INFORMATION NEEDS AND USE PATTERN OF FACULTY MEMBERS OF RAYAT SHIKSHAN SANSTHA: AN ANALYTICAL STUDY

A Thesis Submitted to

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Under the Faculty of Moral and Social Sciences

By

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D E C L A R A T I O N

I hereby declare that the thesis entitled “Information Needs and Use Pattern of Faculty Members of Rayat Shikshan Sanstha: An Analytical Study” completed and written by me has not previously formed the basis for the award of any degree or other similar title upon me of this or any other university or examining body.

Place: Solapur **Mrs. Manisha Kishor Tank**

Date: 15 / 07 /2015 Research Student

C E R T I F I C A T E

This is certify that the thesis entitled “Information Needs and Use Pattern of Faculty Members of Rayat Shikshan Sanstha: An Analytical Study” which is being submitted herewith for the award of the Degree of Vidyavachaspati (Ph.D.) in Library and information Science, Faculty of Moral and Social Sciences Tilak Maharashtra Vidyapeeth, Pune is the result of original research work completed by Mrs. Manisha Kishor Tank under my supervision and guidance. To the best of my knowledge and belief the work incorporated in this thesis has not formed the basis for the award of any degree or similar title of this or any other university or examining body upon him.

Place: Pune **Dr.Prabhash Narayan Rath**

Date : 15 /07 /2015 Research Guide

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Mrs. Manisha Kishor Tank

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1.1 Information: its meaning

A literal, etymological definition of information is *to give form* to something. In the modern usage of the word this means to give form to a message by moulding it into a shape or pattern that can be communicated. There are many interpretations about what information is, and there is little consistency in the way in which the term 'information' is used and defined. Information does not yet have a commonly accepted, generic, context independent definition. There is a long standing debate among philosophers whether information can exist in the abstract or is created only through the process of communication. Some experts emphasize that information can exist irrespective of whether any human or other form of intelligence perceives it or utilizes it. However all general dictionaries emphasize the communication aspect of the term. The Oxford English Dictionary defines it as "that of which one is apprised or told; intelligence, news." The New Webster's Dictionary of English Language gives the meaning "intelligence, notice, news, or advice communicated by word of writing; knowledge derived from reading or instruction, and knowledge derived from the senses or the operations of the intellectual faculties." The Random House Dictionary of English Language states that it is "Knowledge communicated or received concerning a particular fact or circumstances; any knowledge gained though communication, research, instruction, is information." According to Webster's Third New International Dictionary "Information is the process by which the form of an object of knowledge is impressed upon the apprehending mind, so as to bring about the state of knowledge." According to the Merriam-Webster Online Dictionary 'information' is "the communication or reception of knowledge or intelligence, or

knowledge obtained from investigation, study, or instruction. It is intelligence, news, facts, and or data. (http://www.merriam-webster.com/dictionary/ information) Information is something that one person communicates to another; hence the meaning can only be understood in a socio-cultural context. As Stonier (1991) has observed, a word in a foreign language possesses information, but may have no meaning for the listener if the listener has no prior knowledge of that language. Therefore, to be operative information has to make sense and in order to do this, it has either to fit with pre-existing meanings or be capable of integrating with them and possibly transforming them. Library science experts have emphasized the aspect of comprehension in their definitions. As per Harrod's Glossary it is "An assemblage of data in a comprehensible form capable of communication" According to the Online Dictionary for Library and Information Science (ODLIS), Information is data presented in readily comprehensible form to which meaning has been attributed within the context of its use. In a more dynamic sense, information is the message conveyed by the use of a medium of communication or expression. Whether a specific message is informative or not depends in part on the subjective perception of the person receiving it. (www.lu.com/odlis/i/) Shera emphasized that "information, both in the sense in which it is used by biologists and in the sense in which we as librarians use it, is 'fact'. It is the stimulus which we perceive through our senses. This information may be a single isolated fact or it may be a whole cluster of facts, but it is still a unit; it is a unit of thought. It can have any dimension. It is that intellectual entity which we receive, the building block of knowledge. (1965, p. 15) He also stated that in the generic sense, it is that which is transmitted by the act or process of communication, it may be a message, a signal, a stimulus. It assumes a response in the receiving organism and therefore, possesses response potential. (1972, p.164)

According to Porat (1977) Information is “organized data which can be communicated.” Meadow (1967) stated that information includes (a) ‘data’, that is symbols in response to a query; (b) ‘facts’, that is highly subjective form; (c) ‘documents’, that is datum or ‘fact’ in the ‘information’ which is generic term. (p. 107). He thus emphasizes both the content of the message and its container. Hoffman (1980) provides a succinct definition of information as “an aggregate of statements, facts and or figures which are conceptually, by way of reasoning, logic, ideas, or any other mental mode of operation interrelated, or in shorthand, as A formula: Information = facts, figures + their meaningful connection. The definition given by UNESCO (UNISIST, 1979) emphasizes the content and different formats of information. “Information is made up of symbolic elements, communicating scientific and technical knowledge, irrespective of their nature (numerical, textual, graphic, etc.) material carriers, (paper-print, microform or machine readable form) form of presentation, etc. It refers both to the substance or contents of documents and to the physical existence; the term is also used to designate both message (substance and form) and its communication (act)”. Some authors have tried to classify information instead of defining it. Koblitz (1963) distinguished between three kinds of information, i.e. Semantic information as a message, Semantic information as a process, and Documental information, which is information containing new facts or statements. Hertz and Rubenstein (1953) classified information as Conceptual, Empirical, Procedural, Stimulatory, Policy, and Directive information. (pp. 5-10) Since information is such a universal concept there are many other valid definitions for information originating from a variety of disciplines that make heavy use of the concept e.g. physics, genetics, neurology, cybernetics, computer science, economics, communications, knowledge management, media studies, library science, information

science, archival science, etc. The mathematical theory of communication devised by Claude Shannon in 1948, has been even more influential, and this despite the fact that the information to which it applied was a technical concept, totally devoid of any semantic connotations. (Martin, 1995) In this narrow technical sense, information was the statistical probability of a sign or signal being selected from a given set of signs or signals. Shannon applied the concept of entropy to the measurement of choice and uncertainty, where uncertainty was the measure of the statistical independence or degree of freedom of choice present in the selection of a message. The greater the freedom, the greater the uncertainty; the greater the degree of uncertainty, the smaller the amount of information in a message There have been attempts were the link between information and uncertainty is questioned. For example Machlup and Mansfield (1983) observed that countless numbers of messages are received by people without any effect on their uncertainty, and that some kinds of information will generate even more uncertainty than existed before. Shannon's definition of information and his ideas about information flow and transfer are more quantitative than qualitative. Several quantitative definitions have also been built upon in the realm of physics. These definitions are focused on measuring the quantity of information units or the strength of its transmission. This approach reduces information to a binary set of symbols or signals which are not necessarily electronic. The quantity or frequency of the total number of possible messages that these symbols can make are calculated against the backdrop of random or intentional noise in the transmission channel i.e. the signal to noise ratio. This theory continues to be used in the communications industry to invent and improve the transmission of information over copper wires, through the air, through fiber-optic cable, etc. Since 1999 the concept of *qubits*, essentially quantum bits of information, as being the fundamental

building block of the knowable world instead of matter, atoms or the quantum field has been introduced in quantum physics (Garderen, 2007). The quantitative information theory is interested specifically in the symbols and signals of these messages and not their intended or interpreted meaning. This is in contrast to the other definitions of information given earlier which are more concerned with the meaning and understanding of the message that the information communicates. Experts from the field of Library and Information science and other social sciences are more interested in the qualitative aspects of information.

1.2 characteristics of information:

As the earlier definitions of information point out information is made up of four Cs. –content, (facts or opinions), communication, comprehension and container. It has distinct characteristics which make it valuable. The inherent characteristics (Satyanarayana, 1996) of information are:

▪ **Other resources depend on information and knowledge.** It is the perception and evaluation of resources which make their use possible. One cannot use that, of which one knows nothing. Thus the availability of information determines the use of other resources.

▪ **It is a resource itself:** Information is not reduced or diminished by wider use and sharing. On the contrary, its value tends to gain in the process. It is called “a synergetic resource”, i.e. the more we have the more we use and the more useful it becomes. Information expands as it is used.

▪ **It is alive:** Information exists in the human mind: what it observes, remembers and retrieves, and what it then analyzes, intuits and integrates. Information is the input and output of human perception.

▪ **It is compressible:** It can be concentrated, integrated, summarised, and miniatured for easier handling. Thus many complex cases are stored in theorems, masses of data into a single formula, and lessons learned from much practical experience in a manual of procedure.

▪ **It is substitutable:** It can replace capital, labour or physical materials. Automation and robotics in factories and offices are displacing, transforming and upgrading the labour force.

▪ **It is diffusive:** It tends to leak and the more it leaks the more we have. Examples are the strait-jackets of public secrecy, intellectual property rights, etc.

▪ **It is shareable**: When information is shared it results into a shared transaction not an exchange transaction, as the one who gives away some information or passes on an idea or fact, retains it while sharing the same. Thus we can conclude that information as a resource is pervasive and different from other resources in fundamental ways, in kind and not merely in degree. Attempts have also been made to assess the benefits resulting from the use of information. Two main categories of benefits that relate to the nature or area of application of the changes resulting from the use of information have been studied (Menou, 1993) - direct benefits and indirect benefits. Direct benefits are those which are an immediate consequence of using information for the purpose for which it was sought, to solve the particular problem for which it was sought. Indirect benefits may only occur in the medium or long term and are not specifically related to the problem at hand when the information was used, for example, structuring the knowledge base, enlightenment, and attitudinal changes. In each of these categories, two subcategories have been further distinguished based on the conditions of occurrence of the benefits: immediate benefits and potential benefits. The value of information lies in its use for understanding the situation, in decision

making and planning, predicting, monitoring and reviewing activities. It is important that in order to be of use information is accurate, and relevant, The value of the information is not an inherent or constant quality. It depends on the needs of the recipient and on the use to which it is put. Information is not only valuable for the individual but also for an organization or at the national level. Pauline Atherton in "Handbook for Information Systems and Services" (UNESCO 1977) explains the value of information for a nation. It can be used to

▪ Improved capability of a country to take advantage of existing knowledge and 'know-how' achieved elsewhere.

▪ Rationalization and systematization of a country's research and development efforts in light of knowledge already available.

▪ Creates a wider knowledge base for the solution of problems.

▪ Provides new alternatives and approaches to the solution of technical problems, and options for minimizing future ones.

▪ Improves effectiveness and efficiency of technical activities in the production and service sectors and

▪ Results in better decision making in all sectors and at all levels of responsibility. The value of information to a nation suggests its relationship to development.

1.3 Information needs: Today in the 21st century, there is explosion of information. At each and every instance some or more information is continuously added. To keep pace with the fast changing, fast growing technology the faculties and research scholars need advanced knowledge. They need recent information which will help them to improve their subject command. This is not possible with the regular library services as classification of books, cataloging, selective dissemination of information

services etc. so, the information and communication technology plays a vital and important role in achieving advancements in knowledge up gradation. Today's Libraries are also changing their work culture to fulfill the needs of its stakeholders to fulfill the demands of faculties and research scholars.

Libraries get computerized with different available library software. To search the required book, OPAC system is used instead of catalogue card. Also e – journals, e – resources, on – line, off – line databases are very much of need. Also the internet connection plays a vital role in information search and information retrieval. So, the study of information need and satisfaction of faculties and research scholars with special reference to information and communication technology is very much co - related with the recent trends. The technology is relatively new in library and information science discipline. The findings of the study also help in developing a sound policy towards application of ICT products in the college libraries in general and under the Rayat Shikshan Sanstha in particular. The findings of the study will also provide a clear understanding of the users' requirements and efficacy of the available ICT infrastructure to meet the requirements.

The purpose of a library or an information system is of course to fulfill some needs for documents and information for users or potential users. Such needs may, for example, be related to educational activities, to research activities, to professional activities, to recreation activities, to cultural activities or to personal development.

It is important that need is not mistaken for demand. The demand for information or documents may be low, for example, because the library is seen as inaccessible by the users. Still, the needs exist. An information need may be more or less recognized by the users. However, deeper analysis and consequent action is seldom taken based on

this insight. Mostly are needs still confused with demands, probably because information needs seem less open to empirical investigations. Furthermore, people often talk about information needs, they are actually referring to wants or use. As, Elayyan (1988), Green (1990) or Hewins (1990) contend, many studies that claim to be studies of information need are really studies of information use. However, while it is true enough that want or use are both manifestations of need and as such, undoubtedly should be considered, they are neither identical to need, nor fully or accurately describe it. Thus, in order to attain a correct and comprehensive picture, we should be evaluating the need people for information, the wants and demands they express for it and the use they make of it. Need analysis and demand they express for it. Therefore, as part and parcel of any definition, information needs have to be distinguished from some closely associated, but distinct information concepts, like want, demand and use, which are frequently confused with information needs. For Line(1974), information needs were seen as the call for 'information that would further the job or this research, and would be recognized as doing so by the recipient'. Belkin and Vickery (1989) add that information needs arise when people recognize a gap in their state of knowledge, that is when they experience ' an anomalous state of knowledge' and wish to resolve that anomaly.

Of course, people do not usually have information needs per se; rather, when they experience a problem or difficulty or under some pressure, these cognitive and emotional needs of theirs may be met, or at least partially met, by obtaining and then applying some appropriate information. Indeed information need arise out of a desire to meet one or other of the three basic needs: psychological needs, physiological need; and cognitive needs. All this, however, can in no way to be taken to mean that

information needs are any less important than the primary needs they serve; rather to the contrary, because success in meeting the one is dependent on meeting the other.

1.4 Unrecognized and recognized information needs: People do not know what their information needs are. They do not know they have an information gap, for they are not aware that there is information out there that could be of help to them. They do not know that new information has rendered absolute what they know and, in result, has given rise to another information needs. It is only when exposed to the relevant information that the need is recognized. This might be called dormant need or unrecognized need.

Conversely, users may be well aware of their information needs, that is, their needs are by no mean dormant / unrecognized, but, nevertheless, they do nothing about meeting them, either because they can't or will not. The familiar reason is people refraining from perusing their information needs for lack of time. Such non-use of information, as Wilson (1993a, 1995, and 1996) points out, may not happen by accident or by mistake in academe. Rather, it often reflects a routine and normal approach for copying with the prevalent situation, in which the concurrent pressures of constant dearth of time, on the other hand, and the huge quantity of available information, on the other, combine to instigate a policy of deliberate disregard of one's information need. Clearly, in today's internet based information world, in which information is being generate in ever-increasing volumes and people are connected to information sources of unparalleled power and reach, taking a conscious decision not to attempt to meet one's information needs, at least not fully, is commonplace and will increasingly become more so. At the same time, the huge

popularity of the internet must be at least partly due to the fact that it has an unlimited potential both to uncover dormant information needs in the searcher and to solve recognized information problems expediently. However, turning to the internet, with or without a particular purpose in mind frequently means relying on happy accident. This, in its turn, may come at some considerable cost: missing out on vital piece of information.

1.5 A framework for evaluating information needs: It is far more difficult to describe the characteristic of information needs than, those of housing needs. Actually information needs arises from other needs. Such as, they are more likely to be accorded less individual thoughts and considerations and in result their characteristic are so easily remembered. Despite this fact that information needs are perceived as less concrete and more diffuse. Thus, it is possible to identify 11 major characteristics of information need: subject, nature, intellectual level, viewpoint, quantity, quality/ authority, date/ currency, speed of delivery, place of publication/ origin, and processing and packaging. These characteristics combine to form a comprehensive evaluatory framework, for it takes a holistic consideration of the different attributes of an information need to provide a true answer to a problem encountered. The 11 pronged framework proposed here can, thus ensure that information delivery is consumer-centered, targeted, personalized and relevant.

1.6 Information use: Information use is a visible way of the information-seeking process, the information individual actually uses. This is an area about which information professionals must know. In this study we should know both intended use and unintended use, that is, it may be the direct outcome of satisfied demand or while not looking purposively for anything or when looking for something else. It may be

noted here, that browsing and accidental unearthing of information are invariably akin to unintended use, for browsing can be quite directed and structured. Some people browse because they have no choice; they cannot recognize and articulate their need until something they see reminds them of it. People also browse because they are forced to do so, the manner whereby the information system, the web for instance display the information. Thus the difference between intended use and unintended use is an important term of information system design. For this very reason, usage studies should really make an effort to distinguish between the two. Use is a direct manifestation of need. Use and satisfaction do not always go hand-in-hand. Thus, information seekers clearly need to establish at the outset whether a given item of information amongst a vast sea of data will satisfy or fail to satisfy need. What users believe the need represent their subjective understanding of their need. This subjective understanding is reflected in their information-seeking behavior. Even if this behavior may be studied objectively it is still not useful as criteria for what is needed. What is needed is something that is able to solve the problem behind the users' behavior. Information needs are related to problem and an important issue is how problems are understood, delimited and formulated.

In the information-seeking process, it is the information the individual actually uses or consumes. This is an area about which information professionals must know. What exactly do we mean when we talk about information use? First of all, use is both intended use and unintended use; that is, it may be the direct outcome of satisfied demand. Some people browse because they have no choice; they cannot recognize and articulate their need until something they see reminds them of it. The difference between intended use and unintended use is an important one in terms of information

system design. For this reason usage studies should really make an effort to distinguish between the two.

1.7 Rayat Shikshan Sanstha: The Rayat Shikshan Sanstha is one of the leading educational institutions in Asia. The value of its contribution to education in general is enormously great as it has, from the very beginning, tried all its best to lay emphasis on the education of the down-trodden, the poor and the ignorant, which really form the major bulk of society. It was founded by Padmabhushan Karmaveer Dr. Bhaurao Patil, who devoted all his mind and heart to the cause of their education. He had an incisive understanding of the social ills such as caste-hierarchy, money-lending, illiteracy, untouchability, superstitions and social and economic inequality could be remedied through the education of the masses alone and laid the foundation of the Rayat Shikshan Sanstha by opening a Boarding House at Kale (Tal-Karad, Dist-Satara) in 1919. Soon, however, in 1924 he shifted the head-quarters of his educational institution to Satara. Presently, it is one of the prominent educational societies having 38 senior colleges under its ambit. The Rayat Shikshan Sanstha, unlike many colleges in rural areas, has uniformly introduced computerization in the Libraries of all the colleges under its ambit.

History: A premier institution of education like the Rayat Shikshan Sanstha, known and honored far and wide, not only at the national level, but at the global level too, needs no introduction. The institution itself is regarded as a noble mission, a noble cause, so earnestly and so endearingly pursued by its founder- father Karmaveer Bhaurao Patil, the educator of the educators and his legendary wife Sou. Laxmibai Patil with her exemplary sacrifices made to turn the mission into a reality.

The Rayat Shikshan Sanstha is one of the leading educational institutions in Asia. The value of its contribution to education in general is enormously great as it has, from the very beginning, tried all its best to lay emphasis on the education of the down-trodden, the poor and the ignorant that really form the major bulk of society. The founder of the institution, late Dr. Karmaveer Bhaurao Patil, was a man of the masses who devoted all his mind and heart to the cause of their education. He had an incisive understanding of the social ills that beset his times and fully realized the dire need of the spread of education. He believed that education alone could correct the social ills such as caste-hierarchy, money-lending, illiteracy, untouchability, superstitions and social and economic inequality. Throughout his life he tried to translate this belief into reality. He was the champion of the poor, the weak, and the dispossessed and left no stone unturned for their upliftment. He was a great humanitarian who endeavored hard to educate the masses to bring a kindly light of hope in their lives of misery and ignorance. He realized that the social ills could be remedied through the education of the masses alone and laid the foundation of the Rayat Shikshan Sanstha by opening a Boarding House at Kale (Tal-Karad, Dist-Satara) in 1919. Soon, however, in 1924 he shifted the head-quarters of his educational institution to Satara.

Vision: There is a need to reconsider the present education at all its levels. The globalization and liberalization have changed all the concerns and references. It is necessary to deviate from the traditional methods and use the new methods and technology for imparting education. In view of this the Rayat Shikshan Sanstha has actively started the process of adjusting with new trends.

1.8 Need and significance of Study: Today in the 21st century, there is explosion of knowledge. At each and every instance some or more information is continuously added. To keep pace with the fast changing, fast growing technology the faculties and research scholars need advanced knowledge. They need recent information which will help them to improve their subject command. This is not possible with the regular library services as classification of books, cataloging, selective dissemination of information services etc. so, the information and communication technology plays a vital and important role in achieving advancements in knowledge up gradation. Today's Libraries are also changing their work culture to fulfill the needs of its stakeholders to fulfill the demands of faculties and research scholars. Libraries get computerized with different available library softwares. To search the required book, OPAC system is used instead of catalogue card. Also e – journals, e – resources, on – line, off – line databases are very much of need. Also the internet connection plays a vital role in information search and information retrieval. So, the study of information need and satisfaction of faculties and research scholars with special reference to information and communication technology is very much co - related with the recent trends. The technology is relatively new in library and information science discipline. The findings of the study also helps in developing a sound policy towards application of ICT products in the college libraries in general and under the Rayat Shikshan Sanstha in particular. The findings of the study will also provide a clear understanding of the users' requirements and efficacy of the available ICT infrastructure to meet the requirements.

1.9 Statement of Problems: The present study is an analysis of information needs and use patterns of faculty member and research scholars with special reference to

information and communication technology in Rayat Shikshan Sanstha's senior colleges. Basically, it is a status report on the available ICT infrastructure in the senior colleges of the Rayat Shikshan Sanstha and their usage by the teachers and researchers. Here, the faculty member include all the teachers who do the classroom teaching in the senior colleges of Rayat Shikshan Sanstha and research scholars refer to all the full time scholars pursuing their Ph.D. in different colleges of Rayat Shikshan Sanstha.

1.10 Scope & Limitations : Information need and its relevance with information and communication technology is a combination of information retrieval using different electronic and computerized resources as computers, internet services, compact disks (CD's) DVD's different types of online and offline databases e – journals and e- resources subject gateways, library software's and OPAC systems,

The basic need of faculty member and research scholars is up - to- day and authentic information for their study purpose. So, the scope of the study is needs of the faculty members and research scholars of different colleges under the educational society Rayat Shikshan Sanstha especially with the use of information and communication technology. Presently, there are forty two senior colleges under Rayat Shikshan Sanstha scattered all over Maharashtra, most of which is situated in the rural areas of the state. The study does not cover other educational institutions such as schools, technical educational centers, etc. which have been managed by the Sanstha. There are approximately one thousand and eighty one teachers and research scholars working in different senior colleges of the Sanstha who are covered under the scope of the present study.

The limitations are as the study is only concerned with the faculty members and research scholars of Rayat Shikshan Sanstha's senior college staff, it may not reflect

an overall picture of ICT usage by faculty members and research scholars in rural areas as unlike the colleges under Rayat Shikshan Sanstha, most of the rural colleges can't afford have good connectivity and housekeeping software.

1.11 Objectives: Following are the major objectives of the present study:

1. To study information needs of faculty members
2. To study information use pattern of faculty members in colleges of Rayat Shikshan Sanstha.
3. To find out the problems in using ICT products and services by the faculty members and researchers in the college libraries of Rayat Shikshan Sanstha and the possible solutions to overcome the problems.

1.12 Hypothesis: A hypothesis is an assumption about relationship between variables. It is a tentative explanation of the research problems or a guess about the research outcome. Before starting the research the researcher has a rather general, diffused, even confused notion of the problems. It may take long time for the researcher to say what questions he had been seeking answers to. Hence, an adequate statement about the research problems is very important. The researchers proceed with the study with the following hypotheses:

1. Faculty members and research scholars need more and more information and communication technology based services for their study.
2. College libraries in Rayat Shikshan Sanstha, especially in rural areas do not have sufficient information and communication resources.
3. Amount of use of different available information and communication tools by research scholars is more than faculty members.

4. Due to lack of awareness, faculty members and research scholars in colleges, though expect more specialized services from their libraries, seem to be contend with the available resources and services.

1.13 Research methodology: The objective of the present research is not only to extend the human knowledge, but also to verify and test existing facts and theory and these helps improving our knowledge and ability to handle situations and event, and to suggest about improvements in the existing situation whereby the faculty members working in various colleges of Rayat Shikshan Sanstha will get service in a much more better way by means of effective deployment of information and communication technology.

Different types of research are just an approach to differentiate the distinctive approaches to research for purpose of better understanding. Each method has its own strength and weakness. Survey method is very popular as it allows for standardization and uniformity both in the questions asked and in the method of approaching the subjects. It is easier to compare and contrast the answers given by the respondent group. It also ensures higher reliability, efficiency and accuracy in determining the information about the given population. The results can be obtained relatively quickly depending on the sample size.

Research tools and techniques: In the present study, various tools and techniques are used for the acquisition of data collection. The most frequently used tools of research for data collection are questionnaire method. This method has been used to collect the data for the present study. Questionnaire is one of the most widely used and preferred social science research data collection tool because this method is amenable to statistical analysis. It is used to obtain accurate information from the

respondents. It is more economical and easy to administer. It helps to cover a large group at the same time. A well designed structured questionnaire covering the relevant aspects of the study was used to collect the data. The researcher has personally visited most of the colleges and sought data from the faculties and for remaining colleges questionnaires are sent by post and responses is gathered. For extracting subjective information to supplement the data obtained from the questionnaires, the researcher also interviewed some of the librarians.

Universe of the Respondent: In the present study, the faculty members and librarians working in various colleges under the Rayat Shikshan Sanstha form the sample. The stratification of the sample which is nothing but grouping of the sample based on some homogenous characteristics is done on the basis of certain parameters such as rural and urban, age groups, specializations etc.

Sampling technique: The research employed stratified random sampling technique for culling information from the sample groups for the purpose of analysis. The senior colleges under the Rayat Shikshan Sanstha spread across the Indian state of Maharashtra form the universe for the study. There are thirty eight senior colleges of Rayat Shikshan Sanstha. Eighteen colleges are situated in urban area and twenty colleges are there in rural areas. Out of these thirty eight, four are special Mahila or Women's colleges. Thus the proportion of colleges situated in rural and urban area is almost same. Data was collected by means of questionnaire and interview method from 1081 (one thousand eight one) faculty members working in different subject areas in those thirty eight colleges, out of which one hundred sixty three (15.2%) are female and nine hundred eighteen (84.8%) are male teachers. Out of the said 1081 number of faculty members, the researcher got response from 861 faculty members which is 79.6% of the total universe, out of which hundred and seventy six (176) i.e.

20% are female respondent and six hundred and eighty five (685) 80% are male respondents. The other details about respondents is given in the data analysis chapter in the later part of this thesis.

Types and Methods of Research: The researcher has collected primary data from the respondents based on structured questionnaires and interviews. The secondary data taken from existing literature has also been used to strengthen the arguments or to validate the results derived out of analysis of the primary data collected by means of questionnaire or interview method.

The data collected from the respondents covered the following aspects:

- Collection development
- Library computerization
- Use of Library by faculty
- ICT related Library services.

The faculty questionnaire was used to collect information focused on the use of e-journals and databases. Users were thus asked questions regarding their awareness, usage, preferences, perceptions, preferred practices and attitudes.

Data processing: Data collected with the help of questionnaire from the sample universe is very large in nature and in variety of format that any meaningful interpretation of data cannot be achieved straightway. For this the researcher had done the coding and grouping of data for research interpretation. For this data is arranged and organized and reorganized in EXCEL workbooks. And using different mathematical and logical tools the meaningful interpretation is been done.

Data collection tool: the researcher has used questionnaire as a tool for data collection. While designing the questionnaires, due care has been taken to make it

comprehensive by including all the essential aspects without sacrificing its simplicity and objectivity. To the total population of one thousand and eighty one, questionnaire were sent to one thousand respondents out of which eight hundred and sixty one respondents had returned the filled questionnaire. For this study two sets of questionnaires one for the Librarians and the other for the faculties were designed for collecting the data. Details of the contents in both the questionnaires have been given in the subsequent sections. The librarians' questionnaire has sought information about the Library.

Pre-test: Pre-testing means trial administration of the questionnaire to a sample of respondents before finalizing it. The first testing of the draft questionnaire is done among colleagues in order to find out its shortcomings. After this in house testing, the questionnaire is revised and tested in the field. The questionnaires are given to 15 respondents drawn from the universe relating to planned study. The researcher meets them personally and asked them to comment on each question clarity and other aspects of questionnaire. Researcher got some valuable suggestions for revising the questionnaire. The pre-test responses are carefully examined and analyzed in order to identify weaknesses of the questionnaire. Necessary corrections, deletions, additions and changes in question wording and sequences are made to eliminate the imperfection discovered.

Statistical Tools Employed: In this process of conducting research the researcher has compiled and collected different types of numerical data. This data is generated in the form of responses to various questionnaires devised to obtain information regarding the research topic. The researcher has adopted different techniques of quantitative analysis aid for correct interpretations of these data. Using statistics, the researcher can test hypotheses, compute means and other measures of central tendency, assess

the relationship between one variable and other, make predictions, determine reliability and validity of questionnaires, generalize conclusions from sample data to populations, present research data in graphical and tabular format, calculate the variability of research data, determine the significance of the difference between the performance of two groups.

1.14 Chapterization:

1. Introduction
2. Review of literature
3. Rayat Shikshan Sanstha
4. Information needs and information use pattern
5. Data analysis and interpretation
6. Summary and future direction

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Review of Literature

2.1 Introduction:

As part of the process of understanding the general problem and its context, the relevant professional and scholarly literature should be reviewed and synthesized. A literature search is an attempt to identify, locate and synthesize completed research reports, articles, books and other materials about the specific problems of a research topic. An extensive survey of all available past studies relevant to the field of investigation, is an essential condition for the formulation of hypothesis. Knowledge of what others have found out in the related area and how they have done so shall motivate one to contribute something new to the existing body of knowledge. According to Young (1996), a review of pertinent works and thinking by others helps to enlarge, enrich and clarify one's own work and thinking. An exhaustive review of literature has many advantages. It shall help the researcher to-

i. develop a better understanding of the problem to be investigated;

ii. delineate a new area of study and avoid unnecessary duplication;

iii. decide on the tools and techniques to be adopted, including developing some new ones; and

iv. relate the present study with the previous ones by finding out the areas of agreement or disagreement.

The sources of information for review of literature may be direct or indirect. The direct sources are: Theses, Journals, Books, Monographs, and Reports etc. whereas,

the indirect sources are: Abstract, Bibliographies, Dictionaries, Directories, Encyclopedia, Indexes etc.

The process of review of literature involves locating, selecting and evaluating the material and taking appropriate notes. The review of literature serves as a background for the present investigation and helps in understanding it in proper perspective. Literature review forms an important component of a social science research, which gives an idea of the works done prior to a particular study. A review of the literature is an essential part of academic research project. The review is a careful examination of a body of literature pointing toward the answer to research question. Literature reviewed typically includes scholarly journals, scholarly books, authoritative databases and primary sources. Sometimes it includes newspapers, magazines, other books, films, and audio and video tapes, and other secondary sources.

Earlier, several studies have been made to ascertain the Information Seeking behavior of faculty and researchers in different segments across the country. As it was not possible for the researchers to present an exhaustive literature search, the following lines highlight some of the important studies on information seeking behavior made in the past.

2.2 Indian scenario: In India a vast study is underwent on information seeking pattern and information seeking behavior of different groups by different researchers.

2.2.1 Impact of ICT:

Sahu and Singh (2010) made a detailed study on impact of information and communication technology on the information seeking patterns. They studied the information seeking pattern of scientist involved in astronomy and astrophysics research centers in India. They found that frequency of information search in library is reduced but the information is mostly searched on internet. Apart from that the interaction between the users and the library staff has not that affected due to instant messaging e-mail etc.

Along with Sahu and Singh, Barik , Bisen and Bhardwaj (2007) made a study on electronic information seeking behavior of Scientists and research scholars of CSMCRI Bhavnagar they observed that electronic sources are the primary sources of accessing information. But electronic journals are most preferred resources among the electronic resources. Updating knowledge is the primary purpose of gathering information. It can be observed most of the users are happy with the library subscription of electronic resources. For several publications archival access is also available. In the preliminary survey, it can be observed that searching is a useful feature in electronic resources where as browsing, hyper linking are other feature useful. For downloading articles PDF file format is most preferred. Search Engine and Portals are Common Interface for searching electronic resources for most of the scientists and research scholars. 10-20 full text articles are downloaded per week by maximum number of scientists and research scholars. Relating to the speed of downloading, most of the scientists are satisfied. About the resources it has been observed that American Chemical Society Publication is highly preferred society publications, where as Elsevier Science among other commercial publishers. Beside the subscribed resources, free Internet resources are useful for most of the scientists

and research scholars. It is observed that scholarly communication and Collaborative research activities of scientist and research scholars are most effected activities by the emergence of internet. Regarding the electronic information seeking behavior, it has been observed that workplace is most preferred place to access E-Resources and majority of the scientists and research scholars are realizing that information-gathering habits have been substantially affected by electronic resources. Again it can be observed among the scientists and research scholar's that reading electronic Journals and searching online databases are very important information seeking activity among the scientists and research scholars. Role of Library staff cannot be ruled during the process of information seeking behavior. Majority of scientists and research scholars are seeking help of its Library Staff for accessing the electronic resources. Again it has been observed that User Orientation programme is useful for effective use of electronic resources. Kadali, Kumbar and Gururaj (2011) made a similar study on information seeking behavior of faculty in the commerce colleges of Mumbai with emphasis of ICT products and services based on several parameters such as frequency of library visits, use of computer based services, keeping abreast of the current developments and methods adopted, purpose of information seeking, amount of time spent, problems faced in information gathering and possible solutions. In their study out of 143 respondent 63 (44.06%) are male and 80 (55.94%) are female. total of 48 (33.57%) have up to 5 years teaching experience, with 25 (17.48%) having teaching experience between 11 and 15 years. They found in their study is general understanding that the frequency of users' visit to library depends upon the resources, organization, maintenance and value added services that provide. It is found that less than 50% of users visit their college library everyday and very few users visit their college library once in fortnight. The survey indicated that the

majority of respondents use internet and e-mail facility among the computer based services available in library. Very less users search CD ROM databases. Internet is therefore described as the backbone of the information superhighway. Libraries should encourage the faculty in use of library by providing Current awareness Service in general and Selective Dissemination of Information service in particular. Libraries also develop their collection in different formats with a variety of resources. To study the information-seeking behavior characteristics users were asked to choose the options that all applicable to them. Therefore users' represent multiple behaviors for the following individual character. Keeping abreast of current developments in their field, it is evident from the data that, the greater part of the faculty abreast of current developments in their field through reading current issues of print journals / magazine, reading latest books in the field. To balance this more-number of users browsing current issues of electronic journals and through browsing websites of companies / organizations. Almost equal number (more than 50%) of users abreast current developments through interaction with colleagues and experts and attending conferences, workshops, etc. This shows that, the faculties are equally need information on print as well as in electronic form even in changing ICT environment. Libraries need attention on library resources so that it is balanced. Librarians need proactive move towards Faculty orientation on electronic resources, internet usage and infrastructure development. Purpose of Information-Seeking Majority of faculty says the purpose of information-seeking is to prepare class notes. Other faculties seek information to the supplement the lecture. Nearly in equal proportion, the users seek information for their research work, and writing and presenting papers respectively. The purpose of information-seeking is mainly on lecturing. The authority should take

a step in encouraging the faculty to attend the conferences, seminars and writing papers.

