	18	22.05%
Lack of training	13	16.25%
Lack of technical knowledge	10	12.05%
Slow speed of the Internet	15	18.75%
Total respondents		

Table 7 shows that, some problems faced by the researchers while using ICTs 22.05% users mentioned the limited number of computers, 18.75 % users faced problem slow speed of the internet , lack of training (16.25%), lack of technical knowledge (12.05%), Lack of awareness (11. 25%) Lack of time & lack of software (10%) problems faced by researchers while using ICTs.

Table 8: Impact of ICT on Research work

Impact	Respondents (N=80)	Percentage (%)
Access to current information	30	37.5%
Quick access of information	25	31.25%
Expedite research process	15	18.75%
Up-to-date information for academic growth	10	12.05%
Total respondents		

Table 8 shows that, majority of researchers (37.50%) access to current information, 31-25% quick access of information, 18.75 Expedite research process and Up-to-date information for academic growth (12.05%). The research scholars feel that the emergence of ICT has a great impact on all research work.

Conclusion

The study investigated the information – seeking behaviour of research scholars in ICT's Environment. It was found that respondents used a variety of ICT products and services for their project, assignments, presentations and research works as it is helpful in finding information quickly and also helps the research scholars

to access, manage, integrate, create, and communicate information more easily.

In the use of ICT, however, the scholars have to face some difficulty, namely due to want of technical knowledge and not due to non-awareness. But this problem can be handled through training them and equipping them with the requirements of ICT resources and services. Educational Institutions should arrange and organize training programmes related to ICT. In this regard, the library officials and keepers-in-charge must first gain their knowledge and disseminate them for the seekers.

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