2.2.2 Information needs:

In Library use and user research with 20 case studies conducted by M.S.Sridher (2002) the author explains that, user requirement is the deliberately used term rather than the 'need' and 'demand' is because it represents all the three concepts. The information requirement refers to a look out for a sort of relevance of information to a given user and to his area of concern, interest and likes. In the process it is to know the amount of irrelevant information he is prepared to tolerate. Relevance is not simple property inherent information, but varies with content, format, context, the variety of users of information as well as user himself. The selection and reception of information will depend upon the individual's conception of his own needs; one man's information is another man's noise. Information needs are affected by many factors, range and knowledge of information sources, facility available, and variety of users to which information will be put, the background, motivation, professional orientation, discipline, type and area of work and other individual characteristics of the user, the social, political and economic system as well as the consequences of information use. Due to this contingency, nature, generalized one time conclusion about information needs of user is impractical. Of all the factors influencing or determining the user needs, two factors which may not always be congruent are the corporate objectives of the organization where the user is employed and the needs of the individual user. Accordingly, information needs have been classified as needs for single fact or exhaustive information up to date historical or current information,

technical or business information. However information needs are frequently determined in terms of kind of message i.e. nature and type of information, the type of document embodied of information needs and the purpose of use. Devendra Kumar (2009) also carried out a case study of Chaudhary Charan Singh University about Information Needs of Faculty Members and Research Scholars of he finds that, Nearly all users visit the library to borrow books, while four-fifths go to locate information in books and journals and for study and research, while a little more than half go to spend leisure time. Faculty and researchers needs the assistance of others to access information. Difficulties faced include lack of time, inaccessibility, incomplete collections, and lack of knowledge of sources and library services, as well as "unfriendly library staff." Most users visit the library to borrow books, study and do research, locate information from books and journals, and do light reading. The purpose of visits depends on time available and the need to keep up-to-date. Library use patterns are an effective method of understanding information requirements. Most users gave priority to book trade catalogues, bibliographies, indexes and abstracts, addition lists, and book reviews for being aware of the current literature. The lower ranking given to the Internet, e-journals, and CD-ROMs is due to the lack of availability and skill to use them, although they do use seminar papers, projects from colleagues, contact with original authorities, Information/Documentation centers, and the Internet. Respondents like to visit other libraries as well, and suggested networking among local, university, state, public, subject, national, and government libraries. Every user faces constraints. Faculty members and research scholars face difficulties in access because of multiple factors. Most face a considerable problem of time to read or look for information in the library. They also face problem of lack of library automation. Automation is a key factor in improving library services for

researchers. Faculty and researchers are not familiar with appropriate sources, and they need skill maintenance activities to update their knowledge of reference tools and other sources. A similar study is carried out by B.O. Sathivel Murugan and Dr. S. Allysornam (2011) about Information Needs and Information-Seeking Behavior of Allopathic Medical Practitioners in Tirppur District in Tamilnadu, India the researcher found following things, the statistical result reveals that there is no significant difference / association between the needed clinical information and practitioners' educational qualification, workplace, and experience. There is a significant association between the practitioners educational qualification and the following information sources like, CIMS/IDR/DDR/MIMS, printed journals, review articles, and association newsletters. Based on work place, there is a significant association between the practitioners' work place and the used CIMC/IDR/DDR/MIMS. In experience, use of reference books and association news-letters are statistically significantly associated with practitioners' experience. Medical representative is one of the influencing informal sources of information for the medical practitioner. There is a significant association between the practitioners' educational qualification and discussion with medical representatives. Remaining depending and independent variables are not significantly associated with each other. The medical practitioners use of digital and online sources. Statistical analysis result shows that, there is a significant association between the educational qualification and the use of television and internet. Similarly, there is a significant association between the work place and audio, video sources. And remaining sources does not have significant relationship between them. S. Thanuskodi (2011) found in his study about information needs, that 74.7 per cent of the district court advocates needed civil law information frequently, 14.2 per cent occasionally, 7.8 per cent rarely, and 3.3 per

cent moderately. Most of the district court advocates, i.e., 61.0 per cent needed criminal law information frequently, 25.8 per cent occasionally, 6.8 rarely and 6.4 per cent moderately. In the area of labor Law, 25.4 per cent of respondents needed information frequently, 53.5 per cent occasionally, 13.8 per cent rarely, and 7.4 per cent moderately. In the area banking law they need information 27.6 per cent frequently, 50.4 per cent occasionally, 18.9 per cent rarely and 3.1 per cent moderately. The above statistics clearly shows that the district courts advocates most frequently used Civil and Criminal Law information. Only 42.6 per cent of the respondents used bar library daily, 50.4 per cent weekly, and remaining 5.3 per cent as and when required. Only 1.7 per cent of the respondents used bar library monthly. All India Reporter is frequently used by 74.9 per cent advocates, moderately by 5.8 per cent, occasionally by 17.1 per cent, and rarely by 2.2 per cent. Supreme Court Cases is consulted frequently by 72.6 per cent, moderately by 6.4 per cent, occasionally by 11.7 per cent, and rarely by 9.3 per cent. Labor Law Journal is frequently used by 24.9 per cent, moderately by 16.5 per cent, occasionally by 36.4 per cent, and rarely by 22.2 per cent. Madras Law Journal is the next important legal document which was consulted frequently by 60.7 per cent, moderately by 8.3 per cent, occasionally by 16.5 per cent, and rarely by 14.4 per cent. Current Tamil Nadu Cases as a legal document was consulted frequently by 39.7 per cent, moderately by 16.4 per cent, occasionally by 30.1 per cent, and rarely by 13.8 per cent. The above statistics clearly shows that the district court lawyers are mostly depending on the legal documents like AIR, SCC and MLJ. The largest number of the respondents (79.2 per cent) spent 1-2 hours daily for getting legal information, 11.5 per cent spent less than 1 hour, 9.3 per cent spent 2-4 hours for getting information. Nearly 58.6 per cent of the respondents spent 2- 4 hours daily for getting legal information, 26.1 per

cent spent 1-2 hours, 10.7 per cent spent less than 1 hour, and 4.6 per cent spent more than 4 hours for getting information. 38.2 per cent of the respondents had an average level of Internet and computer literacy, 27.1 per cent an expert level of Internet and computer literacy, and 17.9 per cent were well expert in Internet and computer literacy. Only 16.8 per cent of the respondents reported that they had below average level of Internet and computer literacy. Only 47.1 per cent of the respondents were aware of the e-resources. The most popular method of acquiring the necessary skills to use e-resources was self study. A majority of the respondents, 39.2 per cent used this method to learn the e-resources, followed by external courses with 20.1 per cent, 15.6 per cent through training courses offered by Bar, 13.3 per cent of the through colleagues and friends and only 11.8 per cent through guidance from library staff. 74.9 per cent and 72.6 per cent of the respondents frequently used the e-resources for accessing the current decisions of Supreme Court of India and High Courts of India, respectively, followed by 60.7 per cent for entertainment, 53.3 per cent for accessing National Acts, 39.7 per cent for e-journals, and 24.9 per cent for accessing State Statutes and amendments. Information on the web is increasingly becoming popular day-by-day. Various types of data and opportunities to explore are made available. Discussion groups, relay chatting, software packages, biographical notes, daily news, various High Court judgments, research communication, institutional publications, government programmers, and policies are accessible through web. The fact is that the amount of information/ services hosted on the web is very vast but, consumes considerable amount of time in browsing and getting relevant information in a precise form. His study is about Information Needs and Use Pattern of District Court Lawyers of Salem and Erode districts in Tamilnadu. In the research about the Information Needs and Seeking Behaviour of The Tamil Nadu Dr. Ambedkar Law University

Faculty Members done by Thanuskodi (2012) investigated the information needs and information-seeking behaviour of law faculty members at the Dr. Ambedkar Law University. It was found that respondents used a variety of information sources for teaching and re-search. Books, law reports and statutes were considered more important. It is interesting to note that, although respondents perceived the Dr. Ambedkar Law University library as effective in meeting their information needs, they prefer to first consult their personal collections. It might be due to easy and convenient access to the personal collection and/or unawareness about library collections, services and facilities. The study revealed that the respondents used IT-based library sources and facilities less frequently com-pared with printed sources. It might be due to the lack of awareness about their availability, improper selection of materials or unfamiliarity with these products. Similarly, it is also noted that e-mail is the most popular Internet application, whereas other Internet-based services and applications are only used by a limited number of respondents. This is a matter of concern, as presently, electronic information sources and the Internet are considered extremely important tools for effective teaching and research. Sonia Kumari , Sushila Kumari & Saroj Devi (2013) on studied details about Information Needs and Information Seeking Behaviour of Teachers of NIT, Kurukshetra, India and the results they get is summarized as. 5.3%, 37.7%, 20.2%, 28.1% and 8.8% Teachers of NIT visit their institute library daily, twice a week, weekly, fortnightly and monthly respectively. It is also found in the study that 53.5% respondents visit the library very frequently to issue the books, 44.7% visit frequently to use the periodicals and 19.3 % visit to use reference material sometimes. Maximum respondents 58.8% never visit the library to use audio-visual material. The study explains that maximum respondents (70.2%) gave first priority to books followed by 28.1% and 53% respondents who

respectively gave second and third priority. The study shows that teachers are least concerned (2.6% - 3rd priorities) with Government documents as source of information because 18.4%, 55.3% & 23.7% users indicated fourth, fifth and six priorities respectively. The result of present study indicates that 40.4%, 38.6%, 11.4% and 44% respondents showed their third, fourth, fifth and sixth priority to dissertation/thesis as source of information. Only 6 (53%) gave the second priority to the dissertation/thesis.

2.2.3 Different parameters of information seeking:

Patitungkho and Deshpande (2005) made a study of information seeking patterns of faculty members Rajabhat Universities of Bangkok using several parameters such as methods of information seeking, purpose of information seeking, type and language of required information, internet and CD-Rom use etc the survey includes six Rajbhat universities in Bangkok. The questionnaires were distributed to 303 respondents by post 86% i.e. two hundred and sixty faculties responded. The faculty includes faculty of education, humanities and social sciences, management, science and technology, industrial technology and agriculture technology. They found that, fifty-three percent of the faculty members consulted a knowledgeable person in the field. Forty-one percent discussed with colleagues, 39 percent discussed with librarian or reference staff of the library, and 35 percent used Library catalogue for seeking the information. The purpose of seeking information. 213 (82 percent) faculty members sought information for preparing class lectures, 79 percent for keeping up-date knowledge, and 54 percent for writing and presenting papers. For seeking information, textbooks were the popular type of information source for all faculty members (57 percent). Fifteen percent of faculty members use periodicals. A question was asked to find out

the language of reading materials preferred by the faculty members. It is cleared from the analysis that 193 (74 percent) faculty members use Thai language, 62 (24 percent) use English, and only 5 (2 percent) use French and Japanese. The majority of faculty members (37 percent) faced the same common problem i.e. unavailability of information. Twenty-eight percent faced with a lack of time for searching. Nine percent of them faced incomplete information materials and language problem; Thirty-seven percent of faculty members use the Internet daily. Fifty-two percent use the Internet for education purposes. Seventy-six percent use the Internet at home. They also mentioned that they use e-mail frequently for communication. Thus, it can be argued that using the Internet eases access to a large amount of data, saves time and money, and obtains an opportunity to consult several experts with a single request (via discussion groups), and greater independence from specific times and places for information seeking , Thirty-four respondents (42%) mentioned that they use the ERIC database, whereas 23 percent use DAO (Dissertation Abstract Online), 9 percent use Science Citation Index, whereas 7 percent use LISA (Library and Information Science Abstracts).

2.2.4 Information awareness

In the book Library users: theory and practice by P.S.G. Kumar (2004) the author explains to create information awareness and to promote the use of information. It is necessary to know the needs of users. In the present age of information explosion has resulted in an escalating growth rate of micro documents vis-à-vis the information needs of users has been varied and multidimensional. The information use and user needs both are directly concerned with users. The users are the ultimate recipient of information in the communication cycle. A user may belong to a user group with identifiable interests and environment. The individual as an user may differ with

regard to a) attitude, believes, values, b) goals, c) capabilities, d) communication attitudes, e) experience and habits and f) cultural background. The viewpoint of users towards information varies according to the intended use. Although the users in a particular working environment may have common viewpoint and often share the same priorities in the value of information. The dimension / extend of use of information is subject to priorities and intended use of the user group. There may be differences in the attitude towards the use in the purpose of which it is being used i.e. research, planning or problem solving. The information priorities of a user is a function of intended use at a given time and not dependent on user discipline. Depending upon role of a user the information priorities shift accordingly.

2.2.5 User education

In Philosophy of user education Girija Kumar and Krishnan Kumar (1983) explains that, to understand the future of user education, begins with the information policy objectives. The UNISIST document has noted " three basic tasks for a national focus" in user education, basic training in the use of existing information, sources, obtaining feed-back for users on the result of information needs, studies and involving as a wide range of users as possible in any new experimental services. It is conceivable to built a conceptual framework that may be logically sound but in reality fallacious. In this context, user education without identifying information needs of user may appear hallows. It may be recalled in the connection that information skill curriculum consists of eight steps.

1. Formulation of analysis of needs
2. Training and locating individual resources.
3. Examining, selecting and rejecting individual resources.

4. Interrogating resources.
5. Recording and storing information.
6. Interpretation, analysis, synthesis and evaluation.
7. Presentation, communication and structuring of information.
8. Evaluation of information and information need.

User education has been preoccupied with other steps at the cost of first step, which has to do with basic preposition of formulating and analysis of needs. There can be no user education without knowledge of information need.

2.2.6 human factors

In her study in on human factors involved in information seeking behavior of linguists staff Suman Kumari (1999)found the relation between situational and psychological factors affecting information seeking pattern.

2.3 International Scenario:

Internationally also a detailed study on information needs and use pattern of information is carried out by different researchers. The study of different professionals can be summarized as below.

2.3.1 Use of ict:

In the study carried out by Savolainen and Kari (2004), the Internet was third after friends and family and printed media. Johnson *et al*. (2006) found that people are most likely to turn to the Internet for health-related problems. The Internet is more and more becoming an integral part of our lives, thus it is not surprising that in more recent surveys its importance as a source of information for problem solving

increases. The group of participants who use the Internet with high probability to solve their problems are mainly concerned (in decreasing order) with transportation, health, education, taxes and fees. A similar comparative study of hospital based physicians and primary care physician is carried out by Karen Davis (2011) about their information Needs and Barriers to Accessing Electronic Information , the researcher finds that, Primary care physicians were less likely to access electronic information for rare diseases and syndromes, as 73% responded never to this category compared to 3% of hospital-sector based physicians. Primary care physicians were also less likely to access electronic information for research (55% never compared to 6% in the hospital sector) or for teaching purposes (31% compared to 3%, hospital). Primary care physicians were more likely to access electronic resources to provide information to give to patients: 33% of primary care physicians responded all the time compared to 7% from hospital physicians. Primary care physicians search the literature less frequently than physicians in the hospital sector. Over 70% (71.4%) of primary care physicians searched the literature less than once a week (includes responses for less than once a week and less than once a month) compared to 57.2% of hospital physicians. The major difference is the hospital-sector physicians ranking full-text electronic journals first, whereas primary care physicians placed these fourth. Primary care physicians ranked colleagues as their first choice. When Md. Arman Hossain and Dr. Md. Shariful Islam (2012) tried to know the information needs of rural womens from Bangladesh , they found unawareness about information, the respondents were asked, do they know what the information is? One fifth of them answered that, they do not have any idea about information. Of the sixty participants, 80% were aware about information, while 20% of the respondents were not aware about it. Rural women in Bangladesh need agricultural, educational, health, economic

and social information in their daily lives. The research showed that highest percentage of the respondents (86.66%) needed agricultural information, followed by information on animal husbandry (83.33%), food and nutrition (75%), health (75%), education (58.33%), religion (41.66), politics (25%), family planning (25%), loan (16.66%). The lowest percentage (8.33%) of the respondents needed information on both weather, and entertainment. It can be observed that, although very few (3.33%) women were directly involved with agriculture, most of the women needed information on agriculture and animal husbandry. Radio and television are available in almost all houses in the rural areas of Bangladesh. The rural women use these media for entertainment as well as important sources of information. 55 respondents of the study had television in their house, and only 5 respondents did not have their own television. More than 83% of the respondents used Television as a source of information, while about 17% used radio to meet their information needs. On the other hand, about 67% of the respondents took information from their friends or neighbors, and half of the total respondents used personal experience as a source of information. It is interesting that, there were no women who went to library to meet their information need, only 5% of the respondents read newspaper for information. The women were asked why they had used these sources to meet their information need. 80% of the respondents told that they used these sources of information because these were easily available to them, while 85% of the women used the above sources of information to meet their information need because they knew about these sources earlier. Moreover, few respondents (18%) told that someone had advised them to use these sources for accurate information. Lack of information has kept rural dwellers backward and ignorant of modern trends, and this situation persist because there are no information service which really satisfy the information needs of rural people. In

this study, most of the rural women (70%) were moderately satisfied with the present sources of information available to them. However, very few women (13.33%) were highly satisfied with the conventional sources of information. Moreover, about 12% of the respondents were partially dissatisfied, and only 5% respondents were fully dissatisfied with these sources of information.

2.3.2 Information needs:

Charles Cole (2012) in his book on Information Need: A Theory Connecting Information Search to Knowledge Formation explains the theory of Connecting - Information Search – to – Knowledge Formation. In this he provides a statement describing the importance of 'information need' and we progress rapidly to a history of information need from Bernal and Bush in the 1940s to the 1960s. Allen's six concentric circle model, derived from work in large organizations, represents formal and informal channels of information flow in user searches. This is then linked to ideas of ‘critical incident decision making’ developed at MIT. Bush’s student, Claude Shannon, added his ideas of communication information flow and the concept of noise. There is no mathematical or formal logical treatment, other than a basic mention of 'probability', really a general statement of ‘likelihood’. Allen’s model is developed and linked to distinctions (or combinations) of ‘need’ and ‘demand’ and Taylor’s focus on the psychological aspects of information need. Modeling user-needs brings us back to Shannon and the introduction of ‘belief’ and Jerome Bruner’s ideas together with ‘feedback’. So far, so general and theoretical. Next he is concerned with ‘Adaptation, internal information flows and knowledge generation’ and uses a circle metaphor. Starting with a bottom-up environmental stimulus of circle 1 to that of circle 5, that encompasses knowledge revision and generation. Circle 5 is labeled

‘neurological determination’ and is linked to belief systems via Stevan Harnad’s categorical perception ideas to ‘neurologically derived adaptation’ and the Neolithic era. The notion of Neanderthals as being cognitively different from modern humankind (with a well developed 'enhanced working memory') is used as part of an argument that we need better focus in searching. These ideas follow from rapidly developing work on cognitive psychology. However, we still have so much to learn about ‘memory’ and cognitive functionality that the ideas presented here are perhaps best kept away from definitive statements about memory. For example, long-term memory and working memory are mentioned. There is nothing about declarative memory and its components, cognitive origins and brain functions - aspects that may be important in linking to belief systems and rapid responses to given situations. Apart from the books different case studies and research is done on information needs and use pattern and information seeking behaviors of different sectors of society. The researchers explain their studies in research papers. One of them is Munira Nasreen (2012) from Karachi in their research on information need and information seeking behavior of media practitioners in Karachi , the study focuses attention on information needs and information seeking behavior of media practitioners in Karachi. Information need is felt when an individual comes to know that his knowledge is not enough or is sufficient. When a user recognize an information need he consults an information system, library or interpersonal source for satisfaction of his need. These actions constitute his information seeking behavior. Media practitioners are the staff members of mass media i.e. radio, television or newspapers involved in professional activities. Objectives of this study are to explore and understand the nature of information needs of media practioners in Karachi. David Nicholas and Eti Herman (2009) in Assessing information needs in the age of

the digital consumer explains that, the book helps that the myriad changing and pressing information needs people are actually met by the unbelievable explosion of information resources surrounding us 24/7 in the office, home, coffee bar, place of recreation and train. A timely undertaking indeed, for there is good deal of evidence to suggest that in the " information wild west' in which we find ourselves, there is a growing risk of information system running wild and running free of the information seeker. For, ironically enough, whilst the information that flows continuously through society now should be its lifeblood, people's understanding appreciation and evaluation of it seems to have become materially poorer. In fact members of today's information society, happily exercising their new found option in the internet redefined and vastly widened virtual information space, seem to manifest a dumping down in their information seeking and reading behavior. This not in the least because the very act of switching the information tap on to everyone inevitably took the information professional out of the information equation. To coin a phrase, everyone has become a librarian, but, unfortunately, few people know how to behave like a librarian; instead they behave like e-shoppers. This book constitutes a small step towards avoiding the disaster looming on our horizons in result of this behavior. It does this in two ways. Firstly, by providing information professionals and information service providers with a framework for information needs analysis, which, based as it is on the insights gained from research projects involving hundreds of thousands of people, is firmly grounded on theory, but, nevertheless, highly practical. Thus, the framework, enabling as it does the ongoing assessment of people's information needs, should help information mediators to provide better services and greater support to their customers. Secondly, by spreading professional thinking and practices to today's new librarians, the digital consumers, which should ensure that they are better placed

to meet their information needs on their own. David Matsveru (2012) study of Information needs and information seeking behavior of Namibian pastors founds that, Pastors in Namibia need information for counseling (47.83), community development (50.72%), administration (45.65%), evangelism (86.96%), preaching (81.16%), directing prayers (75.36%), leading Bible study (74.64%), member care (62.32%), teaching (76.81%), public relations (39.13%), leading a service (71.74%) running a youth programme (65.22%) and for personal growth. Pastors use church documents (46.38%), the Internet (50%), and personal libraries (76.81%), as well as visit places of social gathering to get information about their communities. Pastors use formal sources of information such as Bible concordances (65.22%), Bible translations (68.12%), theological works (66.67%), background information to the Bible (55.07%), devotional books (50.72%), and books on missions (62.32%), books on pastoral theology (68.12%) books on worship (61.59%) "Very often", if they fail to find information in formal sources, they turn to informal sources such as experienced pastors and the Holy Spirit (prayer and fasting). They also use church manuals, lectionaries, and writings of their founders, radio and television. The study revealed that information sources are expensive (47.10%); the information is not available in local languages (49.28%); and many pastors have no access to the Internet or computers (55.80%). Pastors generally find it difficult to ask other people for information (42.03%). Other factors include unavailability of good Christian books, information overload, and lack of skills to evaluate authenticity of information on the Internet, unavailability of commentaries on some Old Testament books, tribalism, lack of theological libraries, lack of relevant and contextual information and lack of funds to buy the needed information sources. The study revealed that only information on evangelism (44.20%), preaching (57.25%), directing prayers

(49.28%), leading Bible study (47.10%), teaching (47.10%) and leading a service (55.07%) were ranked as “highly accessible”. The survey of Israelis about their information needs Judit Bar-Ilan, Shifra Baruchson-Arbib, Sheizaf Rafaeli, Gilad Ravid, and Eti Yaari (2011) elaborated that Internet usage is high; only 71 respondents (16.2%) do not use the Internet at all. Among the 366 Internet users, 48.4% reported that they use it daily, and another 19.4% reported that they use it a number of times a week. According to (Central Bureau of Statistics 2010), in 2008, 59.4% of the general population aged 20 or above used the Internet, and the usage was 85.3% among those with academic degrees, The respondents were also asked to assess their Internet expertise. Here 43.2% of the users responded that their expertise was high, and only 17.3% chose to answer that their expertise was low. Most Internet users (81.1%) have been using it for a number of years already. They were asked to assess the importance of different Internet services and applications. They were asked to rate each service as very important, important, of medium importance, low importance and not important at all. The list of these services and applications in decreasing order of importance, taking into account the percentage of users who rated the specific service as “very important” and “important” out of the participants who answered the specific questions is as follows: searching for information (73.8%), email (68.3%), reading news online (54.0%), financial activities (40.3%), instant messaging/Skype (28.6%), downloading content (music, videos, games etc.) (28.3%), listening to music (24.0%), watching videos (23.5%), purchasing goods and services on the Internet (14.1%), social networking (12.7%), participating in forums/chats or writing comments (10.5%), reading blogs/forums (10.5%), writing blogs (5.8%). The study supports previous findings that friends and family are the most frequently consulted information sources (68.2% of the respondents consult members of family

and friends at least with high probability). The second most frequently consulted source was the Internet (41.2% chose high and above). Note, however, that 26.3% said they would never consult the Internet. There seems to be a chasm between those who do not use the Internet to solve citizen related problems and those who use it with high probability. Interesting to note that among the 115 respondents who answered that they would not use the Internet to solve their citizen-related problems, 28 (24.3%) use the Internet frequently, and only 33 (28.7%) do not use the Internet at all; thus the large majority of those who do not utilize the Internet to solve their citizen-related problems still use it for other purposes. The Information Needs of Practicing Physicians in Northeastern New York State is studied by Theresa c. Strasser (1978) , the author finds that, there is, as might be expected, a good deal of variation among physicians in the use of information sources. Mean ratings for frequency of use of nineteen channels of information. Papers in professional journals were by far the most frequently used source of information among respondents as a whole, followed by personal contact with colleagues, and books. Family practitioners and obstetricians/gynecologists, however, used colleagues more frequently than journal papers. The use of sales representatives such as drug detail men was also marked among these two groups. Although some writers have concluded that practitioners of clinical medicine are "inordinately dependent" on non written sources that finding is only partly borne out by the results here, which, moreover, involve only certain types of practitioners. It should be noted that when respondents were given the opportunity to indicate which of the given sources they would use more frequently if those sources were more readily available to them, 46.5% of the ninety-nine physicians who checked at least one source checked seminars, workshops, and conferences; 35.4% checked computerized information services; 34.3%, library reference services; 33.3%,

video, slide, and tape programs; and 28%, current awareness services. The order of priorities, however, differed somewhat among the youngest doctors and among rural and urban physicians in private practice. Those who had received their M.D.'s since 1968 favored video, slide, and tape programs; computerized information services; exhibitions; and current awareness services, in that order. Rural physicians in private practice selected seminars, workshops, and inferences; library reference services; and exhibitions; with -video, slide, and tape programs and computerized information services tied for fourth place. Urban physicians in private practice wanted current awareness services; seminars, workshops, and conferences; computerized information services; with video, slide, and tape programs, personal contact with colleagues, and exhibitions all tied for fourth place. It must be pointed out, though, that only a minority of physicians in any of the groups studied separately checked any source in response to this question. The use of certain sources was found to be affected by professional specialty. Radiologists seem to be the most avid information seekers among the groups studied. For thirteen of the nineteen sources listed, their frequency of use ratings was better than or equal to the mean, and they were significantly better in five sources. Unlike most of the respondents, they often used correspondence courses. This group also differed from other physicians in ranking private information files in second place. Anesthesiologists used catalogs of books, equipment, and materials much more often than did other physicians, and internists made marked use of indexing services. Family practitioners use of information sources was less frequent than average for thirteen of the nineteen sources listed. The data suggest that use of library-related information sources increases with recentness of training. Thirty-three physicians in the study (12.9%) had received their M.D. since 1965, and their ratings of information source use showed a clearly defined tendency toward

more frequent than average use of most printed sources, including those which are library related. For bibliographies, this difference was marked. These doctors also used library reference services somewhat more frequently than average. Seventy-five percent of the group had asked a medical librarian for work-related information in the past year, compared to 60.5% of respondents as a whole. Thirty-one percent had used MEDLARS at least once, compared to 27% of all respondents. Cross tabulations over the entire range of respondents, however, revealed no statistically significant relationship between degree date and use of journal papers, library reference services, or books. Use of colleagues, however, was found to be significant at the 0.05 level.
Turner, Zoe , Debra, Altamore

(2008) tried to know the information needs of professional women that of nurses working in public health department of Oregon, found that, Information needs differed depending on employees positions and roles. Although the health department nurses shared a common professional background, they were employed in a variety of positions, including clinical office nurse (4), home visiting nurse (3), school nurse (2), nursing assistant (2), women's health specialist (2), nursing supervisor (1), communicable disease nurse (1), bioterrorism liaison (1), and health department director (1). Information needs differed greatly depending on the respondent's position and professional role in the department. Job positions and their specific roles impacted information needs in different ways. For example, clinic nurses wanted standardized charting forms or charting templates to take with them for home visits, while school nurses desired easy access to health education standards, lesson plans, information on health interventions, and information on better communication with parents and teenagers. The health department director, a nurse by training, expressed the need for community health data and basic, user-friendly statistical tracking

software for monitoring health at the county level. Responses to questions about information resources indicated that the resources used by the nurses were more a function of health department position and role than their professional nursing background, (similar to their responses about information needs). Although the nurses shared common professional training, the activities and tasks involved with their position dictated the information resources they used at work .The most efficient and reliable source of information was other people. In every interview, colleagues were identified as the most efficient and reliable source of information used in day-to-day work. People of critical importance identified in the interviews included peers, administrators, program personnel, and state contacts. In particular, experienced peers were revealed as a major information source for clinical information, logistical recommendations, and on-the-job training. For questions outside their area of expertise, nurses often reported relying on the greater clinical expertise of the nurse practitioner, nursing supervisor, and health officer. Program-specific questions and questions outside their expertise were addressed through telephone calls with state program personnel. State health division personnel were seen as highly knowledgeable and accessible, and they were often contacted first when program-related questions arose. Participants needed easy access to pertinent, up-to-date information resources on a broad range of subjects. Clinic nurses desired better access to primary care nursing information, as well as a wide range of more specific medical topics. In addition to general nursing care resources, home visiting nurses wanted detailed resources for caring for patients with disabilities. Several participants indicated that low literacy and multilingual patient educational materials were needed. Most of the patient education resources provided by the Oregon Health Department were written in English, and nurses indicated that they wanted more materials in

Spanish. The low literacy patient education materials available through the state were deemed to be at an inappropriately high reading level for much of the local health department's clientele. Online consumer health websites, such as the National Library of Medicine's Medline Plus and the New York Online Access to Health (NOAH) , that provided information on a number of pertinent topics were also considered by the Spanish-speaking nursing assistants to be written at an inappropriately high reading level for many of their clients. The nurses expressed concern that most of the state health department's materials were outdated. Easy access to current information on a broad number of subjects was clearly needed. However, relevant subject matter was generally considered more important than currency of information. For example, outdated and even out-of-print textbooks were considered valuable because they contained practical and applicable primary care information. Interviewees reported that this need for pertinent clinical information was felt most acutely during patient visits. The researchers Majid, Hayat, Patel and Vijayaraghavan (2012) , found in their study that information needs and information seeking behavior depends on the professionals. They done the study of business students found that 73% of the respondents were either 'always' or 'mostly' using library resources for writing their assignments/projects/term papers . Three other popular purposes of using library resources were to prepare for case studies analyses, student presentations, and class discussions. On the contrary, the surveyed students were infrequently using library resources to get information about recent economic developments, business simulations, business plan competitions, and job interviews. It was found that the highest demand was for market research information, closely followed by financial information. Other types of business information often sought by MBA students were: economic news and trends, industry information, and company specific information.

Business information that were less frequently required by the students were stock market trends, regulatory news and consumer trends. It was found that an overwhelming majority of the participating students were either ‘mostly’ or ‘always’ using web search engines for acquiring the needed information. Another 69% of the students were using business and finance related websites. The least frequently used web information sources were ‘Google Scholar’ and ‘Google Books’. This corroborates with the findings of Lieberthal (2009) who reported that business students heavily use a variety of web sources. Online databases came at the top, closely followed by electronic journal and company annual reports in electronic format. For printed information sources, newspapers were at the top , followed by books , company annual reports , and journals . It was worth noting that electronic versions of almost all major categories of information sources were considered more important for academic work than their printed counterparts. Generally the students were more satisfied with electronic information sources than printed materials. For electronic information sources, more than 60% of the students were satisfied with online databases, electronic journals and electronic newspapers. Slightly more than 15% of the students were dissatisfied with printed and electronic books, electronic dissertations/theses and electronic company annual reports. On the whole, MBA students at two public universities in Singapore were satisfied with their library resources. It was found that 42.5% of the respondents either ‘disagreed’ or ‘strongly disagreed’ with the statement that they usually find it difficult to use database search features. Another 44% of the respondents thought that they usually select an appropriate database to meet their information needs. However, a mixed response was received for the statement which asked if it was complex and time consuming for them to consult database use instructions. It was interesting to note that one-third of

the students said that they usually learn about library resources from their classmates. Another 16% of the students mentioned they usually come to know about these resources through their instructors. The percentage of students learning about library materials through library webpage and by attending library training programmes was only 20% and 16% respectively. There is a need to explore what changes are needed to make library promotional activities more effective and visible. Another researcher Muzammil Tahira and Kanwal Ameen (2008) from Lahore Pakistan done the detailed study about Information Needs and Seeking Behavior of Science & Technology Teachers of the University of the Punjab, the researcher found that , information needs of teachers are associated more with the teaching activities followed by research activities. General web resources, university libraries and HEC digital library are respectively considered very important resources in search of relevant information. University libraries both PU main library and departmental along with direct access to e-resources play very important role in meeting respondents' information needs. The respondents consider international university libraries/centers more important relevant resources for getting information rather than national university libraries/centers. They consider the libraries and online sources very important to meet their different teaching and research purposes such as; to update their information, to guide students in their research work, to prepare/supplement lectures and to publish a paper/book. However, participating in seminars/conferences/workshops, confirming or refuting theories and promotional opportunities are considered somewhat less important purposes. They prefer to begin search with general web sources followed by physically going to the library. Then comes searching HEC subscribed databases. It appears that due to lack of awareness regarding the HEC sources they are underutilized. They comparatively spend more

time on searching web sources than print sources. The study reveals the impact of ICT on respondents' choice pattern regarding information resources as their visits to departmental and PU libraries have been slightly decreases. An important fact is that to meet their information needs they prefer more general web sources than HEC subscribed sources. Nevertheless, both academic libraries and e-resources are significantly meeting respondents' information needs under the digitally transforming environment of the S&T faculties at PU. Digital access infrastructure has been quite well established and working with the exited traditional information system. However, there is need for information literacy workshops for the academic community to enable them make extensive use of all types of information sources, specifically HEC databases.

2.3.3 Information Seeking Behaviors

Boemo (2006) also tried to find out the Information Needs and Information Seeking Behaviors of SME Managers in Botswana. The findings are postulated in his book, this study investigates the information needs and information seeking behaviors of SME (small and medium-sized enterprises) managers in Botswana's manufacturing industry, using a self-administered questionnaire. The respondents were largely male (171 or 79%) while only (45 or 21%) were female. The key findings of the study indicate that: (1) SME managers consider customer and competition in formation to be the most important types of information to their firms; (2) SME managers devote a significant amount of time to active information-seeking and on average spend approximately five hours per week seeking information; (3) SME managers spend time seeking customer and competition information; (4) they use both personal (e.g. customers, business associates) and impersonal sources (news papers, broad cast

media and government publications); (5) information source selection is largely determined by accessibility and ease of use; and (6) managers use information for making important decisions and performing their routine activities. Several recommendations are made for future research in information behavior of managers and mainstream user studies. Replication of this study with a different sample of firms would be highly useful. Saleh, Bakeri and Bakar (2011) also done the study of information-seeking Behavior of the Ulama in Relation to Preaching and Counseling Roles in Nigeria. While the information-seeking behavior of several professional groups has been studied, an important and influential group of professionals, Muslim clerics (*Ulama*; sing.--*Alim*) has been totally neglected. Thus, the main objective of the study was to investigate the information-seeking behavior of the *Ulama* in a developing country. The study investigated such questions as how do the *Ulama* in Nigeria seek information to perform their preaching and counseling roles? What search strategies do they deploy? Is there a relationship between demographic factors and information seeking patterns? The study used the survey research method. The target population was made up of 973 *Ulama* dispersed within 27 Local Government Areas of Borno State in Nigeria. A proportional stratified random sampling technique was used to arrive at the sample size of 281. The study used a questionnaire to collect data which was subjected to both descriptive and inferential statistical analyses. The study found out that the *Ulama* consult different sources and resources for different roles. For purposes of preaching, the *Ulama* mostly consult their personal collections to use resources such as the Qur'an, Hadith, and commentaries by other scholars. However, when performing a counseling role, they consult secular resources and informal channels of information such as council of *Ulama*, colleagues, or friends and relatives. The study also found out that the *Ulama* deployed different search strategies

to identify and locate information when using public and institutional libraries, information and communication technology facilities, or informal channels. The study has also established significant relationships between demographic factors and search strategies adopted. Finally, the study identified the similarities and differences between the information-seeking behaviors of the Christian clergy and the *Ulama*. Oladokun (2010) from Botswana studied information seeking behavior of off campus students from two different satellite centers of Botswana university, the study is focused on the information-seeking behavior of the off-campus students in 2 of the 7 satellite centers of the Centre for Continuing Education, the outreach arm of the University of Botswana. Although the university deeply committed itself to the project, the university library could not afford to establish branch libraries in all the off-campus centers. With the nearest university branch libraries located some 160 km and 200 km away from the centers of study and only branch offices of the public library available, the findings revealed that the library and information needs of the students were not significantly met. As printed sources were revealed as their preferred choice of information format, e-mail and the Internet sources were not given much priority, even though there was evidence that suggests the students were adequately equipped through the teaching of information skills. In Making sense of an information world: the everyday life information behavior of preteens Meyers, Fisher, and Marcoux (2009) presents anti empirical framework for mediating the everyday- life information worlds of youth aged 9-13. "Teens" are a sandwiched population with behaviors, circumstances, and needs distinct from children and young adults. Little research has addressed their information-seeking, especially regarding nonschool contexts. Thus, empirically-based conceptual tools are needed to help professionals in mediating the complex information worlds of teens. Guided by

multiple frameworks, data were collected , involving scenario-based focus groups and interviews with thirty-four youth in three distinct settings. The study aimed at understanding the situations for which teens seek everyday information; which sources they use. and why; what social settings foster information-sharing, and how; and what factors hinder information-seeking. Using these findings, the proposed professional service framework contains five descriptive principles for mediating everyday- life information-seeking and information use by teens. Fourie (2013) taken a review of Research on Information Behavior in Contexts of Palliative Care with an Indication of Some Research Gaps. The author states that an increase in the number of people diagnosed with life-threatening diseases and affected by palliative care, as well as an increase in studies on information behavior including information seeking, can be noted. The author in his studies finds that, although there are some commonalities, information behavior in palliative care is very diverse, and very individual one size does not fit all. In particular, Information behavior in contexts of palliative care 29 tensions are often revealed in the wishes of patients for general advice versus specific information. When receiving or finding information relevant to their information needs, patients and families often still experience a need for contextualization. Various preferences for receiving information have been noted, and preferences may frequently range between a preference for no information, to some information, to a preference for as much information as possible; Kirk, Kirk and Kristjanson (2004) ; Payne, (2002). Research findings with regard to preferences for receiving information especially focus on the time of diagnosis. In addition, preferences with regard to receiving information on the prognosis also lecture strongly. Layton (2005) compare the needs of terminally ill cancer patients versus those of caregivers for information regarding prognosis and end-of life issues. Clayton

el al. (2005) explains: "Discussing end-of-life issues is of key importance to terminally ill cancer patients and their families, and a challenging topic for both healthcare professionals and patients/carers." Differences in the information behavior of people in the same palliative care situation have been noted, e.g. differences between the information behavior of patients and their spouses or caregivers. It does not seem possible to predict the nature such behavior may take. According to Wilkes, White and O'Riordan (2000), families often only become aware of needs for information at the time when a crisis occurs. The information needs of patients and families change and diverge as illness progress and communication between them becomes less verbally explicit. In an another study of public health staff's information needs in accordance with their profession Me-Linh (2013) finds the information needs and information- seeking behaviors of a select group of PH professionals involved in KT. Many of the findings agreed with previous research: a preference for journal articles and on-site training , a desire to improve searching skills and the need for high-quality and relevant PH information. This study, however, also highlighted important considerations regarding the needs of PH workers that have not been noted previously. Specifically, it is clear that awareness needs to be raised, both within the NCCs and the larger PH community, of various PH resources not being used. For example, while this study shows that traditional tools such as Medline, PubMed, Google, and Google Scholar are well used; other resources such as TRIP, HealthEvidence.ca, and Scopus are not well known. Other tools, such as the recently launched Canadian Best Practices Portal for Health Promotion and Chronic Disease Prevention would also likely be useful to NCC staff . As PH information can be so difficult to locate, the more tools PH workers have at their disposal, the better. NCC staff still preferred more traditional means of keeping up-to-date such as conferences,

colleagues. To save time and to cut travel costs, awareness must be raised as to the variety of free notification tools now available, such as RSS feeds, Table of Content alerts and Google news alerts. Once these types of feeds or alerts are established, they provide an ongoing and regular stream of updates related to an individual's particular area of focus and increase more timely awareness of developments in the field. A further finding, which can also be broadly applied to information specialists working in all areas, is the need for a better understanding of information specialist skills and how they can aid researchers and other workers. Based on the usage statistics, it is clear that most staff at the NCCs is unaware of the resource they have at their fingertips the information specialist who can save them both time and effort, and as a result of their expertise, is likely to increase the quality of evidence they are retrieving. For example, 86% of participants noted that they are comfortable searching for information themselves, suggesting that many are hesitant or unwilling to ask for assistance from an information specialist or do not have ready access to one. One way to increase or promote use of information specialists would be to create policies that either strongly recommended or make mandatory the use of an information specialist for appropriate projects similar to the use of information specialists in much systematic review and grant application teams. Educating staff on the many ways an information specialist can contribute to the information process may result in higher usage. This is particularly important because staff indicated that time and lack of awareness regarding resources available were their most significant barriers to accessing information resources; both of these are areas where information specialists or librarians are specifically trained and able to assist PH workers. Ultimately, a shift must be made in how librarians or information specialists are perceived and how their skills can be more broadly applied. This study is carried out in Canada in 2009. A

study of Information Needs and Information Seeking Behavior of Rural Women in Borno State, Nigeria is studied by Saleh and Lasisi (2011). And it is very clear from the sources and channels of information used by the rural women, that their Information seeking behavior is mainly informal. They align more to information gotten from friends, relatives, husbands, sons and daughters, and market women. This according to Mommoh (2002) is because "those sources to them are more reliable and authentic". It can also be seen to be in conformation of Zipf's (1949) 'Principle of Least Effort' in human behavior. The rural woman hardly seeks information in a formal way through formal sources or channels. Watching television or listening to radio where available, is seen as luxury only men can afford. The barriers to information needs of rural women are identified as follows:-

- High rate of illiteracy
- Inability to access formal channels of information due to poverty
- Lack of adequate and efficient information delivery mechanism
- Ignorance of governments responsibilities to its citizens
- Skepticism of the rural woman towards government and its information agencies
- Attitude of extension workers towards effective rural information service
- Inaccessibility of the rural areas by NGOs .

The same study of engineering professionals is carried out by Madely du Preez (2007)**,** he found that engineers obtain much of the information they require by analyzing and decoding physically encoded information, such as the devices they use in a project, or by direct personal contact with other engineers. The availability of physically encoded information can greatly influence how engineers seek for information and the type of information source they will choose to satisfy their

information needs most engineers favors their own "personal knowledge" of engineering, and "personal experimentation" as sources of information. These findings appear to indicate that favoring "personal knowledge" and "personal experimentation" is a general trend among various user groups. Literature reports on various case studies that convey information about engineers' use of internal information in particular settings. One of these studies was Hertzum and Pejterson (2004) study on how engineers at Novo Nordisk archive and utilize their documents for future research. These engineers identified their personal memory, personal files, personal books, departmental files, books and databases, other records of previous work the library and other engineers as all being important sources of information. Other information sources identified by these engineers include information acquired from clients, manufacturers and suppliers, manuals and brochures, that is, trade literature, conferences, training courses and leisure contacts. In their research into engineers working for ABB (a leading company in power and automation technologies), confirmed these research findings. Engineers cannot rely solely on internal information sources when completing information tasks. They also need to use sources that are not available within their company or organization. These sources are known as external information sources. External information sources include personal contacts or text-based sources that can be retrieved from conventional information systems or libraries. Some of the studies reported in the literature indicating engineers' preference for internal sources compared with external sources. Direct or indirect knowledge of various information sources and the perceptions about the information-seeking process, or about the information retrieved, plays a crucial role in the overall information-seeking process. The individual engineer's general awareness about information sources and/or the content of these sources may well

determine the path that the engineer will take in seeking information. Azhar Iqbal, Khalid Mahmood and Muhammad Arif (2012) done medical researchers information Needs and Seeking Behaviors study in Pakistan by surveying them, the researcher found that 'Internet' was ranked as the most important resource for research with mean score of 4.49, followed by 'Face to face discussion' with a mean score of 4.23. 'Online databases' and 'consulting with knowledgeable person' were put on number three and fourth with mean scores of 4.22 and 4.20 respectively. Books were ranked as 5th with mean scores of 4.16. 'Discussion with Librarian' put at the last rank in the twenty one given listed categories of Information sources. Most of the respondents searched the information for their 'Research work' (85.02%), followed by 'General awareness' (28.7%). 'Observation & experiments' and 'preparing lectures' has the same selection criteria i.e. 26.6%. Only the 1.3% respondents had the other purposes other than listed purposes. The main purpose of information seeking of medical researchers is the research work. (General/Text) was ranked as the most important source of information for the research with mean score of 4.45, followed by 'Books (Reference)' with mean score of 4.39 and 'Electronic Databases' with mean score of 3.93. 'Scanning Journals Titles' and 'Browsing shelves for Books' have the same rank with mean score of 3.37. 'Library Card Catalogue' and 'Reference Librarian' at the last ranked with the mean score of 2.51 and 2.50 respectively. Most of the respondents ranked 'Information is scattered' and 'Information sources expansive' as number one problem with same mean score of 3.67, followed by 'Required material is not available' and ' Information explosion' with mean scores of 3.58 and 3.49 respectively . Language barrier put at the last with mean score of 2.38 which are below average means, which show that it is not big problem that cannot be handling. A study is carried out about the educational and information needs of the teachers and their

information-seeking behavior Information Needs and Information-Seeking Behavior of Faculty Members at the Islamia University of Bahawalpur by Dr Rubina Bhatti (2009) founds issues regarding users' knowledge about tools, preferences for sources, purposes for using the library, informal channels of acquiring information, language preference, current journals, satisfaction, and problems. Seventy percent of teachers use the main library and 17 percent their subject library services. There is a lack of departmental libraries in the university. The university administration is not in favor of establishing such libraries, perhaps because of the financial and human resources need. In the interviews, a strong desire for departmental libraries was expressed. A considerable majority of teachers (56 percent) are not satisfied with the current stock of books related to their fields as they find them inadequate for meeting their educational and research needs. Forty percent think that the current periodicals give the required information to some extent and 32 percent want more journals for supplementing their research programmes. Demand for more databases and internet facilities, is also increasing as 40 percent of teachers find the current provision inadequate. Twenty-seven percent of the faculty members consulted a knowledgeable person in the field. Fifty-four percent discussed with colleagues, eight percent discussed with librarian or reference staff of the library and twenty-two percent consider seminars, workshops and conferences as useful sources for seeking the information. Respondents indicated the purpose of seeking information. Eighty-eight percent sought information for teaching purpose (preparing class lectures), 68 percent for literature searcher, 43 percent to borrow books or journal articles. Fifty-four percent of faculty members consult the library for research, and 43 percent for keeping their knowledge up-to-date, and 27 percent visit the library for reading newspapers and magazines (recreational purpose). In the study of college faculties

information needs and information seeking behavior from Bahawalpur Khan and Shafique (2011)found that, most of the respondent opined that they frequently seek information for lecture preparation (mean= 4.28), and for improving their personal competencies, general knowledge or current awareness (mean= 3.96), while they mentioned that conversing with co-workers and other experts at institutions (mean= 3.68), and reading articles/books (mean= 3.17), are their information seeking habits. According to the acquired results, respondents mentioned that they sometimes acquire resources from their colleagues (mean= 3.48), purchase it or use from personal collection (mean= 3.09). On the other hand they mentioned that they frequently acquire information resources from their institutional library. They mentioned that they frequently use books or monographs (mean= 3.96) and they sometimes use reference sources such as bibliographies, handbooks etc., (mean= 2.72), similarly respondents indicated that they frequently use to discuss face to face with their colleagues or friends as an informal source of information. They mostly prefer print format (mean=2.65), while they prefer electronic (mean=2.06) and audio/visual (mean=2.02) format. On the other hand they less prefer microform. Most of the respondents opinioned that present libraries and information centers in their educational institutes are fulfilling their required information needs to some extent. Respondents were asked to mention how ICT has affected their information seeking & gathering habits. The results show that most of them have admired that ICT has completely changed their information seeking & gathering habits. Most of the respondents opinioned that ICT has made information seeking and gathering process easier for them. In a study of rural female farmers in delta state Nigeria about ICTs and Information Needs Achugbue and Anie (2011) found that, information need for the crop production was placed first with 324 (43.83%) of the respondents. 215

(29.45%) were of the opinion that their information needs are in areas of preservation of farm produce, pest control and treatment of animals. The next items in which rural female farmers in Delta State needed information were in the areas of religion, health and economic matters. Respondents were less keen to know about political matters. Some of them attributed their decision to the nonchalant attitude of the local, state and federal governments towards their socio-economic needs. It can be concluded that the rural female farmers were very keen to know more about crop production. This is because crop production is the major source of their income. respondents rely mainly on their community leaders for acquisition of information. Rural dwellers hold their community with high esteem, especially when such leaders are doing well in the profession. A good number of others, to be specific 27.67% rely on husband, neighbors and friends for information. Only very few of them declared educated people, indicated written materials, Internet, radio and television as sources of information. Similarly in the field management studies information seeking behaviors of Shrilankan university faculties is studied by Ananda Karunarathne (2010) and in his study he found that the respondents were engaged in teaching, learning and research under various subject areas. In the investigation of the preferred mean of information sources, the majority of respondents (89%) indicated that they prefer the combination of electronic and printed resources. The responded group preferred only electronic resources was 5%. This indicates that university libraries should have a qualitatively and quantitatively comprehensive resource collection. The content of the collection should cover the printed materials as well as the electronic resources required in various fields. The present university environment has not developed to utilize purely digital resources but there is a tendency to use more digitized information sources in addition to printed materials. In relations to the satisfaction of

the availability of resources in the lending section, 92.42% of respondents have indicated that the amount of resources available was not satisfactory. Only 18.18% of the respondents accepted that the available reference services were adequate and updated; and 81.82% of the respondents were not satisfied with the currency of the information sources and services. Therefore, the content of the resource collection does not meet a satisfactory level. Therefore the university libraries should update their collection with current resources as well as with a number of copies to meet the demand from the increasing user population. The purpose of information seeking varies according to the needs of the respondents. Among the objectives of using the library, users have shown that they use the library for higher education, teaching, learning research activity, broadening the subject knowledge and obtaining information for day-to-day requirements. Most of the users expect a well-developed, updated and comprehensive lending service. The study shows that the users are not satisfied with the available lending collection because the majority of the users are of the view that the content in the lending collection was not adequate to fulfill their needs. This issue highly occurs in the newly established universities than in the old universities. Self-search was the most preferred mechanism. The most preferred tool for searching and locating the resource was the computer catalogue. Quite a large number of users seek for the librarians help. Regarding the use of new information sources, 50% of users tended to use CD ROMs. The rate of using online databases for their information seeking was 33%. Thus, quite a considerable number of users tend to use new information sources. The seeking patterns vary from university to university depending on the availability of facilities and the academic level of learning environment that exists in the university.

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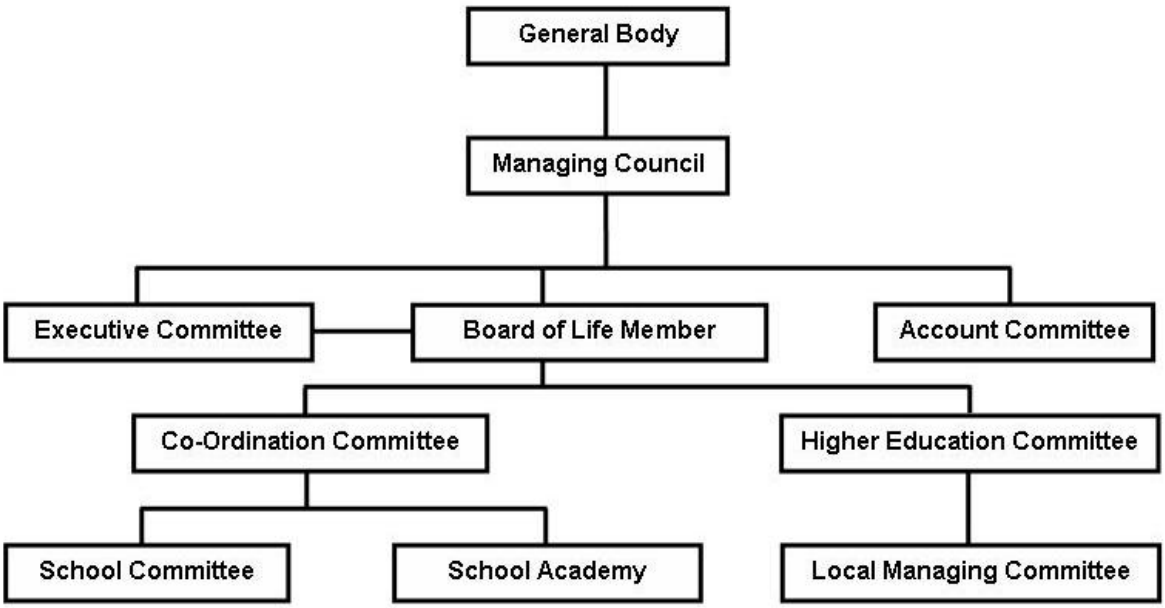
Rayat Shikshan Sanstha, Satara

3.1 Introduction: A premier institution of education like the Rayat Shikshan Sanstha, known and honored far and wide, not only at the national level, but at the global level too, needs no introduction. The institution itself is regarded as a noble mission, a noble cause, so earnestly and so endearingly pursued by its founder- father Karmaveer Bhaurao Patil, the educator of the educators and his legendary wife Sou. Laxmibai Patil with her exemplary sacrifices made to turn the mission into a reality.

The Rayat Shikshan Sanstha is one of the leading educational institutions in Asia. The value of its contribution to education in general is enormously great as it has, from the very beginning, tried all its best to lay emphasis on the education of the down-trodden, the poor and the ignorant who really form the major bulk of society. The founder of the institution, late Dr. Karamaveer Bhaurao Patil, was a man of the masses who devoted all his mind and heart to the cause of their education. He had an incisive understanding of the social ills that beset his times and fully realized the dire need of the spread of education. He believed that education alone could correct the social ills such as caste-hierarchy, money-lending, illiteracy, untouchability, superstitions and social and economic inequality. Throughout his life he tried to translate this belief into reality. He was the champion of the poor, the weak, the dispossessed and left no stone unturned for their upliftment. He was a great humanitarian who endeavored hard to educate the masses to bring a kindly light of hope in their lives of misery and ignorance. He realized that the social ills could be remedied through the education of the masses alone and laid the foundation of the Rayat Shikshan Sanstha by opening a Boarding House at Kale

(Tal-Karad, Dist-Satara) in 1919. Soon, however, in 1924 he shifted the head-quarters of his educational institution to Satara.

3.2 Administrative Set-up : The prominent feature of the Sanstha is its democratic administrative set-up. The Rayat Shikshan Sanstha is an educational institution belonging to the people, working for the people and being administered by the people. Dr. Karamaveer Bhaurao Patil made it a point to safeguard it against any political domination. He welcomed all those who loved the Sanstha. As a result of this, the Sanstha today has been receiving ample co-operation and support, consistently from the people of diverse political opinions. It is significant to note that all the important policy decisions of the Sanstha are arrived at in the true important policy decisions of the Sanstha are arrived at in the true spirit of democratic principles. The working of the institution has been guided and patronized by the eminent dignitaries of the national and state level in their capacities as President, Chairman and Organizer. For the purpose of execution the Sanstha has instituted the posts of the Secretary and a Joint Secretary (Higher and Secondary) the Auditor and the Regional Inspectors. The General Body, The Managing Council, The Executive Council, The Board of Life-Members and the Accounts Committee are the bodies which periodically and democratically settle all issues and fix policies for smooth day-to-day functioning of the Sanstha.



Administrative Setup

3.3 Central Administrative Building:

Central Administrative Building

Spread over an area of some 40469 square meters (4 hectors) and with the historic fort of Ajinkya Tara in the background, Rayat Shikshan Sanstha's four-storied central office guides and controls the administration of its 709 branches spread all over Maharashtra. The Campus also houses the Shahu Boarding House No.1, Ismail Saheb Mulla Law College, Maharaja Sayajirao Hichschool, Savitribai Phule Mahila Mahavidyalaya, Mahatma Phule Training College for Men, Jijamata Training College for Women, and Bhimabai Ambedkar High School.

3.4 Vision : Education to all the classes of society, especially to the downtrodden, economically and socially backward sections of society. There is a need to reconsider the present education at all its levels. The globalization and liberalization have changed all the concerns and references. It is necessary to deviate from the traditional methods and use the new methods and technology for imparting education. In view of this the Rayat Shikshan Sanstha has actively started the process of adjusting with new trends.

3.5 Objectives of the Sanstha:

1. The quality improvement programmes at 10^{th} and 12^{th} levels for strengthening teaching-learning.
2. Making changes for improvement in quality merit right from 4^{th} std. onword through various teaching aids and resources.
3. Orientation and training programmes for the teachers on the new methods and techniques of teaching.

4. Providing at least one job oriented course to the students along with conventional university courses/degrees.
5. Starting courses especially for girls in all colleges to make them self reliant, to stand on their own. Introduction of system to prepare students competently for competitive examinations.
6. Framing new short term courses related to management studies.
7. Making MS-CIT course available to know the needs of BPO services and for the preparation of software. MOU with bio-technology institutions and universities.
8. Paying attention on the changes occurring after 2005 and retaining leading position of the Sanstha in the process of modern education.

3.6 Mission :

1. To impart liberal and vocational education, from pre-primary to university level, to the rising generations.
2. To provide education to the people from remote places, tribal, rural, semi-urban and urban areas by establishing educational institutions.
3. To provide education to all the classes of society, especially to the downtrodden, economically and socially backward sections of society.
4. To provide education to women by establishing girls' schools, highschools and colleges.
5. To provide training and quality improvement of teachers and non-teaching employees of the Sanstha.
6. To enrich the dignity of labour and to make arrangements for providing education against manual labour.

7. To promote the acquisition of knowledge and to offer opportunities for upgrading the knowledge, training and skills in all fields of human endeavor by developing educational network with use of modern communication media and technologies.
8. To promote among the students a sense of equality, national integration, social justice and to act as a catalyst in socio-economic transformation for national development.
9. To make arrangements for promoting healthy atmosphere, corporate life and welfare of students and employees.

3.7 Institutions working under Rayat Shikshan Sanstha: The educational set-up of Sanstha is spread in two states Maharashtra and Karnataka. Rayat Shikshan Sanstha provides education through 21Primary schools, 439 High schools, 42 Senior colleges, 8 Teacher training institutes, 2 I.T.I. and 8 Ashramshala and 71 Hostels.

3.8 Facilities provided to students: Along with quality education to students, sanstha provides many facilities as hostel, library, sports, canteen, training and placement for the betterment of students. Also students have supportive different cultural and other activities for multifaceted development.

3.8.1 Hostel: Most of the students seeking admissions in the different colleges of the Sanstha do come from rural area and from the working class. The upliftment of the students from the masses is the objective of the Sanstha. In order to provide the residential as well as boarding facility to these students coming from rural areas, the hostel facility is made available in 21 Colleges, out of which 11 are girls hostels and 10 are boys hostels. These hostels are well equipped and these facilities are made available to these students in reasonable fee. Besides, some of the colleges of the Sanstha run

‘Earn and Learn Scheme’ for the sake of poor and needy students. Through this scheme educational facilities are provided to these students free of charge. It is noteworthy that education is provided to the girl students through this scheme.At present, 1661 students have completed their education with the help of the Scheme and out of which the number of girls students is 1076

3.8.2 Library: Library is a soul of every college. The books in the Library enriches the deapth of the knowledge of the students. With this view every library in the Sanstha’s Colleges is looked after so that it should have the variegated books. Keeping in a view the demand and need of the books recorded by the students, the books are made available to the libraries of the Sanstha. These includes fiction, text books, reference books, periodical, internet facility. At present, 1538349 books are available in the 41 Colleges run by the Sanstha. Besides, study room facility is made available to the students. The Sanstha is trying to make available the Software ‘Libreria’ to all the Colleges with co-operation of Maharashtra Knowledge Corporation Ltd, Pune.

3.8.3 Sports: With a View of all round development of the students the Sanstha and Colleges have implemented different activities. Sanstha’s Karmaveer Vidya Prabodhini has established Sports Academy in order to facilitate the intellectual as well as physical competencies and Skills of the students. At the Same time every college has got its own sports department. On behalf of Sanstha’s Sports Academy and Sports department of the College different activities are implemented and training is given for the National and International sports like Kabbaddi, Kho-Kho, Volley ball, Cricket, Hand ball, Wrestling. 66 Sportsmen have made most of this training and come out with flying colors at National level. 127 Students have figured out at the State level. 26 Students and 475 students have proved their mettle on University and Zonal levels respectively. These

includes like Hind Kesari Sanjay Patil and Fast bowler like Zaheer Khan in the Indian Cricket team.

3.8.4 Student activity: On behalf of Sanstha and its Colleges many educational as well as material facilities are provided to the students of the Sanstha with a view to bring about all round development of the students and to enhance their academic standard.

Particularly, library facility, well equipped class rooms, play grounds along with the conventional education, the modern education comprising of computer education, bio-technology, different types of scholarships students insurance scheme on the university level, vocational guidance, professional oriented education, placement cell, student welfare scheme, Competitive exam guidance, Interview technique, health education, State level elocution as well as quiz competition, guidance for different arts, Rayat talent project, NET SET guidance, M.Phill, Ph.D.guidance, Guidance for foreign education, such a educational activities are implemented by the Sanstha.

In addition to these, national service scheme, National Cadet Corps, training for diverse sports is provided by Sanstha and its Colleges.

3.8.5 Cultural activity: The all-round development of students depend upon how much scope do they get for the expression of their inborn capacities and skills. With this view Karmaveer Vidya Prabodhini of the Sanstha has foundedCultural Academy. The Cultural department of every college is also at work. The cultural department tries to enhance the latent art capabilities through dance, drama, acting, and elocution. So many students of the Sanstha who developed their skills with help of these bodies have figured out quiet well on the university, state and national level. They have also got different prizes in Youth Festivals at different levels.

These students have made their mark in society on the strength that they gathered in these bodies. Actress and Dancer Maya Jadhav is Sanstha's Students. On 7th and 8th May the cultural programs are organized. And the students from the five regions of the Sanstha take part in it every year. Brilliant performances of the dance, drama, acting are presented by the students and they get a stage for the expression of their artistic abilities.

3.8.6 Canteen: Educational as well as some material Facilities are provided to the students in different colleges of the Sanstha. These facilities are provided taking into account the need and demand made by the students. Canteen Facility is one of them. Canteen Facility is available to the students of 16 Colleges of the Sanstha. This Facility is given on the basis of no profit no loss. The healthy food is made available to these students so that they can keep their good health.

3.8.7 Training and placement: The Sanstha and its different colleges have started a placement cell in order to make available the job opportunities to its students. On behalf of this Cell the interview programs of National and International Companies is organized and placement opportunity is made available to the students. Necessary training in this regard is given to the students. The Placement facilities of the following companies have been made available to the students.

Thus the Sanstha with a large educational set up works to fulfill its objective to serve the downtrodden and needy citizens for their betterment and upliftment. Sanstha has a well organized setup and devoted administrators and faculties who make this institution unique.

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Information needs and information use pattern

4.1 Information:

Information is a fact that we receive through our senses. According to Bhattacharya (1998) information is a message conveyed by a systematized body of idea. The term information is very complex and multifarious in nature so its comprehensive definition is not possible. Information is a medium of knowledge communication which is used by individuals. Information is required in each and every field of human activity. For day to day activity also information is vital. In research and development information has to be acquired, processed, stored and disseminated for further communication. The effective performance in all the activities of life is mainly dependent on right information available at right time in right format. Information is an indispensible resource for all human activities. As information is a valuable input for social development ultimately only those who utilize information effectively will lead to success. Information has an important role in decision making, planning and every developmental activity. According to Hoshvosky and Marsey (1968) "Information is a process which occur within human mind, when a problem and data for its solutions are brought into productive union. According to Business Dictionary "Information is a data that is accurate and timely, specific and organized for a purpose presented within a context that gives it meaning and relevance and can lead to an increase in understanding and decrease in uncertainty. Information is valuable because it van affect behavior, decision or an outcome. According to Merriam-Webster dictionary, "information is a knowledge that you get about someone or something: facts or details about a subject." Thus the answer for what is information is in simple term as; Information is the act of telling or imparting knowledge.

Information is knowledge acquired from another. Information is knowledge you can convey to others. Information is facts communicated or learned. Information is data interpreted to be useful. Information is facts and figures. Information is the 'lifeblood of 21st century society'. Information is power. In fact, information is any and all of these things.

4.2 Information needs:

Information needs of users are major concern to providers of information service. The information need can be expressed as; when the user recognize a gap in their state of knowledge, that is when they experienced an anomalous state of knowledge and they wish to resolve this is nothing but the identification of information need. The ultimate aim of any information retrieval system of library is to provide the information which can match exactly to the user request or user requirement. According to David Nicholas and Eti Herman (2009) people often talk about information needs but in fact they are referring to wants or use. As Elayyan (1988), Green (1990) or Hewins (1990) contend, many studies that claim to be studies of information need are really studies of information use. However, while it is true enough that want or use are both manifestations of need and as such should be considered, they neither identical to need, nor fully or accurately describes it. Thus, in order to attain a correct and comprehensive picture, we should be evaluating the need people have for information, want and demand they express for it and the use they make of it. An information need arises when an individual senses a problematic situation or information gap, in which his or her internal knowledge and beliefs, and model of the environment fail to suggest a path towards the satisfaction of his or her goals. Information needs arise out of a desire to meet one or other of three basic human needs, physiological needs,

psychological needs and cognitive needs. Information needs are studied by many eminent personalities and the one among them is Maslow (1970) explains it as,

- Self-actualizing needs- The needs related to formal education, leisure activities,

  ethics, values etc.
- Esteem needs-The needs convey multicultural awareness, emotional awareness,

  social system knowledge, ethics, values etc.
- Love and belonging needs- The needs dealing with multicultural awareness, emotional awareness, leisure activities, interpersonal skills, ethics and values etc.
- Safety needs- The needs convey crime avoidance, traffic rules, emergency procedures, basic literacy etc.
- Physiological needs- The needs which manage with personal hygiene, nutrition general health issues, prevention from diseases etc.

Nicholas & Herman (2009) suggested a set of 11 elements that can be used in a very practical way for assessing information needs of individuals as well as professionals and organizations of all kinds. These elements are:

1. Subject
2. Function
3. Nature
4. Intellectual level
5. Point of view
6. Quantity
7. Quality

8. Currency

9. Speed of delivery

10. Place of publication

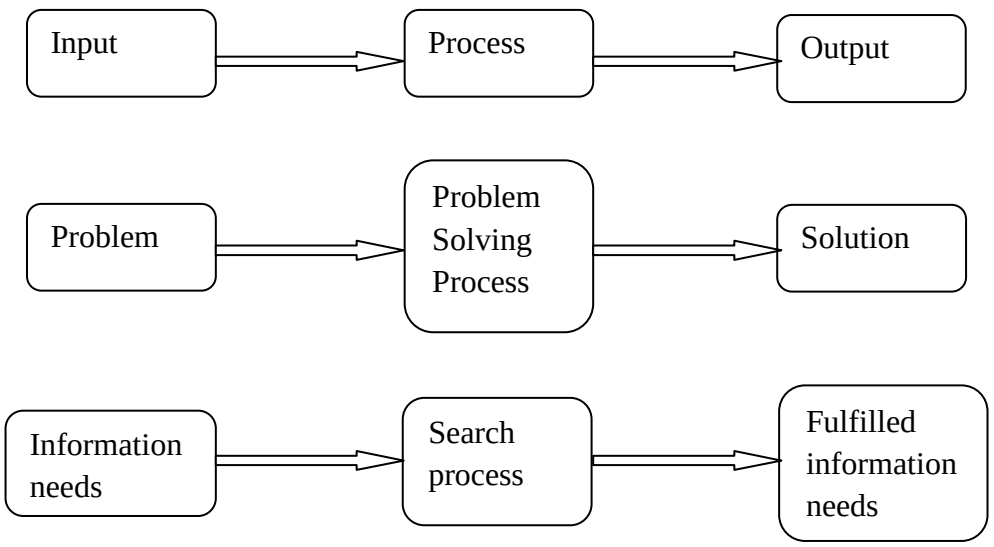
11. Processing and packaging

Information is the crucial need of users. Information is also an essential ingredient to participate in the new ways of doing personal and academic activities. Timely availability of up to date and appropriate information will no doubt generate creativity in the users. According to Girija kumar (1990) the information needs may be expressed as Input- Process- Output model. The basic component of the system is, a) Problem, b) Problem solving process and c) Solution.

The problem is analyzed to determine information needs. It is indicative of the uncertainty of the knowledge. Solution results in resolving of the solution by filling the gap in the knowledge.

The model set by him can be well explained as below,

Identification of the Information Need



Source: Nicholas, D., & Herman E.A. (2009). *Assessing Information Needs In Age Of The Digital Consumer*

4.2.1 Unrecognized and recognized (but unexpressed) information needs:

People do not always know what their information needs are. They do not know they have an information gap, for they are not aware that there is information out there that could be of help to them. They do not know that new information has rendered obsolete what they know and in result, has given rise to another information need. It is only when exposed to the relevant information that the need is recognized. This may be called as dormant need or unrecognized need. In this information age a lot of information is readily available on internet and if we searched the information without any strategy, a lot of information is flooded but missing some valuable information. So a specific search strategy should be there to search exact information needed. Information seeking theories often refer to the concept of information needs, a presumed cognitive state wherein an individual's need state triggers the search behavior characteristic of information seeking in a given context. While terms such as these have migrated from a common theory to everyday colloquial use, their use in design research should be questioned and evaluated as in any research. There are other lenses to view behavior that focus on motive, goals, activity contexts, but not necessarily "need," whether information or other personal need.

Information wants: Information wants are that an individual would like to have. In a perfect world information needs and information wants would be one and the same. Normally people tend to equate information want with information needs. Questionnaire aiming to explore information need study turn out to be information want study.

Information demand: An information demand is a request for an item of information believed to be wanted. However, people demand information they do not really need, by the same time they certainly need or want information they do not demand,

because they are not aware that it is there. When searched on internet, the information turns out to a large amount of material that is demanded but not needed. Also, demand is at least partly dependent on expectation, which, in its turn depend upon existing information provision.

Information use: Information use is both intended use and unintended use; that is, it may be direct outcome of a satisfied demand when looking for something else. It must be noted that browsing and accidental unearthing of information invariably turn to unintended use, for browsing can be quite directed and structured. Some people browse because they have no choice; they cannot recognize and articulate their need until something they see reminds them of it. Some scholar browse precisely because some newly encountered information may uncover for them a dormant need. The difference between intended use and unintended is important one and usage studies should really make an effort to distinguish between the two. The use of information can be find out with information logs , citation analysis , library loan record, issue statistics etc. Use data can only offer a partial view of need. Even when augmented by demand data, use data can only help am information system improve on. Use data will not help build a system which will provide new services and solutions. Thus, use data may be very useful for measuring the usage of what is provided, but it is not substitute for need data in establishing whether what is provided is what is best. Thus the basis of effective information services and systems on a holistic view of need people have for information, the wants and demands they express for it, and the use they make of it is very strong.

4.3 Information user: Information users are the people who might avail themselves of an information service. In the digital era, where the information is mainly searched

on internet the term used as user in print media age is now termed as digital consumers for the non print media users. This digital consumer term is suggested by Nicholas et al. (2008) in the book Digital consumer. In today's information realities a digital consumer is, to all intents and purposes, the equivalent of an information consumer. It is important that the need of these digital consumers should be fulfilled with the services provided by the information provider. They are the important link in information communication system. Information system exists to satisfy the need of users depending on extend of use of information. The information system has to take into consideration the information requirement of potential users. The use of information may be satisfied by them without demand being expressed or without feeling any want. Most of the information services are anticipatory of user demand rather than based on their need. Knowledge of the information needs and information seeking behavior of users is vital for developing library collection, upgrading facilities, and improving services to effectively meet the information needs of users.

4.4 Information seeking behavior: Information is very important to every aspect of today's information society or human being. The process of information acquiring, using and implementing information are known as information seeking behavior. Information seeking behavior is a very broad term, which involves set of actions that an individual takes to express information needs, seek information, evaluate and select information, and finally uses this information to satisfy his/ her information needs. In order to satisfy the information need user actively undergoes information seeking process. Various factors may determine the information seeking behavior of an individual or a group of individuals. It is desirable to understand the purpose for which information is required. Information seeking behavior is different than actual

information need. Information seeking behavior results from the recognition of some need by the user who in turn makes demand to libraries or information centers or on-line service in order to satisfy the perceived need. Information seeking behavior refers to any activity of an individual that is undertaken to identify a message that satisfies a perceived need. With information deluge everyone needs information of diverse variety, this situation gives rise to the concept of information searching and the information search pattern which is also termed as the information seeking behavior. Wilson (2000) explains that information seeking behavior refers to those activities a person engages in when identifying his or her own need for information, searching for such information in any way and using or transferring of information. Information behavior is the totality of human behavior in relation to the sources and channels of information, including both active and passive information seeking and information use. Thus it includes face to face and online communication with others as well as the passive reception of information. As per Leckie et al.(1996) information seeking behavior involves personal reasons for seeking information, the kinds of information which are being sought and the ways and sources with which needed information is being sought . Information seeking behavior is expressed in various forms, from reading printed material to research and experimentation. Scholars, students and faculties actively seek current information from the various media available in libraries, for example encyclopedias, journals and more currently, electronic media. Ingwersen and Jarvelin (2005) define information behavior as the “human behavior dealing with generation, communication, use and other activities concerned with information, such as, information-seeking behavior and interactive information retrieval.” According to this definition, information behavior will include all aspects of human behavior (such as work roles and tasks) that require users to generate,

communicate and seek information that is relevant to their information needs. Girija kumar (1990) has emphasized that information seeking behavior is mainly concerned with who needs what kind of information and for what reason, how information is found, evaluated and used and how the user needs are identified and fulfilled. According to him following process takes place in information seeking behavior.

1. Identification of object.
2. Defining need.
3. Accessing information system.
4. Establishing source of information.
5. Information acquisition
6. Use of information.
7. Satisfaction / dissatisfaction of user.

Information seeking and gathering plays a vital role in all active teaching and learning methods. Academic libraries prominent organizations which plays a crucial role in fulfilling the information needs of its users. According to Wilson T.D.(1981) early model of information seeking behavior is,

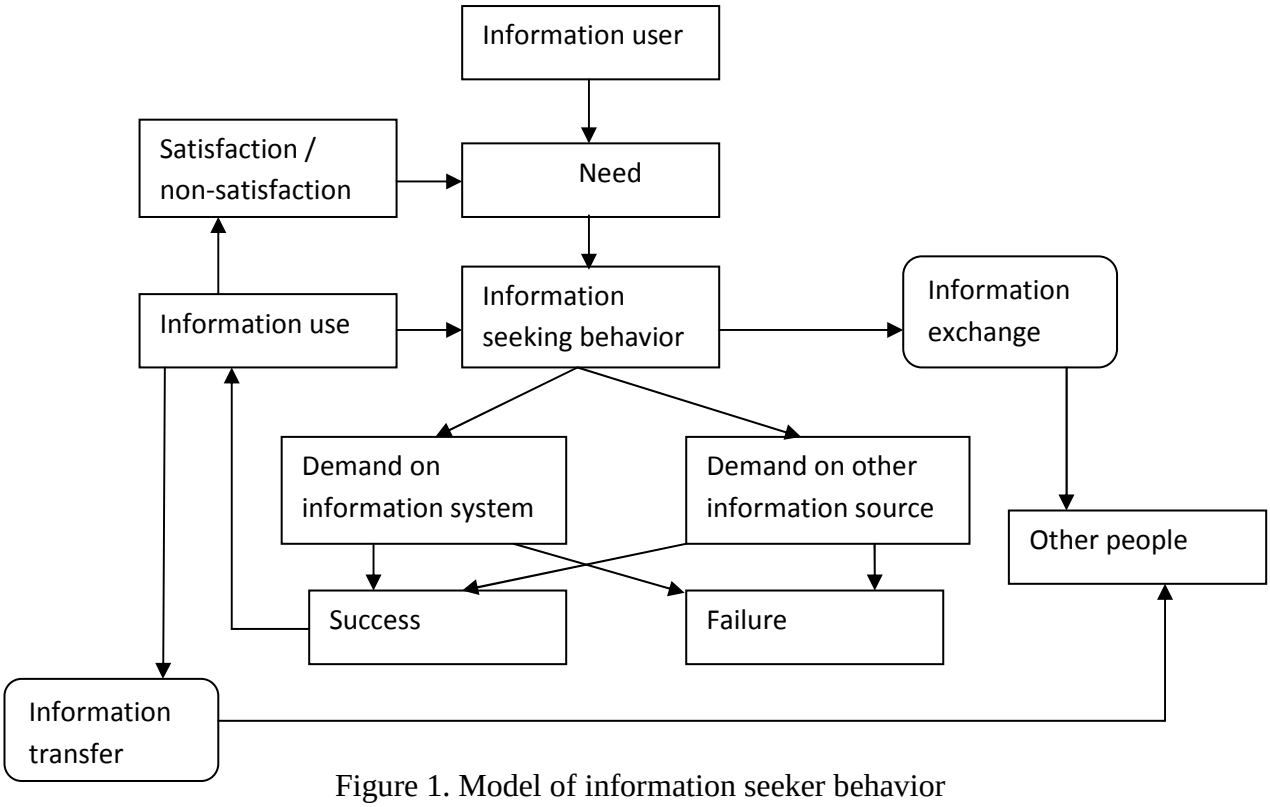


Figure 1. Model of information seeker behavior

4.5 Framework for evaluation of information needs: Information needs arise from other needs, the concept of information needs can easily understand with a framework of evaluation of information need. There are 11 major characteristics of information needs; subject, nature, intellectual level, viewpoint, quantity, quality/ authority, date/ currency, speed of delivery, place of publication / origin, and processing and packaging. These characteristics combine to form a comprehensive evaluator framework, for it takes the overall consideration of the different attributes of an information needs to provide a truly suitable answer to a problem occurred. This framework ensures that information delivery is consumer centered, targeted, personalized and relevant.

1. Subject: Subject is the most obvious characteristic of information need; it is probably the one feature most readily coming to mind for describing information need. Librarians arranging the document collection by subject and search engines providing access to the world's information resources by the means of keywords are the best example of the importance to this aspect of information need.

2. Nature: The information is available in different nature as conceptual or theoretical, historical, descriptive, statistical or methodological information or on another level there is a distinction between primary information and secondary information. Information of different types is available on any subject. Thus to provide the necessary information and to fulfill the information need it is important to consider the nature of the information.

3. Intellectual level: This characteristic of information need refers to the minimum extent of knowledge and sometimes the level of intelligence an individual might need in order to understand the available information. In fact, matching people's information needs with the suitable level of information dictated by their requirement

and abilities has more to do with the intelligibility of information. Thus , information is made complex not just by how much knowledge and education it assumes, but also by how abstract or compressed it is.

4. Viewpoint: The particular viewpoint, approach or angle from which some information is written up , is very important for its potential consumers. This is one needs characteristic that really gets information seekers worked up. Sometimes people do not require information sympathetic to the views they hold, to the point that information on the same topic, but tackled from different point of view would be important to them.

5. Quantity: In this era of information, at least in theory, requires be better informed than never. Now that we no longer rely on tradition or past experience or on the decrees of some authority figure, nowadays we are only able to cope in all walks of life by getting hold of information to serve as the basis for competent decision making. Not that attaining information causes any problem in today's information saturated world but it is necessary. All people require information to do a job or solve a problem; the size of their information needs varies greatly, not only between individuals and groups, but also according to the nature of the need. Motivation, diligence and the amount of time available to take in information are all influential factors in determining the amount of information actually consumed, although the presence of huge quantities of data in every form encourages excessive demand. So the quantity aspect of an information need is unusual in that it can also be an information constraint.

6. Quality / authority: Assessment of the value of information is not easily made, especially in the digital environment. Knowing the information needed may be only a mouse click away seems to pose almost irresistible want to opt for the instant

information gratification so easily provided by the web. Surely quality and reliability are better criteria for knowledge information selection than congeniality. Indeed, the quality of information, its veracity, trustworthiness and accuracy are held to be critical considerations.

7. Date / Currency: Everyone works with a mix of new and old information. Thus, two closely related questions should be asked regarding this information needs characteristic, firstly how up-to-date does the information need to be and secondly, how far back in time the information is required to go. Information seekers are always likely to require the most up-to-date material even if they do search for data back in time. Thus, currency may be only one aspect of the date range requirement. Yet, currency is popularly held to be a prominent attribute of internet based information.

8. Speed of delivery: Speed of delivery is all about getting information to user quickly. Total access as quickly as possible appear to be the present day information seeker's key information needs requirement. Need must be fulfilled immediately and information needs are no exception.

9. Place of publication / Origin: Information production, communication and use certainly seem to have moved into a worldwide, borderless arena, unimpeded by technical barriers. Information seekers are not interested in the nation from which the information is coming but they are interested in which language the information is communicated as they should understand the language of the information so they can use this information for their study or for research.

10. Subject: The importance according to the geographical origin of information is decidedly discipline specific. The social science transcends national boundaries much less than science or the humanities.

11. Processing and packaging: These two aspects of information needs concerned with the different ways and formats in which the same ideas and data can be presented to potential users. Processing refers to the different ways that can be utilized to convey the same information. A way to process the information in order to make it more palatable is in the form of a review article. Packaging of information is the way of external presentation or physical form of information, the form in which it is stored and communicated. These two words are very near as certain information packages are designed for storage and dissemination of specific levels of processed data.

By studying all 11 information needs parameter we can able to understand the actual need of information seeker and able to fulfill them with useful information.

4.6 Use Pattern: Needs of the users vary with the kind of the use. The user's needs are to be satisfied at the earliest possible time. It is the Librarians responsibility to make the user comfortable and then elicit his needs by putting a series of questions. As the work progresses and time passes, users need also changes. First users need should be analyzed and according to their needs sources are identified. The type of information required, the purpose of using information, methods to be used for keeping up-to-date, awareness of information and use and usefulness of information sources, information search strategies are the attributes of information use pattern.

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Data analysis and interpretation

The purpose of this study was to study the Information needs and use pattern of faculty members of Rayat Shikshan Sanstha. The focus mainly is to understand the information needs of faculty members and to know how they retrieve information from different resources. With this study availability of information sources in different academic institutes has also been studied. The study is useful and helps the librarians in collection development.

For conducting the study, the researcher developed a questionnaire and distributed it to all faculty members of thirty four colleges of Rayat Shikshan Sanstha. Total one thousand and eighty one questionnaires are distributed out of which eight hundred and sixty one i.e. 79.6% of questionnaires are received filled. Questionnaires to all thirty eight librarians are also distributed out of which thirty five i.e. 92% librarians returned the filled questionnaires. The data received from the respondent were organized, analyzed and tabulated by using statistical methods. The tables of responses and their respective graphs were generated using MS-EXCEL. The data that have been received from faculty members and librarians respectively have been analyzed separately in this study.

A. Analysis of Responses received from Faculty members.

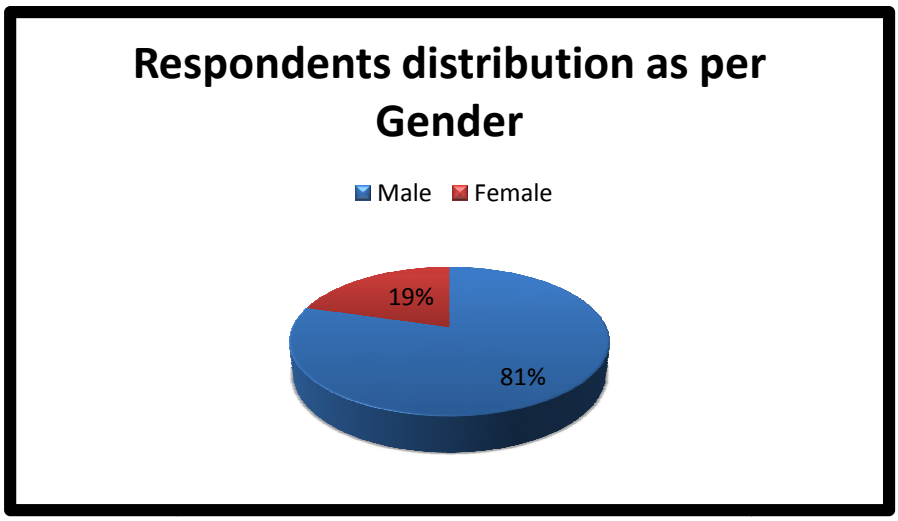
As stated earlier, out of 1081 faculty members, 861 faculty members have responded to the questionnaire. The analysis of the same using different parameters is given below:

- **Distribution of respondent as per gender:**

Questionnaires are received from total 861 respondents i.e. the percentage of respondent is 79.6% out of which male respondents are 685 i.e.80% and the female respondents are 176 i.e. 20%. When we see the total percentage of faculty members with gender difference the total male faculty members are 841 (78.8%) out of which 685 had returned the filled questionnaire thus the percentage of return is 81%. Total female faculty members are 240 (22.2) out of which 176 (73 %) has returned the filled questionnaire. Thus the percentage of returning filled questionnaire is nearly same in male and female.

Sr.No.	Gender	Total	Percentage
1.	Male	685	81%
2.	Female	176	19%

Table No. 5.1



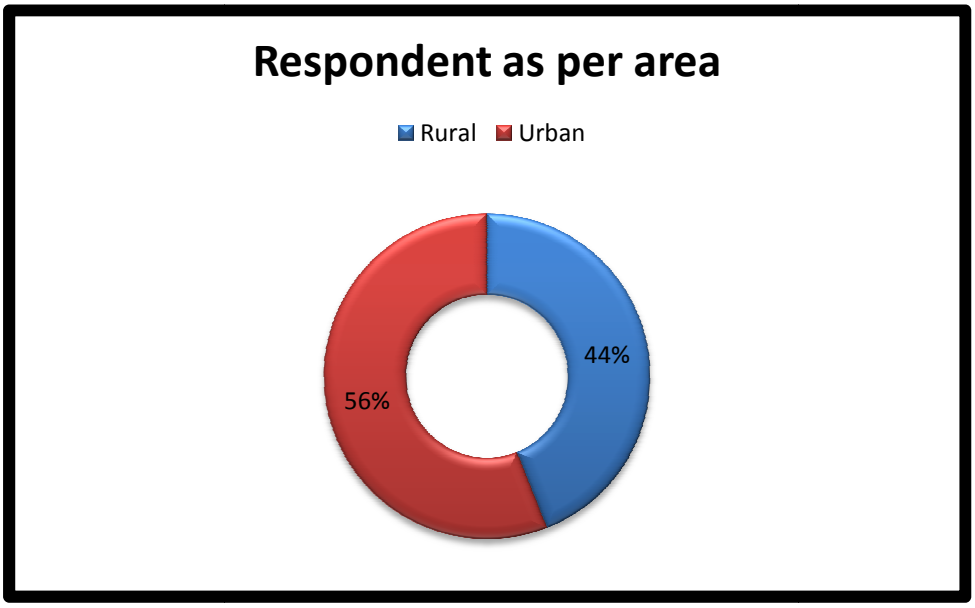
Graph No. 5.1

- **Respondents as per area:**

The Rayat Shikshan Sanstha has total thirty eight colleges throughout Maharashtra situated in rural areas as well in urban areas. The colleges are equally distributed in all over Maharashtra. As shown in Table No. 5.2 the 379 i.e.44% of rural faculty members have returned the filled questionnaire and 482 i.e. 56% urban faculty members had returned the filled up questionnaire. Thus the percentage population returning the filled questionnaire doesn't depend upon the area. The graphical representation is given in the graph 5.2.

Sr.No.	Area	Total	Percentage
1.	Rural	379	44 %
2.	Urban	482	56 %

Table No. 5.2



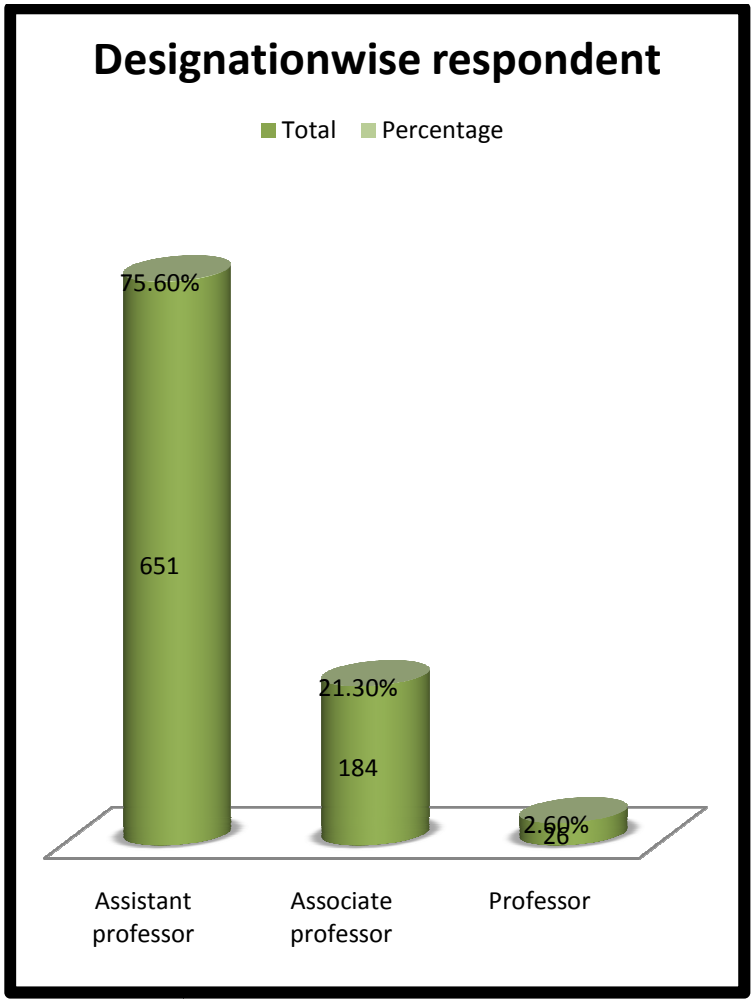
Graph No. 5.2

- **Respondent as per designation**:

The researcher had distributed the questionnaire to all the faculty members irrespective of the designation. Researcher tried to find out whether the information needs of faculty members differ with designation. The percentage of different categories of faculty members against the total number of filled in questionnaires is tabulated. It is found that the total 651 Assistant Professors had returned filled questionnaire which is 75.6% per cent of the total responses. Similarly, 184 Associate Professors which is 21.3% of the total response, and the number of responses from the Professor category is 26, i.e. 2.6 % of Professors, which can is understandable from the fact that the total number of Professors is very less compared to other categories of teachers in the colleges. The information thus gathered is tabulated in Table no. 5.3 and the same is graphically interpreted in Graph 5.3.

Sr.No.	Designation	Total	Percentage
1.	Assistant professor	651	75.6 %
2.	Associate professor	184	21.3 %
3.	Professor	26	2.6 %

Table No. 5.3



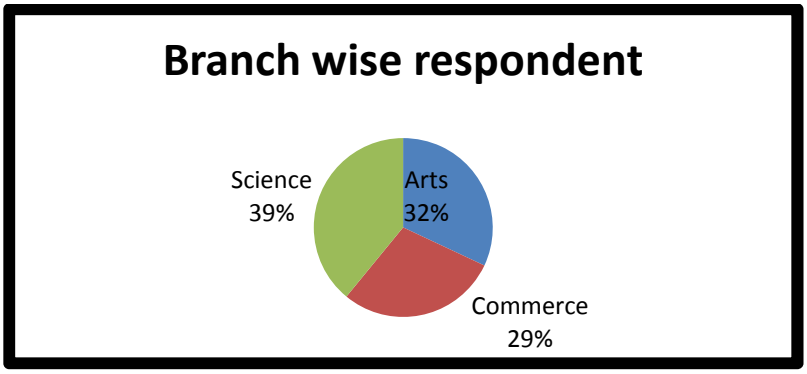
Graph No. 5.3

- **Discipline wise respondents:**

To study the requirement of information and the use of different information and communication tools by faculty members from different disciplines such as Arts, Commerce and Science, the questionnaires are distributed to all faculty members of different disciplines. Out of the total responses, 32% is from Arts faculty members, 29% from Commerce faculty members, and the remaining 39% of responses is from Science faculty members.

Sr.No.	Branch	Total	Percentage
1.	Arts	275	32 %
2.	Commerce	250	29 %
3.	Science	336	39 %

Table No. 5.4



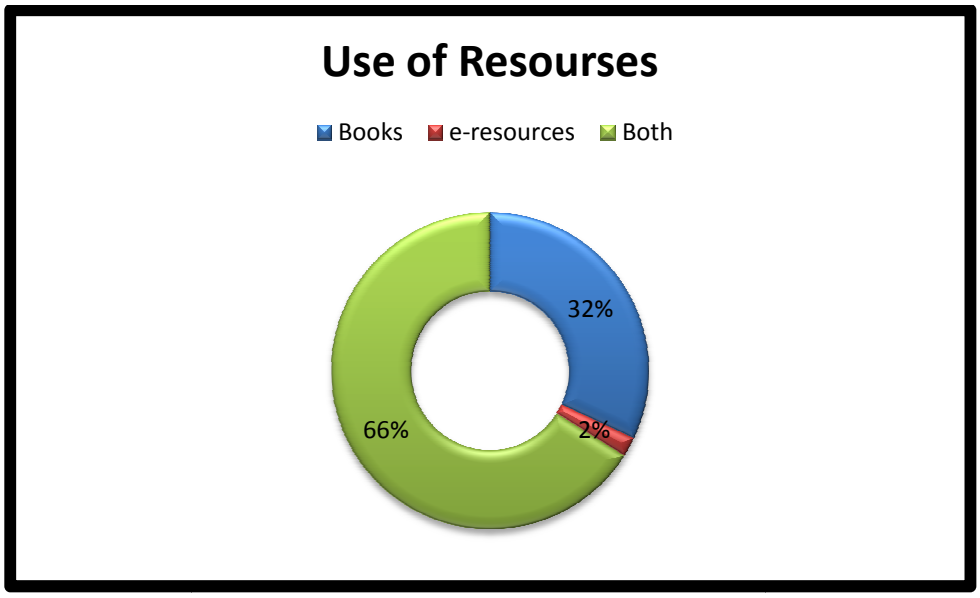
Graph No. 5.4

- **Use of information source to get information:**

Faculty members use different information sources to find information for their study, to prepare for daily lectures, for research, etc. Traditionally print materials are available for this purpose, but now-a-days information is easily available in non print format also. The extraction of desired information becomes very easy in non print format. When researcher tries to find out the pattern of faculty members and research scholars to gather information she finds that the trend of using non print material or e-resources is increasing day by day but today also, 32% faculty members relay only on print material, only 2% faculty members uses only e-resources and majority i.e. 66% of faculty members prefer to use both the sources to gather or compile information for their study or for research or for teaching. So, both types of information sources print or no-print are much useful.

Sr.No.	Resource type	Total	Percentage
1.	Books	275	32 %
2.	e-resources	17	2 %
3.	Both	569	66 %

Table No. 5.5



Graph No. 5.5

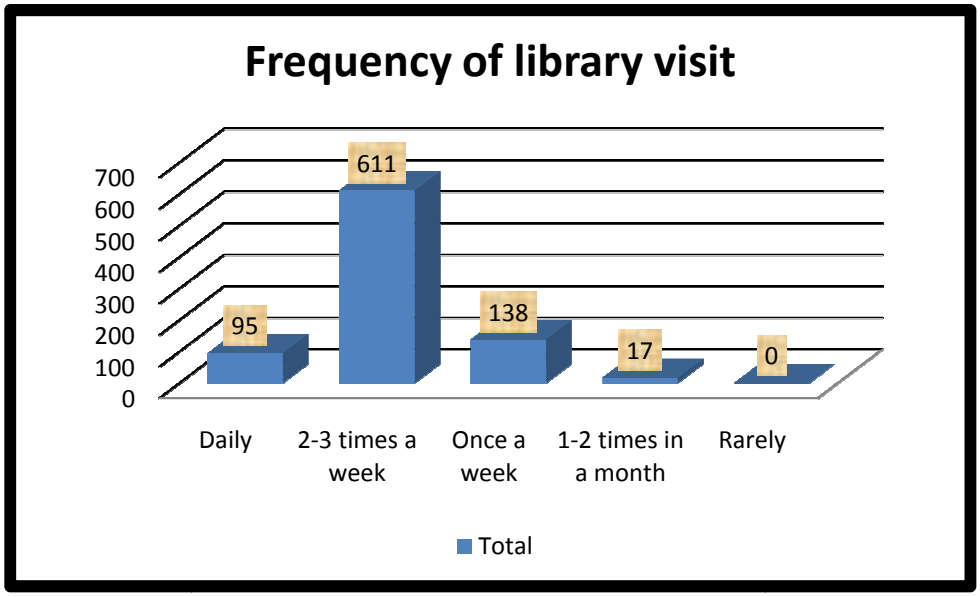
- **Frequency of library visit:**

Library is a learning place, faculty members regularly visit library for study purpose, reference purpose or for recreation. The researcher tries to find out how frequently they visit library to fulfill their requirement. It is been found that majority faculty members regularly visit library, 11% i. e. 95 out of 861 faculty members visit library daily for book transaction, for reference, to use e-library or for the purpose of recreation. 71% faculty members visit the library 2 to 3 times a week, 138 faculty members i.e. 17% visit the learning resource centre once a week and only 2% that

means only 17 faculty members out of 861 visit the library 1 to 2 times a month. Thus the faculty members are in need of library for their curricular and recreational purpose.

Sr. No.	Frequency of visit	Total	Percentage
1.	Daily	95	11 %
2.	2-3 times a week	611	71 %
3.	Once a week	138	16 %
4.	1-2 times in a month	17	2 %
5.	Rarely	0	0 %

Table No.5.6



Graph No. 5.6

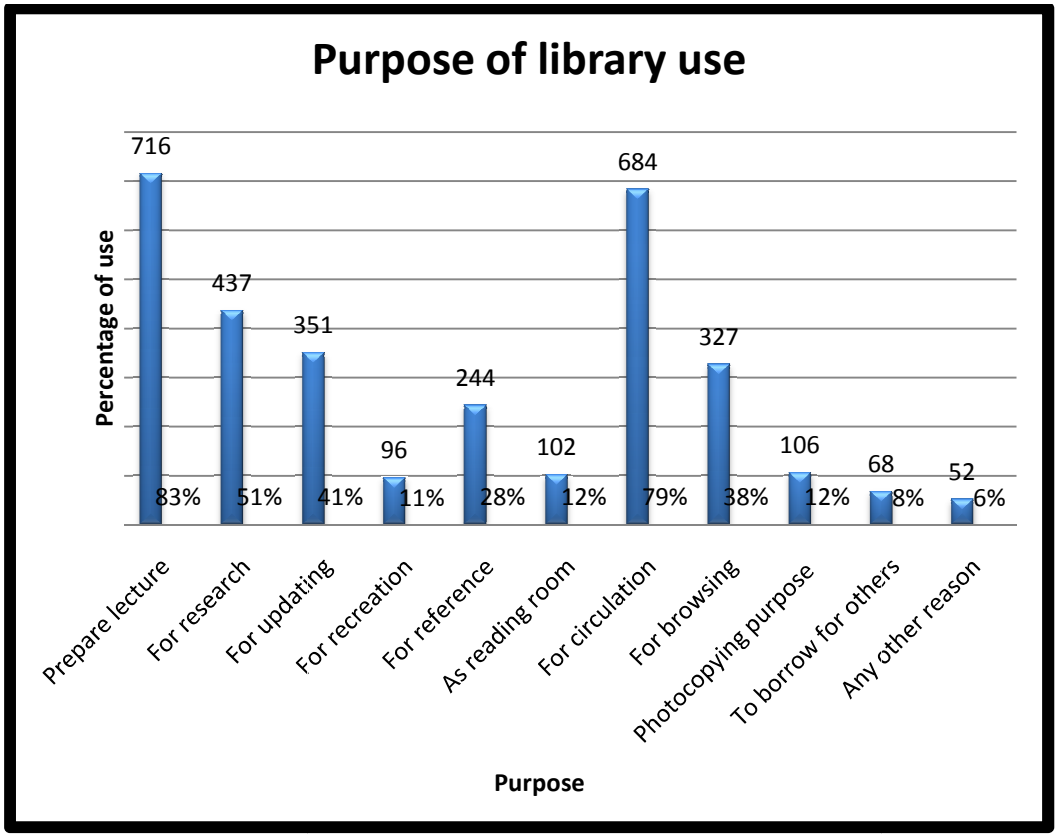
- **Purpose of library visit:**

Library is being used by faculty members for different reasons. It is found that library mainly is used for assistance in preparing lectures and to borrow the books, 83% i.e. 716 faculty members visit library for preparation of lectures. 79% i.e. 684 faculty members regularly visit library for borrowing the books. Thus these are the two main reasons to visit library. Besides this library facilities used by faculty members mainly for research purpose as it is another important role of a faculty after teaching. 437 out of 861 i.e.51% faculty members use library for research purpose, 41% means 351 faculty members uses library for updating themselves, 38% that means 327 of 861 make use of library for browsing means they uses network resource centre of library, the other use of library includes recreation, as a reading room and for the purpose of photocopying. Thus the main use of library is for preparation of lectures and research activity.

Sr.	Purpose of visit	Total	Percentage
1.	Prepare lecture	716	83%
2.	For research	437	51%
3.	For updating	351	41%
4.	For recreation	96	11%
5.	For reference	244	28%
6.	As reading room	102	12%
7.	For circulation	684	79%
8.	For browsing	327	38%
9.	Photocopying purpose	106	12%
10.	To borrow for others	68	8%
11.	Any other reason	52	6%

Table No.5.7

(**Multiple choices are permissible)**



Graph No. 5.7

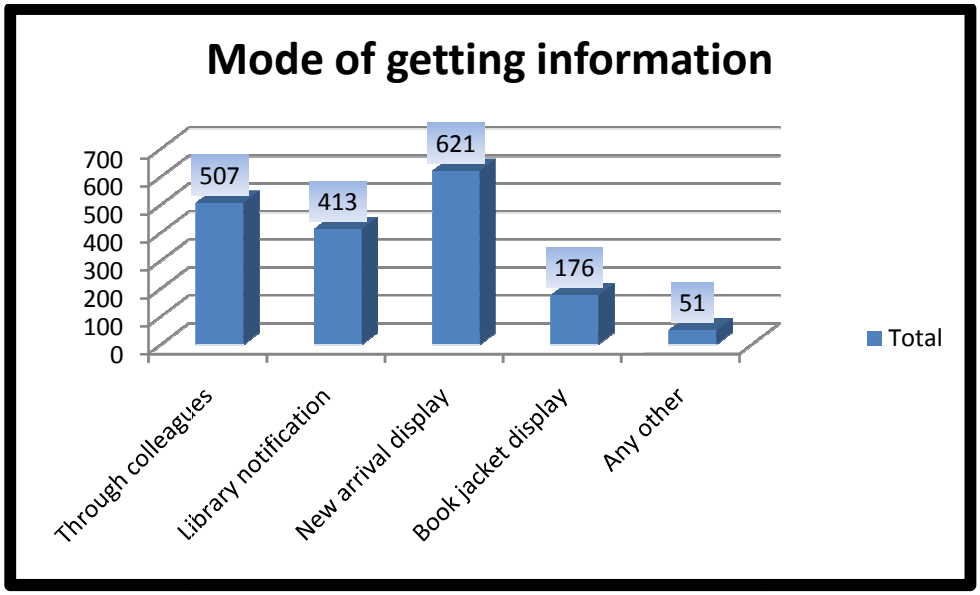
- **Information about latest collection**:

Librarian and library staff always try to notify the readers about latest collection introduced in the library by different ways such as by maintaining new arrival display, showcasing jackets of latest books, giving notification to the members, by displaying booklist of newly arrived documents. This helps the users to know about library collection and which documents are added recently. The researcher in her survey found that the user get the information by different means as by notification of new arrivals, through the colleagues or by new arrival display. 507 out of 861 i.e. 59% faculty members received information about new arrivals in the library through their colleagues. 413 out of 861 i.e. 48% will get information of newly arrived documents through notification sent by library. 621 of 861 i.e. 72% had received information

through new arrived display and only 20% had receives information through book jacket display. And the other ways to get information of new arrivals is only 6%

Sr. No.	Information media	Total	Percentage
1.	Through colleagues	507	59
2.	Library notification	413	48
3.	New arrival display	621	72
4.	Book jacket display	176	20
5.	Any other	51	6

Table No.5.8



Graph No. 5.8

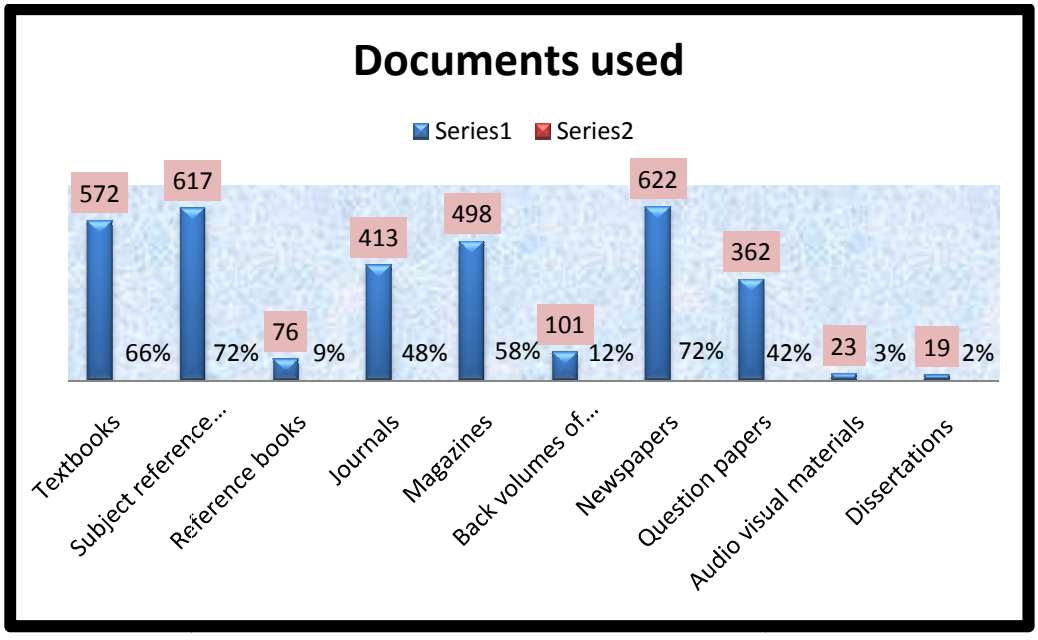
- **Usage pattern:**

In the library there are different types of documents available such as textbooks, reference books, magazines, journals, newspapers, dissertations, audio video materials etc. The user always go through it as per his or her need, every document has its own

characteristics. When researcher try to find the use pattern of reader, how they use the document and which document they prefer, she found that readers used varied documents as per their need, they sometime use textbooks to line-up the content as per prescribed syllabus as textbooks are written as per prescribed syllabus, the readers use subject reference books to clarify his concepts on a specific topic, he/she go through the journals to know what new is happening in his/ her subject, the reader regularly read newspapers to be aware of current affairs. Thus textbooks, subject reference books, journals and news papers are the most used documents in the library. While reference books as encyclopedia, dictionaries, audio video materials, dissertations and back volumes of journals are used less. In the study researcher found that subject reference books are mostly used by readers as 617 out of 861 i.e. 72% readers use subject reference books to acquire the knowledge. 572 out of 861 i.e. 66% readers uses textbooks, and 622 out of 861 i.e. 72% readers prefer newspaper reading to be aware of current knowledge. 48% or 413 out of 861 users use journals for knowledge updating and 58% means 498 out of 861 readers uses magazines to keep it up with new trends. It is also found that 362 out of 861 i.e. 42% faculty members use previous question papers and only few faculty members that means 12% uses back volumes of journals and only 3% and 2% respectively uses audio visual materials and dissertations.

Sr. No.	Documents used	Total	Percentage
1.	Textbooks	572	66%
2.	Subject reference books	617	72%
3.	Reference books	76	9%
4.	Journals	413	48%
5.	Magazines	498	58%
6.	Back volumes of journals	101	12%
7.	Newspapers	622	72%
8.	Question papers	362	42%
9.	Audio visual materials	23	3%
10.	Dissertations	19	2%

Table No.5.9



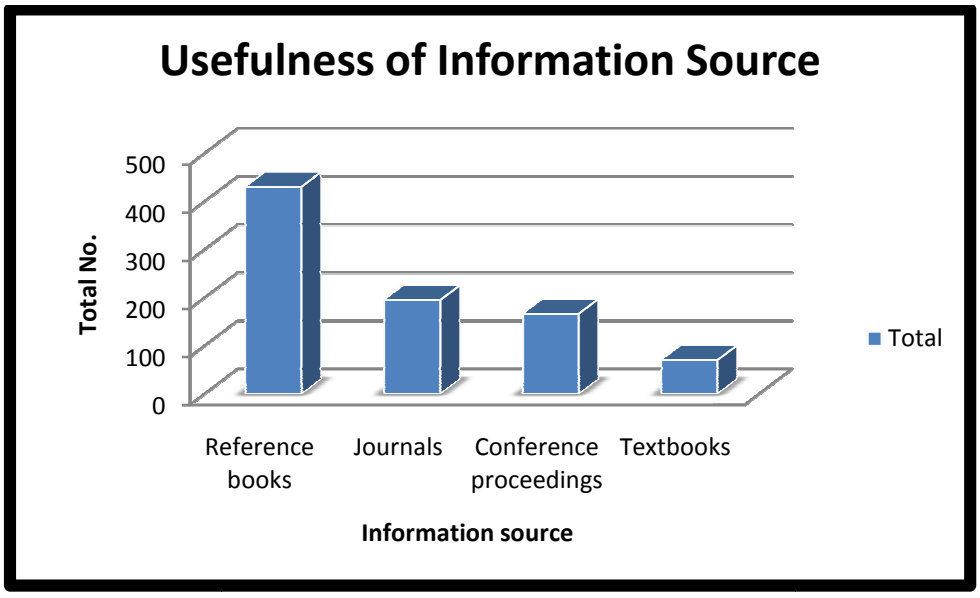
Graph No. 5.9

- **Usefulness of Information Sources:**

  Faculty members use different sources to get the recent information for their teaching and for research. When which type of information source used is studied it is found that reference books is the most preferred source of information and it is ranked one using 50% faculties followed by 23% using journals 19% use conference proceedings while only 8% faculties use textbooks . Thus reference books ranked one in case of usefulness and textbooks are ranked forth, as explained in table and graphically

Sr.No.	Information Source	Total	Percentage	Rank
3.	Reference books	430	50	1
4.	Journals	195	23	2
5.	Conference proceedings	166	19	3
6.	Textbooks	70	8	4

Table No. 5.10



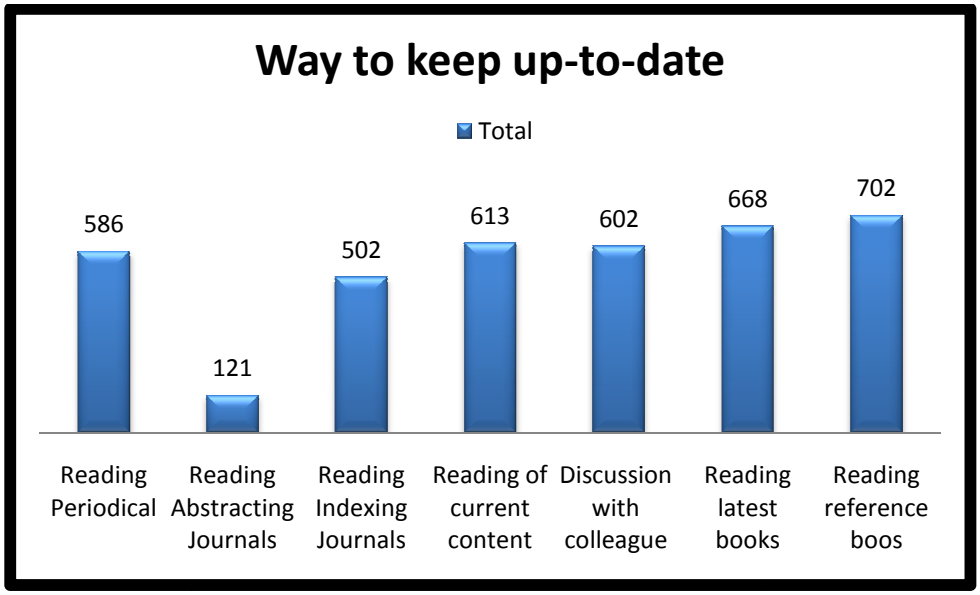
Graph No. 5.10

- **Method used to keep up-to-date:**

  To keep the knowledge up to date faculties use different information sources the major in that are going through current contents, discussion with colleagues, reading different periodicals, reading of indexed journals, the least used is abstracting journal. Thus faculties use different modes of information gathering to keep them well informed.

Sr.No.	Method used	Total
1.	Reading Periodical	586
2.	Reading Abstracting Journals	121
3.	Reading Indexing Journals	502
4.	Reading of current content	613
5.	Discussion with colleague	602
6.	Reading latest books	668
7.	Reading reference boos	702

Table No. 5.11



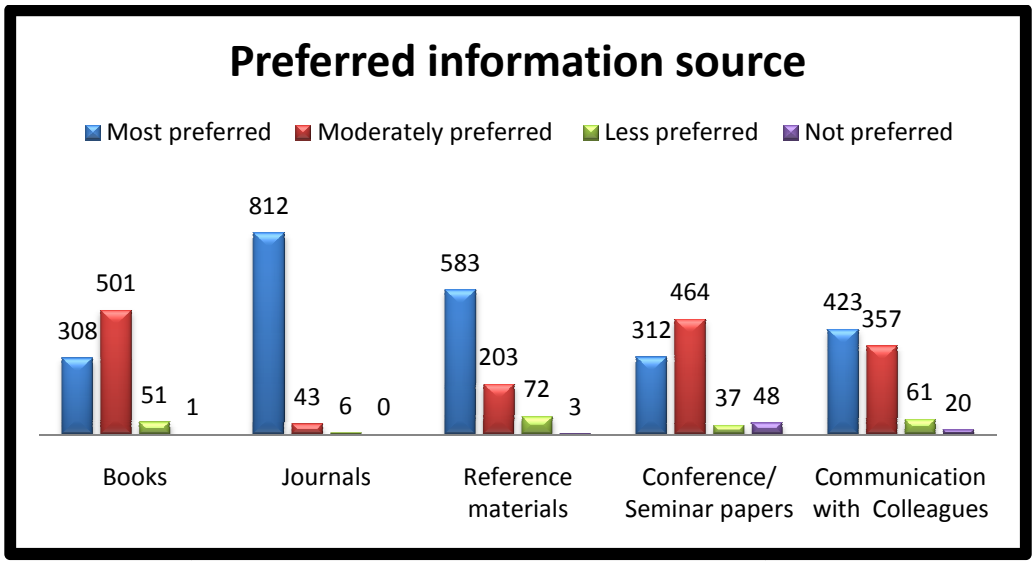
Graph No. 5.11

- **Preferred Source For Information Search:**

  Faculties are using different information sources for their use which includes books, journals, reference materials, conference, and seminar papers they do communicate with other colleagues. But the most preferred information source is journals as journals are having recent knowledge, followed by reference materials which provide scholarly information, the least preferred information source is textbooks.

Sr. No.	Information Source	Most preferred	Moderately preferred	Less preferred	Not preferred
1.	Books	308	501	51	01
2.	Journals	812	43	06	00
3.	Reference materials	583	203	72	03
4.	Conference/ Seminar	312	464	37	48
5.	Communication with Colleagues	423	357	61	20

Table No. 5.12



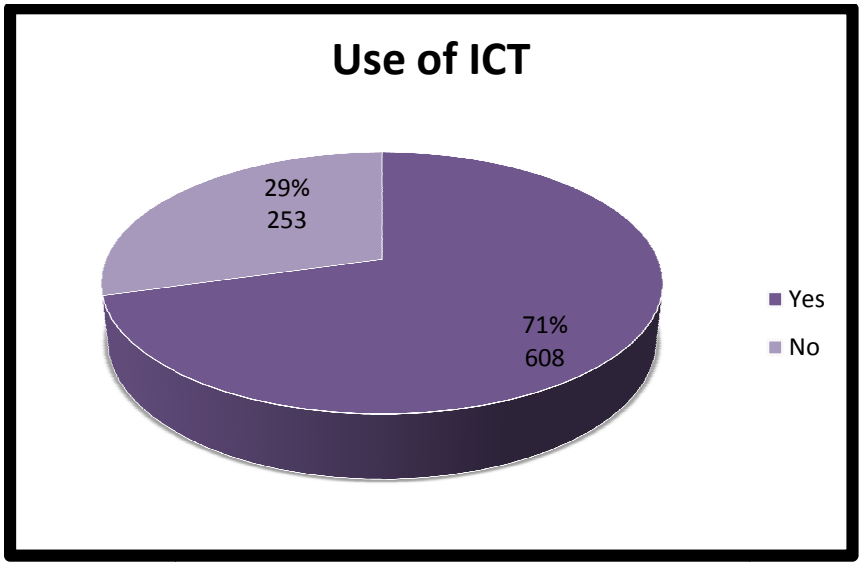
Graph No. 5.12

- **Use of ICT:**

Now a days, libraries are equipped with state of art information resource centre equipped with ICT tools. Faculty members are expected to make use of these facilities for their study as well as for the research purpose. The ICT infra structure is also available in the department and the faculty members also having their own facilities.

Sr.No.	Use of ICT	Total	Percentage
1.	Yes	608	71%
2.	No	253	29%

Table No. 5.13



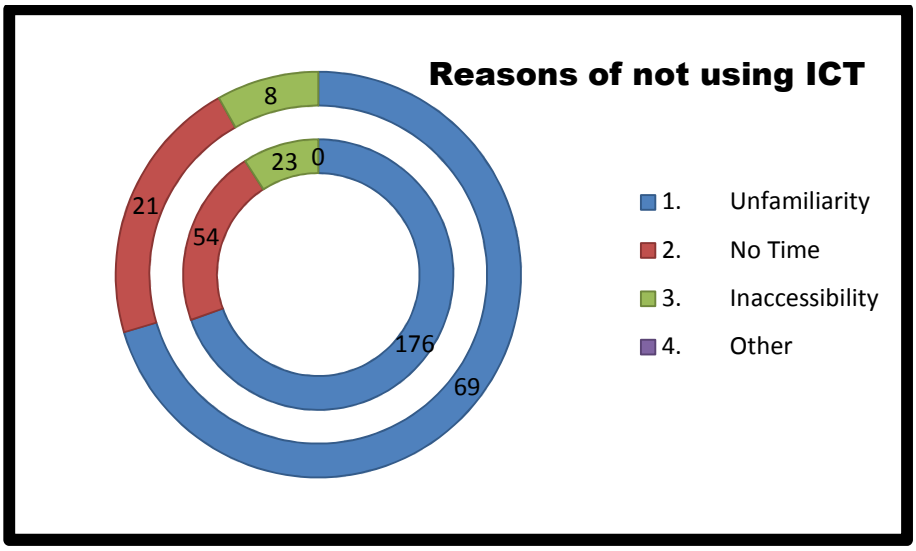
Graph No. 5.13

- **Reasons for not using ICT:** Some faculty members are not using the information and communication technology, they are in less number but the reason behind it mainly is unfamiliarity with the technology, i.e 176 faculty

members out of 253 are unfamiliar with the technology. 21% means 54 faculty members not using it because they found it time consuming and they don't have time for that. Only 8% means 23 out of 253 faculty members are not having necessary infrastructure. These are the main reasons behind researchers not using ICT infrastructure.

Sr.No.	Reason	Total	Percentage
1.	Unfamiliarity	176	69
2.	No Time	54	21
3.	Inaccessibility	23	8
4.	Other	0	0

Table No. 5.14



Graph No. 5.14

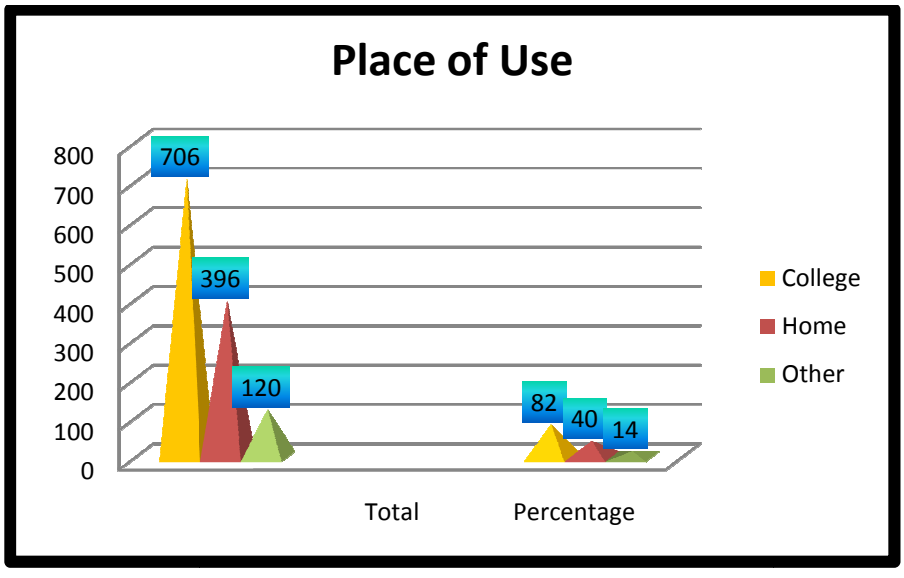
- **Place of using ICT:**

It is found from above discussion that majority of faculty members are aware of information and communication technology. They use this technology in colleges and at their home. Some faculty members are using this technology at other places. This can be tabulated as below.

Multiple choices are permissible

Sr.No.	Place of use	Total	Percentage
1.	College	706	82
2.	Home	396	40
3.	Other	120	14

Table No.5.15



Graph No. 5.15

From the above table it is found that majority of faculty members i.e. 82% use the ICT technology in the colleges. 40% of the total faculty members use this technology

at their home also and 14% of them make use of this technology in other places than college or home. As the data is separately calculated for users who use ICT infrastructure both at home as well as college, the total percentage to that effect exceeds 100.

- **Purpose of using ICT in Research:**

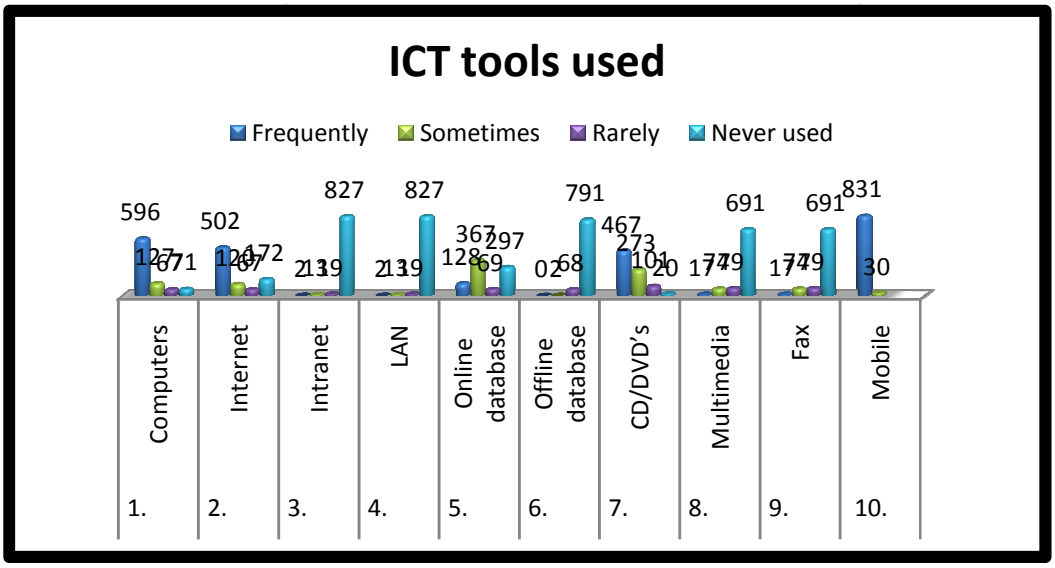
While doing research faculty members use ICT for many applications such as writing books and academic articles, preparing for conferences and for seminars etc. They also make use of ICT in their research.

- **Information technology tools used.**

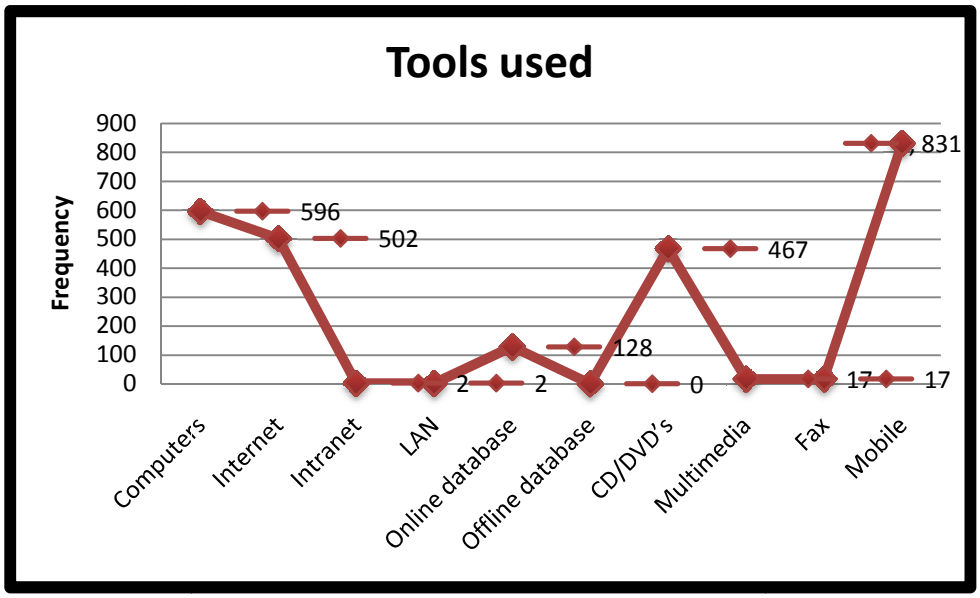
There are so many ICT tools are available, which are been used by faculty members. These tools mainly are computers, internet, mobile, databases, etc. How frequently they are been used can be studied using following table and the graph.

	Tools	Frequently	Sometimes	Rarely	Never used
1.	Computers	596	127	67	71
2.	Internet	502	120	67	172
3.	Intranet	2	13	19	827
4.	LAN	2	13	19	827
5.	Online database	128	367	69	297
6.	Offline database	0	2	68	791
7.	CD/DVD’s	467	273	101	20
8.	Multimedia	17	74	79	691
9.	Fax	17	74	79	691
10	Mobile	831	30		

Table No. 5.16



Graph No. 5.16



Graph No. 5.17

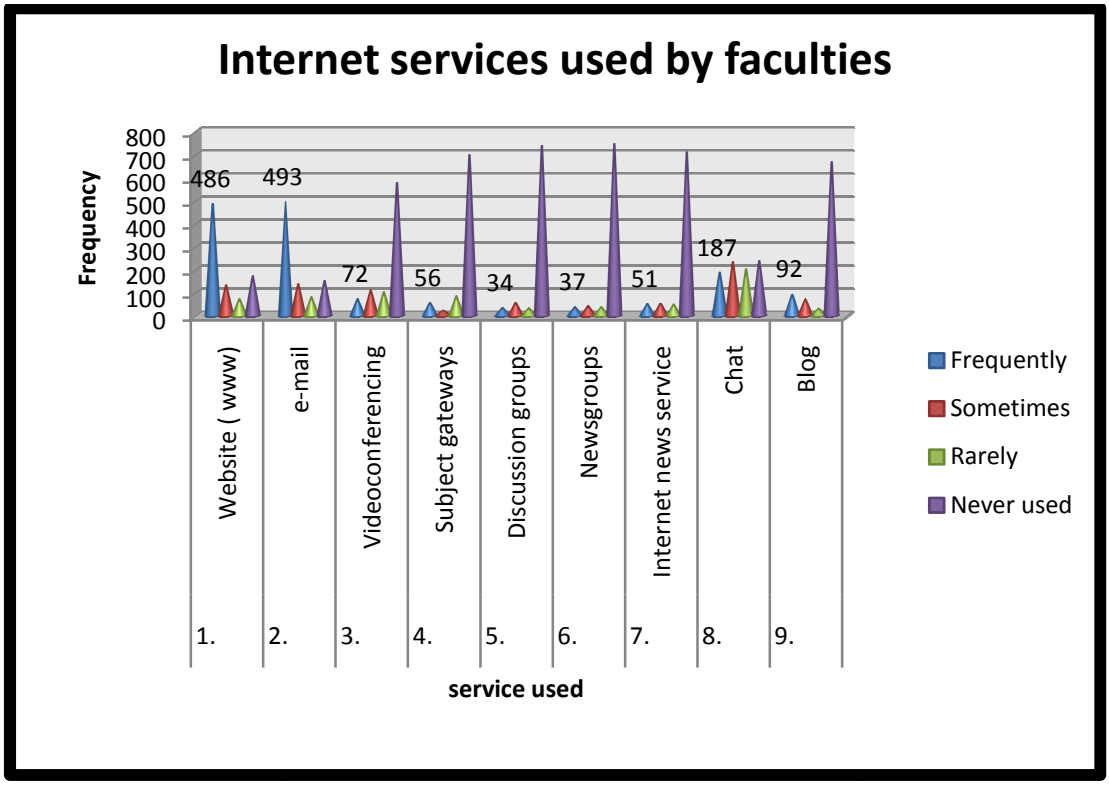
From above graphs it is found that mobile, computer, internet and CD/DVD's are frequently used for information retrieval. While intranet, LAN and fax are least used tools.

- **Different services rendered to faculty members:**

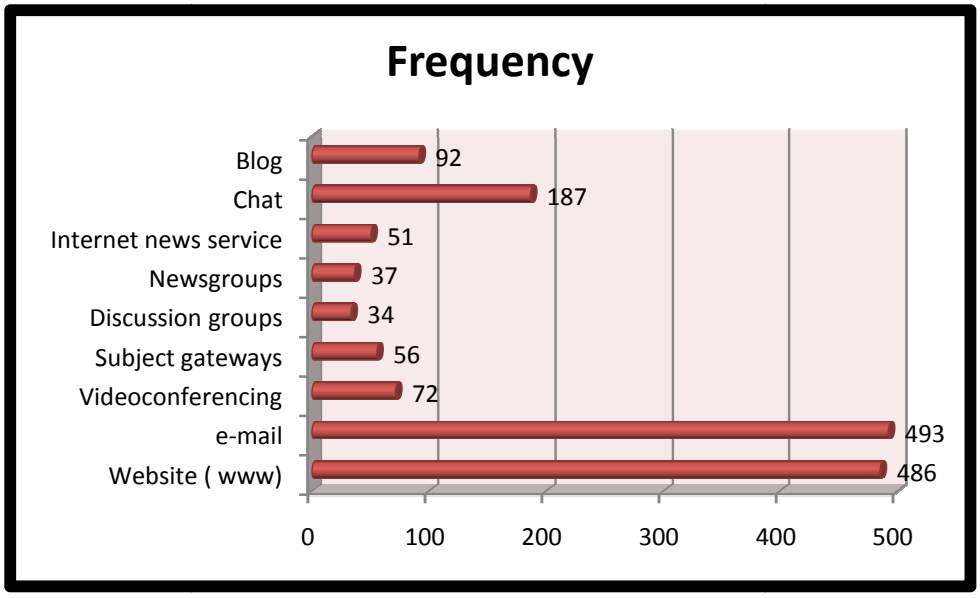
The faculty members use different ICT enabled services such as browsing website, e-mail, videoconferencing etc. to fulfill their need of information requirements for their study and research. The services used by faculty members are tabulated as below and they are been graphically interpreted in the following graph. The frequency of use of such services is also shown in Graph No. 5.18

Sr.No.	Internet Services	Frequently	Sometime	Rarely	Never
1.	Website (www)	486	132	72	171
2.	e-mail	493	137	80	151
3.	Videoconferencing	72	110	102	577
4.	Subject gateways	56	23	84	698
5.	Discussion groups	34	57	32	738
6.	Newsgroups	37	42	37	745
7.	Internet news service	51	53	48	709
8.	Chat	187	233	202	239
9.	Blog	92	71	31	667

Table No. 5.17



Graph No.5.18



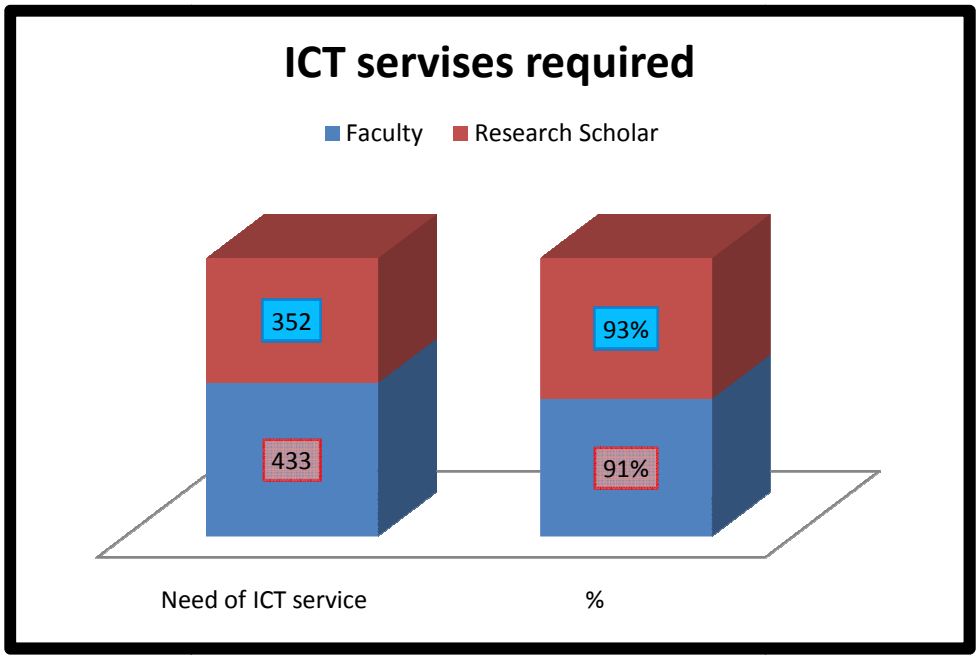
Graph No.5.19

- **ICT based services:**

Faculty members as well as research scholars need more and more ICT based services for their study, teaching and for research work. From the responses received it is found that out of 477 faculty members 433 faculty members needs ICT based services, the percentage of this is 91 %. While when the responses of research scholars are been studied it is observed that out of 380, 352 research scholars need more and more ICT based services. Thus both faculty members and research scholars needs ICT based services. This is tabulated and well explained graphically as below.

Sr.No.	User	Need of ICT service	%
1.	Faculty	433	91%
2.	Research Scholar	352	93 %

Table No. 5.18



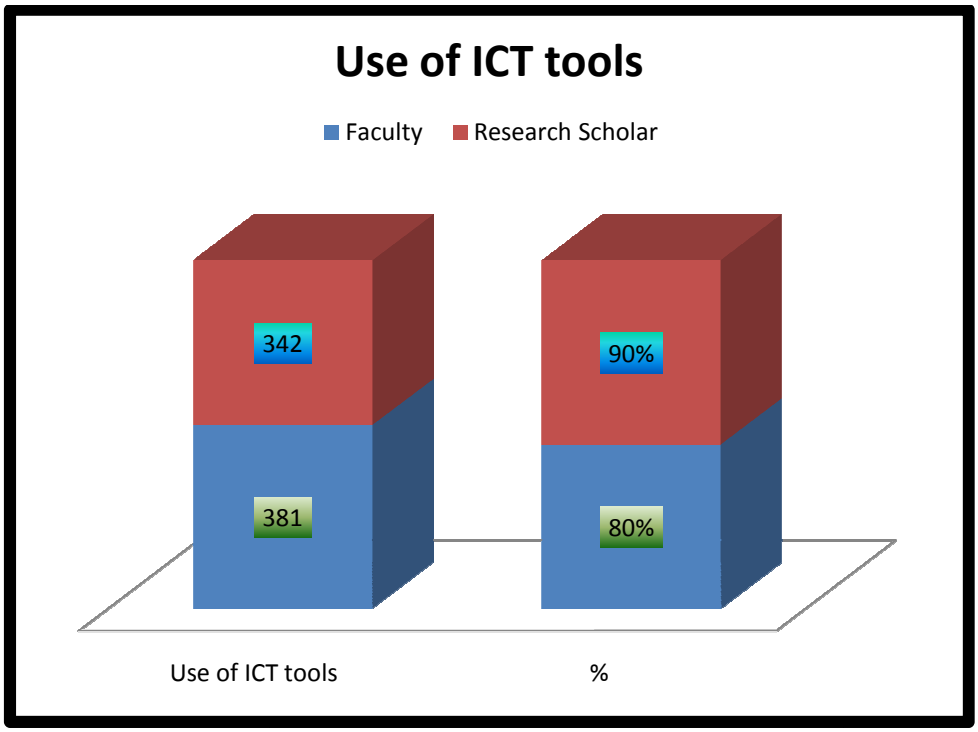
Graph No. 5.20

- **Use of different ICT tools by faculty members and research scholars:**

The data is collected to study how many faculty members and research scholars use different information and communication tools regularly for their study and research purpose. From the observed responses it is found that 381 faculty members out of 479 means 80% faculty members use different ICT tools, while 90% of research scholars means 342 out of 382 uses different ICT tools. Thus it is clear that research scholars use more ICT tool as compare to faculty members engaged in teaching only.

Sr.No.	User	Use of ICT tools	%
1.	Faculty	381	80 %
2.	Research Scholar	342	90 %

Table No.5.19



Graph No.5.21

B. Analysis of responses received from Librarians:

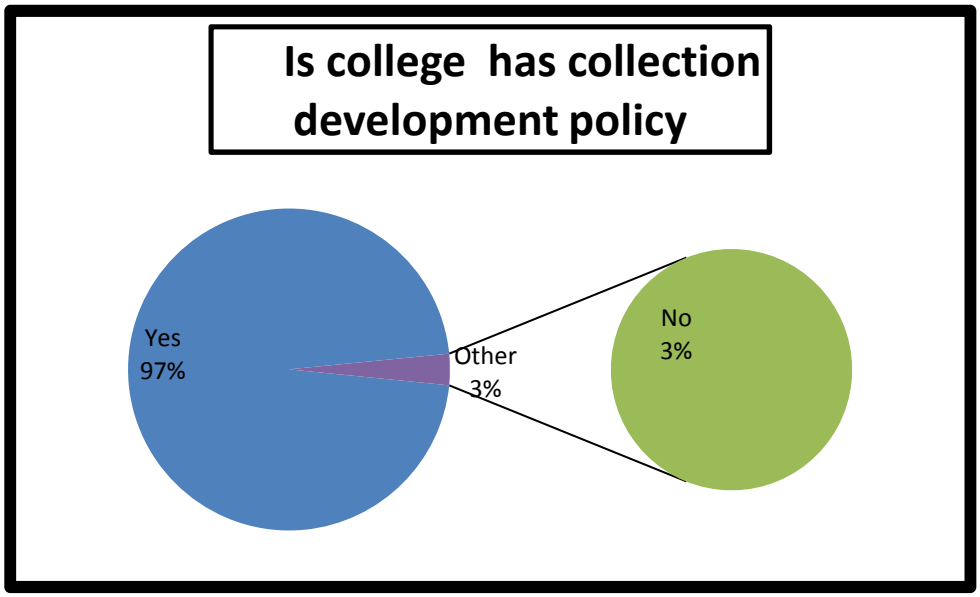
Library is a main information source for faculty members and librarian is an information provider to them. Hence to fulfill the growing demands of faculty members librarian should keep, up- to- date knowledge on every subject in different forms of documents demanded by faculty members as, in print and in non-print form. Some faculty members require information in print form as books, journals and some may require the information as e-resources, CD/DVD format, on-line, off-line databases or on-line information. For this a librarian should develop suitable collection development policy and should maintain appropriate budget. This all been studied by researcher by collecting questionnaire from librarian and analyzed it thoroughly.

Analysis of responses received from Librarian:

1. **Collection development:** Collection development policy is a vital tool to decide which documents are required and to be purchased to fulfill the growing demands of faculty members. When the responses are studied it is found that 97% of colleges are having collection development policy.

Sr.No.	Collection development policy	Yes	No
1.	Is college has collection development policy	31	01

Table No.5.20

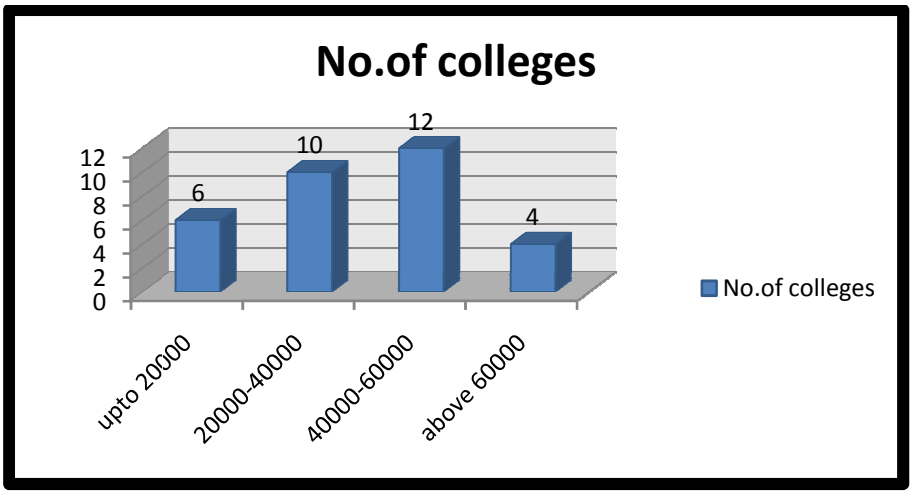


Graph No.5.22

2. **Library committee:** To take the decision about the policies of library on different issues and to decide the policy for procurement of journals and books. To supervise allocation and utilization of fund, every college should have an active library committee. From the study, it is found that all the 32 colleges responded have library committee.
3. **Availability of books:** According to the number of students each library tries to purchase the books and other necessary documents depending upon the demands from faculty members and students. The Librarians try hard to purchase maximum number of books keeping in mind the available fund, From responses received from librarian it is found that book collection in the across libraries of Rayat Shikshan Sanstha is different as tabulated and graphically represented below.

Sr.No.	Available books	Upto 20000	20000-40000	40000-60000	Above 60000
1.	Number of books in the library	06	10	12	04

Table No.5.21



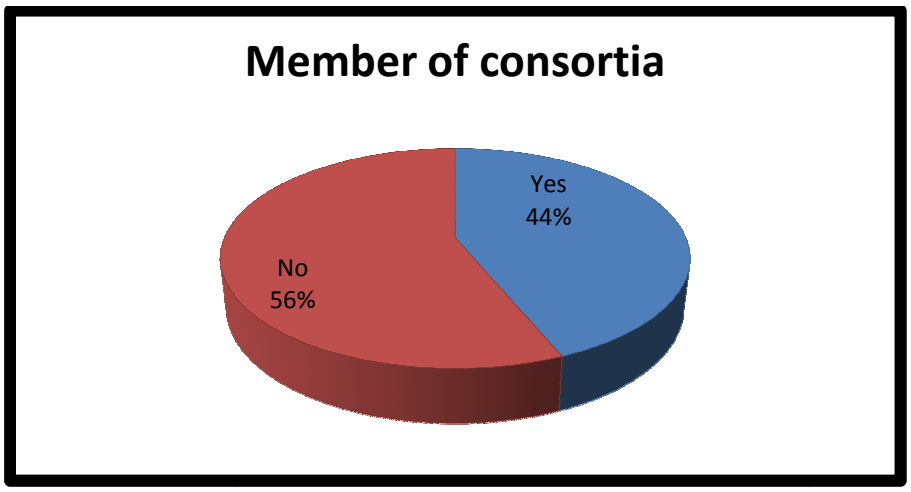
Graph No.5.23

4. **Availability of different literature:** Gray literature is an important source of information for researchers, as it is original and recent information. Out of 32 libraries 9 libraries has a collection of grey literature. Also 29 libraries means 91% of libraries has a collection of theses and dissertations.

5. **Consortia membership:** With the rise in rates of journals and scarcity of funds it is becoming very difficult for the libraries to meet the increasing demands of faculty members and research scholars. To find the solution libraries become member of different consortia. Out of 32 libraries 14 i.e. 44% libraries are the member of UGC INFLIBNET n-list consortia.

Sr.No.	Consortia membership	Yes	No
1.	Member of consortia	14	18

Table No.5.22

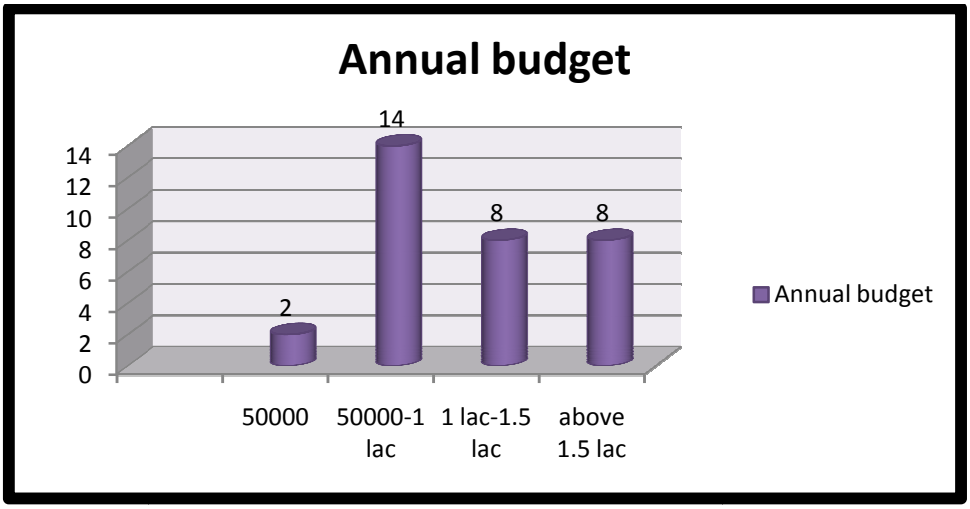


Graph No.5.24

6. **Annual budget:** When studied the libraries on the budget aspect most of the libraries have budget above 50000 rupees. Only 2 libraries means 6% libraries have budget below 50000 rupees. Thus they have sufficient fund for procurement of documents.

Sr.No.	Budget	50000	50000 to 1 lac	1 lac-1.5 lac	Above 1.5 lac
1.	Annual budget	02	14	08	08

Table No.5.23

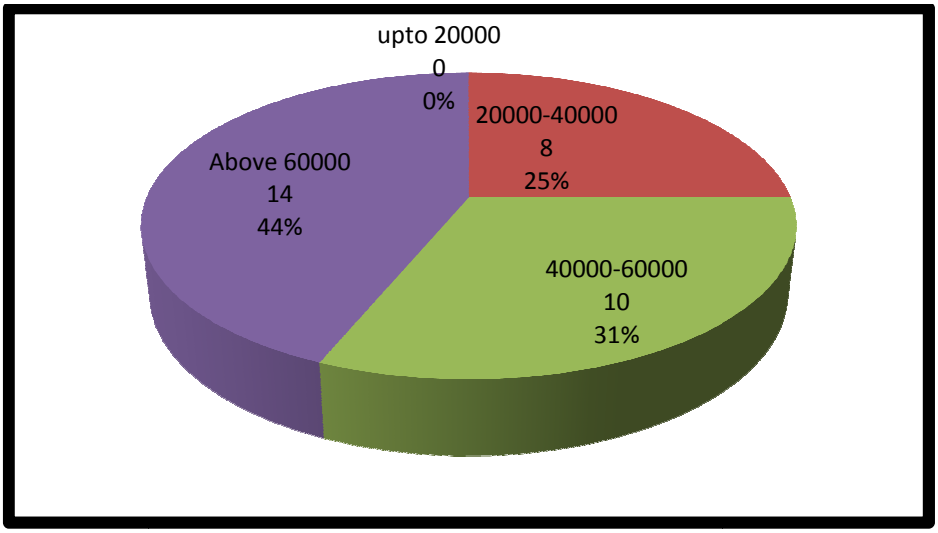


Graph No.5.25

7. **Annual expenditure:** The major part of the budget is mainly used for the procurement of books and journals. Each library tries to develop the collection as per the requirement of faculty members and students. Along with the textbooks and reference books, to keep pace with the developing era, journals plays a vital role as journals are considered as the most authentic primary sources of information. It is found that from responses of the librarians that most of the colleges expend major amount on purchase of books and journals. This is explained as below.

Sr.No.	Amount spent	Upto 20000	20000-40000	40000-60000	Above 60000
1.	Expenditure on books	00	08	10	14

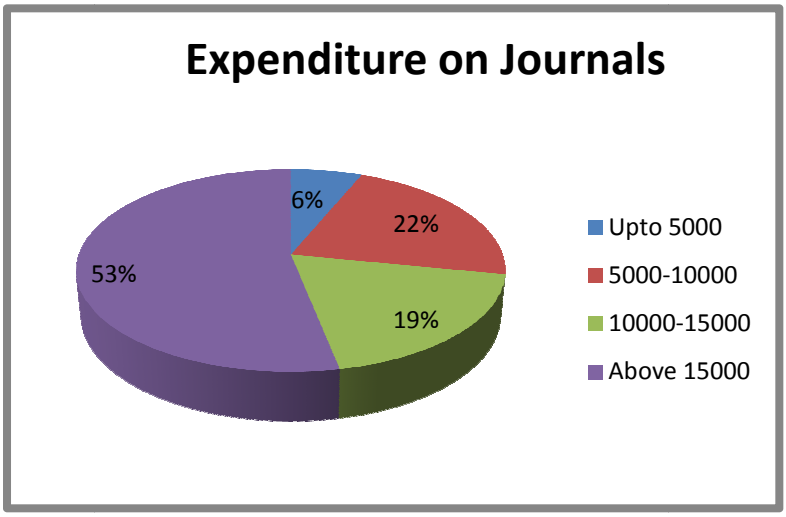
Table no.5.24



Graph No.5.26

Sr.No.	Amount spent	Upto 5000	5000-10000	10000-15000	Above 15000
1.	Expenditure on Journals	02	07	06	17

Table no.5.25



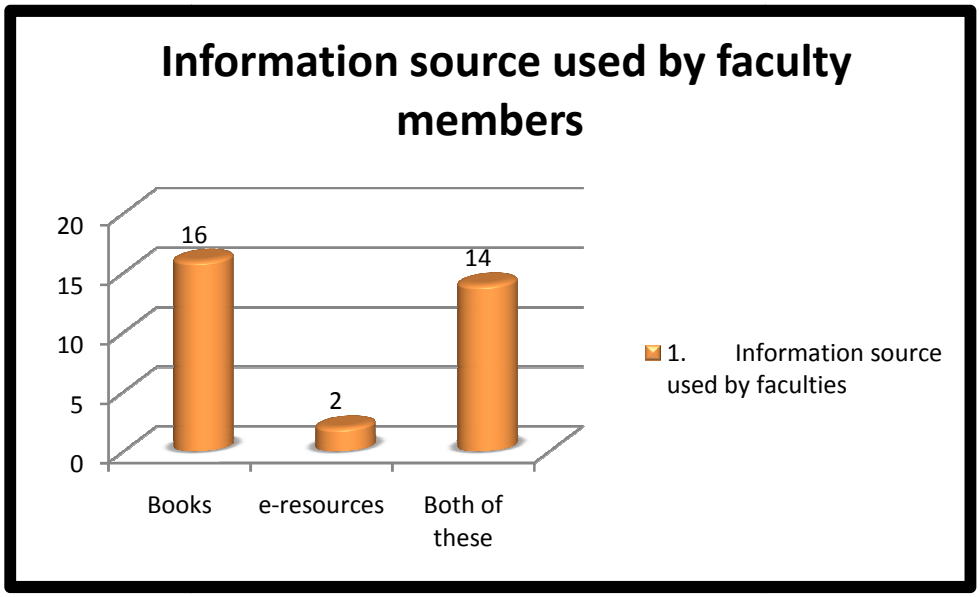
Graph No.5.27

8. **Library Computerization:** To provide information and communication based services library computerization is must. When the researcher studied the responses received from the librarians, it is found that out of 32 libraries 28 libraries means 86% of libraries are computerized using the library software " LIBRERIA" developed by MKCL, Maharashtra. Only 4 libraries means 14% of libraries are not computerized, the reason behind it is , in 2 cases authorities ignoring its importance, and in 2 cases lack of trained and competent staff for automation. Out of 28 computerized libraries 57% or 16 libraries are fully computerized and using all the modules as acquisition, accessioning, cataloguing, circulation, book-bank, OPAC and reports. 43% of the libraries are partially computerized.

9. **Information sources used by faculty members:** From the responses of the faculty members it was found that faculty members mainly prefer print materials for their use. When researcher tried to find out which information source is used by faculty members from librarians 50% of librarians said that faculty members use books or print material for their use, 14 out of 32 means 44% said that they prefer both print and non-print materials and 6% means 2 feel that they are depending only on non-print.

Sr.No.	Information Source used	Books	e-resources	Both of these
1.	Information source used by faculty members	16	02	14

Table No.5.26

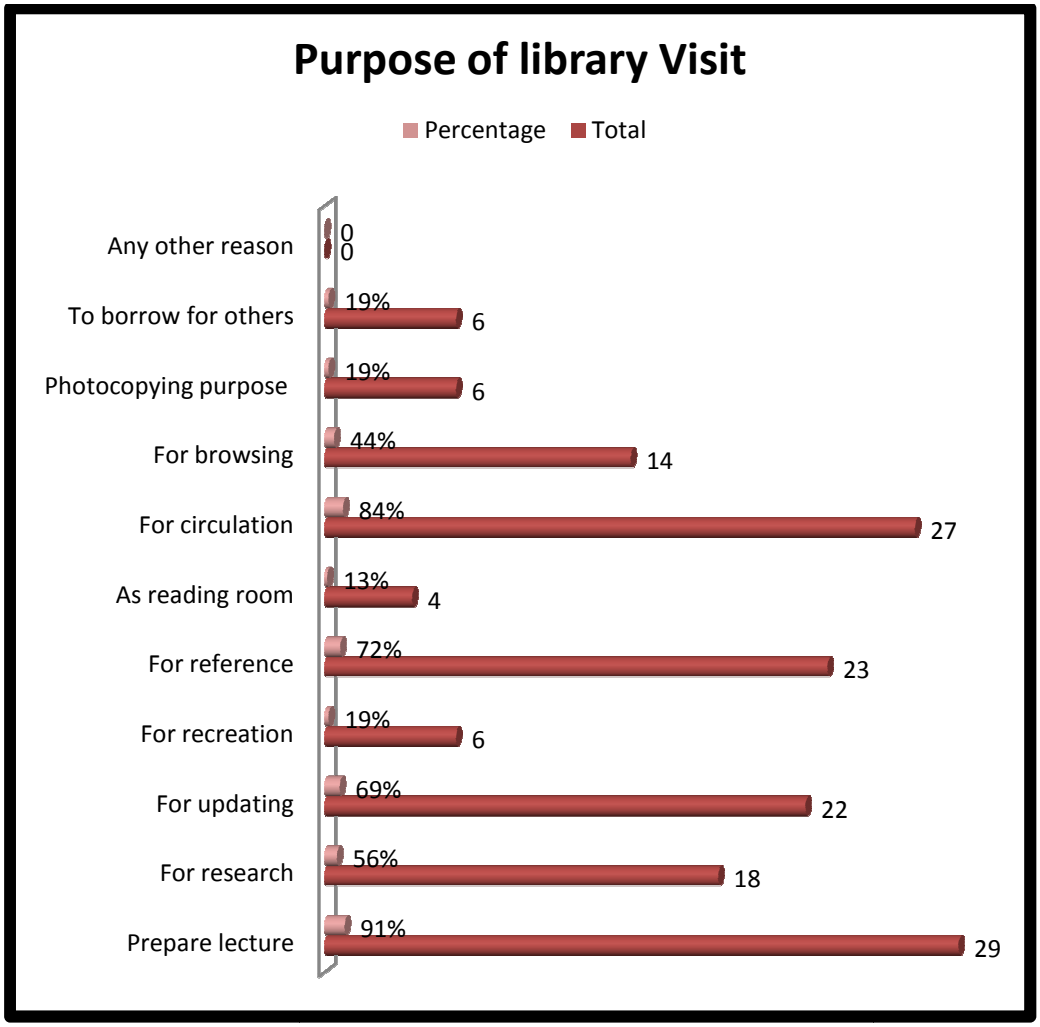


Graph No.5.28

10. **Purpose of using library:** Faculty members do visit library two to three times a week in search of information required for their study and for their research. Different reasons of their visit are studied and found that faculty members visit libraries mainly for the information required to prepare lectures, to update themselves, for the reference they require for their study and for circulation purpose. This can be graphically presented as follows:

Sr. No.	Purpose of visit	Total	Percentage
1.	Prepare lecture	29	91%
2.	For research	18	56%
3.	For updating	22	69%
4.	For recreation	06	19%
5.	For reference	23	72%
6.	As reading room	04	13%
7.	For circulation	27	84%
8.	For browsing	14	44%
9.	Photocopying purpose	06	19%
10.	To borrow for others	06	19%
11.	Any other reason	00	00

Table No.5.27



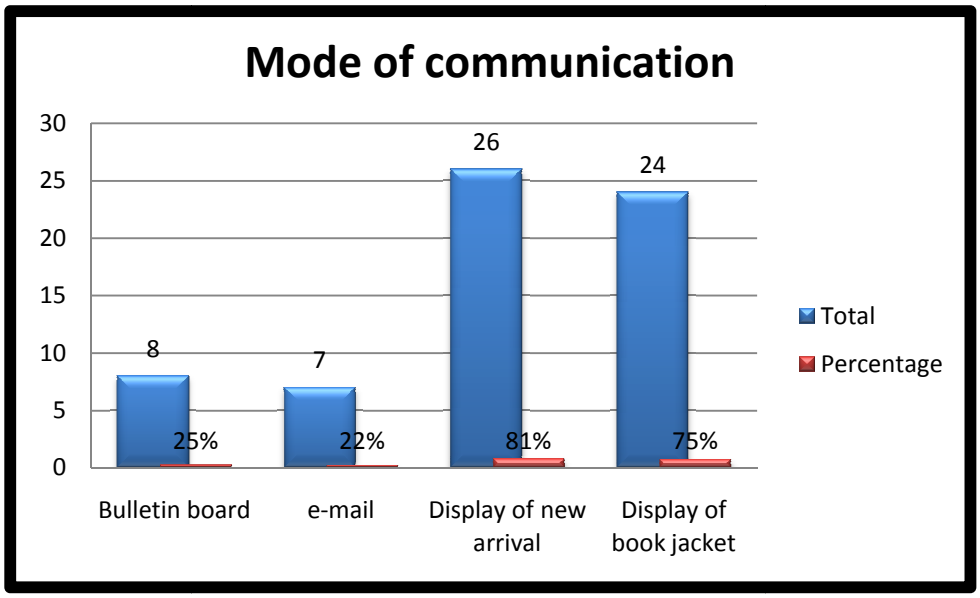
Graph No.5.29

11. **Awareness about new arrivals:** Libraries are regularly updated with latest collections. Faculty members may visit regularly but they should be informed about latest collection added in the library, then only they can use this latest arrived information document, which is the main purpose of procurement. Librarian and library staff try hard to notify the new arrival, for this different methods as bulletin board, e-mail to users, display of new arrivals are been used. From the responses received it is found that faculty members get information mainly through display of new arrival list and through display of book jackets, 81% librarians said that that disseminate information through new arrival list and

75% says that they provide the information through book jacket display. Only 25% librarians said that they inform the faculty members about new arrivals through e-mail and bulletin board.

Sr. No.	Mode of communication	Total	Percentage
1.	Bulletin board	08	25%
2.	e-mail	07	22%
3.	Display of new arrival	26	81%
4.	Display of book jacket	24	75%

Table No.5.28



Graph No.5.30

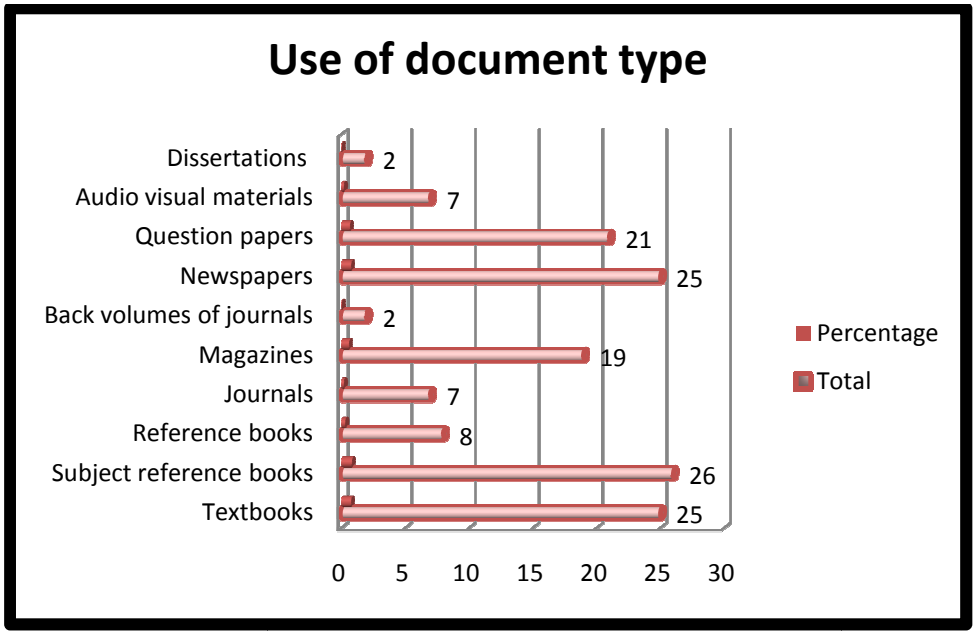
12. **Most used documents:** Library has collection of different types of documents. As per the responses received from librarians, the documents such as textbooks, subject reference books, journals, newspapers and previous question papers are used most by the faculty members. It is found that 78% librarians informed that

faculty members use textbooks and news papers, 81% librarians inform that they use subject reference books, while, 66% said that faculty members use previous question papers and 59% inform they use magazines. The percentage of librarians who informed that the least used documents are audio-visual aids and journals dissertations and back volumes of journals are20% and 6% respectively.

Sr. No.	Documents used	Total	Percentage
1.	Textbooks	25	78 %
2.	Subject reference books	26	81 %
3.	Reference books	08	29 %
4.	Journals	07	20 %
5.	Magazines	19	59 %
6.	Back volumes of journals	02	06 %
7.	Newspapers	25	78 %
8.	Question papers	21	66 %
9.	Audio visual materials	07	20 %
10.	Dissertations	02	06 %

Table No.4.27

Table No. 5.29

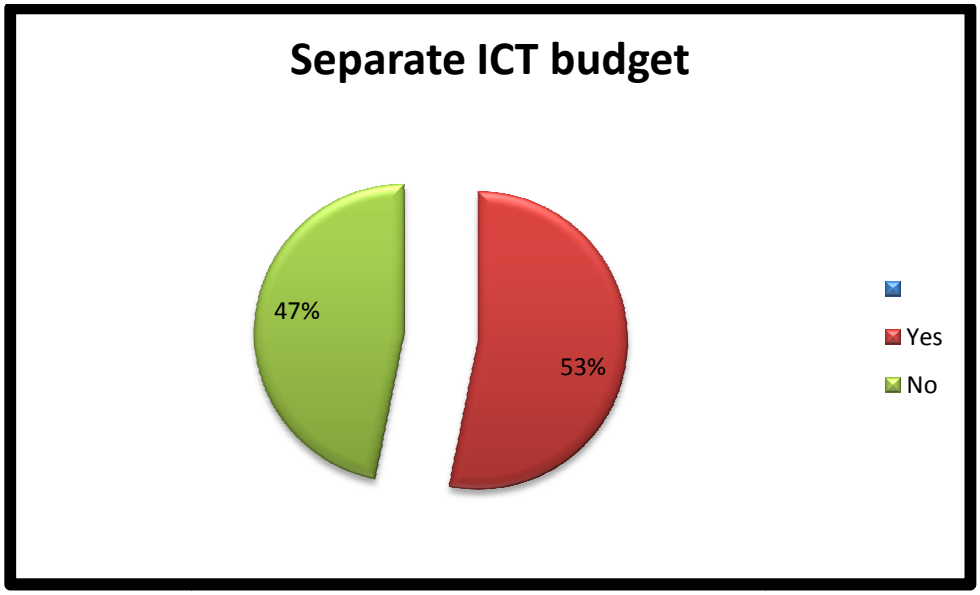


Graph No.5.31

13. Budget for ICT: To give more and more services using information and communication technology and to strengthen the ICT infrastructure a separate budget provision is necessary. From the responses it is found that, out of 32 college librarians who responded, 17 means 53% said that they had separate ICT budget and 47% said that there is no separate provision in their budget for ICT requirements.

Sr.No.	Separate budget for ICT	Yes	No
1.	College has separate ICT budget	17	15

Table No.5.30

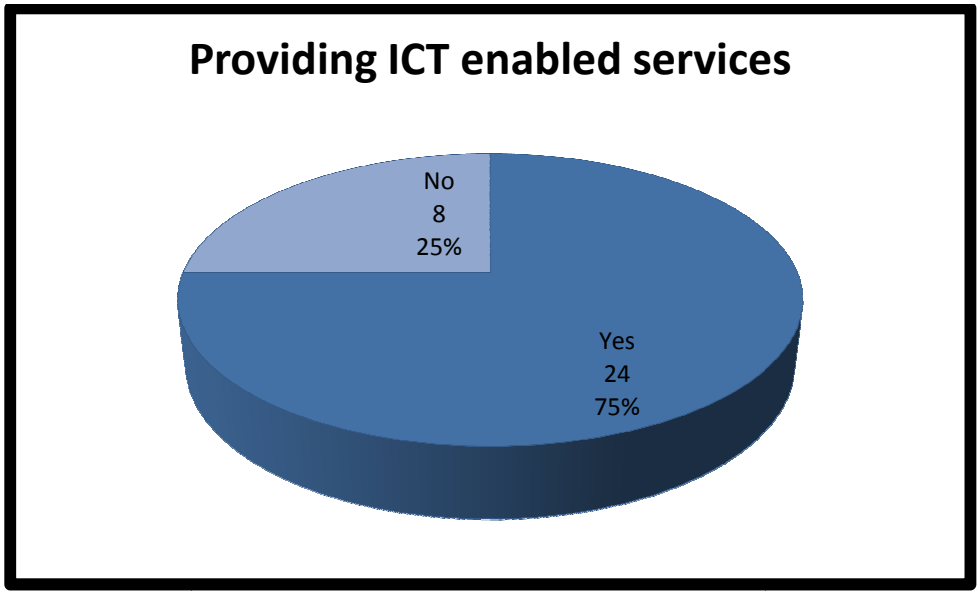


Graph No.5.32

14. ICT enabled services provided to faculty members: Survey is carried out to study how many colleges provide ICT enabled services to faculty members. It is found that out of 32 colleges 24 colleges which is 75% of the total colleges provide ICT enabled services to students while 25% or 8 colleges are do not prove ICT enabled services.

Sr.No.	Providing ICT enabled services	Yes	% of Yes	No	% of No
1.	Providing ICT enabled services	24	75%	08	25%

Table No.5.31

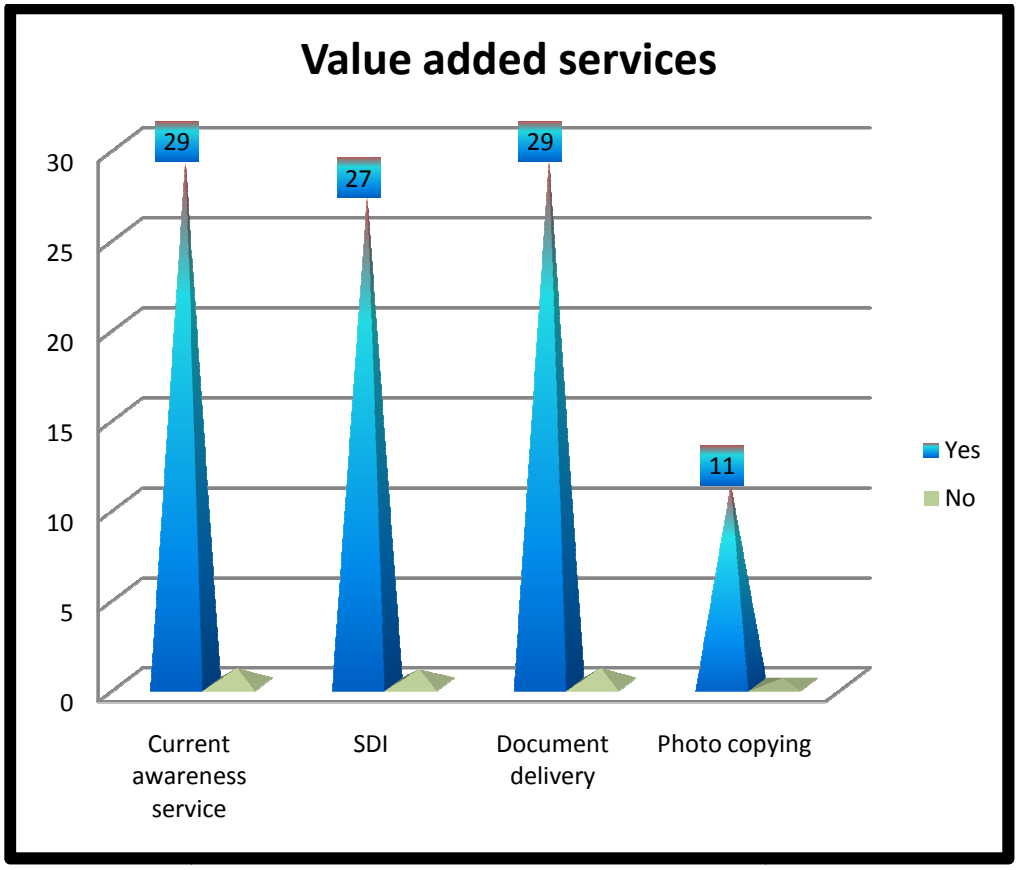


Graph No.5.33

15. Services provided: With the day to day activity librarians are providing different value added supporting services to faculty members. These services include current awareness service, selective dissemination of information, document delivery, photocopy etc. Their statistics received from responses is as below.

Sr. No.	Value added services	Yes	No
1.	Current awareness service	29	91 %
2.	SDI	27	84 %
3.	Document delivery	29	91 %
4.	Photo copying	11	35 %

Table No.5.32

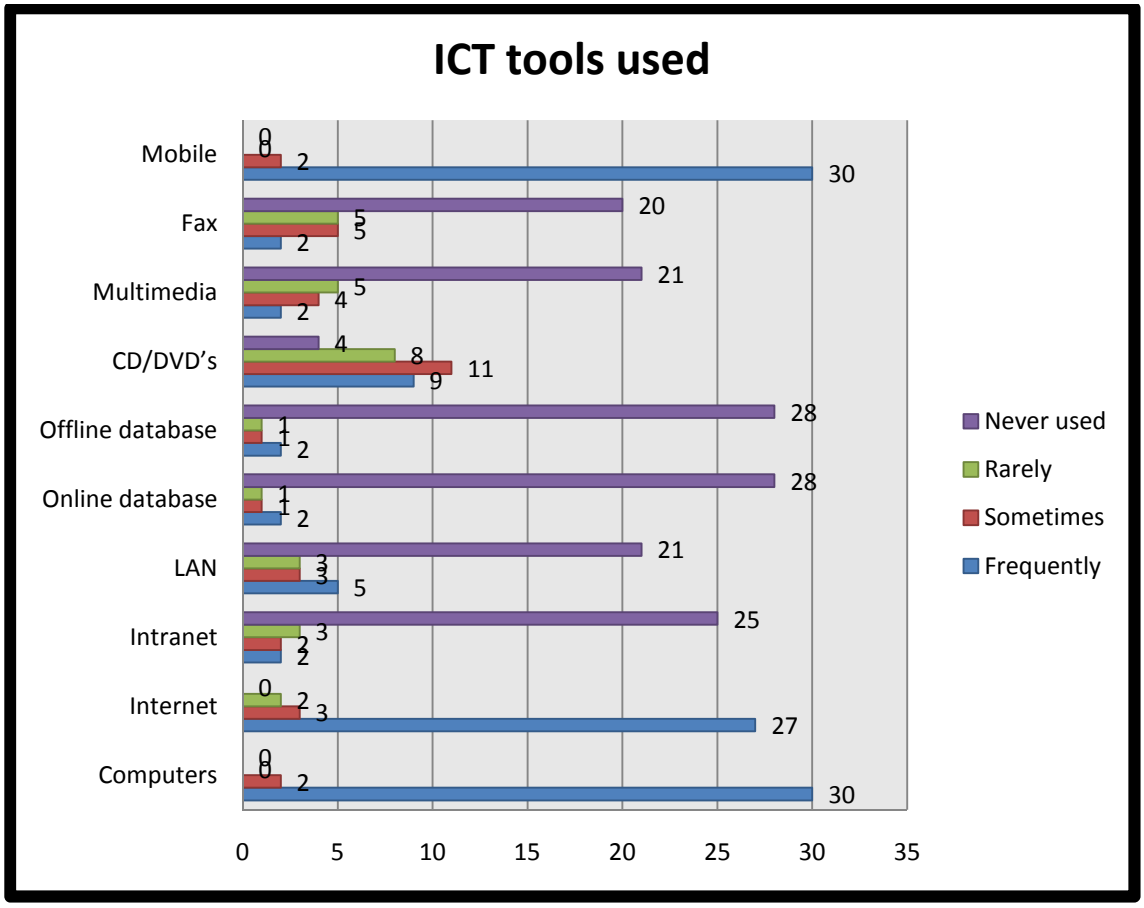


Graph No.5.34

16. Information technology tools used: There are so many information tools are used by libraries to provide information to faculty members. This includes computer, internet, databases, CD/DVDs etc. From the data received it is found that computer, internet and mobile are the maximum used tools for retrieval of information. While databases, LAN, Fax, intranet are the least used tools.

Sr.No.	Tools	Frequently	Sometimes	Rarely	Never used
1.	Computers	30	02	00	00
2.	Internet	27	03	02	00
3.	Intranet	02	02	03	25
4.	LAN	05	03	03	21
5.	Online database	02	01	01	28
6.	Offline database	02	01	01	28
7.	CD/DVD's	09	11	08	04
8.	Multimedia	02	04	05	21
9.	Fax	02	05	05	20
10.	Mobile	30	02	00	00

Table No.5.33

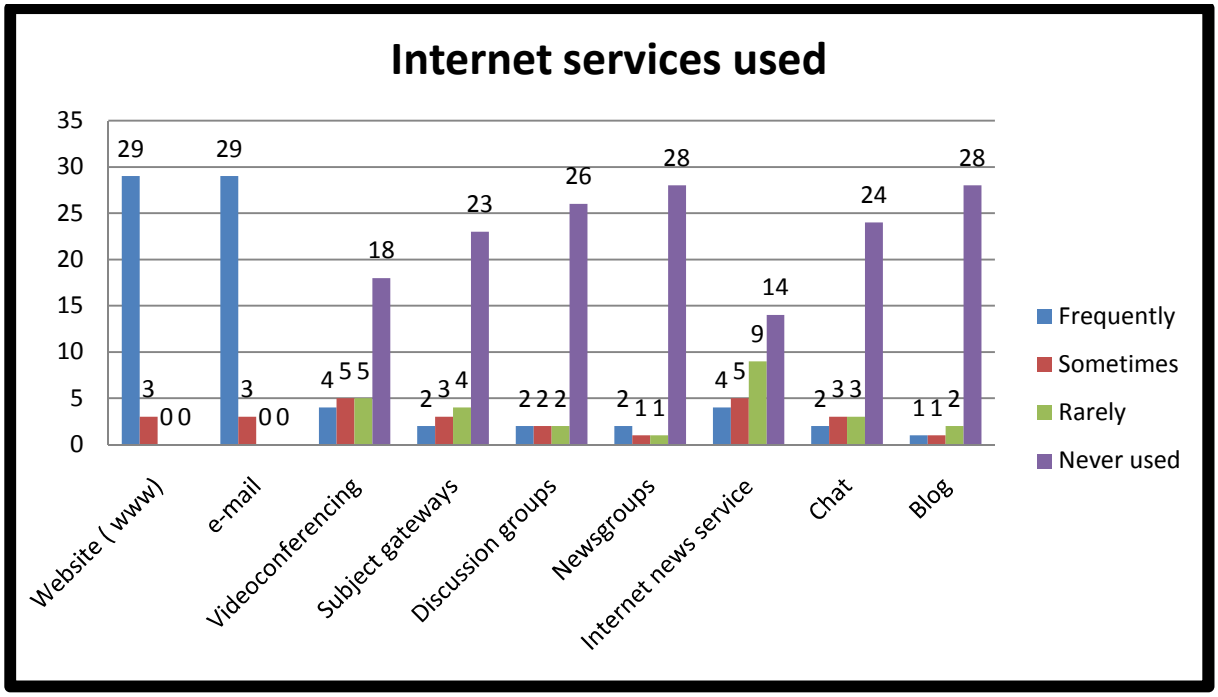


Graph No.5.35

17. **Internet services used by faculty members:** Using different ICT tools so many internet based services are provided to faculty members for their required information retrieval. Use of websites and e-mails are the major used services by the faculty members while all other as videoconferencing, subject gateways, discussion and news groups, chat and blogs are the least used services.

Sr.No.	Internet Services	Frequently	Sometimes	Rarely	Never used
1.	Website (www)	29	03	00	00
2.	e-mail	29	03	00	00
3.	Videoconferencing	04	05	05	18
4.	Subject gateways	02	03	04	23
5.	Discussion groups	02	02	02	26
6.	Newsgroups	02	01	01	28
7.	Internet news service	04	05	09	14
8.	Chat	02	03	03	24
9.	Blog	01	01	02	28

Table No.5.34



Graph No.5.36

Analysis of the data using SPSS:

Justification:

Though it is possible to analyze the data using Excel, the researcher, in order to make the analysis more intensive, used SPSS package to study the minute parameters that have been derived out of the present study. The analysis of the data by means of using SPSS is presented below:

Study of information needs of faculty members

Frequency distribution of source of information used to get information by the faculty member is given in following

Table 1.

	Frequency	Percent	Cumulative Percent
Book	238	28.7	28.7
e-resources	17	2.1	30.8
Both of this	574	69.2	100.0
Total	861	100.0	

Conclusion:

28.7 per cent faculty members are using only books to get information, while only 2 per cent faculty members are using e-resources. 69.2 per cent faculty members are using both books as well as e-resources. Therefore, there is more demand of both books and e-resources for obtaining information in the colleges under the Rayat Shikshan Sanstha.

Association between the source of information and faculty of the members:

The study also analyses the relation between the category of information source and the faculty members belonging to different disciplines such as Arts, Commerce and

Science in order to find out the basis for developing a collection development policy as applicable to different branches. The data has been analyses using SPSS. The results are shown below:

Table 2: Type of information source used * Faculty Cross tabulation

Count

		Faculty			Total
		Art	Commerce	Science	
Type of information source used	Book	232	15	14	261
	e-resources	3	1	13	17
	Both of this	258	76	249	583
Total		493	92	276	861

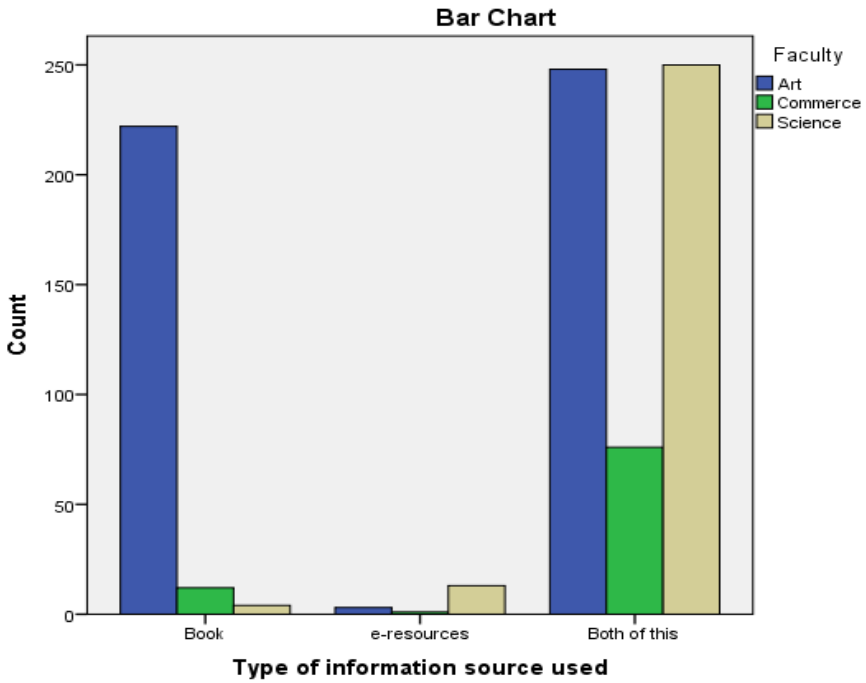
Table 3: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	191.715[a]	4	.000
Likelihood Ratio	235.564	4	.000
Linear-by-Linear Association	163.832	1	.000
N of Valid Cases	861		

a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 1.83.

Graph 1

Bar Chart: Source of information used by Faculty



Conclusion:

1. Pearson Chi square test given in the table 3 is revealed that there is association between types of information source used and the faculty of the members in college.
2. Art and Science faculty members are using more both of this (Book & e-resources) sources of information to get information than that of the Commerce faculty.
3. Mostly, books are used by the Art faculty whereas Science and Commerce faculty members are slightly using the books to get information.
4. The use of only e-resources is very small by all faculty members. Comparatively Science faculty is using more e-resources than other faculty members.

Association between the source of information and Designation of the faculty members:

The following table shows the association between type of information resources and the categories of faculty members:

Table 4: Type of information source used * Designation Cross tabulation

Count

		Designation			Total
		Professor	Associate Professor	Assistant Professor	
Type of information source used	Book	4	92	172	268
	e-resources	1	6	10	17
	Both of this	5	193	378	576
Total		10	291	560	861

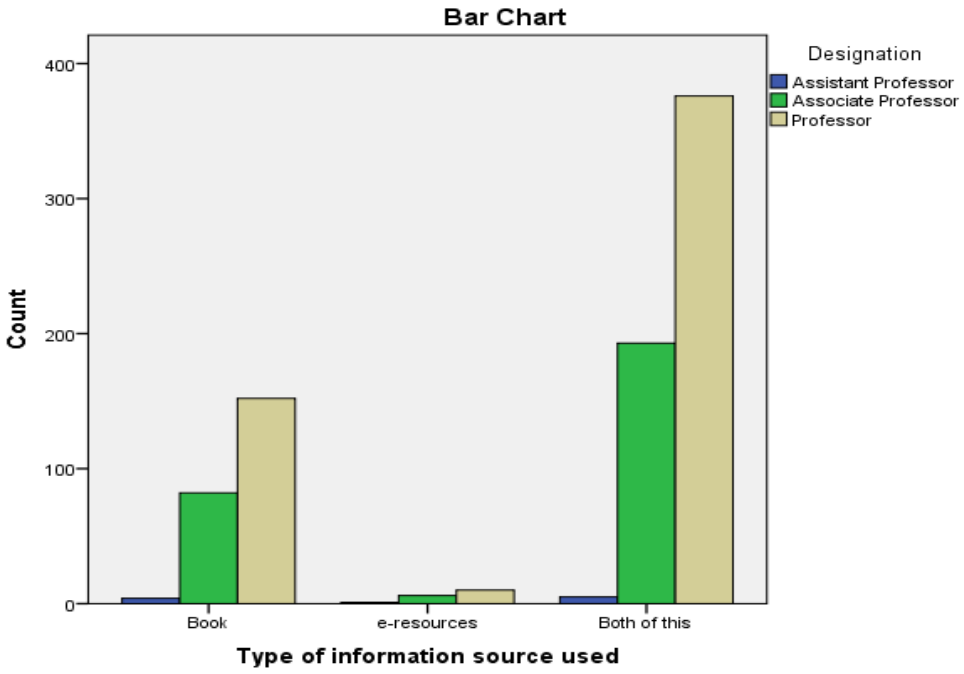
Table 5: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.273[a]	4	.370
Likelihood Ratio	2.782	4	.595
Linear-by-Linear Association	.469	1	.494
N of Valid Cases	861		

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is .21.

Graph 2

Source of information used by faculty member with different designation



Conclusion:

Pearson Chi square test given in the table 5 is shown that there is no association between types of information source used and the designation of faculty members. Graph 2 is represented that overall use of source of information is increases with the designation level of faculty members.

Association between the source of information and Experience Level

Descriptive statistics of the experience of faculty member is given in the below table.

Table 6: Statistics

Experience

N	Valid	861
	Missing	0
Mean		18.09
Std. Deviation		10.593
Range		41
Minimum		1
Maximum		42

Experience of faculty member is categorized in the four levels which is shown in the following table of Cross tabulation.

Count

		Experience Level				Total
		<10 years	10-20 years	20-30 years	>30 years	
Type of information source used	Book	80	60	81	37	258
	e-resources	4	4	5	4	17
	Both of this	178	119	196	93	586
Total		262	183	282	134	861

Table 8: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.227[a]	6	.780
Likelihood Ratio	3.144	6	.791
Linear-by-Linear Association	.100	1	.752
N of Valid Cases	861		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 2.75.

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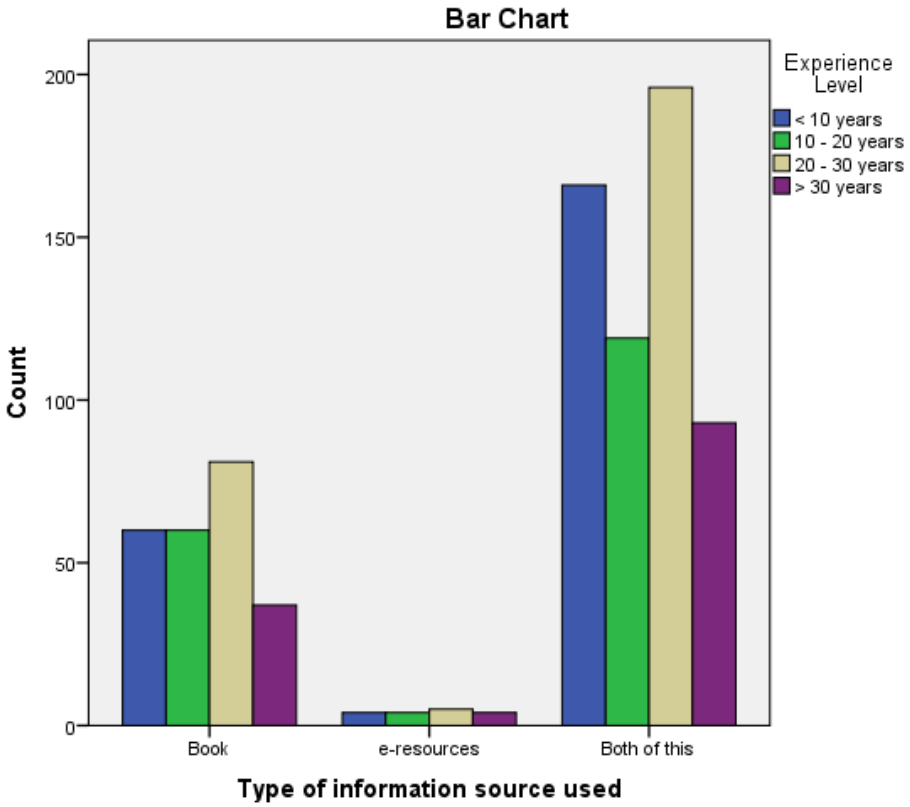


Pearson Chi-Square test shows that there is no association between source of information used by faculty members and experience of faculty members in the college which is quite unexpected as it was expected that the faculty members with less experience are more conversant with e-resources.

2. Find out the problems in using ICT products and services by the faculty members and researchers in the college libraries of Rayat Shikshan Sanstha and the possible solutions to overcome the problems.

In the following table and graph, the place where faculty members use ICT products more and the reasons for not using the same in library or any other place is analysed in order to trace the obstacles in using ICT products.

Frequency distribution of use of ICT (Yes/No) is given in the following table.

		Frequency	Percent	Cumulative Percent
Valid	No	184	21.4	21.4
	Yes	677	78.6	100.0
	Total	861	100.0	

677 (78.6 %) faculty members and researcher are using ICT products and services in the college libraries of Rayat Shikshan Sanstha. Only 184(21.4 %) are not using ICT products and services in the college libraries of Rayat Shikshan Sanstha for the following reasons.

		Frequency	Percent	Cumulative Percent
Valid	Using ICT	677	78.6	78.6
	No time	109	12.7	91.3
	Inaccessibility	51	5.9	97.2
	Other	24	2.8	100.0
	Total	861	100.0	

Rating for ICT products and services given by the faculty members and researcher are coded by the ordinal scale. That is, frequently, sometimes, rarely and not used are coded by 3, 2, 1 and 0 respectively.

Frequency Table for the Rating of Information Technology Tools

Table 11: Rating - use of computer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	85	9.9	9.9	9.9
	Rarely	65	7.6	7.6	17.5
	Sometimes	70	8.1	8.1	25.6
	Frequently	641	74.4	74.4	100.0
	Total	861	100.0	100.0	

Table 12: Rating -use of internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	122	14.0	14.0	14.0
	Rarely	66	7.6	7.6	21.6
	Sometimes	70	8.1	8.1	29.7
	Frequently	603	70.3	70.3	100.0
	Total	861	100.0	100.0	

Table 13: Rating -use of Intranet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	821	95.4	95.4	95.4
	Rarely	21	2.4	2.4	97.8
	Sometimes	17	1.9	1.9	99.8
	Frequently	2	.2	.2	100.0
	Total	861	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	821	95.4	95.4	95.4
	Rarely	21	2.4	2.4	97.8
	Sometimes	17	1.9	1.9	99.8
	Frequently	2	.2	.2	100.0
	Total	861	100.0	100.0	

Table 15: Rating - use of online database

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	311	37.5	37.5	37.5
	Rarely	46	5.5	5.5	43.1
	Sometimes	331	39.9	39.9	83.0
	Frequently	141	17.0	17.0	100.0
	Total	861	100.0	100.0	

Table 16:Rating- use of offline database

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	788	91.6	91.6	91.6
	Rarely	71	8.2	8.2	99.8
	Sometimes	2	.2	.2	100.0
	Total	861	100.0	100.0	

Table 17: Rating- use of CD/DVD

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	22	2.7	2.7	2.7
	Rarely	137	15.7	15.7	18.3
	Sometimes	232	26.9	26.9	45.2
	Frequently	470	54.8	54.8	100.0
	Total	861	100.0	100.0	

Table 19: Rating- use of Fax

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	97	11.2	11.2	11.2
	Sometimes	92	10.6	10.6	21.8
	Frequently	672	78.2	78.2	100.0
	Total	861	100.0	100.0	

Table 20: Rating- use of Mobile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes	48	5.5	5.5	5.5
	Frequently	813	94.5	94.5	100.0
	Total	861	100.0	100.0	

Frequency Table for the Rating for Internet Services

Table 21: Rating - website (internet service)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	144	16.6	16.6	16.6
	Rarely	23	2.8	2.8	19.4
	Sometimes	154	17.9	17.9	37.3
	Frequently	540	62.7	62.7	100.0
	Total	861	100.0	100.0	

Table 22: Rating- e-mail (internet service)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	145	16.6	16.6	16.6
	Rarely	23	2.8	2.8	19.4
	Sometimes	155	17.9	17.9	37.3
	Frequently	538	62.7	62.7	100.0
	Total	861	100.0	100.0	

Table 23: Rating- videoconference (internet service)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	512	59.1	59.1	59.1
	Rarely	169	19.5	19.5	78.6
	Sometimes	105	12.4	12.4	91.1
	Frequently	75	8.9	8.9	100.0
	Total	861	100.0	100.0	

Table 24: Rating- subject gateway(internet service)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	693	80.6	80.6	80.6
	Rarely	93	10.9	10.9	91.4
	Sometimes	22	2.5	2.5	94.0
	Frequently	53	6.0	6.0	100.0
	Total	861	100.0	100.0	

Table 25: Rating- Discussion group (internet service)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	745	86.7	86.7	86.7
	Rarely	41	4.7	4.7	91.4
	Sometimes	41	4.7	4.7	96.1
	Frequently	34	3.9	3.9	100.0
	Total	861	100.0	100.0	

Table 26: Rating -News group (internet service)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	745	86.7	86.7	86.7
	Rarely	41	4.7	4.7	91.4
	Sometimes	41	4.7	4.7	96.1
	Frequently	34	3.9	3.9	100.0
	Total	861	100.0	100.0	

Table 27: Rating- Internet news service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	708	82.6	82.6	82.6
	Rarely	51	5.8	5.8	88.4
	Sometimes	49	5.5	5.5	94.0
	Frequently	53	6.0	6.0	100.0
	Total	861	100.0	100.0	

Table 28: Rating – chatting using internet service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not used	221	25.7	25.7	25.7
	Rarely	221	25.7	25.7	51.4
	Sometimes	232	26.8	26.8	78.2
	Frequently	187	21.8	21.8	100.0
	Total	861	100.0	100.0	

Table 29(a): Statistics- Rating of Information Technology Tools

		Rating -use Computer	Rating -use of internet	Rating -use of Intranet	Rating-use of LAN	Rating -use of online database	Rating-use of offline database
N	Valid	861	861	861	861	861	861
	Missing	0	0	0	0	0	0
Mean		2.47	2.35	.07	.07	1.36	.09
Sum		2126	2023	60	60	1171	77

Table 29(b): Statistics- Rating of Information Technology Tools

		Rating-use of CD/DVD	Rating-use of multimedia	Rating-use of Fax	Rating-use of Mobile
N	Valid	861	861	861	
	Missing	0	0	0	
Mean		2.34	1.88	2.67	2.94
Sum		2014	1618	2298	2531

Table 30(a): Statistics- Rating of Internet Services

		Rating - website (internet service)	Rating-e-mail (internet service)	Rating-videoconference (internet service)	Rating- subject gateway(internet service)
N	Valid	861	861	861	861
	Missing	0	0	0	0
Mean		2.27	2.27	.71	.34
Sum		1954	1954	611	292

Table 30(b): Statistics- Rating of Internet Services

		Rating-Discussion group (internet service)	Rating - News group (internet service)	Rating-Internet news service	Rating - chat (internet service)
N	Valid	861	861	861	861
	Missing	0	0	0	0
Mean		.26	.26	.35	1.45
Sum		223	223	301	1248

Objective is that “Different available information and communication tools are not regularly used by faculty member”. This can be proved by deriving Score for each ICT product, which can be obtained by multiplication of the valid cases and the mean with sum. The service can be calculated by taking sum of rating
of each respondent.

Table 31: Score for Information Technology Tools

Information Technology Tools	No. of Users	Score
Rating- use of Mobile	861	2531
Rating- use of Fax	861	2298
Rating - use of computer	861	2126
Rating- use of CD/DVD	861	2014
Rating- use of multimedia	861	1618
Rating - use of online database	861	1171
Rating- use of offline database	861	77
Rating -use of Intranet	861	60
Rating- use of LAN	861	60

Faculty members and researcher are given highest rating for the use of mobile, fax and computer which can be observed in the above table. There is low rating for offline database, intranet and LAN. This shows that mobile, fax, computer, CD/DVD , multimedia and online database are used regularly by the faculty members and researcher whereas offline database, intranet and LAN are not regularly used by faculty members and researcher.

Table 32: Score for Internet Services

Internet Services	No. of Users	Score
Rating - website (internet service)	861	1954
Rating- e-mail (internet service)	861	1954
Rating - chat (internet service)	861	1248
Rating- videoconference (internet service)	861	611
Rating- Internet news service	861	301
Rating- subject gateway(internet service)	861	292
Rating- Discussion group (internet service)	861	233
Rating -News group (internet service)	861	233

Faculty members and researcher are given highest rating for the internet services such as website, email, chat. There is low rating for videoconference, internet news service, subject gateway, discussion group and news group. This shows that the internet services such as website, email and chat are used regularly by the faculty members and researcher whereas videoconference, internet news service, subject gateway, discussion group and news group are not regularly used by faculty members and researcher.

Conclusion:

1. There is problem in using the information technology tools such as offline database, intranet and LAN by the faculty members and researchers in the college libraries of Rayat Shikshan Sanstha.
2. There is problem in using the internet services such as videoconference, internet news service, subject gateway, discussion group and news group by the faculty members and researchers in the college libraries of Rayat Shikshan Sanstha

Summery and future direction

This chapter begins with the summery of the study of information needs and use pattern of faculties working in senior colleges in Rayat Shikshan Sanstha, Satara. It deals with how the findings are in correlation with the objectives of the study and what actual are the findings. And it covers also the suggestions and recommendation for further study.

6.1 Summery: The present has been conducted in 38 senior colleges of Rayat Shikshan Sansta, Satara. These colleges having different streams as Arts, Commerce and Science and the colleges are affiliated to different universities in Maharashtra. Out of 38 colleges 28 colleges responded i.e. response rate is 74% . One thousand and eighty one questionnaire are distributed and eight hundred and twenty nine i.e. 77% are received filled. Hence the analysis of data is based on this collection of responses.

The responses to each question contained in the questionnaire are coded in Excel sheet and been used for analysis. The analysis is done using Excel and SPSS software. The result of computation is presented in tables, graphs and in different test conducted.

On the basis of analysis and interpretation of data, the findings are derived which are considered as the pathways to be used for document in print and in non-print format, and to design different services in the libraries based on information and communication technology in Rayat Shikshan Sanstha's libraries in particular and in all academic libraries in all.

6.2 Fulfillment of objectives: The main objective of the research work is to study the information needs of faculties and the way they use this retrieved information for their study and for research work. Along with the professional work some faculties are engaged in research work, this study also tried to find out if they are having some special needs. For this study some observations are taken into consideration.

6.2.1 To find out the information needs of faculty members: Faculty members are always in the verge of information. Irrespective of position, age, gender, area faculty all faculty members are eager to collect the information for own study, for classroom teaching, for their own research and for entertainment also. From the data collected it is been observed that to retrieve the information 74% of faculty members visit libraries twice or thrice a week. 86% of faculties are eager to find information to prepare for classroom teaching and 53% visit libraries for retrieving information necessary for their research. To know the latest information available in the library they keep in track through colleagues, by observing list of new arrivals in the library also with the information provided by library staff on new arrivals.

6.2.2 To study information use pattern of faculty members in colleges of Rayat Shikshan Sanstha:

This study is carried out in Rayat Shikshan Sanstha which is a best example of homogeneously spread institution in Maharashtra. The senior colleges of sanstha are in all locations in Maharashtra, as they are in rural and in urban locality one college is located in tribal area which is one of the backward area in Maharashtra i.e. Mokhada. The colleges are of all streams as Arts, Commerce and of Science. Three colleges are women colleges Laxmibai Bhaurao Patil Mahila Mahavidyalaya, Solapur Radhabai Kale Mahila Mahavidyalaya, Ahemadnagar and Savitribai Phule Mahila

Mahavidyalaya, Satara. Thus the samples under study are having significant weightage.

In this study researcher tried to find out the pattern of information gathering of faculties. Does they rely on print information or on non-print material. The study shows that 32% faculties use only print material for their study and for research, 66% uses both print and non-print materials and 2% faculties uses only e-resources. Thus print and non-print both type of information is useful and used by faculties. Most of the faculties make use of different documents as 69% uses textbooks, 75% reference books, 60% do come for periodical and for magazines and 75% come to read current information i.e to read news papers. Other mostly used documents are subject journals, previous question papers and back volumes of journals. The least used documents from faculties are encyclopedias, audio- visual materials and dissertations.

6.2.3 To find out the problems in using ICT products and services by the faculty members and researchers in the college libraries of Rayat Shikshan Sanstha and the possible solutions to overcome the problems: Information and communication technology is a keyword in today's society. The researcher tried to find out how this information and communication technology is being used by the faculties, which information and communication tools are being used and what are the problems faced by faculties in using this technology. As the samples are from rural and from urban area and as it is comprised of various streams, the result obtained can be generalized.

From study it is found that 73% faculties use information and communication technology to find necessary information for their study and for research.27% of faculties are not able to use information and communication technology because some are i.e. 21% unfamiliar with this new technology while quiet few as 2% are not

having accessibility to information and communication technology, some that 6% found it time consuming and they do not have ample time. Faculties use ICT mainly in college that means 85% faculties make use of ICT in college while others use this at home or at other places. The information and communication technology is mainly used for classroom teaching and for workshop and seminar presentation. In research process information and communication technology plays a vital role. For research 87% faculties use ICT for writing books and academic articles. Faculties frequently use different ICT tools to retrieve information; the mainly used tools are computers, internet, CD/DVD's and mobile. Using these ICT tools number of information and communication based services are to be given as website, e-mail facility, videoconferencing, subject gateways, discussion groups, newsgroups, chat and blog. The major services rendered by the faculties are use of websites and e-mail.

Thus from the above discussion it is clear that the study carried out fulfills all the objectives.

6.3 Testing of Hypothesis:

1. Faculty members and research scholars need more and more information and communication technology based services for their study.

Null hypothesis: Faculty members and research scholars need more and more information and communication technology based services for their study.

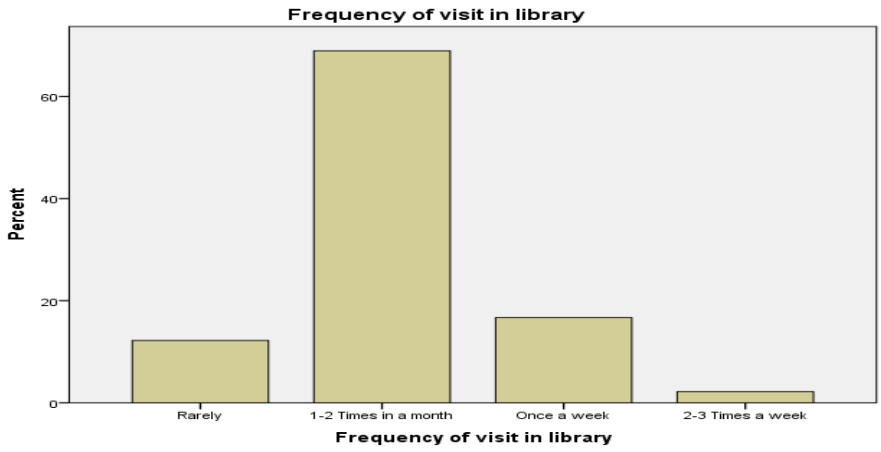
Alternative hypothesis: Faculty members and research scholars do not need more and more information and communication technology based services for their study.

This can be studied by checking the frequency distribution of frequency of visit to library and the frequency of visit in library by faculty, designation and for who is

doing research activity. The frequency distribution of frequency of visit in library is given in below ,

Table : Frequency of visit in library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	105	12.2	12.2	12.2
	1-2 Times in a month	593	68.8	68.9	81.1
	Once a week	143	16.6	16.7	97.8
	2-3 Times a week	18	2.2	2.2	100.0
	Total	859	99.8	100.0	
Missing	System	2	.2		
Total		861	100.0		



Mode of frequency of visit in library is 1-2 times in a month by faculty members and researcher. 593 (68.8 %) faculty members and researchers are visit library 1-2 times within month. 143 (16.6 %) faculty members and researchers are visit library once a week. Thus the maximum demand of library by faculty member and researcher is only 1-2 times in a month and the below of that is once a week.

Frequency of visit in library by Faculty

Cross tabulation of frequency of visit in library and faculty

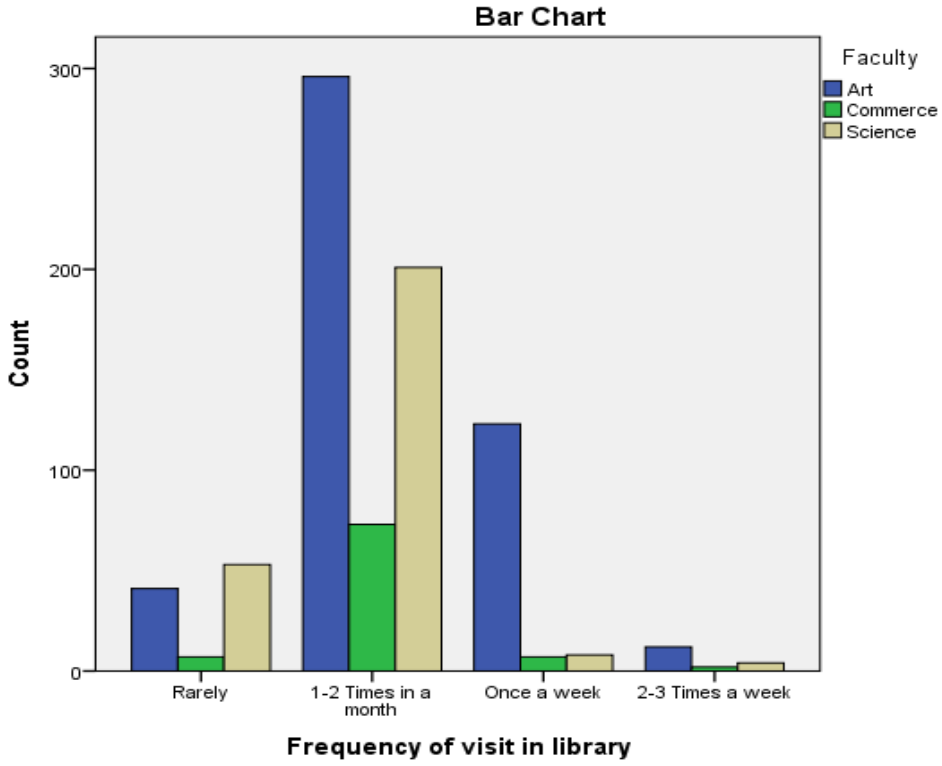
Table: Frequency of visit in library * Faculty Cross tabulation

			Faculty			Total
			Art	Commerce	Science	
Frequency of visit in library	Rarely	Count	41	7	53	101
		% within Frequency of visit in library	40.6%	6.9%	52.5%	100.0%
		% within Faculty	8.7%	7.9%	19.9%	12.2%
	1-2 Times in a month	Count	296	73	201	570
		% within Frequency of visit in library	51.9%	12.8%	35.3%	100.0%
		% within Faculty	62.7%	82.0%	75.6%	68.9%
	Once a week	Count	123	7	8	138
		% within Frequency of visit in library	89.1%	5.1%	5.8%	100.0%
		% within Faculty	26.1%	7.9%	3.0%	16.7%
	2-3 Times a week	Count	12	2	4	18
		% within Frequency of visit in library	66.7%	11.1%	22.2%	100.0%
		% within Faculty	2.5%	2.2%	1.5%	2.2%
Total		Count	492	93	274	859
		% within Frequency of visit in library	57.1%	10.8%	32.2%	100.0%
		% within Faculty	100.0%	100.0%	100.0%	100.0%

Table : Chi-square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	85.369[a]	6	.000
Likelihood Ratio	96.855	6	.000
Linear-by-Linear Association	61.531	1	.000
N of Valid Cases	861		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 1.94.



Chi square test shows the association between frequency of visit in library and Faculty. 296 (51.9 %) , 73 (12.8 %) and 201 (35.3 %) faculty members and researchers out of 570 (68.8 %) faculty members who visit library 1-2 times in a month are from Art, Commerce and Science faculties respectively. 296 (62.7 %) Art , 73 (82.0 %) Commerce and 201 (75.6 %) Science faculty members and researchers visit library 1-2 times. 26.1 % Art faculty members visit library once a week.

Cross tabulation of Frequency of visit in library by Designation of faculty members

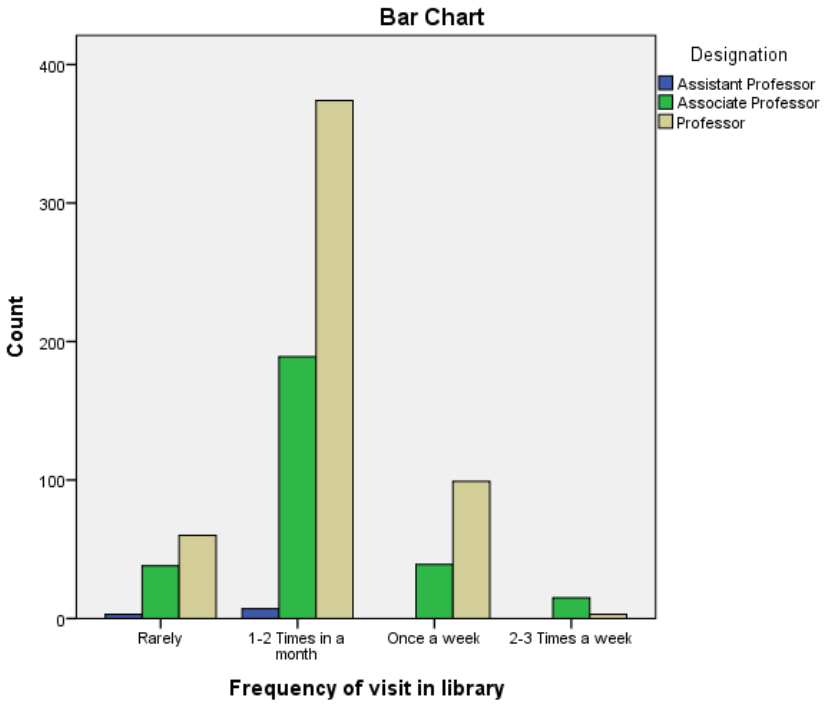
Table : Frequency of visit in library * Designation Cross tabulation

			Designation			Total
			Assistant Professor	Associate Professor	Professor	
Frequency of visit in library	Rarely	Count	3	38	60	101
		% within Frequency of visit in library	3.0%	37.6%	59.4%	100.0%
		% within Designation	30.0%	13.5%	11.2%	12.2%
	1-2 Times in a month	Count	7	189	374	570
		% within Frequency of visit in library	1.2%	33.2%	65.6%	100.0%
		% within Designation	70.0%	67.3%	69.8%	68.9%
	Once a week	Count	0	39	99	138
		% within Frequency of visit in library	0.0%	28.3%	71.7%	100.0%
		% within Designation	0.0%	13.9%	18.5%	16.7%
	2-3 Times a week	Count	0	15	3	18
		% within Frequency of visit in library	0.0%	83.3%	16.7%	100.0%
		% within Designation	0.0%	5.3%	0.6%	2.2%
Total		Count	10	281	536	827
		% within Frequency of visit in library	1.2%	34.0%	64.8%	100.0%
		% within Designation	100.0%	100.0%	100.0%	100.0%

Table: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.190[a]	6	.000
Likelihood Ratio	27.356	6	.000
Linear-by-Linear Association	.032	1	.859
N of Valid Cases	859		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is .22.



Chi square test shows the association between frequency of visit in library and Designations of faculty members.

70.0 % Assistant Professors, 67.3 % Associate Professors and 69.8 % Professors visit library 1-2 times in a month. 7 (1.2 %), 189 (33.2 %) and 374 (65.6 %) faculty members out of 570 (68.8 %) faculty members who visit library 1-2 times in a month with designations Assistant Professor, Associate Professor and Professor respectively.

Cross tabulation of Frequency of visit in library by doing research in addition to teaching

Table : Frequency of visit in library

*** Doing research in addition to teaching Cross tabulation**

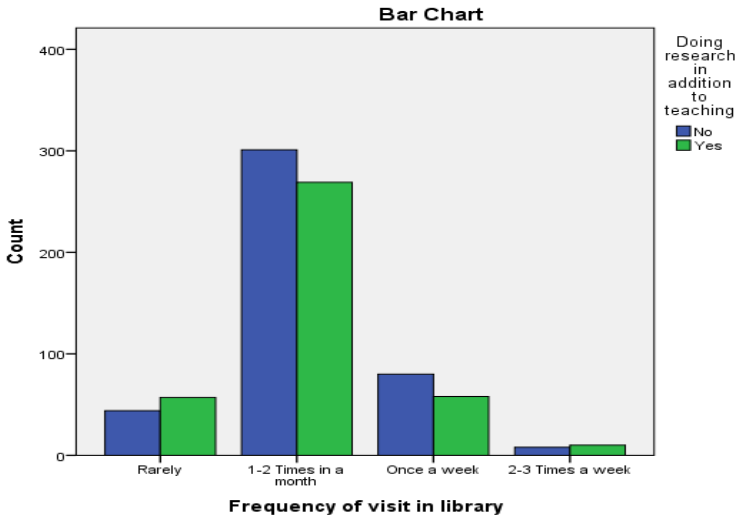
			Doing research in addition to teaching		Total
			No	Yes	
Frequency of visit in library	Rarely	Count	44	57	101
		% within Frequency of visit in library	43.6%	56.4%	100.0%
		% within Doing research in addition to teaching	10.2%	14.5%	12.2%
	1-2 Times in a month	Count	301	269	570
		% within Frequency of visit in library	52.8%	47.2%	100.0%
		% within Doing research in addition to teaching	69.5%	68.3%	68.9%
	Once a week	Count	80	58	138
		% within Frequency of visit in library	58.0%	42.0%	100.0%
		% within Doing research in addition to teaching	18.5%	14.7%	16.7%
Frequency	2-3	Count	8	10	18

of visit in library	Times a week	% within Frequency of visit in library	44.4%	55.6%	100.0%
		% within Doing research in addition to teaching	1.8%	2.5%	2.2%
Total		Count	450	409	859
		% within Frequency of visit in library	52.4%	47.6%	100.0%
		% within Doing research in addition to teaching	100.0%	100.0%	100.0%

Table : Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.372[a]	3	.146
Likelihood Ratio	5.380	3	.146
Linear-by-Linear Association	2.496	1	.114
N of Valid Cases	859		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.58.



Chi square test shows that there is no association between frequency of visit in library and the doing research or not in addition to teaching. That is there is not significance difference in frequency of visit in library by doing research activity in addition to teaching

Thus the null hypothesis is accepted.

2. **College libraries in Rayat Shikshan Sanstha, especially in rural areas do not have sufficient information and communication resources.**

   Null hypothesis: College libraries, especially in rural areas do not have sufficient information and communication resources.

   Alternative hypothesis: College libraries, especially in rural areas have sufficient information and communication resources.

   From table 5.29 and graph 5.31 it is clear that 75% colleges providing ICT enabled services while 25% means 8 colleges are not providing ICT enabled services. Hence null hypothesis is rejected and alternative hypothesis is accepted. This can be alternatively proved using SPSS statistics.

   Independent Samples t Test

   Independent sample t test can be used to test equality of means of rating of IT tools for two groups such as rural and urban.

   Assumptions for the Independent t-Test:

1. Observations within each sample must be independent
2. Normal Distribution: The scores in each population must be normally distributed.
3. The two populations must have equal variances

There is no influence of the respondents on each other thus the first assumption of independence is follows. Second assumption of normality can be tested by the Normality test such as Kolmogorov-Smirnov and Shapiro-Wilk test in SPSS.

Table: Test for Normality

	Area	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Rating - use of computer	Rural	.453	700	.000	.557	700	.000
	Urban	.411	129	.000	.629	129	.000
Rating -use of internet	Rural	.434	700	.000	.596	700	.000
	Urban	.384	129	.000	.664	129	.000
Rating -use of Intranet	Rural	.534	700	.000	.193	700	.000
	Urban	.537	129	.000	.256	129	.000
Rating- use of LAN	Rural	.534	700	.000	.193	700	.000
	Urban	.537	129	.000	.256	129	.000
Rating - use of online database	Rural	.275	700	.000	.792	700	.000
	Urban	.301	129	.000	.807	129	.000
Rating- use of offline database	Rural	.533	700	.000	.313	700	.000
	Urban	.534	129	.000	.312	129	.000
Rating- use of CD/DVD	Rural	.330	700	.000	.753	700	.000
	Urban	.356	129	.000	.716	129	.000
Rating- use of multimedia	Rural	.239	700	.000	.834	700	.000
	Urban	.252	129	.000	.822	129	.000
Rating- use of Fax	Rural	.469	700	.000	.533	700	.000
	Urban	.481	129	.000	.505	129	.000
Rating- use of Mobile	Rural	.540	700	.000	.248	700	.000
	Urban	.541	129	.000	.190	129	.000
Rating- website (internet service)	Rural	.367	700	.000	.657	700	.000
	Urban	.396	129	.000	.624	129	.000
Rating- e-	Rural	.367	700	.000	.657	700	.000

mail (internet service)	Urban	.396	129	.000	.624	129	.000
Rating-videoconference (internet service)	Rural	.354	700	.000	.716	700	.000
	Urban	.353	129	.000	.708	129	.000
Rating-subject gateway (internet service)	Rural	.471	700	.000	.470	700	.000
	Urban	.467	129	.000	.508	129	.000
Rating-Discussion group (internet service)	Rural	.509	700	.000	.386	700	.000
	Urban	.492	129	.000	.469	129	.000
Rating - News group (internet service)	Rural	.509	700	.000	.386	700	.000
	Urban	.492	129	.000	.469	129	.000
Rating-Internet news service	Rural	.492	700	.000	.450	700	.000
	Urban	.465	129	.000	.540	129	.000
Rating - chat (internet service)	Rural	.192	700	.000	.862	700	.000
	Urban	.239	129	.000	.842	129	.000
a. Lilliefors Significance Correction							

The p-values given in the column of sig are shows that data is not normality distributed.

Thus, nonparametric test Mann Whitney U Test can be used to prove this hypothesis.

Mann Whitney U Test

The Mann Whitney U test is a non-parametric test that is useful for determining if the mean of two groups are different from each other. It requires that four conditions be met:

1. The dependent variable must be as least ordinal scaled.

2. The independent variable has only two levels.
3. A between-subjects design is used.
4. The subjects are not matched across conditions.

Statistical Hypothesis:

For each IT tools the statistical hypothesis can be constructed as given in the following way. H_0: $\mu_R=\mu_u$ Vs H_1: $\mu_R \neq \mu_U$ μ_R = Mean rank of Rating for rural area.

μ_u = Mean rank of Rating for urban area.

Mann-Whitney Test

Table: Ranks

	Area	N	Mean Rank	Sum of Ranks
Rating - use of computer	Rural	716	421.34	295192.5
	Urban	145	380.60	62318.1
	Total	859		
Rating -use of internet	Rural	716	422.54	295192.5
	Urban	145	374.09	62318.1
	Total	859		
Rating -use of Intranet	Rural	716	413.69	296094.6
	Urban	145	422.12	61326.3
	Total	859		
Rating- use of LAN	Rural	716	413.69	296023
	Urban	145	422.12	61401.7
	Total	859		
Rating - use of online database	Rural	716	409.35	295013.5
	Urban	145	445.65	62512.4
	Total	859		
Rating- use of offline database	Rural	716	414.95	295013.5
	Urban	145	415.26	62512.4
	Total	859		
Rating- use of CD/DVD	Rural	716	412.59	294168.6
	Urban	145	428.08	63437.5

	Total	859		
Rating- use of multimedia	Rural	716	412.23	301715.2
	Urban	145	430.04	55147.85
	Total	859		
Rating- use of Fax	Rural	716	414.06	296467
	Urban	145	420.10	60914.5
	Total	859		
Rating- use of Mobile	Rural	716	413.72	296223.5
	Urban	145	421.93	61179.85
	Total	859		

Table of rank shows the number (N) of respondents in each area and the mean rank and sum of ranks for each area for each Rating of Information Technology tools.

Mean rank for urban area is smaller than that of for rural area of the ratings of using computer, internet. Mean rank for rural area is smaller than that of for urban area of the ratings of using intranet, LAN, online database, offline database, CD/DVD, multimedia, fax and mobile.

Mann Whitney U Test is done to check the equality of mean ranks of rating of using IT tools for rural area and urban area in SPSS.

Table: Test Statistics[a]

	Rating - use of computer	Rating - use of internet	Rating -use of Intranet	Rating-use of LAN	Rating - use of online database	Rating-use of offline database	Rating-use of CD/DVD	Rating-use of multimedia	Rating-use of Fax	Rating- use of Mobile
Mann-Whitney U	40712.500	39872.000	44231.000	44231.000	41196.500	45116.500	43463.000	43210.000	44491.500	44255.500
Wilcoxon W	49097.500	48257.000	289581.000	289581.000	286546.500	290466.500	288813.000	288560.000	289841.500	289605.500
Z	-2.320	-2.623	-1.015	-1.015	-1.688	-.028	-.749	-.816	-.365	-.903
Asymp. Sig. (2-tailed)	.020	.009	.310	.310	.091	.978	.454	.414	.715	.367
Exact Sig. (2-tailed)	.020	.009	.254	.254	.092	1.000	.456	.415	.711	.414
Exact Sig. (1-tailed)	.011	.005	.123	.123	.046	.541	.229	.208	.362	.251
Point Probability	.000	.000	.001	.001	.000	.096	.000	.000	.008	.122

a. Grouping Variable: Area

The final section of the output gives the values of the Mann-Whitney U test (along with other test statistics.) The Mann-Whitney U value and corresponding p values are given for each dependent variable.

If this p-value is less than the specified level of significance 0.05 then there is sufficient evidence to reject null hypothesis (H_0)

Table: Result- Mann Whitney Test for IT tools by area

Rating Of Using IT tools	**Mann-Whitney U**	**Exact Sig. (1-tailed)**	**Alternative Hypothesis**	**Decision at 5%**
Rating - use of computer	40712.5	0.011	$\mu_R > \mu_U$	Reject H_0
Rating -use of internet	39872	0.005	$\mu_R > \mu_U$	Reject H_0
Rating -use of Intranet	44231	0.123	$\mu_R < \mu_U$	Accept H_0
Rating- use of LAN	44231	0.123	$\mu_R < \mu_U$	Accept H_0
Rating - use of online database	41196.5	0.046	$\mu_R < \mu_U$	Reject H_0
Rating- use of offline database	45116.5	0.541	$\mu_R < \mu_U$	Accept H_0
Rating- use of CD/DVD	43463	0.229	$\mu_R < \mu_U$	Accept H_0
Rating- use of multimedia	43210	0.208	$\mu_R < \mu_U$	Accept H_0
Rating- use of Fax	44491.5	0.362	$\mu_R < \mu_U$	Accept H_0
Rating- use of Mobile	44255.5	0.251	$\mu_R < \mu_U$	Accept H_0

Conclusion:

1. There is no statistically significant difference between the Rating of using the IT tools such as Intranet, LAN, offline database, CD/DVD, multimedia, fax and mobile 5 % level of significance.
2. There is a statistically significant difference between the Rating of using the IT tools such as computer, internet and online database 5 % level of significance.
3. Mean Rank of Rating of using computer and internet for rural area is higher than that of urban area.
4. Mean Rank of Rating of using online database for rural area is lower than that of urban area.

Mann-Whitney Test for Internet Services

Similarly, Mann-Whitney test can be performed for rating of internet services.

Statistical Hypothesis:

For each internet services the statistical hypothesis can be constructed as given in the following way.

$H_0: \mu_R = \mu_u$

μ_R = Mean rank of Rating for rural area

μ_u = Mean rank of Rating for urban area.

Table: Ranks

	Area	N	Mean Rank	Sum of Ranks
Rating - website (internet service)	Rural	716	412.28	295192.48
	Urban	145	429.78	62318.1
	Total	859		
Rating- e-mail (internet service)	Rural	716	412.28	295192.48
	Urban	145	429.78	62318.1
	Total	859		
Rating- videoconference (internet service)	Rural	716	413.54	296094.64
	Urban	145	422.94	61326.3
	Total	859		
Rating- subject gateway (internet service)	Rural	716	413.44	296023.04
	Urban	145	423.46	61401.7
	Total	859		
Rating- Discussion group (internet service)	Rural	716	412.03	295013.48
	Urban	145	431.12	62512.4
	Total	859		
Rating -News group (internet service)	Rural	716	412.03	295013.48
	Urban	145	431.12	62512.4
	Total	859		
Rating- Internet news service	Rural	716	410.85	294168.60
	Urban	145	437.50	63440.4
	Total	859		
Rating - chat (internet service)	Rural	716	421.39	301715.24
	Urban	145	380.33	55147.85
	Total	859		

Table: Test Statistics[a]

	Rating website	Rating e-mail	Rating Videoconference	Rating subject gateway
Mann-Whitney U	43243.50	43243.50	44125.50	44058.5
Wilcoxon W	288593.5	288593.5	289475.50	289408.5
Z	-.885	-.885	-.463	-.634
Asymp. Sig. (2-tailed)	.376	.376	.643	.526
Exact Sig. (2-tailed)	.380	.380	.644	.528
Exact Sig. (1-tailed)	.190	.190	.320	.260
Point Probability	.001	.001	.000	.001

	Rating Discussion group	Rating News group	Rating Internet news	Rating chat
Mann-Whitney U	43070.00	43070.00	42247.50	40677
Wilcoxon W	288420.00	288420.0	287597.5	49062
Z	-1.412	-1.412	-1.760	-1.850
Asymp. Sig. (2-tailed)	.158	.158	.078	.064
Exact Sig. (2-tailed)	.161	.161	.079	.065
Exact Sig. (1-tailed)	.081	.081	.043	.032
Point Probability	.001	.001	.000	.000

Grouping Variable: Area

Table: Result- Mann Whitney Test for Internet Services by area

Rating Of Using IT tools	Mann-Whitney U	Exact Sig. (1-tailed)	Alternative Hypothesis	Decision at 5%	Decision at 10%
Rating - website (internet service)	43243.5	0.19	$\mu_R < \mu_U$	Accept H_0	
Rating- e-mail (internet service)	43243.5	0.19	$\mu_R < \mu_U$	Accept H_0	
Rating-videoconference (internet service)	44125.5	0.32	$\mu_R < \mu_U$	Accept H_0	
Rating- subject gateway (internet service)	44058.5	0.26	$\mu_R < \mu_U$	Accept H_0	
Rating- Discussion group (internet service)	43070	0.081	$\mu_R < \mu_U$	Accept H_0	Reject H_0
Rating -News group (internet service)	43070	0.081	$\mu_R < \mu_U$	Accept H_0	Reject H_0
Rating- Internet news service	42247.5	0.043	$\mu_R < \mu_U$	Reject H_0	
Rating - chat (internet service)	40677	0.032	$\mu_R > \mu_U$	Reject H_0	

Conclusion:

1. There is no statistically significant difference between the Rating of using the internet services such as website, email, video conference and subject gateway, discussion group and news group at 5 % level of significance.
2. There is a statistically significant difference between the Rating of using the internet services such as internet news services and chat at 5 % level of significance.

There is a statistically significant difference between the Rating of using the discussion group and news group at 10 % level of significance.

3. Mean Rank of Rating of using chat for rural area is higher than that of urban area.

4. Mean Rank of Rating of using discussion group, news group and internet news services for rural area is lower than that of urban area.

3. Amount of use of different available information and communication tools by research scholars is more than faculty members.

Null hypothesis $_5$: Amount of use of different available information and communication tools by research scholars is more than faculty members

Alternative hypothesis: Amount of use of different available information and communication tools by research scholars is more than faculty members

From table54.17 and graph 5.19 it is found that, 381 faculties out of 479 means 80% faculties use different ICT tools, while 90% of research scholars means 342 out of 382 uses different ICT tools. Thus it is clear that research scholars use more ICT tool as compare to faculties engaged in teaching only. Hence the null hypothesis is accepted.

Statistical Hypothesis:

For each IT tools the statistical hypothesis can be constructed as given in the following way.

H_0: $\mu_{NRS}=\mu_{RS}$

μ_{NRS} = Mean rank of Rating for Research Scholar and μ_{RS} = Mean rank of Rating for who are not Research Scholar.

Table: Ranks

	Doing research in addition to teaching	N	Mean Rank	Sum of Ranks
Rating - use of computer	No	450	456.82	205569
	Yes	411	369.27	151769.97
	Total	859		
Rating -use of internet	No	450	456.73	205528.5
	Yes	411	369.37	151811.07
	Total	859		
Rating -use of Intranet	No	450	409.48	184266
	Yes	411	421.03	173043.33
	Total	859		
Rating- use of LAN	No	450	409.48	184266
	Yes	411	421.03	173043.33
	Total	859		
Rating - use of online database	No	450	419.37	488716.5
	Yes	411	410.22	168600.42
	Total	859		
Rating- use of offline database	No	450	419.32	488716.5
	Yes	411	410.28	168625.08
	Total	859		
Rating- use of CD/DVD	No	450	424.82	191169
	Yes	411	404.26	166150.86
	Total	859		
Rating- use of Multimedia	No	450	432.55	194647.5
	Yes	411	395.81	162677.91
	Total	859		
Rating- use of Fax	No	450	418.98	188541
	Yes	411	410.65	168777.15
	Total	859		
Rating- use of Mobile	No	450	412.15	185467.5
	Yes	411	418.11	171843.21
	Total	859		

Table: Test Statistics[a]

	Rating - use of computer	Rating -use of internet	Rating -use of Intranet	Rating - use of LAN	Rating - use of online database	Rating - use of offline database	Rating - use of CD/DVD	Rating - use of multimedia	Rating - use of Fax	Rating - use of Mobile
Mann-Whitney U	67625.000	67664.000	83346.000	83346.000	83843.000	83865.500	81480.500	78135.500	84011.500	84501.500
Wilcoxon W	146231.000	146270.000	177307.000	177307.000	162449.000	162471.500	160086.500	156741.500	162617.500	178462.500
Z	-6.870	-6.516	-1.914	-1.914	-.586	-1.126	-1.370	-2.320	-.694	-.903
Asymp. Sig. (2-tailed)	.000	.000	.056	.056	.558	.260	.171	.020	.488	.367
Exact Sig. (2-tailed)	.000	.000	.065	.065	.558	.271	.171	.020	.489	.448
Exact Sig. (1-tailed)	.000	.000	.036	.036	.279	.127	.085	.010	.245	.227
Point Probability	.000	.000	.001	.001	.000	.018	.000	.000	.005	.081

a. Grouping Variable: Doing research in addition to teaching

Mann-Whitney Test

Table: Ranks

	Doing research in addition to teaching	N	Mean Rank	Sum of Ranks
Rating - website (internet service)	No	450	382.78	172251
	Yes	411	450.23	185044.53
	Total	859		
Rating- e-mail (internet service)	No	450	382.78	172251
	Yes	411	450.23	185044.53
	Total	859		
Rating- videoconference (internet service)	No	450	405.09	182290.5
	Yes	411	425.83	185291.13
	Total	859		
Rating- subject fateway(internet service)	No	450	395.89	178150.5
	Yes	411	435.90	178797.33
	Total	859		
Rating- Discussion group (internet service)	No	450	409.37	184216.5
	Yes	411	421.16	173096.76
	Total	859		
Rating -News group (internet service)	No	450	409.37	184216.5
	Yes	411	421.16	173096.76
	Total	859		
Rating- Internet news service	No	450	409.60	184320
	Yes	411	420.90	173014.56
	Total	859		
Rating - chat (internet service)	No	450	420.00	189000
	Yes	411	409.53	168316.83
	Total	859		

Table: Test Statistics[a]

	Rating - website (internet service)	Rating- e-mail (internet service)	Rating- videoconference (internet service)	Rating- subject fateway(internet service)	Rating- Discussion group (internet service)	Rating - News group (internet service)	Rating- Internet news service	Rating - chat (internet service)
Mann-Whitney U	71782.000	71782.000	81445.000	77458.500	83294.500	83294.500	83396.500	83567.000
Wilcoxon W	165743.000	165743.000	175406.000	171419.500	177255.500	177255.500	177357.500	162173.000
Z	-4.700	-4.700	-1.407	-3.486	-1.202	-1.202	-1.029	-.650
Asymp. Sig. (2-tailed)	.000	.000	.159	.000	.229	.229	.304	.516
Exact Sig. (2-tailed)	.000	.000	.159	.000	.229	.229	.305	.515
Exact Sig. (1-tailed)	.000	.000	.080	.000	.115	.115	.152	.258
Point Probability	.000	.000	.000	.000	.000	.000	.000	.000

a. Grouping Variable: Doing research in addition to teaching

Table: Result- Mann Whitney Test for IT tools by doing research activities or not

Rating Of Using IT tools	**Mann-Whitney U**	**Exact Sig. (1-tailed)**	**Alternative Hypothesis**	**Decision at 5%**	**Decision at 10%**
Rating - use of computer	67625	0	$\mu_{RS} < \mu_{NRS}$	Reject H_0	
Rating -use of internet	67664	0	$\mu_{RS} < \mu_{NRS}$	Reject H_0	
Rating -use of Intranet	83346	0.036	$\mu_{RS} > \mu_{NRS}$	Reject H_0	
Rating- use of LAN	83346	0.036	$\mu_{RS} > \mu_{NRS}$	Reject H_0	
Rating - use of online database	83843	0.279	$\mu_{RS} < \mu_{NRS}$	Accept H_0	
Rating- use of offline database	83865.5	0.127	$\mu_{RS} < \mu_{NRS}$	Accept H_0	
Rating- use of CD/DVD	81480.5	0.085	$\mu_{RS} < \mu_{NRS}$	Accept H_0	Reject H_0
Rating- use of multimedia	78135.5	0.01	$\mu_{RS} < \mu_{NRS}$	Reject H_0	
Rating- use of Fax	84011.5	0.245	$\mu_{RS} < \mu_{NRS}$	Accept H_0	
Rating- use of Mobile	84501.5	0.227	$\mu_{RS} > \mu_{NRS}$	Accept H_0	

1. There is no statistically significant difference between Rating of using online database, offline database, CD/DVD, fax and mobile at 5 % .
2. There is statistically significant difference between Rating of using computer, internet, intranet, LAN and multimedia at 5 % and CD/DVD at 10%
3. Mean rank of Rating of using intranet and LAN for research scholar is higher than that of for those who are not doing research.
4. Mean rank of Rating of using computer, internet, CD/DVD and multimedia for research scholar are lower than that of for those who are not doing research.

Statistical Hypothesis:

For each internet services the statistical hypothesis can be constructed as given in the following way. H_0: $\mu_{NRS} = \mu_{RS}$

μ_{NRS} = Mean rank of Rating for Research Scholar and μ_{RS} = Mean rank of Rating for who are not Research Scholar.

Mann-Whitney Test

Table: Ranks

	Doing research in	N	Mean Rank	Sum of Ranks
Rating - website (internet service)	No	450	382.78	172251
	Yes	411	450.23	185044.53
	Total	859		
Rating- e-mail (internet service)	No	450	382.78	172251
	Yes	411	450.23	185044.53
	Total	859		
Rating- videoconference (internet service)	No	450	405.09	182290.5
	Yes	411	425.83	175016.13
	Total	859		
Rating- subject fateway(internet service)	No	450	395.89	178150.5
	Yes	411	435.90	179167.23
	Total	859		
Rating- Discussion group (internet service)	No	450	409.37	184216.5
	Yes	411	421.16	173096.76
	Total	859		
Rating -News group (internet service)	No	450	409.37	184216.5
	Yes	411	421.16	173096.76
	Total	859		
Rating- Internet news service	No	450	409.60	184351.5
	Yes	411	420.90	173014.56
	Total	859		
Rating - chat (internet service)	No	450	420.00	189031.5
	Yes	411	409.53	168316.83
	Total	859		

Table : Test Statistics[a]

	Rating - website (internet service)	Rating- e-mail (internet service)	Rating- videoconference (internet service)	Rating- subject fateway(internet service)	Rating- Discussion group (internet service)	Rating - News group (internet service)	Rating- Internet news service	Rating - chat (internet service)
Mann-Whitney U	71782.000	71782.000	81445.000	77458.500	83294.500	83294.500	83396.500	83567.000
Wilcoxon W	165743.000	165743.000	175406.000	171419.500	177255.500	177255.500	177357.500	162173.000
Z	-4.700	-4.700	-1.407	-3.486	-1.202	-1.202	-1.029	-.650
Asymp. Sig. (2-tailed)	.000	.000	.159	.000	.229	.229	.304	.516
Exact Sig. (2-tailed)	.000	.000	.159	.000	.229	.229	.305	.515
Exact Sig. (1-tailed)	.000	.000	.080	.000	.115	.115	.152	.258
Point Probability	.000	.000	.000	.000	.000	.000	.000	.000

a. Grouping Variable: Doing research in addition to teaching

Table: Result- Mann Whitney Test for internet services by doing research activities or not

Internet Services	**Mann-Whitney U**	**Exact Sig. (1-tailed)**	**Alternative Hypothesis**	**Decision at 5%**
Rating - website (internet service)	71782	0	$\mu_{RS} > \mu_{NRS}$	Reject H_0
Rating- e-mail (internet service)	71782	0	$\mu_{RS} > \mu_{NRS}$	Reject H_0
Rating-videoconference (internet service)	81445	0.08	$\mu_{RS} > \mu_{NRS}$	Reject H_0
Rating- subject gateway(internet service)	77458.5	0	$\mu_{RS} > \mu_{NRS}$	Reject H_0
Rating- Discussion group (internet service)	83294.5	0.115	$\mu_{RS} > \mu_{NRS}$	Accept H_0
Rating -News group (internet service)	83294.5	0.115	$\mu_{RS} > \mu_{NRS}$	Accept H_0
Rating- Internet news service	83396.5	0.152	$\mu_{RS} > \mu_{NRS}$	Accept H_0
Rating - chat (internet service)	83567	0.258	$\mu_{RS} < \mu_{NRS}$	Accept H_0

Conclusion:

1. There is statistically significant difference between Rating of using website, email, videoconference and subject gateway at 5 % .
2. There is no statistically significant difference between Rating of using Discussion group, News group, internet news services and chat at 5 %.
3. Mean rank of Rating of using website, email, videoconference and subject gateway for research scholar is higher than that of for those who are not doing research.

4. Due to lack of awareness, faculty members and research scholars in colleges, though expect more specialized services from their libraries, seem to be contend with the available resources and services.

   Null hypothesis: Due to lack of awareness, faculty members and research scholars do not use available resources and services.

   Alternative hypothesis: Faculty members and research scholars use available resources and services.

reason

	Observed N	Expected N	Residual
0	680	207.3	444.8
1	108	207.3	-102.3
2	50	207.3	-158.3
3	23	207.3	-184.3
Total	861		

Test Statistics

	reason
Chi-Square	1289.499[a]
df	3
Asymp. Sig.	.000
Exact Sig.	.000
Point Probability	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 207.3.

From the test it is found that for the different reasons of not making the use of ICT the Chi-Square value has a large difference hence hypothesis is rejected.

6.4 The major findings of the study based on responses received from the faculty members:

In order to study the Information needs and use pattern of faculty members of Rayat Shikshan Sanstha all the thirty eight colleges were selected, There are one thousand and eighty one faculties are selected as sample size out of which 77% means eight hundred and twenty nine faculties gives their feedback. The Rayat Shikshan Sanstha is located all over Maharashtra, in rural and in urban locations. The faculties under study include male as well as females. They are having different positions in the organization as assistant professor, associate professor and professor, having varied experience. The information needs of the faculties in different streams, as Arts, Commerce and Science are to be taken into consideration. Depending upon the stream, experience and position the faculties has different needs and have different ways of using the information.

1. The information needs of faculties are not depending upon gender. The information needs are not gender biased.
2. The use of information and communication technology depends on the age, younger faculties are using more and information and communication services.
3. The information requirement of research scholar is different than that of faculties.
4. Faculties from science stream use more information and communication tools .
5. The faculties have different information sources to retrieve the information such as books, journals, news papers, magazines in print form and databases, internet, blogs

etc in non-print form. It is found that most of the faculties' i.e 66% faculties uses both the information sources to retrieve the information necessary for their study and for research. 32% faculties tied up with books means print materials for their use and only 2% primarily uses e-resources. Thus researcher can say that both the type of sources has its importance in information retrieval.

6. To fulfill the necessity of information faculties are mostly depend on libraries, so they regularly visit the library, from study it is found that 74% faculties visit libraries twice or thrice a week in search of information 17% faculties visit library once in a week while 1% comes into library daily. The number of faculties visiting library rarely is very less. Thus college library is a main source of required information.
7. Researcher found that majority of faculties visit library regularly to retrieve information, but when their purpose to visit the library is found out it is observed that, majority of them visit the library to prepare for the classroom lecture and to have necessary documents, the percentage of them for this is respectively 86% and 94%. The other reasons are to find documents required for their research and for updating themselves.
8. To fulfill the necessity of information, faculties do visit the library. But to know latest arrivals in the library they rely mainly on the display of new arrivals list displayed in the library, it is found that 75% of them have the information about new arrivals through the new arrivals list, 61% get this information from colleagues, and 50% from library professionals.
9. When the information is collected on what type of document they use, it is observed that, faculties basically requires subject reference books and text books 74% come to

borrow subject reference books and 69% to borrow textbooks. The next major used documents by faculties are magazines and news papers, their percentage respectively is 60% and 75%. Audio-visual material, back volumes of journals and dissertations are less used document types in the library.

10. The study is about the use of information and communication technology. When the collected information is analyzed keeping this in mind, it is been observed that, majority of them use information and communication technology their percentage is, 73% while only 27% hesitant about this new arrived technology.
11. The study says that only 27% faculties are not making the use of information and communication technology. Then the reasons of this is studied and it is been observed that the main reason behind it is unfamiliarity of technology 76% of them are unaware of this growing technology, 23% found no time to make use of this and merely 1% are inaccessible the technology.
12. In the study it is found that majority of faculties make use of information and communication technology to gather information, when , where they access is being studied , it is observed that, most of them use it in the colleges i.e. 85% uses it in college and 15% use it in their home or elsewhere. Thus colleges are the most favored destination to make use of information and communication technology, which implies that the most o the colleges are well equipped with ICT environment.
13. Now-a-days information and communication technology is widely used in teaching. The study shows that 73% faculties use this technology regularly. Purpose of their use mainly is classroom teaching and to prepare for seminars and conferences. They also make use of ICT in their research work.

14. To retrieve the information using information and communication technology, faculties use different tools, 72% faculties use computers as a major tool to retrieve the necessary information. 60% faculties use internet for information retrieval. Other tolls as intranet, online and offline databases, CD/DVD's, multimedia equipments, and mobile are least used information and communication tools.
15. Using information and communication technology so many services are planned. Faculties use these regularly. 59% faculties use websites to find out and gather the information frequently, 60% faculties uses e-mail facility regularly to be in touch with the needed information. Video conferencing, subject gateways, discussion groups, newsgroups, chat and blogs are used less for information gathering. But these services are used by some faculties for fulfilling their needs.
16. Some faculty members involves in research along with the teaching. Study says that around 50% faculties are doing research along with their regular teaching.
17. To keep pace with the latest trends in research and development in the subject, seminar and conferences provide best platform. Faculties attend these conferences and seminars to upgrade their knowledge. From total faculties the majority as about 95% do regularly attend the seminars and conferences. Only 5% of them are least interested in attending the seminars.
18. Apart from doctoral research some faculties do research through different research projects. 32% of faculties involved in research.
19. To provide information and communication services and make aware and acquaint the faculties for its use college libraries must be computerized. This is been studied in this research and found that 75% of faculties says that their libraries are

computerized, 24% says that their libraries are not computerized and only 1% are unaware about the process of library computerization.

20. Reponses of faculties on library computerization are been collected, 75% of them said that they are aware about library computerization and 75% of them uses computerized library services in day-to-day life. 25% of them make no use of computerized libraries.
21. Faculties are having documents in print and in non print form available in the library or in knowledge resource centre. Also the information and communication technology is freely available in college, in college libraries also now- a –days it is available in home also. When their preference in using them is been studied it is been observed that, 61% of faculties today also dependent on print material available in the library and 39% search information required for their study and for research on internet.

6.5 The major findings of the study based on responses received from the Librarians:

1.Almost all 31 out of 32 libraries under study had collection development policy.

2. All the libraries studied are having library committee to help for good conduct of libraries.
3. Majority libraries are not having gray literature collection which has recent unpublished information. 23 libraries out of 32 are not having gray literature collection.

4. Most of the libraries are having thesis and dissertation collection which helps research scholars in their study.
5. Nearly 44% libraries are member of national consortia " UGC INFLIBNET-N-list."
6. Majority of libraries are computerized, that is 86% of libraries are computerized.
7. All the libraries are using MKCL developed LIBRERIA library software.
8. Majority of faculties use books as main information source, 50% faculties books as information source, while 44% use both print and non-print information sources and only 6% of faculties use only e-resources.
9. Almost 81% means 26 out of 32 faculties visit library 2-3 times a week.
10. Main purpose of using library resources is for preparing for lectures.
11. Most of the librarians inform faculties about new arrivals by display of new arrival list and by displaying book jackets.
12. As per the responses received the most used type of documents are textbooks, subject reference books, journals, newspapers and previous question papers. It is found that 78% faculties uses textbooks and news papers, 81% uses subject reference books, while, 66% uses previous question papers and 59% uses magazines. The least used documents are 20 % audio-visual aids and journals and , 6 % dissertations and back volumes of journals
13. From the responses it is found that, out of 32 colleges responded, 17 colleges means 53% colleges only had separate ICT budget and 47% colleges are not making any provision separately for ICT.
14. Out of 32 colleges 24 colleges' means 75% colleges providing ICT enabled services to students while 25% means 8 colleges are not providing ICT enabled services.

15. Librarians are providing different value added support services to faculties. These services include, current awareness service, selective dissemination of information, document delivery, photocopy etc.
16. Besides providing different value added services only 34% librarians are keeping its record while 66% are not keeping the record.
17. 24 libraries out of 32 means 75% libraries are having separate photocopying machines.
18. From the data received it is found that computer, internet and mobile are the maximum used tools for retrieval of information. While databases, LAN, Fax, intranet are the least used tools.
19. Use of websites and e-mails are the major used services by the faculties while all other as videoconferencing, subject gateways, discussion and news groups, chat and blogs are the least used services.
20. 32% of librarians are involved in research.
21. Most of the librarians participate in seminars and conferences and present papers. 72% librarians attend the conferences and present paper.
22. Only 25% librarians undertook the research projects.

6.6 Suggestions and recommendations:

After this study several area are been emerged. Future study may include creating awareness in the faculties and research scholars about using the information and communication technology, using different services provided with ICT and creating

expertise on using various information and communication tools for searching and retrieving information needed for their study and research.

- Each college should develop state-of-art knowledge resource centre.
- Faculties should be encouraged to use information and communication technology.
- Libraries should aware faculties about holdings.
- The communication channel between library and faculties should be strengthened.
- Workshops on the awareness on recent technology and their use should be conducted regularly.
- Faculties should be made aware to use audio-visual aids and CD/DVD's.
- Awareness of using online and offline databases should be made.
- All the libraries should be fully computerized.

6.7 Suggestions for further research:

As the present study is confined to the colleges of Rayat Shikshan Sanstha only. The comparative study of information needs and information use pattern of faculty members in colleges situated in rural area and urban area of Maharashtra may be taken up in future. Similar type of study pertaining to faculties of different subject areas may also be taken up.

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Annexure-1

Rayat Shikshan Sanstha, Satara

List of College

Sr.No.	Name of the College	City	Phone No.
1.	Karmaveer Bhaurao Patil Mahavidyalaya,	Pandharpur	02186-223104
2.	Yashwantrao Chavan Institute of Science	Satara	02162-234392
3.	Karmaveer Bhaurao Patil College	Washi	022-27661210
4.	R.B.N.B.College	Shrirampur	02422-222347
5.	C.D.Jain College of Commerce	Shrirampur	02422-222245
6.	Mahatma Phule Mahavidyalaya	Pimpari	020-27412007
7.	Sadguru Gadage Maharaj College	Karad	02164-271346
8.	Chhatrapati Shivaji College	Satara	02162-234678
9.	S.M. Joshi College	Hadapsar, Pune	020-26999001
10.	Arts, Science and Commerce college	Ramamnandnagar	02346-222035
11.	Dhananjayrao Gadgil Commerce College	Satara	02162-234729
12.	Laxmibai Bhaurao Patil Mahila Mahavidyalaya	Solapur	0217-2620602
13.	Maharaja Jiwajirao Shinde Mahavidyalaya	Shrigonda	02487-222368
14.	Mahatma Phule Arts, Commerce and Science College	Panwel	022-27452561
15.	Rajashri Chhatrapati Shau College	Kolhapur	0231-2654658
16.	Dada Patil College	Karjat	02489-222534
17.	Prof.N.D.Patil College	Malakapur	02329-224530
18.	Dahiwadi College	Dahiwadi	02165-220231
19.	Shripatrao Kadam College	Shirwal	02169-244202
20.	Radhabai Kadam Mahila Mahavidyalaya	Ahamadnagar	0241-2430398

21.	Chandrabai Shanttappa Shendure College	Hupari	0230-2450355
22.	Annasaheb Awate Mahavidyalaya	Manchar	02133-223160
23.	S.S.G.M.College	Kopargaon	02423-223155
24.	D.P.Bhosale College	Koregaon	02163-220219
25.	Annasaheb Marathe college of Arts, Commerce & science	Rajapur	02353-221002
26.	Arts and Commerce College	Madha	02183-234026
27.	Balwant College	Vita	02347-272096
28.	Sharadchandra Pawar Mahavidyalaya	Lonand	02169-225175
29.	Shri Raosaheb Ramrao Patil Mahavidyalaya	Sawlaj	02346-254229
30.	Arts and Commerce College	Pusegaon	02375-260637
31.	Yashwantrao Chavan Mahavidyalaya	Pachwad	02167-285403
32.	Sou. Mangaltai Ramchandra Jagtap Mahila Mahavidyalaya	Umbraj	02164-264235
33.	Vir Wajekar Arts, Science & commerce College	Phunde	022-27221035
34.	Arts, Commerce and Science College	Mokhada	02529-256628
35.	Savitribai Phule Mahila Mahavidyalaya	Satara	02162-231705
36.	Bharatratna Dr.Babasaheb Ambedkar Mahavidyalaya	Aundhgaon	020-25880883

Annexure-2

Questionnaire for Faculties

A. PERSONAL DETAILS:

1. Name: _____

2. Designation:

1) Assistant professor ☐ 2) Associate professor ☐ 3) Professor ☐ 4) Any other

3. Name of the College: _____

_____

4. Faculty: 1) Faculty of Arts

2) Faculty of Commerce

3) Faculty of Science

4) Any other

4. Educational Qualifications: (highest: degree)

1) Master ☐

2) B.Ed./ M.Ed. ☐

3) M.Phil. ☐

4) Ph.D. ☐

5)Post Doctoral ☐

6) SET ☐

7) NET ☐

5. Age:

6. Sex: 1) Male ☐ 2) Female ☐

7. Number of years of experience: ____ Year ____ months

8. Contact Telephone/ Mobile no:

9. E-mail id:

B. Use of Library

10. Which information source do you use to get information?

a) Books ☐ b) e-resources ☐ c)Both of this ☐

11. How frequently do you visit the college library? (Please tick one)

a) Daily ☐ b) 2-3 Times a week ☐ c) Once a week ☐

d) 1-2 Times in a month ☐ e) Rarely ☐

12. For what purpose do you use college library? (You may tick more than one)

a) To prepare lectures ☐ b) For own research ☐

c) For updating yourself ☐ d) For recreation ☐

e) For reference ☐ f) To read personal books ☐

g) For circulation ☐ h) For browsing ☐

i) For getting photocopies ☐ j) To borrow books for others ☐

k) Any other (Please specify) ----------

13. How do you come to know about the latest collection in library? (Please tick)

a) Through colleagues ☐

b) Form any information given by the library about new arrivals ☐

c) From display of list of new arrivals in library ☐

d) From display of book jackets in library ☐

e) Any other (Please specify) ----------

14. Which of the following documents do you use in Library? (Please tick).

a) Text books (Prescribed in syllabus) ☐ b) General books on respective subjects ☐

c) Reference books (Dictionaries, Encyclopedia etc.) ☐ d) Journals in respective subjects ☐

e) General periodicals/ Magazines etc. ☐ f) Back volumes of journals ☐

g) Newspapers ☐ h) Question papers of previous years ☐

i) Audio-visual material (CD's etc.) ☐ j) Dissertations ☐

15. Do you use **Information and communication Technology (IT)**? Yes ☐ No ☐

16. If no, why? What are the reasons? Please mark (Tick more than one if required)

a) Unfamiliarity with ICT ☐ b) No time ☐

c) Inaccessibility to ICT ☐ d) others.. ☐

17. Where do you use ICT?

a) College ☐ b) Home ☐ c) Others ☐

18. In teaching activities what is your ICT use purpose?

a) Classroom lectures ☐ b)Workshop presentations ☐ c) Others ☐

19 . In research activities what is your ICT use purpose?

a) Writing books and academic articles ☐ b) Conference presentation ☐

c) Doing research works ☐ d) Others ☐

Please specify the type of Information Technology tools , which you use.

20. Computer: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

21. The Internet: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

22. Intranet: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

23. LAN: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

24. Online databases Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

25. Offline databases: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

26. CD & DVD: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

27. Multimedia: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

28. Fax: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

29. Mobile: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

Specify the Internet Services which you use?

30. **Web (www):** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

32. **E- Mail:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

33**. Videoconference:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

34**. Subject gateways**: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

35. Discussion groups : Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

36. **Newsgroups:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

37. **News services on the Internet** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

38. **Chat:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

39. Are you doing research work in addition to teaching? Yes ☐ No ☐

40. Do you participate/ present papers in conferences and seminars? Yes ☐ No ☐

41. Have you undertaken any research project? Yes ☐ No ☐

42. Is your library computerized? Yes ☐ No ☐ Don't Know ☐

43. If 'Yes' do you use it? Yes/ No

44. Do you prefer to search the required information?

a) From the library ☐ b) From the Internet ☐

Annexure-3

Questionnaire for Librarian

Information needs and use pattern of faculty members of Rayat Shikshan Sanstha: An analytical study.

C. PERSONAL DETAILS:

1. Name: _____

2. Designation: _____

3. Name of the College: _____

_____

4. Educational Qualifications: (highest: degree)

1) Master ☐

2) B.Ed./ M.Ed. ☐

3) M.Phil. ☐

4) Ph.D. ☐

5)Post Doctoral ☐

6) SET ☐

7) NET ☐

8) OTHER ☐

5. Age:

6. Sex: 1) Male ☐ 2) Female ☐

7. Number of years of experience: ____ Year ____ months

8. Contact Telephone/ Mobile no:

9. E-mail id:

D. Collection development :

10. Is library is having collection development policy

a) Yes b) No

11. Is there is a library committee

a) Yes b) No

12. No. of books in the library

a) up to 20000 b) 20000-40000 c) 40000-60000 d) above 60000

13. No. of magazines/ Journals in the library:

14. No of journals:

a) National= b) International=

15. Is library is having collection of Gray literature

a) Yes b) No

16. If Yes what type of =

17. Is library is having any special collection.

18. . Is library is having collection of Thesis/ Dissertation.

a) Yes b) No

19. Is library is a member of Consortia

a) Yes b) No

20. If yes of which Consortia:

21. Annual budget of library:

a) 50000 b) 50000-1 lac c) 1 lac -1.5 lac d) above 1.5 lac

22. Annual expenditure on books

a) up to 20000 b) 20000-40000 c) 40000-60000 d) above 60000

23. Annual expenditure on magazines / Journals

a) up to 5000 b) 5000-10000 c) 10000-15000 d) above 15000

24. Annual expenditure on newspapers

a) up to 1000 b) 1000-1500 c) 1500-2000 d) above 2000

25. Annual expenditure on book-binding

a) up to 1000 b) 1000-1500 c) 1500-2000 d) above 2000

26. Other expenses

a) up to 5000 b) 5000-10000 c) 10000-15000 d) above 15000

C. Library computerization:

27. Is your library computerized? Yes ☐ No ☐

28. If the Library functions are not automated, please indicate the reasons

a) Lack of funds ☐

b) Library is still in its infancy stage ☐

c) Library is not given due importance by authorities ☐

d) Lack of trained and competent staff for automation ☐

29. Status of computerization Fully ☐ partially ☐

30. Name the software used.

31. Which modules are using .

a) Acquisition ☐ b) Accessioning ☐

c) Cataloguing ☐ d) Circulation ☐

e) Book bank ☐ f) OPAC ☐

g) Reports ☐

D .Use of Library by faculty

31 . Which information source do they use to get information?

b) Books ☐ b) e-resources ☐ c)Both of this ☐

32 . How frequently do they visit the college library? (Please tick one)

a) Daily ☐ b) 2-3 Times a week ☐ c) Once a week ☐

d) 1-2 Times in a month ☐ e) Rarely ☐

33. For what purpose do they use college library? (You may tick more than one)

a) To prepare lectures ☐ b) For own research ☐

c) For updating yourself ☐ d) For recreation ☐

e) For reference ☐ f) To read personal books ☐

g) For circulation ☐ h) For browsing ☐

i) For getting photocopies ☐ j) To borrow books for others ☐

k) Any other (Please specify) ----------

34. How you inform them about the latest collection in library? (Please tick)

a) Through bulletin board ☐

b) Through e-mail ☐

c) From display of list of new arrivals in library ☐

d) From display of book jackets in library ☐

e) Any other (Please specify) ----------

35. Which of the following documents do they use in Library? (Please tick).

a) Text books (Prescribed in syllabus) ☐ b) General books on respective subjects ☐

c) Reference books (Dictionaries, Encyclopedia etc.) ☐ d) Journals in respective subjects ☐

e) General periodicals/ Magazines etc. ☐ f) Back volumes of journals ☐

g) Newspapers ☐ h) Question papers of previous years ☐

i) Audio-visual material (CD's etc.) ☐ j) Dissertations ☐

ICT related Library services.

36. Is there any separate budget for ICT.

a) Yes b) No

37. Do you provide ICT enabled library services to faculties?

a) Yes b) No

38. Following which services are given

a) Current awareness service ☐

b) SDI ☐

c) Document delivery ☐

39. Do you had kept its record

a) Yes b) No

40. If Yes how many queries/ week

a) up to 5 b) 5-10 c) 10-15 d) above 15

41. Do library has photo copying machine

a) Yes b) No

42. How many photo-copy request / week

a) up to 25 b) 25-50 c) 50-100 d) above 100

Please specify the type of Information Technology tools used by faculties.

43. Computer: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

44. The Internet: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

45. Intranet: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

46. LAN: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

47. Online databases Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

48. Offline databases: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

49. CD & DVD: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

50. Multimedia: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

51. Fax: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

52. Mobile: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

Specify the Internet Services which faculties use in the library?

53. **Web (www):** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

54. **E- Mail:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

55**. Videoconference:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

56**. Subject gateways**: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

57**. Discussion groups**: Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

58. **Newsgroups:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

59. **News services on the Internet** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

60. **Chat:** Frequently ☐ Sometimes ☐ Rarely ☐ Not used ☐

61. Are you doing research work ? Yes ☐ No ☐

62. Do you participate/ present papers in conferences and seminars? Yes ☐ No ☐

63. Have you undertaken any research project? Yes ☐ No ☐

Date: Signature :

Place: Name: