

**INFORMATION SEEKING BEHAVIOUR OF
ENGINEERING COLLEGE STUDENT IN INDORE CITY**



**Dissertation submitted in Partial fulfillment for the Award of
the Degree**

**Master of Philosophy of Library and Information Science,
2014-15**

SUBMITTED TO:-

**Dr. GHS Naidu
Head, LIS Program &
Librarian**

SUBMITTED BY:-

**Umrav Singh
MPhil. Student
Roll No. 18**

**SCHOOL OF LIBRARY AND INFORMATION SCIENCE
CENTRAL LIBRARY
DEVI AHILYA VISHWAVIDYALAY
INDORE (M.P.)
2015**

DECLARATION

I hereby declare that the dissertation entitled “**Information Seeking Behavior of Engineering College Students in Indore City**” is original piece of research work done by me. I have specified by means of references, from where the information has been taken. To the best of my knowledge, the dissertation is not substantially the same as degree which have already been submitted for the degree or any other academic qualification at any other university.

Umrav Singh
MPhil. Student
Roll No. 18

CERTIFICATE

This is to certify that **Mr.Umrav Singh** is a regular student of MPhil, in School of Library and Information Science, Devi Ahilya Vishwavidyalaya, Indore. He worked on “**Information Seeking Behavior of Engineering College Students in Indore City**” This is his original work done under my guidance.

Place: Indore

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(Dr.GHS Naidu)

Librarian and Head

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Devi Ahilya Vishwavidyalaya, Indore

Acknowledgement

Expressing gratitude is a difficult task and words often fall short of reflecting one's feeling. It is my proud privilege, to do so and I undertake this opportunity with almost sincerity.

Many people have contributed directly or indirectly to the successful completion of this dissertation. First, I would like to offer my heartiest gratitude to my guide respected **Dr.GHS Naidu, LIBRARIN & HOD, School of Library and Information Science, D.A.V.V. Indore** for his invaluable guidance and ever ready support in successful completing this dissertation in stipulated time. I own my thanks to his for the astuteness in understanding the problem and giving suggestions and motivations, without his great help it was not possible to complete the project in time and with efficiency.

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I dedicate my dissertation to my family, who scarified a lot for me and without their blessing and support I would not have progresses far in life.

I am thankful to the god for his blessing, which gave me strength, good health to complete my work.

Date:

Place:

Umrav Singh

MPhil. Student

Roll. No. 18

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CHAPTER-1

INTRODUCTION

1.1 Introduction:-

The present era is called the “INFORMATION ERA”. Information becomes the most important elements for progress in society. To thrive in this modern era, one need a variety of information, no matter how well versed one is in a field or professionals. Many electronics resources are available on the web has affected information seeking behavior. Innumerable types of information in a large variety of containers and in many different locating are all available in one place. Information seeking behavior is expressed in various forms reading printed materials to research and experimentation, faculty and students actively seeking current information from the various media available in libraries.

Information seeking is the process of collecting & receiving information by different means. The means may include published or unpublished materials, communicating with peers, communicating with librarians etc. Information seeking behavior refers to who needs what kind of information for what reasons, how information is found, evaluated and used. Due to the unbridled increase in the generation of information and sophistication of information technologies, it has become very difficult for the information seekers from every fields to effectively access evaluate and use of information in various formats. The growth of internet is undeniably affecting the education environment also. Every educational institution feels the necessity to have access to the internet .Since 1990s; the use of online resources in education has grown rapidly. Hence faculty members use wide variety of online information sources.

Graduate students have information needs that are often very different than those of undergraduates. Their needs can be more sophisticated and complex. Understanding the information seeking behaviors of graduate students may better equip librarians, faculty, doctoral supervisors and administration to help shape those behaviors by offering appropriate and needed services and instruction. Information seeking behavior refers to the way people search for and utilize information. In described information behavior as the totality of human behavior in relation to sources and channels of information, including both active and passive information-seeking, and information use. He described information seeking behavior as purposive seeking of information as a consequence of a need to satisfy some goal. Information seeking behavior is the micro-level of behavior student by the searcher in interacting with information systems of all kinds, be it between the seeker and the system, or the pure method of creating and following up on a search.

Information is a critical resource in the operation and management of organizations. Timely availability or relevant information is vital for effective performance of managerial functions such as planning, organizing, locating and controlling. A well established and well designed information system to facilitate decision making in various development projects is critical to the success of any organization. To be successful, any project requires efficient management of human and material resources. Information plays a crucial role in the advancement of existing knowledge, decision making and transfer of technology.

The kind of information required by the user, methods adopted in searching information, environment affected, time spent, problems faced and solutions made, the satisfaction/dissatisfaction arising from the information gathered and the relationship of the user with the system – all come under purview of a user study. A user study is the means for systematic examination of the characteristics of information behavior of the users.

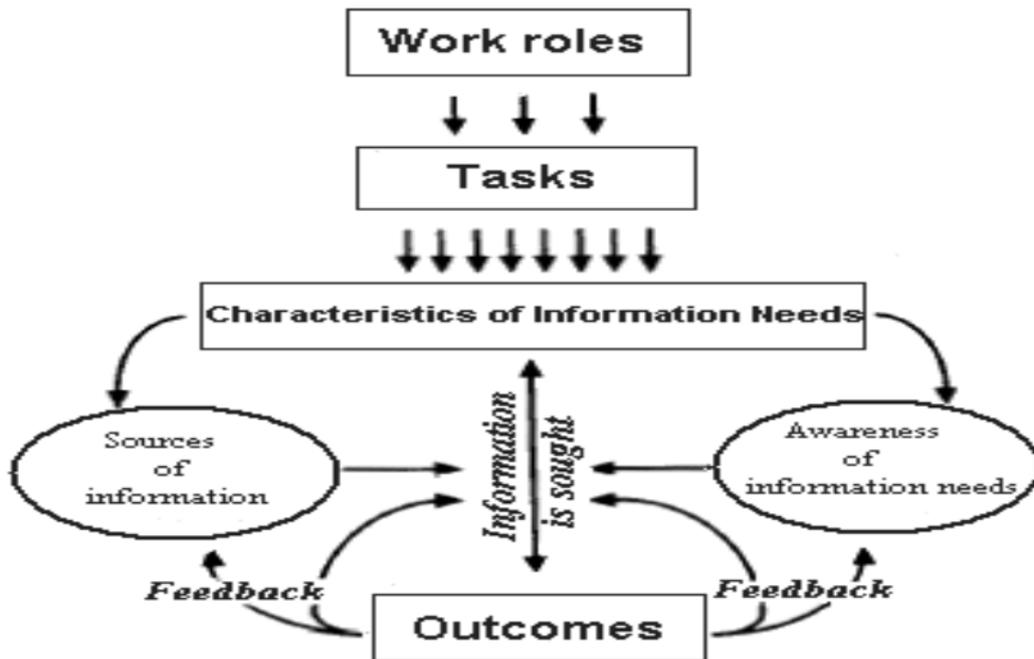
Progress in information technology has offered today's information seekers different opportunities to access the information resources in variety of formats, including commonly-available electronic information sources, such as CD ROMs, databases, Web-OPACs, and the Internet. In some instances these are replacing the print-based information sources as the primary media for the storage and communication of recorded information.

Information Seeking Behavior is mainly concerned with who needs what kind of information and for what reason; how information is found, valued and used, and how their needs can be identified and satisfied. The information seeking behavior essentially refers to the strategies and actions undertaken to locate discrete knowledge elements. It is concerned with the integrative utilization of the three basic resources: people, information, and system. It can be said that the behavior which yields the highest information satisfaction is the best.

Information use studies over the years have attempted to explain the information phenomena, to understand information use behavior and improve information use by manipulating essential conditions. Information Seeking Behavior results from the recognition of some need experienced by the users. More recently, Wilson, in his mode of factors influencing the need and ISB opines that the full range of human personal needs such as – physiological, affective and cognitive needs are at the root of motivation towards information seeking behavior.

1.2 Needs of the present study

The nature of information is not easy to describe. Today, information technology has developed rapidly a huge impact on access to information and information seeking behavior. Library professionals have to know and examine the criteria of information seeking and information used by users for providing information services, designing new information systems, intervening in the operation of existing systems, or planning in service programs.



The researchers tried to get the answers from the following questions:

- What kind of information is sought by student?
- What methods are used for seeking information?
- How is information technology used by student?
- What languages are used by student?
- What are the problems of seeking information and how it can be solved?

There are some studies carried out by the Library science students regarding the library resources and services in selected engineering college libraries. However, there is no systematic study covering all aspects of engineering college students, their information requirements, their information access and the requirements being fulfilled by the libraries of their respective colleges. As such an effort is made to find out the information seeking behavior and the information requirements being fulfilled by the engineering college libraries in Indore city.

1.3 Objectives of the present study:-

The objectives of the present study are:

- i. To examine information needs and information seeking behavior of students.
- ii. To determine the purpose and kinds of information used by students.
- iii. To explore the use of information technology enabled library services and their use by the students.
- iv. To study the problem faced by users of library while seeking and use of information.

1.4 Scope & Limitations:-

A structured questionnaire was designed for the purpose of data collection and e distributed to the students of Engineering Colleges in Indore. A total of 500 questionnaires were distributed

1.5 Review of literature:-

An attempt has been made to collect the literature published on information seeking behavior of Engineering College Students and presented here.

Hussain, G. Akhtar and Ahmad, Parvez(2014)¹ This study analyzed the information seeking behavior of the teachers and students at College of Engineering, King Saud University, Riyadh, Kingdom of Saudi Arabia. In this study, data collected from 150 teachers and students by administering questionnaires on their information seeking and requirements of the College of Engineering, indicates that guidance in the use of library resources and services is necessary to help teachers and students to meet their information requirements. Found that journals, textbooks and electronic information sources are the most popular sources of information for the students' course work. Recommends that latest edition of textbooks and reference materials should add to the library collections. Suggests that the CD-ROM databases of journal archives and reference books should be added and users should be guided to use the resources of the library. **Naick B.R., Doraswamy(2013)²** This paper gives the information about the role of the libraries in the information needs of the students in their needs point of view. Mostly the students use the libraries for their academic point of view (means for their examinations) but some of the students want to learn subject and some of the students want to use for research purpose. The main aim of this paper is to conduct a survey to evaluate the role of the library in information needs of the students in engineering colleges. The results show the students need the ready information for their examinations purpose and the core information for their knowledge purpose and standard information for their research purposes. The result suggests the arrangements and modifications to

be implemented in the library to meet the information needs of the students. **Saleh, Nasser(2012)**³ This study analyzed information behavior is an emerging area in information science that deals with the identification, seeking, searching, and use of information by two or more people to accomplish a task. This dissertation investigates the collaborative information behavior of senior undergraduate engineering students working on group design-projects at a Canadian university. The dissertation presents a longitudinal research using a constructivist grounded theory methodology in two different but related studies undertaken in successive academic years. The main research method consisted of a web-based survey, bimonthly semi-structured interviews with eight students, and the project deliverables for six different project groups. Project deliverables included weekly reports that described group and project activities, and the projects' interim and final reports. **Kerins, Gillian, and Ronan Madden(2004)**⁴ in their paper information, seeking behavior is of great significance to libraries and publishers. This study therefore investigated the information needs and the information seeking behavior of lecturers in the Faculty of Law, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. Open and closed ended questions on information selection, type of and purpose for seeking information, and problems involved in seeking information were administered to the Law Lecturers. Significant differences in measured parameters were assessed with Pearson's Chi-square test using Graph Pad Prism version 5.00. Results indicated that the primary purpose for seeking information was; to obtain useful materials for research work (75%), background reading (62.5%), and keeping updated with knowledge in their field of specialization (56.3%). Law Reports, Law Journals, and Textbooks (93.8%, 81.3%, and 81.3% respectively; $p < 0.0001$) were said to be the most useful source of information. Preference for information access was mainly electronic resources ($p \leq 0.001$). The majority (68.8%) of Lecturers sought for information daily. All Law Lecturers saw the Sir Arku Korsah Law Library as an important place for seeking information; there is a positive correlation between adequacy of library materials and frequency of library visits. The information needs of Law Lecturers were diverse but the Law Lecturers relied greatly on law reports, law journals and textbooks. Information professionals could analyze these findings and design, develop, and introduce new library information services for lecturers. **Hertzum, Morten, and Annelise Mark Pejtersen.(2000)**⁵ in their paper information from colleagues and internal reports. This study investigates how engineers' information-seeking practices intertwine looking for informing documents with looking for informed people. Based on case studies in two product-development organizations we and that engineers search for documents to and people, search for people to get documents, and interact socially to get information without engaging in explicit searches. This intricate interplay between document and people sources can be explained by the nature of the design task. Many possible solutions are normally available to the designer and in choosing one over the others the designer must take into account a complex set of

issues involving both the product as such and its context. However, design documentation seems to be biased toward technical aspects of the chosen solution, while information about the context of the design process is typically not available. Hence, people become a critical source of information because they can explain and argue about why specific decisions were made and what purpose is served by individual parts of the design. While document retrieval is a well-established field, this study concludes by brevity outlining how computer systems could support searches for people. Given the immense practical importance of searches for people there seems to be a large need for such systems and, consequently, for addressing the open research questions involved in designing them. 7 2000 Elsevier Science Ltd. All rights reserved.

Singh, Manpreet, and Major Singh.(2014)⁶ in this paper is to highlight the Information seeking behavior of faculty members of GNDEC, Ludhiana. Due to Information Technology and its impact on libraries and information centers the information seeking behavior has become more complex in these days. A challenge facing libraries is to develop and update collections and services to meet the needs of the multiple generations of users with differing approaches to information seeking. So to provide maximum utilities to the users the library professionals has provided different methods for users satisfactions. The finding shows that majority of faculty members are preferred online databases, and visit to library for update their research developments. **Jeyaprakash, s., and p.j. Nirmala. (2014)⁷** The article investigates the knowledge seeking behavior of faculties between two Engineering colleges and two Arts colleges underneath VLB Trust. This study aims to look at the knowledge seeking behavior of faculties between Arts and engineering college resources. All the colleges under VLB trust include a well equipped Library with an immense assortment of books and periodicals. This study concentrates on the usage of Library resources among the colleges. **Jesiek, Brent K., and Qin Zhu.(2014)⁸** In this Study Engineering graduates encounter worlds of professional practice that are increasingly global in character. This new reality poses challenges for engineering educators and employers, who are faced with the formidable task of preparing engineers to be more effective in diverse national and cultural contexts. In response, many commentators have proposed lists of attributes or competencies deemed important or even essential for global engineering work. However, such lists have tended to lack explicit grounding in empirical studies of engineering practice, including typical kinds of work situations and related behavioral requirements. As a step toward establishing a more robust definition and developmental theory of global engineering competency, this paper reports results

From a wide-ranging literature review on engineering practice in global context. The findings are organized around three main contextual dimensions of global engineering competency: technical coordination; engineering cultures; and ethics, standards, and regulations. Particular efforts are

made to relate our findings to prior discussions of what it means to be a globally competent engineer, while further illustrating each dimension by giving examples drawn from interviews with practicing engineers. The paper concludes with a review of ongoing and future work, including how our findings are inspiring creation of situational prompts and activities for both assessment and instructional uses. **Saleh and Large(2011)⁹** This paper reports on ongoing research investigating the collaborative information behavior of undergraduate engineering students who are working on a course-based engineering project. It presents data collected through a web-based survey undertaken at the end of a senior multidisciplinary design engineering course in a Canadian University. The survey was completed in March 2010 by 42 individual students and included 33 questions relating to both individual and group activities during the project. The findings show that students engaged in more collaborative activities during the information need identification stage and the final stage in which information was employed to write the final report. The open-ended questions showed students' preferences to approach other people as information channels to guide them to relevant information that are appropriate to the project task. Different strategies towards collaborative activities were also identified among student groups. Collaborative activities were found to be at their highest during the task formulation stage at the early stage of the project and at a lesser level during the selection of the design solution. Information and researchers have begun to challenge the individualistic approach by exploring the social, contextual, and collaborative dimensions of information seeking. **Sankari R., Lakshmi, Chinnasamy K, and Venkatachalam A. M.(2011)¹⁰** This study analyzed information is a basic necessity of everyday life. For anything and everything information is required. Information can be obtained or retrieved from a variety of sources. Libraries serve as a center for providing the right information to the right people at all times. User studies are to be recognized as an important part of the information packages. Information providers like the library and information centers need to be aware of their users' information requirements as well as their information seeking and information retrieving methods in order that they might be able to provide better services. This paper attempts to study the information seeking behavior of users in V.M.K.V. Engineering College Library, Salem. This study examines several aspects of library use, including frequency of visiting the library, satisfaction with the opening hours of the library, library collection and user satisfaction from library services. The study also covers the use of reference sources in the library. Some suggestions are also provided on the basis of study for enhancing the satisfaction level.

Aforo, Akua Asantewaa, and Richard Bruce Lamptey(2012)¹¹ In this Paper Analyzed information, seeking behavior is of great significance to libraries and publishers. This study therefore investigated the information needs and the information seeking behavior of lecturers in

the Faculty of Law, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. Open and closed ended questions on information selection, type of and purpose for seeking information, and problems involved in seeking information were administered to the Law Lecturers. Significant differences in measured parameters were assessed with Pearson's Chi-square test using Graph Pad Prism version 5.00. Results indicated that the primary purpose for seeking information was; to obtain useful materials for research work (75%), background reading (62.5%), and keeping updated with knowledge in their field of specialization (56.3%). Law Reports, Law Journals, and Textbooks (93.8%, 81.3%, and 81.3% respectively; $p < 0.0001$) were said to be the most useful source of information. Preference for information access was mainly electronic resources ($p \leq 0.001$). The majority (68.8%) of Lecturers sought for information daily. All Law Lecturers saw the Sir Arku Korsah Law Library as an important place for seeking information; there is a positive correlation between adequacy of library materials and frequency of library visits. The information needs of Law Lecturers were diverse but the Law Lecturers relied greatly on law reports, law journals and textbooks. Information professionals could analyze these findings and design, develop, and introduce new library information services for lecturers. **Tahira, Muzammil, and Kanwal Ameen(2007)**¹² In this paper focuses on enquiring the information needs and Information seeking behavior of Science and Technology (S&T) teachers of the University of the Punjab (PU). Their preferences regarding various formats of information sources (printed and electronic) and importance of formal and informal sources have been explored through quantitative survey. Self-completion questionnaire was used to reach whole population of institutions/colleges/departments of all Science and Technology faculties. Findings reveal: both libraries and e-resources are playing important role in meeting respondents' information needs; direct access to e-sources has slightly decreased the number of their visits to departmental and central libraries; and faculty spend comparatively more time on searching web sources than print sources. A.Joshi, **Pradip, and S.M Nikose(2004)**¹³ The paper presents the various attitudes and behavior in seeking information from engineering college libraries by users .Analysis shows that students ,teachers and scholars have been shown more affection to formal collection in libraries. As well as the information seeking from electronic resources with internet has given more preference. Impact of ICT has done more for users of Engineering College Libraries. Thus electronic print media are popular among users. **Bamnia, Prithvi Singh.(2014)**¹⁴ The present study explores information seeking habits of students of Sent Long weal Institute of Engineering & Technology (Deemed University) [Estab. By Government of India], Lingual, Punjab. 150 questionnaires were distributed among students who are using the library of the Institute. 100% response was received from Library users. **Barsky,**

Eugene, and Annette Berndt(2011)¹⁵ This study analyzed information is a basic necessity of everyday life. For anything and everything information is required. Information can be obtained or retrieved from a variety of sources. Libraries serve as a center for providing the right information to the right people at all times. User studies are to be recognized as an important part of the information packages. Information providers like the library and information centers need to be aware of their users' information requirements as well as their information seeking and information retrieving methods in order that they might be able to provide better services. This paper attempts to study the information seeking behavior of users in V.M.K.V. Engineering College Library, Salem. This study examines several aspects of library use, including frequency of visiting the library, satisfaction with the opening hours of the library, library collection and user satisfaction from library services. The study also covers the use of reference sources in the library. Some suggestions are also provided on the basis of study for enhancing the satisfaction level.

Guruprasad, R, and P Marimuthu (2014)¹⁶ This study analyzed institutions and Universities invest substantial sums of money for providing scholars with the digital literature they need for their research work with the intention that improved access to electronic information resources will lead to increasing scholarly productivity. The transformation of the physical library to the virtual library probably saves time, since one can access publications from one's desktop. The extent of publications available online combined with easier access has tremendously improved scholars' ability to keep abreast in their field, and perhaps inspire new ideas and ultimately enhance the quality of their work. A research survey was conducted to study the Location of Articles from E-Journals by the Aerospace Scientists and Engineers of Bangalore.. The major conclusions of this study are: (a) E-Journal Online List: The 2 test indicates that the 'e-Journal Online List' and the different types of aerospace organizations have no significant association (Chi-Square=15.57, P = 0.411). (b) Directly from Publisher's Web-Site: The 2 test indicates that 'Directly from Publisher's Website' and the different types of aerospace organizations have no significant association (Chi-Square=16.16, P = 0.371). (c) Subject List Located on the Publisher's Web-Site: The 2 test indicates that 'Subject List Located on the Publisher's Website' and the different types of aerospace organizations have significant association (Chi-Square=31.09, P = 0.009). (d) Access / Link Provided at the Scientists Desktop through the Organization's Intranet: The 2 test indicates that 'Access / Link Provided at your Desktop through your Organization's Intranet' and the different types of aerospace organizations have significant association (Chi-Square=44.80, P = 0.000), (e) Alphabetical List Located on Publisher's Web-Site: The 2 test indicates that 'Alphabetical List Located on the Publisher's Website' and the different types of aerospace organizations have no significant association (Chi-Square=19.87, P = 0.177), (f) From A Database: The 2 test indicates

that 'From a Database' and the different types of aerospace organizations have no significant association (Chi-Square=18.49, P = 0.248), (g) Personal Bookmark: The 2 test indicates that 'Personal Bookmark' and the different types of aerospace organizations have no significant association (Chi-Square=21.58, P = 0.119). **Faraijia, Vijeta(2013)**¹⁷ The paper is an outcome of the research study conducted by the authors on Information Seeking Behavior of Staff member, particularly Engineers working in different Department of RDSO, Luck now. Data has been collected through the structured questionnaire and personal interview with the respondent. The collected data analyzed and interpretation have made. Study discusses the findings of various strategies and procedures adopted by the Engineers in meeting their information requirements. The Engineers were asked to ranks the information sources in on the basis of I, II, and III in the order of priority. The survey result shows that Engineers have expressed great dependence on Internet in meeting their information requirements with the help of institutional library/information centre and personal efforts. alarian, **Maryam, Roliana Ibrahim (2012)**¹⁸ This study analyzed An important issue that absorbs many attentions is studying the users' required information and their pattern of dynamicinteraction with online search. The aim of this study is to identify the relationship between users' cognitive style and information seeking. It is to enhance the quality of information presentation and users' interactions in the Web by adapting their preferences and specific needs. This paper specifically focuses on the use of the Internet by postgraduate engineering students. The sample of this study consists of 50 postgraduate engineering students from the Faculty of Computer Science and Information System in University Technology Malaysia. The findings of this study reveal the linear relationship between users 'cognitive styles and information seeking. **Abraham, biju k., and r. Ponnudurai (2012)**¹⁹ The study examines the aspects of informationseeking behavior of the faculty of Engineering Colleges affiliated to Mahatma Gandhi University, Kottayam, Kerala. It includes nature and type of information required their need. The relationship between the nature and type of information required with academic status. The nature and type of information required with institutions. **Satpathy, Sunil Kumar, and Uday Nath Rout(2011)**²⁰ This study analyzed information need and seeking behavior of library users have also changed considerably. Accordingly the library needs to assess these aspects of user's properly to provide better library services. This paper attempts to analyze the information need and seeking behavior of faculty members working in Engineering colleges of Orissa and for this purpose C.V.Raman college of Engineering ,Bhubaneswar has been taken as a case study. The analysis of data collected through questionnaires reveals that the main purpose of seeking information is for study and research and the faculty members prefers resources than print resources for their information need. Also Library is the main source of information for them. The paper suggests some steps for the

improvement of library system and services so that it can meet the information need of faculty members in a more effective way. **K. Tucci, Valerie(2011)**²¹ This study, the first phase of a multi-phase effort, was undertaken to assess and provide for the information needs of the Faculty of the Schools of Science and Engineering at The College of New Jersey (TCNJ) in the digital age. The objectives of this phase were to: 2/12/2015 Assessing Information-Seeking Behavior of Computer Science and Engineering Faculty <http://www.istl.org/11-winter/refereed5.html> 2/22 1) gain an in-depth understanding of how computer science and engineering faculty members currently obtain information and thus influence students, 2) determine changes needed in the collection/services of the library to facilitate this information flow and implement desired change and 3) share this experience so other librarians may question whether their faculty members also feel misunderstood and 4) initiate a dialogue with faculty members to obtain their perspective and insight. Focus Group standardized protocol with a trained facilitator and recorder was employed to gather qualitative data from 47% of the computer science and engineering faculty. The facilitator employed a pre-designed guide to elicit responses about current and desired library collections and services. Nine major information behaviors or issues were identified as needing to be addressed. From this feedback, collection/services changes were implemented to support the positive information behaviors and to overcome barriers to enhancing students' information literacy and life-long learning skills while assuring faculty members that their needs were heard and understood. **U preez, Madely (2009)**²² This study involved a qualitative investigation of consulting engineers' information needs and information-seeking behavior within the context of their project-related work roles and tasks. The research design includes a study of various information behavior models, a systematic review of the subject literature and the exploration of relevant qualitative research methods. Data was collected through time-line interviews. The findings show how consulting engineers' work roles and tasks determine their information needs during various engineering project stages. These factors also determine the use of various sources during information seeking. Consulting engineers use a variety of information sources but rely mainly on interpersonal communication to gather information. Digital cameras are used by consulting engineers to record progress in a project. They also use Internet technologies such as email and FTP sites to communicate project related information. Recommendations were put forward for the development of an Internet-based information service for consulting engineers. **Engel, Debra, and Sarah Robbins(2009)**²³ In this Paper information-seeking habits of engineers focus on understanding the similarities and differences between scientists and engineers. This study explores the information-seeking behavior of academic engineering faculty from twenty public research universities. This investigation includes an examination of how frequently engineering faculty seek or access information, how they keep

abreast of current developments in the field and find less recent journal articles, how often they visit the library in person, and how important library services and resources are in meeting their information needs. The responses from the survey participants emphasize the importance of electronic access to current and archived scholarly journals for meeting the research and information needs of engineering faculty. **Kerins and Madden (2004)**²⁴ This paper reports the results of two empirical studies which explored the information seeking behaviour of engineering and law students in Ireland. Findings reveal similar patterns in the information seeking behaviour between students studying to become professionals and information seeking patterns of these groups identified in the Leckie et al. model. Students learned their information seeking strategies, including effective and less effective approaches, from educators. Mis-perceptions of the role and value of libraries and information professionals in their studies were common, and as a result, students often adopted information seeking strategies that excluded libraries and library staff. The two studies suggest that engineering and law students in Ireland could benefit from greater information literacy training and awareness, enabling them to acquire the information skills they need to function effectively and efficiently in their future professional work lives. **Hertzum, Morten(2000)**²⁵ This study analyzed of their information from colleagues and internal reports. This study investigates how engineers' information-seeking practices intertwine looking for informing documents with looking for informed people. Based on case studies in two product-development organizations we and that engineers search for documents to and people, search for people to get documents, and interact socially to get information without engaging in explicit searches. This intricate interplay between document and people sources can be explained by the nature of the design task. Many possible solutions are normally available to the designer and in choosing one over the others the designer must take into account a complex set of issues involving both the product as such and its context. However, design documentation seems to be biased toward technical aspects of the chosen solution, while information about the context of the design process is typically not available. Hence, people become a critical source of information because they can explain and argue about why septic decisions were made and what purpose is served by individual parts of the design.

1.6 Hypothesis:-

The Engineering institute and there are many students of engineering and they have also using library. In information era more than more students seeking information so there information seeking behavior is good and electronic based.

H1:- The Libraries are fulfilling the information needs of the students in the engineering colleges in Indore city.

H2: The Library users are satisfied with the resources and services in these libraries.

H3:- ICT enabled library services are not up to the level of satisfaction.

1.7 Research Methods and Data Collection:

The closed ended questionnaires were distributed to the students in all the five Private Engineering Colleges in Indore city. The Student opinions about the information seeking mode from engineering college libraries has been collected. Eighty six percent of the students responded to the questionnaire. The data obtained under various headings were analyzed and are interpreted. One hundred questionnaires have been sent to each college and the number of respondents from each college is given below.

S.N.	College Name	No. of Stud.	%
1	Sri Aurobindo Institute of Technology, Indore	97	97%
2	Malwa Institute of Science & Technology, Indore	85	85%
3	Medicaps Institute of Science and Technology, Indore	85	85%
4	Sushila Devi Bansal College of Technology, Indore	76	76%
5	IPS Engineering College, Indore	87	87%
	Total Responded	430	86%

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CHAPTER- 2

HISTORICAL BACKGROUND

2.1 INFORMATION SEEKING BEHAVIOR:

2.1.1 History:-

The experiences associated with the operation of "Big science" during World War II – major projects such as the development of the atom bomb – led government leaders to see the advantages in improving the distribution and transfer of information on new discoveries to other scientists and engineers. Major conferences on scientific information, in 1948 and 1959, led to a substantial amount of money being invested during the 1950's and 1960's in research on how scientists gathered and used information in their research work. Major example publications were the proceedings of the two science information conferences, the 21-report series "Project on Scientific Information Exchange in Psychology" from the American Psychological Association, and the work of Garvey et al. on several disciplines. Other influential early works include publications by Derek de Solla Price, Diana Crane, and A.J. Meadows. (Note: In order to keep this entry's long bibliography from being even longer, referenced items is often only a sample of a person's work, and when a series of articles comes out from a project, generally only the last article in the series is referenced.). Early on, studies on information seeking behavior were called "use studies" studies of "information seeking and gathering," or studies of "information needs and uses". Gradually, the term "information seeking research" was used to include all kinds of research on people's interaction with information. More recently, however, some researchers came to feel that "information seeking" suggested only explicit efforts to locate information, and did not include the many other ways people and information interacted. In the 1990's, the term "information behavior" came into wide use to replace "information seeking behavior." The Old Guard objected that the phrase is a non sequitur – information does not "behave" but, they lost out, and "information behavior" remains the most commonly used term today.

During the 1960's, in particular, generous funding was available in the United States for social science research, and a great deal of knowledge, based on large, well-designed studies, was developed regarding the social aspects of scientific communication and information use. Important studies were also produced on information use and library use by the general public. Focus in the larger society during the 1960's and 1970's on identity politics of race, gender, sexual orientation, and the economically under-privileged also led to research attention being directed to information seeking of the corresponding population groups.

After the earlier attention to the natural sciences, during the 1970's research attention turned to information transfer in the social sciences. Grant funding in the U.S. receded, and pride of place went to Great Britain, where several researchers engaged in creative and revealing research on information seeking and use in the social sciences. Finally, in the 1980's and 1990's the underfunded humanities at last got their due, particularly with the support of large institutions such as the J. Paul Getty Trust. In the 1990's interdisciplinary and area studies researchers were addressed See, especially Carole Palmer, as Issue Editor, of an issue of *Library Trends* on interdisciplinary information seeking, as well as her subsequent book. In the 2000's, Kari and Harte made a persuasive case for studying the information behavior of people engaged in activities aimed at fulfillment and self-realization, and their own research provided examples of what could be learned along this line. Over the decades, varying amounts of information behavior research has been done in various professional contexts as well, including the health sciences, law, and business. Among the professions, it is almost certainly the health sciences where the largest body of information behavior research has been done—probably due to abundant funding—while the education profession, despite the importance of information seeking for teachers, seems, mysteriously, to have drawn very little attention.

Indeed, over the years, increasing dissatisfaction was expressed by some researchers toward the prior orientation either to the individual seeking information, or to studying the tendencies and preferences of large social groups, such as physicists or older people. These researchers sought to expand information behavior research, drawing on several theoretical paradigms of interest in the social sciences, such as social constructions, social constructions, and ethnographic techniques. The surest sign of this broader interest came in the form of the "Information Seeking in Context (ISIC)" conference that came to be presented every other year, mostly in Europe, beginning in 1996. Conference attendees have sought to study information behavior in a way that goes beyond traditional research designs. They argue that context must be understood in a much fuller sense; they argue for rich, detailed, qualitative study of specific situations and contexts, in order to understand the very nuanced ways in which people might receive and shape information.

2.1.2 Meaning of Information Seeking

The term information seeking often serves as an umbrella overarching a set of related concepts and issues. In the library world, discussions of database construction and management, community information needs, reference services, and many other topics resonate with the term. Yet, a single, serviceable definition remains elusive. Like any other complex concept, information seeking means different things in different contexts. In the simplest terms, information seeking involves the search,

retrieval, recognition, and application of meaningful content. This search may be explicit or implicit, the retrieval may be the result of specific strategies or serendipity, the resulting information may be embraced or rejected, the entire experience may be carried through to a logical conclusion or aborted in midstream, and there may be a million other potential results. Information seeking has been viewed as a cognitive exercise, as a social and cultural exchange, as discrete strategies applied when confronting uncertainty, and as a basic condition of humanity in which all individuals exist. In fact, information behavior may be a more appropriate term, rather than information seeking, to best describe the multi-faceted relationship of information in the lives of human beings, a relationship that can include both active searching through formal information channels and a variety of other attitudes and actions, including skepticism and ambivalence (Pendleton & Chatman 1998). While addressing some aspects of these many alternatives, this paper uses information seeking to denote experiences or situations in which content is accessed, used, and synthesized into personal knowledge. Information is a critical resource in the operation and management of organizations. Timely availability of relevant information is vital for effective performance of managerial functions such as planning, organizing, locating and controlling. A well established and well designed information system to facilitate decision making in various development projects is critical to the success of any organization. To be successful, any project requires efficient management of human and material resources. Information plays a crucial role in the advancement of existing knowledge, decision making and transfer of technology.

ISB is mainly concerned with who needs what kind of information and for what reason; how information is found, valued and used, and how their needs can be identified and satisfied. The information seeking behavior essentially refers to the strategies and actions undertaken to locate discrete knowledge elements. It is concerned with the integrative utilization of the three basic resources: (1) people, (2) information, and (3) system. It can be said that the behavior which yields the highest information satisfaction is the best. Information use studies over the years have attempted to explain the information phenomena, to understand information use behavior and improve information use by manipulating essential conditions. Information Seeking Behavior results from the recognition of some need experienced by the users. More recently, Wilson, in his mode of factors influencing the need and ISB opines that the full range of human personal needs such as – physiological, affective and cognitive needs are at the root of motivation towards ISB.

The present era is the era of information and knowledge revolution. Many electronic resources are available in the library. The increase in information available on the Web has affected information seeking behavior. Innumerable types of information, in a large variety of containers and in many different locations, are all available in one place. In the modern society, the types of information and

the media which present them have become manifold and multifarious, offering men and women a vast selection. Regardless of which group in a human society is discussed, each one bases its actions upon current information and discards the earlier data. Philosophies emphasize the direct, experiential acquisition of knowledge in the material, physical plane of existence as the most proper form of information. So, no one can deny that knowledge and information are vital.

There is a universal assumption that man was born innocent or ignorant and should actively seek knowledge. Information seeking behavior is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems (such as the Web). 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, e.g. encyclopedias, journals and, more currently, electronic media. Mentioned that the frequency of use of the Internet in 1998-2000 had greatly increased. At the same time, expenditures on monographs showed steady increase.

The library, therefore, is the most widely used source of information available to literate societies. The librarian should be aware of what kind of information is being sought, and how it can be obtained. Due to the rapidly escalating cost of purchasing and archiving printed scholarly journals and electronic media, the library has the duty to provide and maintain efficient services.

Whatever the situation in which a person perceives a need for information, engaging in information-seeking behavior is not a necessary consequence. As the previous section suggests, in relation to health information, blunter have the ability to set aside their concerns and to cope with stress by, in effect, and ignoring stress. This suggests that the individual's personality, perhaps coupled with other factors, may offer its own resistance to information-seeking behavior. However, there are clearly a number of other potential impediments between the recognition of a need to be informed and the activation of a search for information. Most obvious are the other elements of the situation, particularly the role-related, social or inter-personal elements. Given that the situation of need may be affected by the environment within which the role is performed, or within which the inter-personal activity is played out, it is also possible that the environment may impose barriers of an economic, political, geographic or other nature.

Any analysis of the literature of information-seeking behavior must be based upon some general model of what might be called "information behavior", of which information-seeking behavior is a

part. Wilson's model (1981) locates the concepts of information need, information seeking, information exchange, and information use in a flow diagram that can be seen as charting the behavior of an individual faced with the need to find information. Wilson argued that a general model of this kind was useful in identifying areas where additional research could be of value and pointed to the lack of research on information use as an example.

Whatever the situation in which a person perceives a need for information, engaging in information-seeking behavior is not a necessary consequence. As the previous section suggests, in relation to health information, blunter have the ability to set aside their concerns and to cope with stress by, in effect, and ignoring stress. This suggests that the individual's personality, perhaps coupled with other factors, may offer its own resistance to information-seeking behavior. However, there are clearly a number of other potential impediments between the recognition of a need to be informed and the activation of a search for information. Most obvious are the other elements of the situation, particularly the role-related, social or inter-personal elements. Given that the situation of need may be affected by the environment within which the role is performed, or within which the inter-personal activity is played out, it is also possible that the environment may impose barriers of an economic, political, geographic or other nature.

2.1.3 Concept & Definition

Whether viewed procedurally as a discrete series of tasks, or holistically as one vein in the body of existence, information seeking defines efforts to bend it to a model or scheme for the purposes of explication. However, one basic, if clumsy, means of describing the phenomenon exists in noting changes in an individual's thoughts, feelings, and actions during a single problem solving experience. After several studies into the research experiences of students, Carol Kuhlthau developed a model of information seeking she dubbed the information search process (1993). Kuhlthau describes the information search process as moving through initiation, *selection*, exploration, formulation, collection, and presentation. While it was developed primarily to explain the formal research performed to complete class assignments, this model does organize information seeking into a set of experiential stages that offer a rough framework for discussing what occurs in the search for information and the transformation of that information into knowledge.

With the growth of information deluge, each one needs information of increasing variety and diversity of level, frequency, volume and use. This complex situation appears to be ambiguous and heterogeneous in character as that, information needs of a particular group of users and information flow from a specific situation/organization are difficult to determine. Again, the use of information is so complex that there cannot be a simple system to cope up with the task of effective retrieval without assessing their specific needs. This situation has given rise to the growing concept of

information searching and the manner of determining the pattern of searching is said to be considered information Seeking Behavior.

Definition

Those activities a person may engage in when identifying his or her own needs for information seeking for such information in any way, and using or transferring that information

(T.D. Wilson, 1999). The information seeking behavior is mainly concerned with who needs what kind of information and for what reasons; how information is found, evaluated and used and how their needs can be identified and satisfied.**(Girija Kumar,1990)**

2.1.4 Elements

There are six elements in information seeking behavior.

- The concept of information as objective versus subjective
- Information users as passive recipient or objective information versus purposive self controlling sense making beings.
- User of information on behavior applied across situation versus behavior understood as the result of dialogue between system and user in which need articulation goes through situation ally bound interactions.
- The study of user behavior primarily in the context of user interaction with the system versus holistic approaches that focus on the whole social interaction.
- Focus on external behavior versus internal cognition; and
- Concerns that a focus on individual behavior yields too much variation for systems to integrate versus the need, with individuality in user behavior.

2.1.5 Purpose

The purpose of information seeking is one of the key factors neglected or treated only superficially in user studies. Information sought by user is often for a particular purpose, current or anticipated and the user of an item of an information even source is optimum, when a perfect match occurs between the need arising out of the purpose and the incident of use. The nature of work of users and the different roles they play are the starting point in understanding the purpose of information seeking keeping abreast of current development, brushing up or reviewing the recent years work in an area and boarding one's area of attention are the main purpose of seeking information.

Library information resources are expensive. The librarians needed to manage these resources and make them accessible are also costly in terms of recruitment, and retention. To attain cost effectiveness in the university library services and promotes the use of library information resources, this study sought to establish ways of improving the information-seeking behavior of undergraduate students. Ellis' six generic information-seeking activities were used as a basis of

establishing how undergraduate students seek information. To attain that goal, the study stipulated the following objectives:

- To establish the undergraduate students' information needs.
- To determine the undergraduate students' information seeking behavior.
- To establish the problems that undergraduate students encounter in information seeking.
- To suggest strategies of improving undergraduate students' information seeking behavior.
- To examine information seeking behavior of student in engineering college student.
- To determine the kind of information are used by student for seeking information.
- To study the purpose of information seeking by students.
- To explore the use of information technology.
- To reveal the use of language of reading material.
- To study the problems faced by student of engineering college while seeking and use information.

2.1.6 Characteristics

There are various factors influencing individual's information seeking behavior depending on the nature of their job, the stage of the project, the urgency of the information or availability of sources. The important characteristics affecting information seeking behavior of users are:

Work role

Personal needs are the route of motivation towards information seeking behavior. The work role connotes the different activities, responsibilities and achievement of an individual in an organizational setting. The nature of the particular organization and individual's personality structure will create needs such as need for achievement, for self expression and self actualization; persons seeking information about job related matters are very often motivated by desires to get rewards for successful performance.

Social situations

All the persons are influenced by families, nations and occupations. They may be a member of gropes such as religious, voluntary associations etc. and in the same way they have their own personal needs. The activities of the gropes have an impact on the individuals' information seeking behavior. Because they share the collective conscious and memory of the group.

Past experience

The need for new information in minimized due to the past experience of a person that means a person's level of knowledge influences his information seeking behavior.

Task interaction Information searching and retrieval involves a combination of different types of interconnected activities or tasks. Some of the activities include high level mental process where the others are more visible.

Attitude of users

Attitude affects individual's information seeking behavior. Attitude and behavior are closely related. Attitude refers to the mental construct. Attitudes are complex products of learning, experience, situational and emotional process and including our enduring preferences and prejudices.

Age group, nature of employment and employee, nature of the institution and qualification, all these factors affect ISB and information use. Now a day's application of computers and communication technologies in different areas of libraries and information centers has a major influence on information seeking behavior of users.

2.1.7 Undergraduate Student Information Need

The findings revealed that the main information demands that led undergraduate students into seeking for information include: Prepare the class notes (51.86%), General awareness (24.65%), Research study (13.49%), Discussion (4.19%) and Other (5.81%) all had a lower rating.

2.1.8 Elements of Information Seeking Behavior

There are six elements in information seeking behavior.

- The concept of information as objective versus subjective
- Information users as passive recipient or objective information versus purposive self controlling sense making beings.
- User of information on behavior applied across situation versus behavior understood as the result of dialogue between system and user in which need articulation goes through situation ally bound interactions.
- The study of user behavior primarily in the context of user interaction with the system versus holistic approaches that focus on the whole social interaction.
- Focus on external behavior versus internal cognition; and
- Concerns that a focus on individual behavior yields too much variation for systems to integrate versus the need, with individuality in user behavior.

2.1.9 Problems Facing In Information seeking behavior.

- Difficulties in seeking required information due to:
- Information scattered in many sources.
- Take more time to look for or read information.
- Working hours of the library are not sufficient.
- Inadequate library physical facilities.
- Not known to seek.
- Material is not available
- Do not know how to use catalogue
- Lack of time
- Incomplete information material

2.2. ENGINEERING COLLEGES IN INDORE CITY.

2.2.1. SRI AUROBINDO INSTITUTE OF TECHNOLOGY, INDORE

Having delivered quality education for decades, Sri Aurobindo Institute of Medical Sciences ventured into the field of Technical Education in 2009 with Sri Aurobindo Institute of Management & Science, Sri Aurobindo Institute of Technology and Sri Aurobindo Institute of Pharmacy, with a clear intent to make each and every institute the best seat of learning in their respective disciplines. In such a short span of time, all the colleges have started progressing towards their vision to be an institution of national repute. Best of the faculties work incessantly to achieve this ambition and the results have already started coming. Sri Aurobindo Institute of Technology is a premier Engineering Institute of Central India. Located at its sprawling 54 acre campus in Indore, SAIT has been consistently ranked amongst the best engineering institutes of the state.



Amongst the many firsts to its credit, SAIT was the first Private Engineering College in Central India to offer an in-house Finishing School. It was Ranked #2 among Emerging Engineering Colleges of India in Times Engineering Survey 2014 conducted by The Times of India and Best Private Engineering College of MP in 2014 by One Planet Research-An Indo-Italian research foundation. SAIT was also awarded Best Engineering College in MP for innovative practices in ICT at the State Education Summit 2012 organized by AICTE, RGPV and Elects Techno media With its unparalleled Industry Interface, SAIT is also one amongst the only 100 Microsoft© Innovation Centers in the world, where students work on live projects, startup incubation, developer camps and technical trainings. SAIT is also host to MP's first Intel© Intelligent Systems Lab, that has been setup under the FICE-Intel College Excellence Program to train students on cutting-edge embedded systems technology. Apart from this Cisco© Networking Academy has also been established at SAIT as a center of excellence in networking technologies offering various certificate course from

Cisco Inc. Additionally, Oracle© Workforce Development Programme and Data64 Centre of Excellence in Cyber Forensics has also been established at SAIT. At SAIT, the clear intent is to produce Engineers for the 21st century, engineers who are competent to face the challenges thrown at them by the global economy. The courses available and the intake capacity in each course is presented below.

AVAILABLE COURSES AND SEATS.

SNo	Branch	Diploma (No of sets)	BE (No of seats)	ME (No of seats)
1	Civil Engineering	60	120	18
2	Computer Science & Eng.	Nil	120	18
3	Electrical & Electronics Eng.	Nil	60	Nil
4	Electronics & Commun. Eng.	Nil	120	Nil
5	Mechanical Engineering	60	120	18

2.2.2. MEDICAPS INSTITUTE OF SCIENCE AND TECHNOLOGY, INDORE

Medi-Caps Group of Institutions is one of the brand names in the arena of technical education and contributing in making Indore an educational hub. Since its inception in July 2000, the group consistently aims at creating an ideal ambiance for budding technocrats and helping them to grow like a highly professionals. The main strength of Medi-Caps Group of Institutions is its highly qualified faculty. We have optimal blend of academic brilliance and industry exposure, which is supplemented by highly specialized visiting faculty and industry experts, senior professionals from various segments of different industry/ business houses. This helps in refining the candidature of our graduating students from Engineering and Management field..



HISTORY:-

The college was founded in 2000. It is located in the Rau suburban, of Indore city, Madhya Pradesh India Medi-Caps Institute of Technology and Management is managed by Medi-Caps Charitable Trust, Indore, constituted under provision of stature 28 of M.P. Vishwavidyalaya Adhinium 1973, and the AICTE Act. Shri R.C. Mittal, an industrialist, is the Chairman of the Governing Council. Shri. R.C. Mittal Industrialist Chairman Prof. Y.P. Singh, Director MITS Nominee AICTE Member Dr. Shamsher Singh CED, Medi-Caps Indore Member Dr. Sunil K. Somani Director, MITM(Engineering) Member Secretary Dr. S. R. Kumar Director, MIST(Engineering) Medi Caps Institute of Science and Technology.

AVAILABLE COURSES AND SEATS.

S. No.	Branch	Diploma (No of sets)	BE (No of seats)	ME (No of seats)
1	Computer Science and Eng.	Nil	180	36
2	Information Technology (IT)	Nil	60	18
3	Electronics and Comm. Eng.	Nil	180	18
4	Electronics and Instrumentation (EI)	Nil	60	Nil
5	Electrical and Electronics Eng.	Nil	60	Nil
6	Civil Engineering (Civil)	Nil	180	
7	Mechanical Engineering (ME)	Nil	180	18
8	Automobile (AU)	Nil	60	
9	Nano Technology (NT)	Nil	Nil	18

2.2.3. MALWA INSTITUTE OF SCIENCE & TECHNOLOGY, INDORE

About Patel Education & Welfare Society (PEWS) Patel Education & Welfare Society, an Indore based society has vowed to take an important task of providing high quality technical education in Madhya Pradesh. To achieve this aim, it has established Malwa Institute of Science and Technology at Limbodagari, Sanwer Road, Indore (M.P.) The Society and its educational institutions are the dream of Late Shri Hargovindh Patel Shivhare, one of the famous Industrialists of his time. His son, Shri R.S. Shivhare the chairman of PEWS is an eminent industrialist, Entrepreneur, Philanthropist and a Visionary. He firmly believes that modern education has to have its roots in strong values. Shri R.S. Shivhare is also the Vice President of Indus Global Education & Welfare society as well

as the Vice Chairman of Governing Body of Malwa Institute of Technology, Malwa Institute Of Pharmacy and Chairman of Malwa Institute of Science & Technology (MIST). He has great vision for Education endeavours. Within a short span of six years, he has taken the institute to a high velocity growth trajectory. These six years have catapulted Malwa Institute of Science and Technology (MIST) a name to reckon with in the academic landscape of Madhya Pradesh.



AVAILABLE COURSES AND SEATS.

S. No.	Branch	Diploma (No of sets)	BE (No of seats)	ME (No of seats)
1	Computer Science & Engineering (CSE)	60	120	18
2	Mechanical Engineering (ME)	60	120	18
3	Civil Engineering (CE)	60	120	18
4	Electronics and Communication (EC)	Nil	60	Nil
5	Information Technology (IT)	Nil	60	Nil

2.2.4. IPS INSTITUTE OF ENGINEERING & SCIENCE, INDORE

Institute of Engineering and Science, IPS Academy is a leading Institution devoted to imparting quality engineering education. IES was established on 17th Oct. 1999, after securing approval of AICTE, New Delhi, and Govt. of MP to start this institute from academic session 1999-2000 Institute of Engineering & Science is affiliated to Rajiv Gandhi Praudyogiki Vishwavidyalaya (RGPV), Bhopal, the technical university of Madhya Pradesh for technical courses like MCA, MBA, BE, ME, M.Tech in various engineering disciplines. The sustained growth with constant academic brilliance achieved by IES is due to a greater commitment from management, dynamic leadership of the president, academically distinctive and experienced faculty, disciplined students and service oriented supporting staff. The Institute is playing a key role in creating an ambiance for

the creation of novel ideas, knowledge, and graduates who will be the leaders of tomorrow. The Institute is convinced that in order to achieve this objective, we will need to pursue a strategy that fosters creativity, supports interdisciplinary research and education. This will also provide the students with an understanding and appreciation not only of the process of knowledge creation, but also of the process by which technology and knowledge may be used to create wealth as well as achieve social economic goals.



AVAILABLE COURSES AND SEATS:

S. No.	Branch	Diploma (No of sets)	BE (No of seats)	ME (No of seats)
1	Civil Engineering	Nil	120	Nil
2	Computer Science Eng.	Nil	120	18
3	Electronics and Comm. Eng.	Nil	120	18
4	Electrical and Electron Eng.	Nil	60	Nil
5	Chemical Engineering	Nil	60	Nil
6	Mechanical Engineering	Nil	60	Nil
7	Fire Tech. & Safety Eng.	Nil	120	Nil
8	Structural Engineering	Nil	Nil	18
9	Construction & Planning Management	Nil	Nil	18
10	Industrial Safety Engineering	Nil	Nil	18
11	Chemical Engineering	Nil	Nil	18
12	Power Electronics	Nil	Nil	18

2.2.5. SUSHILA DEVI BANSAL COLLEGE OF TECHNOLOGY (SDBCT), INDORE

Sushila Devi Bansal College of Technology (SDBCT), Indore came into existence in 2005. The college is an integral part of Bansal Group of Institutes. The college is affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal. Sushila Devi Bansal College of Technology is approved by the All India Council for Technical Education (AICTE), Government of India, New Delhi. B.E. courses CSE, IT, EC and Mechanical are accredited by NBA (National Board of Accreditation). The institute imparts courses in engineering at the undergraduate level as well as postgraduate programmes in Master of Engineering(CSE, EC and Mechanical) and management (MBA). The MBA programme of the institute is affiliated to Devi Ahilya Vishwavidyalaya, Indore. The courses are approved by the All India Council for Technical Education (AICTE), New Delhi; AICTE Region: Central. The college is 15 km from the city of Indore, with an area of 44 acres (180,000 m²).



AVAILABLE COURSES AND SEATS:

S. No.	Branch	Diploma (No of sets)	BE (No of seats)	ME (No of seats)
1	Computer Science & Eng.	Nil	180	18
2	Information Technology	Nil	60	Nil
3	Electronics & Comm. Eng.	Nil	60	18
4	Mechanical Engineering	Nil	120	18
5	Civil Engineering	Nil	60	Nil
6	Master of Business Adm.	Nil	Nil	60

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http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1611&context=libphilprac&sei-redir=1&referer=http%3A%2F%2Fwww.google.co.in%2Furl%3Fsa%3Dt%26rct%3Dj%26q%3Dinformation%2520seeking%2520behaviour%26source%3Dweb%26cd%3D5%26sqi%3D2%26ved%3D0CEwQFjAE%26url%3Dhttp%253A%252F%252Fdigitalcommons.unl.edu%252Fcgi%252Fviewcontent.cgi%253Farticle%253D1611%2526context%253Dlibphilprac%26ei%3DJFqTUdDGPM3QrQfa14HIBA%26usg%3DAFQjCNFHwc9_Uh6efRXezlXoUIxomnuXJw%26bvm%3Dbv.46471029%2Cd.bmk#search=%22information%20seeking%20behaviour%22

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<http://webcache.googleusercontent.com/search?q=cache:kIQX2HaGauQJ:www.unilag.edu.ng/opendoc.php%3F sno%3D15750%26doctype%3Ddoc%26docname%3D%24+information+need+information+seeking+behaviour&cd=2&hl=en&ct=clnk&gl=in> access date 03-11-2015

CHAPTER-3

ANALYSIS AND DISCUSSION

3.0 Introduction:

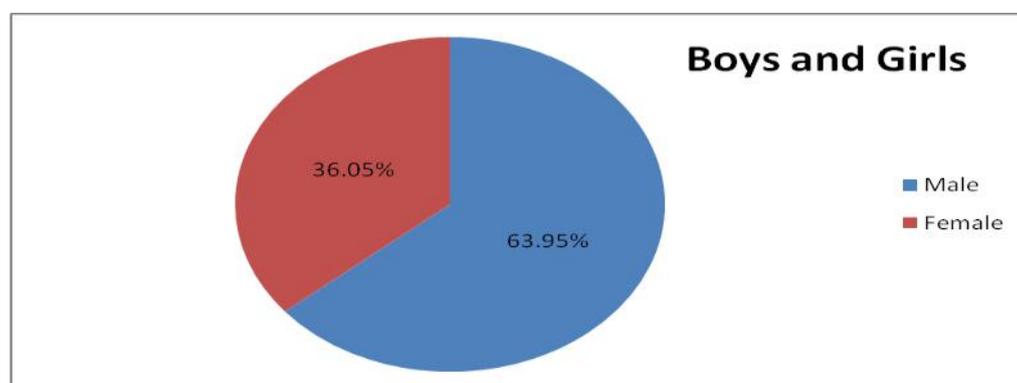
As discussed in the previous chapters, an attempt has been made to elicit the opinion of the users in the engineering college libraries regarding the information seeking behavior. A well structured questionnaire has been circulated among the students of the selected Engineering College Libraries in Indore. As many as 500 questionnaires have been circulated among the students of different branches of engineering in those colleges. A total of 430 questionnaires have been received, thus resulting to 86.00 percent respondents have replied and returned the questionnaires. The replies received by from the users have been presented in this chapter with appropriate discussion as and when required.

3.1 Users by Gender:

In the present age the students belonging to both the genders are equally doing their higher studies in all branches of knowledge. However, in the field of engineering subjects, it is still felt that the boys are getting more admissions, when compared to girl students, As such, an attempt is made to find out the actual status in these colleges.

TABLE-1: USERS BY GENDER WISE

S. No.	Name of the College	GENDER		
		Boys	Girls	Total
1	SAIT	67	30	97
2	SD BANSAL	47	29	76
3	MITM	56	29	85
4	IPS	54	33	87
5	MIST	51	34	85
6	Total	275	155	430
7	Percentage	63.95	36.05	100



Graph.1

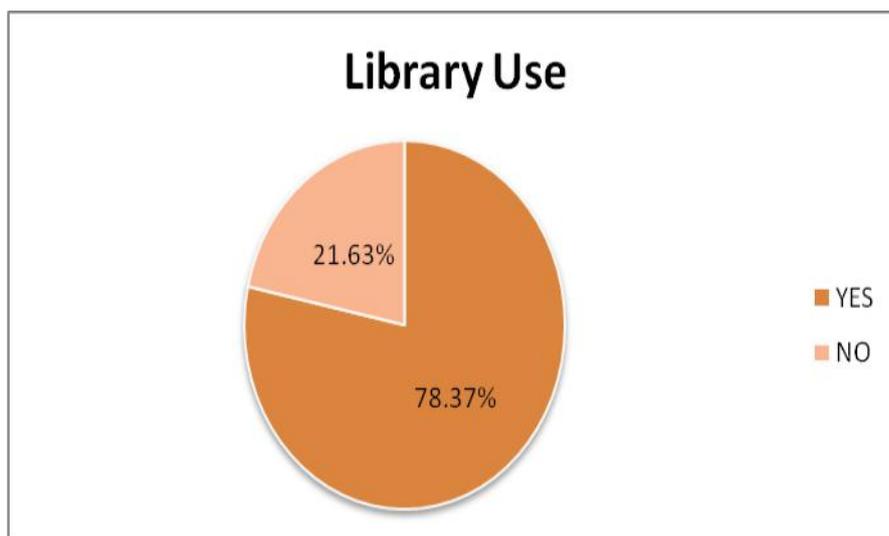
Based on the replies received, it is found that the boys are using the library resources more, when compared to girl students. But in reality, it is not the same because, the average admissions in the college shows that the number of boys and girls are almost equal in number. However, the low percentage of the girl students can be attributed to the fact that many girl students have not returned the filled in questionnaire.

3.2: Library Use:

All the students admitted into different branches of engineering subjects cannot afford to purchase all the books required for their academic work. As such, the students depend heavily on the availability of books in the library and visit the library quite frequently. Since the present study is related to the Engineering college libraries and the. Students pursuing under graduate course in engineering, it is felt appropriate to find out, whether the students visit the library for their academic requirements.

TABLE-2: LIBRARY USE

S. No	College	YES	NO	Total
1	SAIT	82	15	97
2	SD BANSAL	57	19	76
3	MITM	67	18	85
4	IPS	64	23	87
5	MIST	67	18	85
6	Total	337	93	430
7	Percentage	78.37	21.63	100



Graph.2

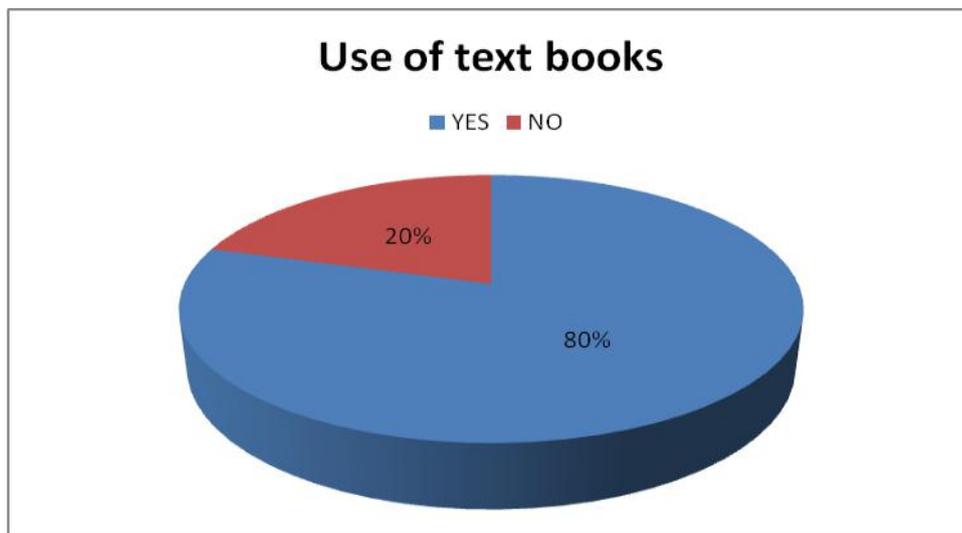
The replies received from the student are presented in Table-2. From the study it is found that as many as seventy eight percent of the students visit the library regularly in search of library books and other information needed by them. It is a good sign that the students are using the library resource to the fullest extent. (78.37%). This can be attributed to the fact that the college authorities are maintaining the text book collections needed by the students. However, it is suggested that the library use percentage should be higher in the case of engineering college libraries, because, the students cannot get all the books required by them outside the college.

3.3 USE OF TEXT BOOKS:

The students of the engineering colleges depend heavily on the availability of text books to complete their academic requirements at the under graduate level. The availability of text books will satisfy the information needs of the students largely. No doubt, ICT has enabled access to large amount of information in e-form; still the printed text book is the first choice of the students in the engineering colleges. As such, an effort is made to find out the popularity of the text books and their availability to students in the engineering colleges. The replies given by the students are presented in the Table-3.

TABLE NO.3: USE OF TEXT BOOKS:

S. No.	College	YES	NO	Total
1	SAIT	74	23	97
2	SD BANSAL	63	13	76
3	MITM	65	20	85
4	IPS	69	18	87
5	MIST	71	14	85
6	Total	342	88	430
7	Percentage	79.53	20.47	100



Graph.3

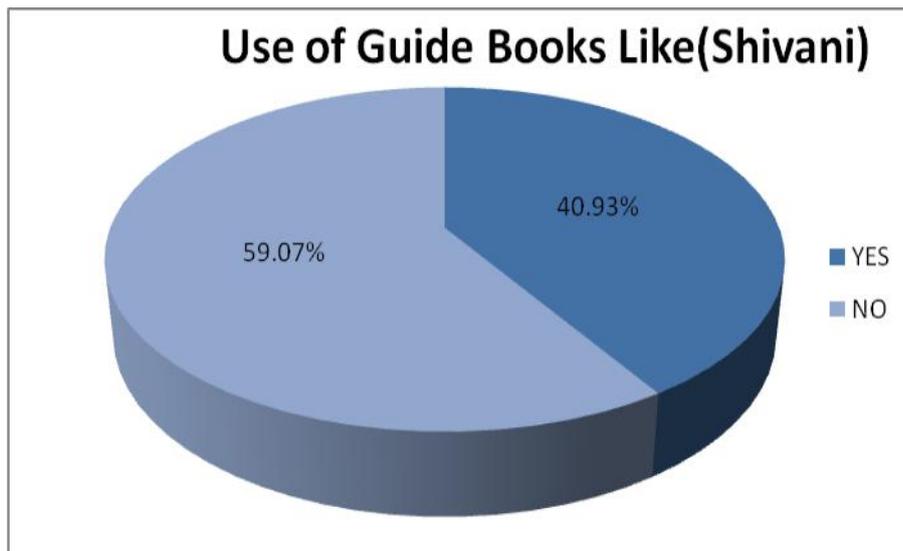
From the above table, the data shows that as many as 79.53 percent of the students are using the text books available in their respective colleges. Again, it can be attributed as good, because almost eighty percent of the student population is using the text books available in the colleges.

3.4: USE OF GUIDE BOOKS:

Despite the availability of the text books and their extensive use by the students, still it is believed that the students refer to guides before the exams for passing the same. As such, it is necessary to find out, whether the students are using the guide books also. The replies are presented in Table-

TABLE-4: USE OF GUIDE BOOKS LIKE (Shivani)

S. No.	College	YES	NO	Total
1	SAIT	39	58	97
2	SD BANSAL	47	29	76
3	MITM	39	46	85
4	IPS	14	73	87
5	MIST	37	48	85
6	Total	176	254	430
7	Percentage	40.93	59.07	100



Graph.4

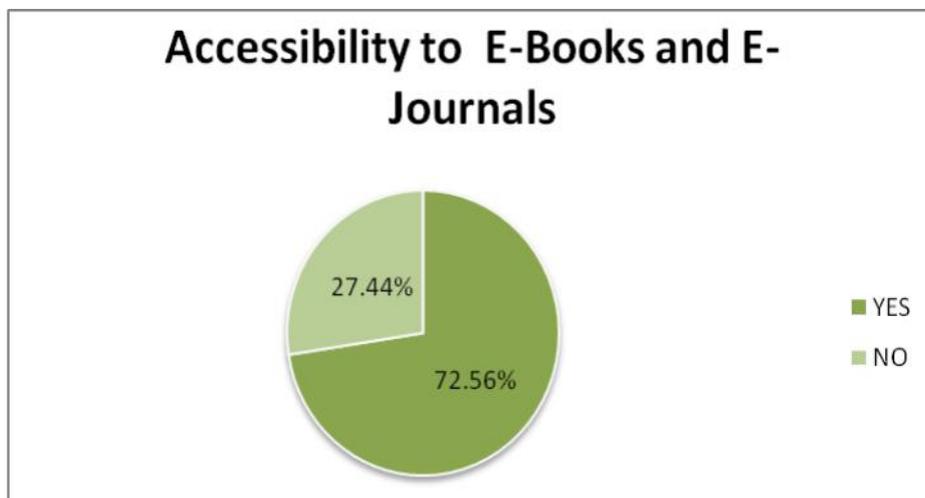
The replies reveal that as many as forty one percent of the students still using guide books like shivani to pass out the examinations. The students are going to be the technocrats and should have a sound knowledge of the subject. Under, the circumstances, students using guide books is not a healthy trend and the library authorities, and the college authorities, should make the students to learn more from the text books than from the guide books.

3.5: ACCESSIBILITY TO E-BOOKS AND E-JOURNALS:

Quite a large number of books in engineering subjects are very expensive and the students cannot afford to purchase the same. With the introduction of ICT in publishing industry, a large number of books are being published in E-Book format and are easy to access 24 X 7 bases anywhere. Similarly the journal publishing industry is quick enough to adopt e-format and provide access to e-journals across the globe. As a result E-books and E-Journals are of great help for those students as well as they don't need to carry so much stuff in their bags they can simply read e-books on their Laptop, tabs, mobile etc. As such, it is felt appropriate to find out the availability of access to e-books and e-journals in the engineering college libraries in Indore city. The replies are presented in Table.

TABLE-5: ACCESSIBILITY TO E-BOOKS AND E-JOURNALS:

S. No.	College	YES	NO	Total
1	SAIT	66	31	97
2	SD BANSAL	54	22	76
3	MITM	59	26	85
4	IPS	66	21	87
5	MIST	67	18	85
6	Total	312	118	430
7	Percentage	72.56	27.44	100



Graph.5

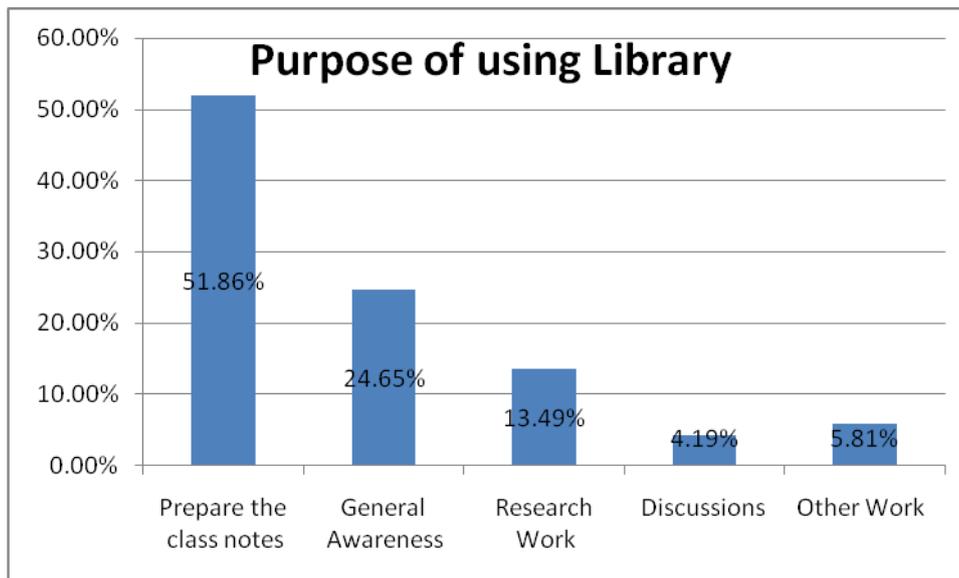
The table and graph show that around seventy three percent students are aware of the access to e-books in their colleges and this is a good attempt. Infact the students who are lagging behind in this direction should use e-books for their academic requirements.

3.6: PURPOSE OF USING LIBRARY:

Library is a place for research, where one can sit and gain as much knowledge one can. As such an attempt is made to find out the purpose of using the college libraries by the students of engineering subjects. The replies are presented in Table-.on our research is to show how students use library.

TABLE NO.6: PURPOSE OF USING LIBRARY:

S. No.	College	Know more about the subject	General Awareness	Research Work	Discussions	Other Work	Total
1	SAIT	56	17	20	1	3	97
2	SD BANSAL	49	24	3			76
3	MITM	42	24	8	6	5	85
4	IPS	37	22	15		13	87
5	MIST	39	19	12	11	4	85
6	Total	223	106	58	18	25	430
7	Percentage	51.86	24.65	13.49	4.19	5.81	100



Graph.6

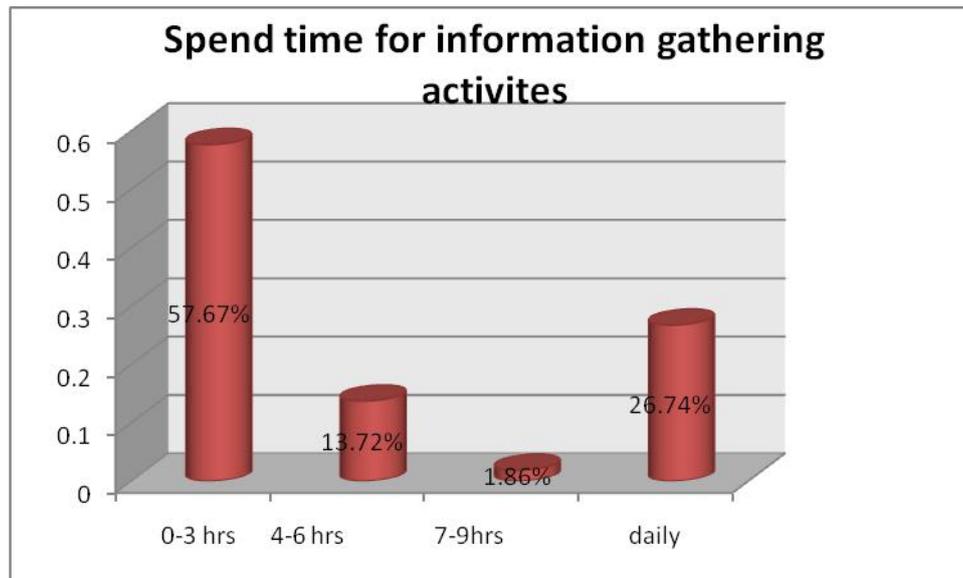
The data reveals that as many as 223 students go to the library to know more about the subject and to read the literature on the subject. It is also interesting to note that as much as 25 percent of the student population visits the library for general awareness about the jobs, what is happening elsewhere, what are the competitive Examinations for which they can appear and so on. Berry fewer students have shown interest in research purpose. In summary the students are visiting the library mostly to learn more about the subjects.

3.7: AVERAGE TIME SPENT IN INFORMATION GATHERING ACTIVITIES:

Time is very important for all the engineering students. The students have lots of assignments to be completed in a time frame. As such, time management and the time spent in the college libraries are very crucial for them. It is therefore enquired about the average time spent in information gathering by the students. The replies are presented in the table-

TABLE NO.7: SPEND TIME FOR INFORMATION GATHERING ACTIVITIES.

S. No.	College	0-3 hrs	4-6 hrs	7-9hrs	daily	Total
1	SAIT	54	10	2	31	97
2	SD BANSAL	57	15		4	76
3	MITM	42	15	4	24	85
4	IPS	46	9		32	87
5	MIST	49	10	2	24	85
6	Total	248	59	8	115	430
7	Percentage	57.67	13.72	1.86	26.74	100



Graph.7

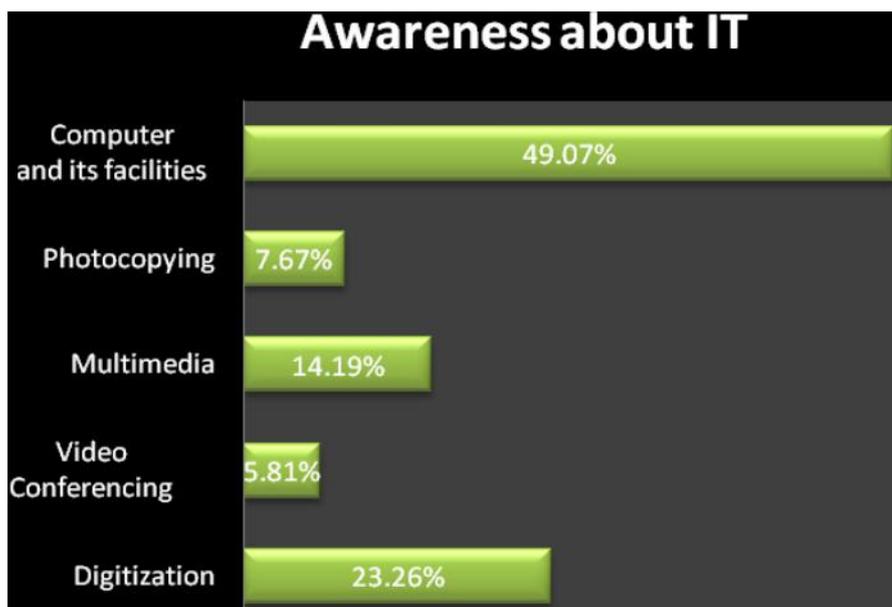
It is a good sign that nearly 57.67 percent of the students visit the library daily for less than three hours in their academic pursuits. It is advisable that the remaining percentage of the students also should visit the libraries and spend time in collection information or in accessing the information, so that they completely their academic requirements conformably.

3.8: AWARENESS ABOUT IT:

Information Technology is one area, which has influenced every human activity. In the present day environment, IT is playing a vital role in higher education and in accessing information resources and services at various levels. As such, it is necessary to fan-out the popularity of IT among the students of engineering colleges in Indore city. The replies are pretend in Table-

TABLE NO.8: AWARENESS ABOUT IT:

S. No.	College	Digitization	Video Conferencing	Multimedia	Photo copying	Computer and its facilities	Total
1	SAIT	22	2	6	5	62	97
2	SD BANSAL	16		19	5	36	76
3	MITM	24	9	5	1	46	85
4	IPS	22	14	15	10	36	97
5	MIST	16		16	12	31	75
6	Total	100	25	61	33	211	430
7	Percentage	23.26	5.81	14.19	7.67	49.07	100



Graph.8

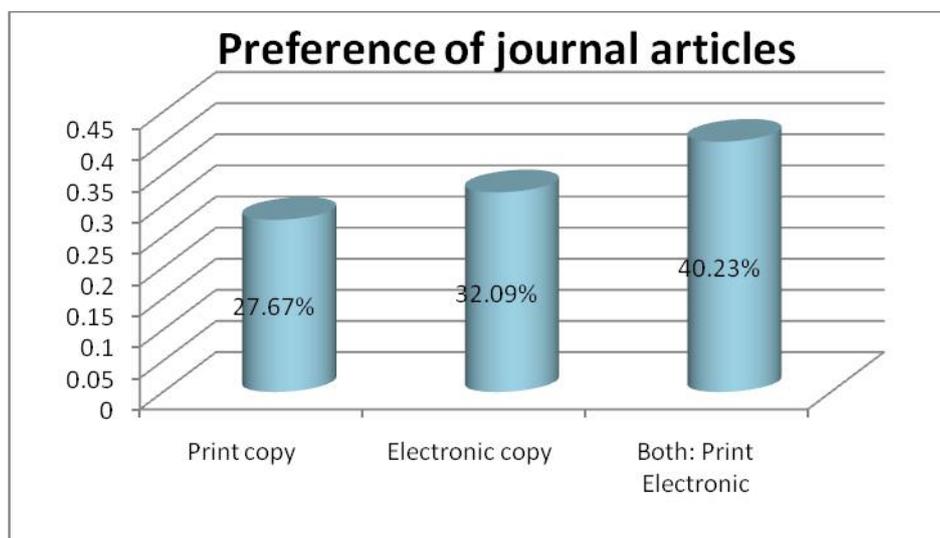
The graph is present the data of awareness of IT based library and provide the services. The largest group with 49 percent is aware of the computerized library services and the computer center in the colleges.

3.9: PREFERENCE OF JOURNAL ARTICLES:

Today is an era where IT is dominating all the activities in higher education and other areas. With the introduction of IT in libraries, access to world information has become possible and the information is available in print and electronic form. As such, an attempt is made to find out the choice of the students in accessing the information available in journals. The data received from the students is presented in Table-

TABLE NO. 9: PREFERENCE OF JOURNAL ARTICLES:

S. No.	College	Print copy	Electronic copy	Both: Print Electronic	Total
1	SAIT	22	19	56	97
2	SD BANSAL	19	8	49	76
3	MITM	26	27	32	85
4	IPS	23	47	17	87
5	MIST	29	37	19	85
6	Total	119	138	173	430
7	Percentage	27.67	32.09	40.23	100



Graph.9

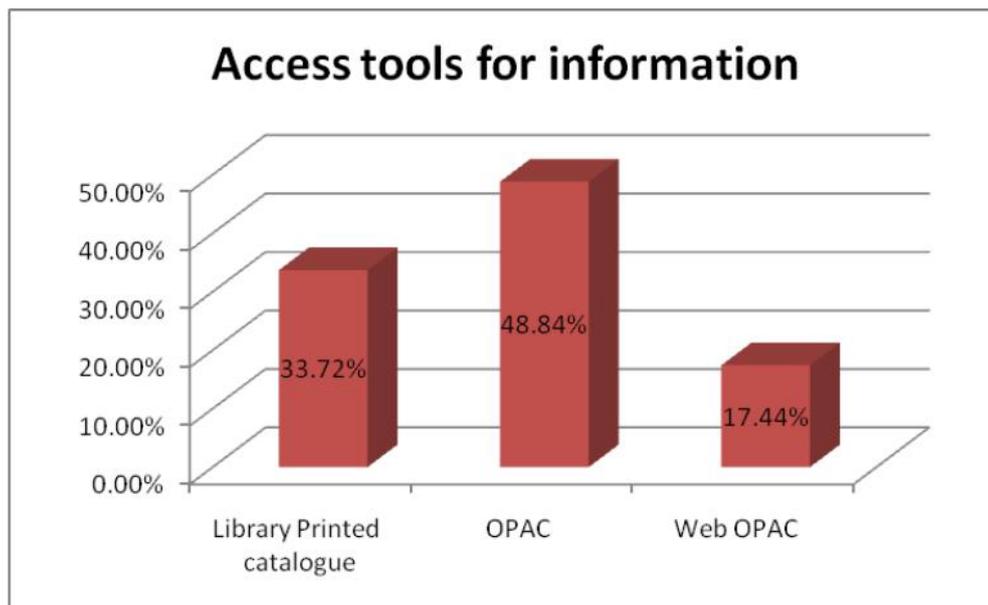
Student prefers information in both print and electronic form for their personal use. However, it will be appropriate for the students to prefer the electronic form in view of its advantages over print format.

3.10: ACCESS TOOLS FOR INFORMATION

The college libraries organize all kinds of tools to access the information available in the college library from printed library catalogue to web OPAC. As such, it is necessary to find out the level of the service and its accessibility to among the students. The replies received are presented in Table-

TABLE NO.10: ACCESS TOOLS FOR INFORAMTION:

S. No.	College	Library Printed catalogue	OPAC	Web OPAC	Total
1	SAIT	66	24	7	97
2	SD BANSAL	17	44	15	76
3	MITM	40	38	7	85
4	IPS	10	57	20	87
5	MIST	12	47	26	85
6	Total	145	210	75	430
7	Percentage	33.72	48.84	17.44	100



Graph.10

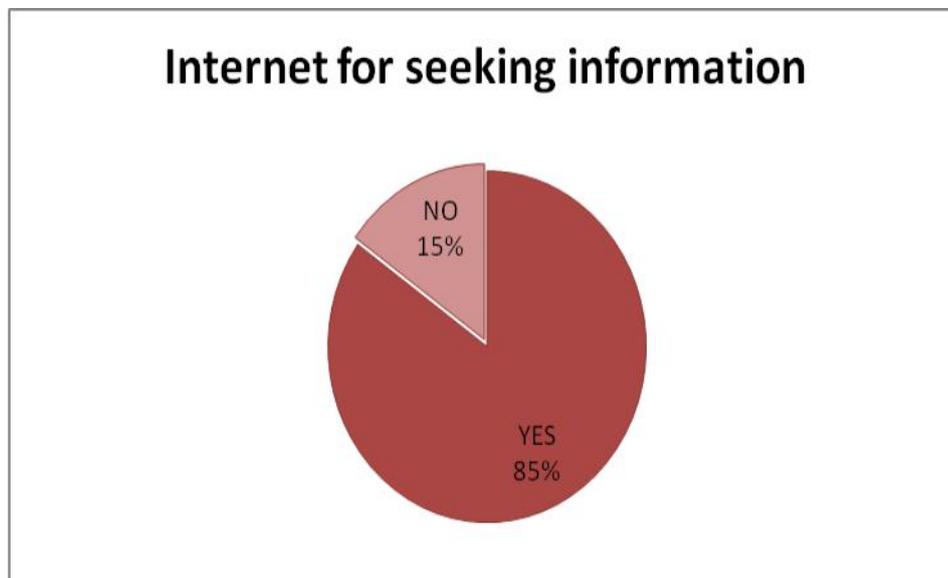
The replies show that the largest group of students (49 percent) in the engineering is familiar with OPAC and the second largest group is using web OPAC. The OPAC and web OPAC group constituents to 82 percent of the total population familiar with OPACS are a good attempt on the part of the engineering colleges.

3.11: INTERNET FOR SEEKING INFORMATION:

Internet plays very important role in today's education system. All the engineering college libraries are well equipped with latest tools and techniques in library automation and the internet is has become the basic requirement in the engineering college libraries. Internet is the medium, where in the world has become a global village and anybody can access any information at no time beyond geographical barriers. As, such, it is felt pertinent to know the popularity of internet among the students in accessing information.

TABLE NO. 11: INTERNET FOR SEEKING INFORMATION

S. No.	College	YES	NO	Total
1	SAIT	87	10	97
2	SD BANSAL	59	17	76
3	MITM	71	14	85
4	IPS	77	10	87
5	MIST	71	14	85
6	Total	365	65	430
7	Percentage	84.88	15.12	100



Graph.11

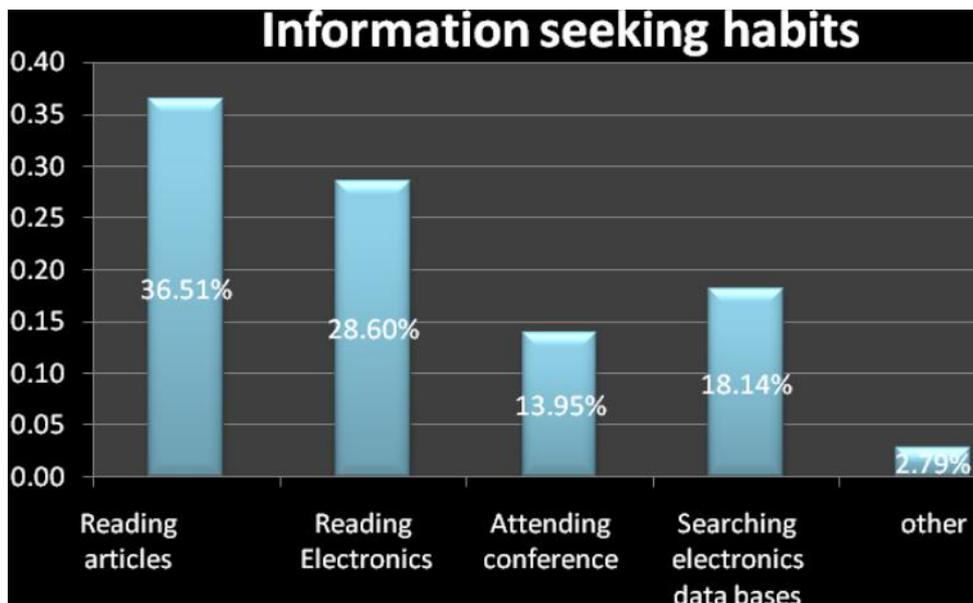
The information received depicts that as much as 85.00 percent users are very much familiar with internet and are using the same in seeking information.

3.12: INFORMATION SEEKING HABITS:

The students have different options to seek information. Like, As. such, an effort was made to find out the utility of different modes in seeking information. The data is presented in Table-

TABLE NO. 12: INFORMATION SEEKING HABITS:

S. No.	College	Reading articles	Reading Electronics	Attending conference	Searching electronics data bases	Other	Total
1	SAIT	56	24	6	3	8	97
2	SD BANSAL	10	12	7	47		76
3	MITM	41	31	3	6	4	85
4	IPS	24	19	37	7		87
5	MIST	26	37	7	15		85
6	Total	157	123	60	78	12	430
7	Percentage	36.51	28.60	13.95	18.14	2.79	100



Graph.12

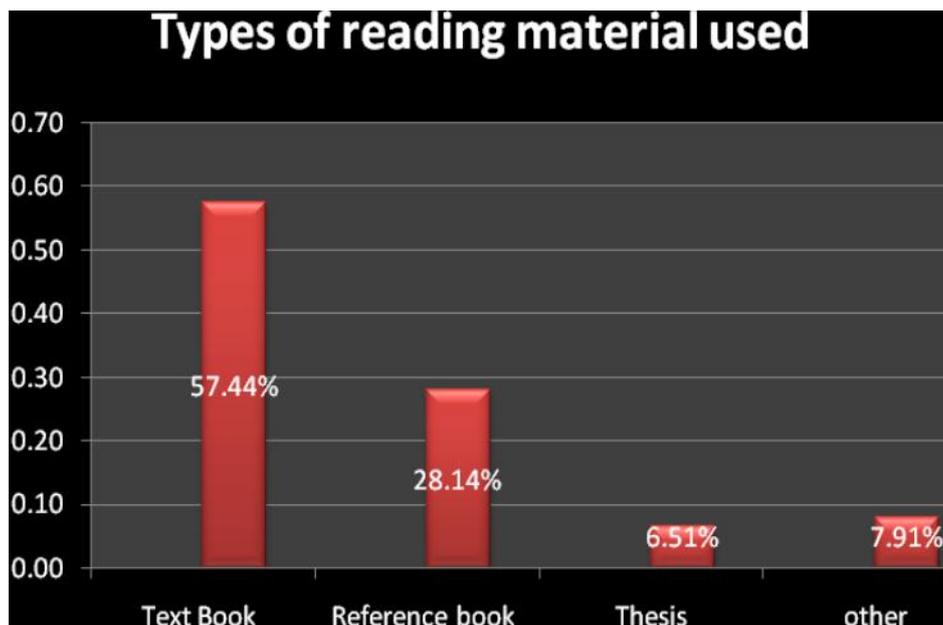
The respondent has given all options. However, reading articles in print and electronic form has the highest percentage with 55 percents of the student population favoring the same. The students should make extensive use of internet and the resources available in the colleges.

3.13: TYPES OF READING MATERIAL USED:

The information required by the students is available in different formats and in different locations. As such, it is necessary to find out the literature in which formation is more accessible to the students and are using the same. The replies are presented in Table-

TABLE NO 13: TYPES OF READING MATERIAL USED

S. No.	College	Text Book	Reference book	Thesis	other	Total
1	SAIT	57	33	6	1	97
2	SD BANSAL	49	18		9	76
3	MITM	43	32	7	3	85
4	IPS	47	15	8	17	87
5	MIST	51	23	7	4	85
6	Total	247	121	28	34	430
7	Percentage	57.44	28.14	6.51	7.91	100



Graph.13

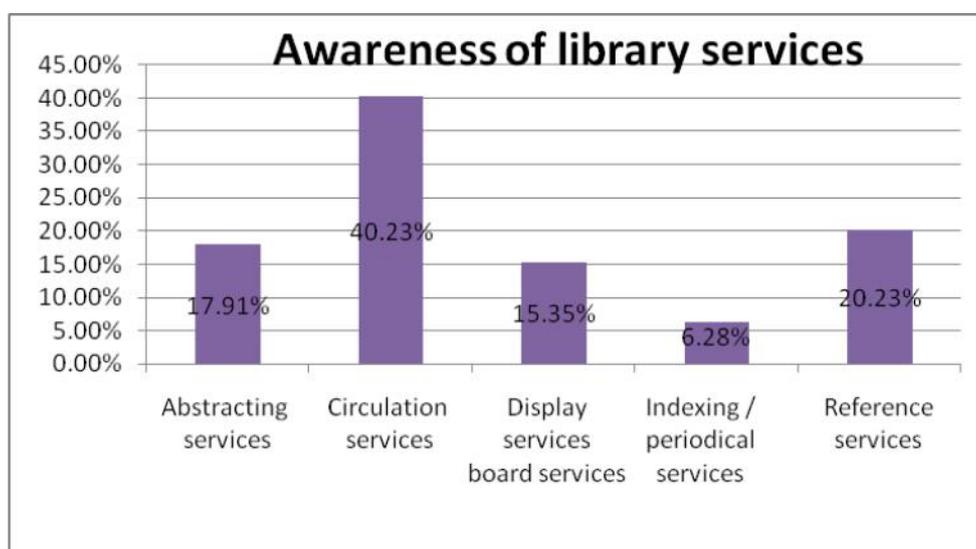
The information given by the students clearly shows that the largest number of students is using the text books followed by reference books. It is true that the students at the under graduate level require only text books and reference books in their academic pursuits.

3.14: AWARENESS OF LIBRARY SERVICES:

The college libraries introduce a variety of services to satisfy the information needs of the users in accessing the information in the library. But the students are unaware of all the services being rendered by the colleges. As such, an attempt is made to find out the nature of services, which the students know from their respective colleges. Therapies are presented in Table.

TABLE NO.14: AWARENESS OF LIBRARY SERVICES:

S. No.	College	Abstracting services	Circulation services	Display services board services	Indexing periodical services	Reference services	Total
1	SAIT	28	35	9	7	18	97
2	SD BANSAL	16	47			13	76
3	MITM	26	38	7	5	9	85
4	IPS		53	12		22	87
5	MIST	7		38	15	25	85
6	Total	77	173	66	27	87	430
7	Percentage	17.91	40.23	15.35	6.28	20.23	100



Graph.14

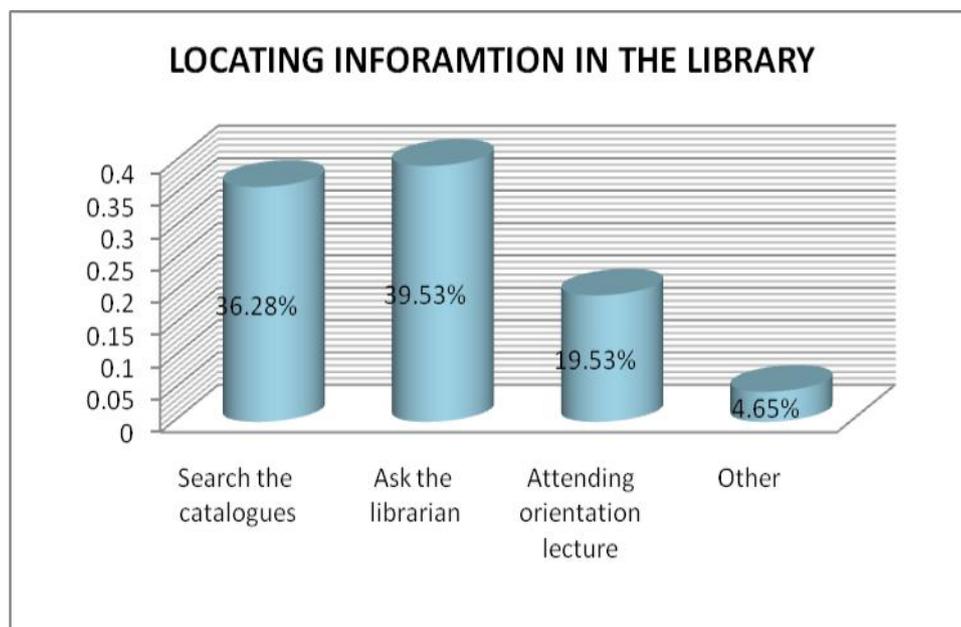
The data shows that the largest group with forty percent of the students is aware of the circulation services, which means that most of the students visit the library to get the books issued only.

3.15: LOCATING INFORMATION IN THE LIBRARY:

The college libraries organize different location tools for accessing the information inside the library. However, many a times, the students fail to locate the required documents and are much puzzled. Under these circumstances, an effort is made to find out how the students locate the information. The replies are present in Table.

TABLE: 15: LOCATING INFORMATION IN THE LIBRARY:

S. No.	College	Search the catalogues	Ask the librarian	Attending orientation Lecture	Other	Total
1	SAIT	36	43	17	1	97
2	SD BANSAL	27	30	19		76
3	MITM	27	36	13	9	85
4	IPS	37	23	23	4	87
5	MIST	29	38	12	6	85
6	Total	156	170	84	20	430
7	Percentage	36.28	39.53	19.53	4.65	100



Graph.15

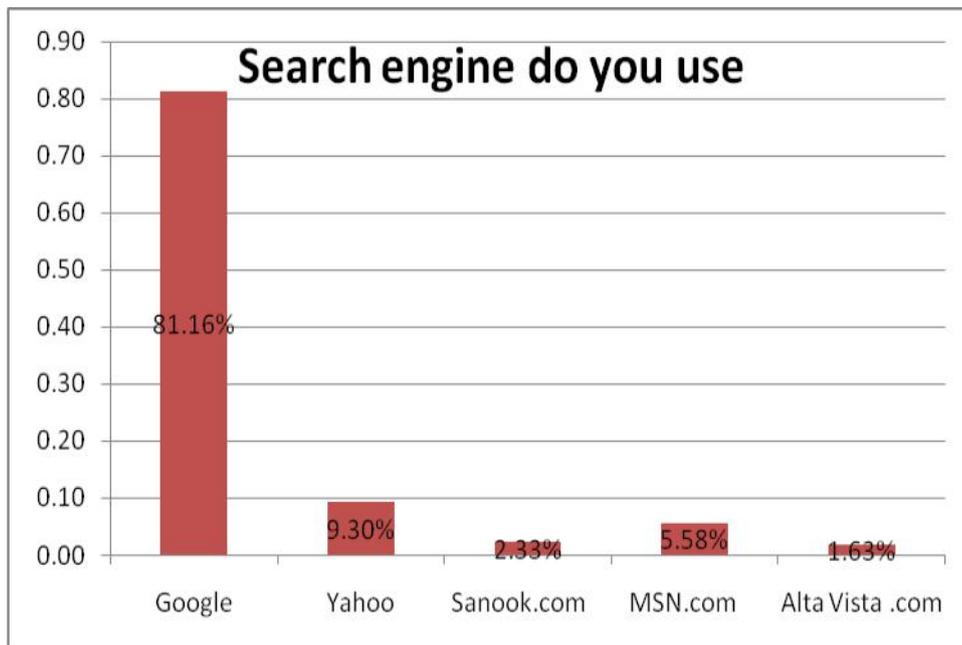
The replies show that almost equal number of students either refers to the catalogue or ask the librarian in search of information. It is a good symptom that the students are making the use of the catalogue and the services of the library staff in locating the information.

3.16: SEARCH ENGINE DO YOU USE:

With the advantage of internet accessing the information across the globe is made very easy, with the click of amuse. There are lots of search engines for the use of this students and the popularity of the search engines in one of the prime criteria, with which they access the information. The replies received is show in Table-

TABLE NO. 16: SEARCH ENGINE DO YOU USE:

S. No.	College	Google	Yahoo	Sanook.com	MSN.com	Alta Vista	Total
1	SAIT	86	10		1		97
2	SD BANSAL	60	9	4	3		76
3	MITM	67	3	6	2	7	85
4	IPS	69	11		7		87
5	MIST	67	7		11		85
6	Total	349	40	10	24	7	430
7	Percentage	81.16	9.30	2.33	5.58	1.63	100



Graph.16

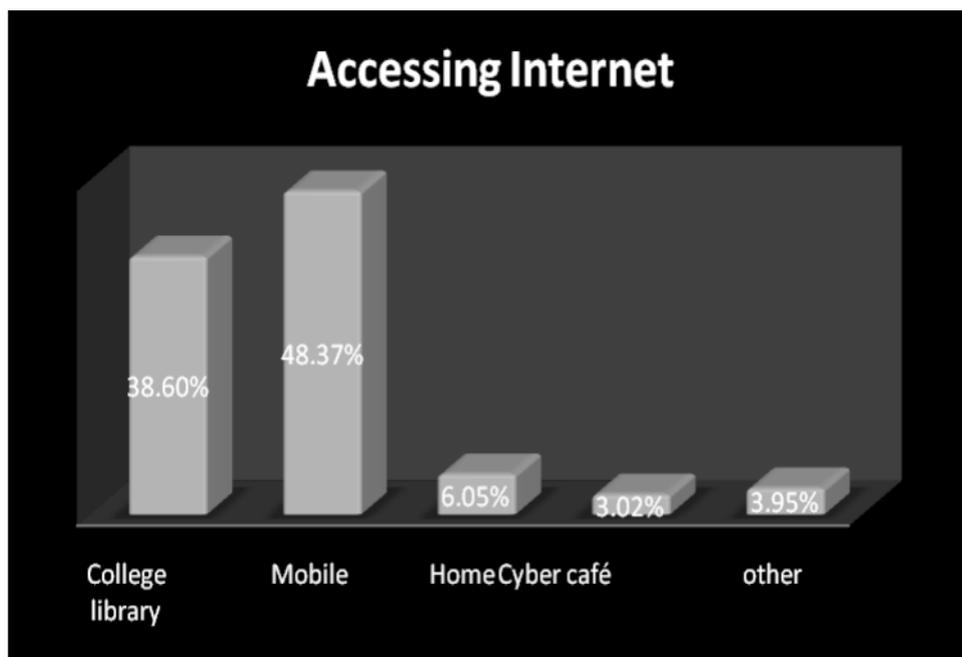
The Google search engine is used by most of the students with eighty one percent preferring the same.

3.17: ACCESSING INTERNET:

Now days, the internet has become the minimum requirement to keep the students abreast of the latest developments in their activities. as such, it is attempted to find out where they use internet more. The replies are presented in table.

TABLE NO. 17: ACCESSING INTERNET:

S. No.	College	College library	Mobile	Home	Cyber café	other	Total
1	SAIT	37	49	4	6	1	97
2	SD BANSAL	25	37			14	76
3	MITM	28	46	4	5	2	85
4	IPS	47	33	7			87
5	MIST	29	43	11	2		85
6	Total	166	208	26	13	17	430
7	Percentage	38.60	48.37	6.05	3.02	3.95	100



Graph.17

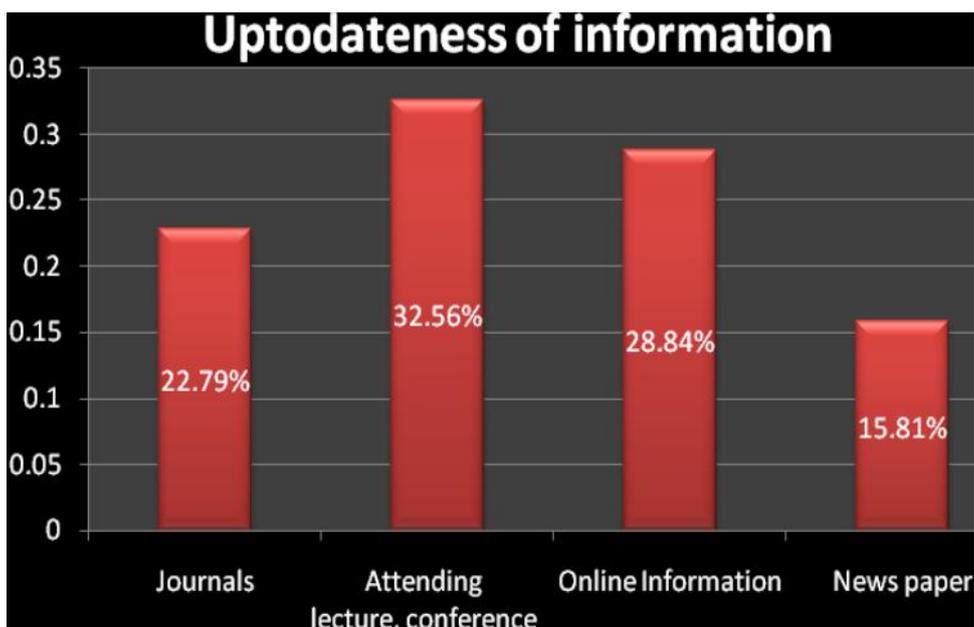
The graph show that most of students, (48%) student access internet in their mobile followed by (38.60%) student access the internet college library. This shows that the students are IT save and wish to access the information at 24 x 7 bases.

3.18: UPTODATENESS OF INFORMATON:

Today’s world is a competitive world and the students require keeping the latest information, tools and techniques at their finger tips to be in a commanding position. As such, information is very much vital for them and getting the required information is on the top of their agenda. As such, an effort is made to find out, as to how they update their information needs. The replies are presented in Table-

TABLE NO. 18: UPTODATENESS OF INFORMATION:

S. No.	College	Journals	Attending lecture, conference	Online Information	News paper	Total
1	SAIT	14	40	20	23	97
2	SD BANSAL	12	35	20	9	76
3	MITM	29	24	27	5	85
4	IPS	30	24	17	16	87
5	MIST	13	17	40	15	85
6	Total	98	140	124	68	430
7	Percentage	22.79	32.56	28.84	15.81	100



Graph.18

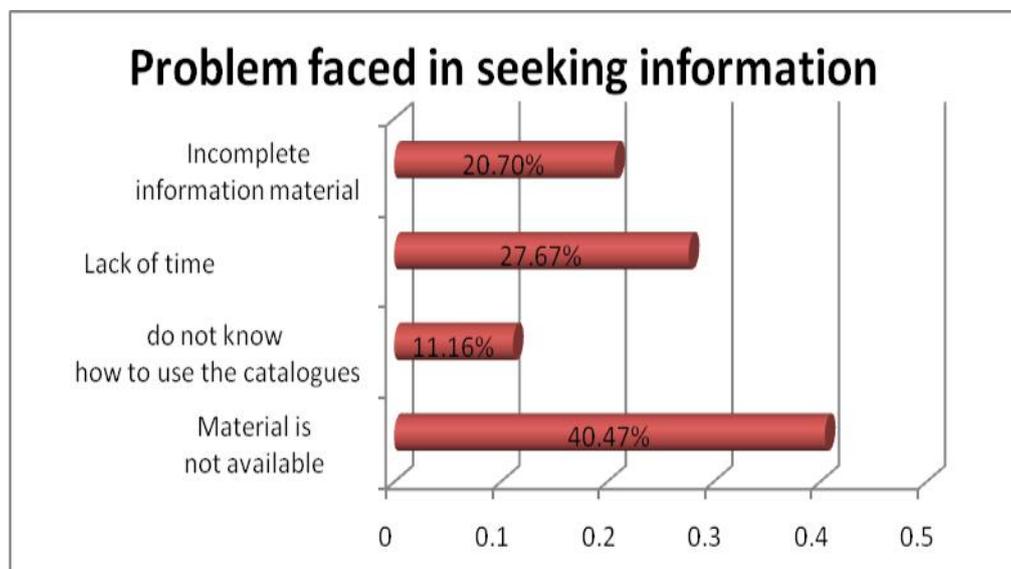
The data in the tables shows that the students receive lot of information from the library journals followed by the lectures and conferences to uptodate themselves.

3.19: PROBLEM FACED IN SEEKING INFORMATION:

The students totally dependent on the information resources being provided to them in the college to complete their academic requirements. Many a times the students are put into hardships and are unable to find the information what they need. As such an effort is made to find out the problems faced by the students in the engineering colleges. The replies are presented in Table-

TABLE NO. 19: PROBLEM FACED IN SEEKING INFORMATION:

S. No.	College	Material is not available	do not know how to use the catalogues	Lack of time	Incomplete information material	Total
1	SAIT	46	14	22	15	97
2	SD BANSAL	35		17	24	76
3	MITM	37	13	26	9	85
4	IPS	26	9	35	17	87
5	MIST	30	12	19	24	85
6	Total	174	48	119	89	430
7	Percentage	40.47	11.16	27.67	20.70	100



Graph.19

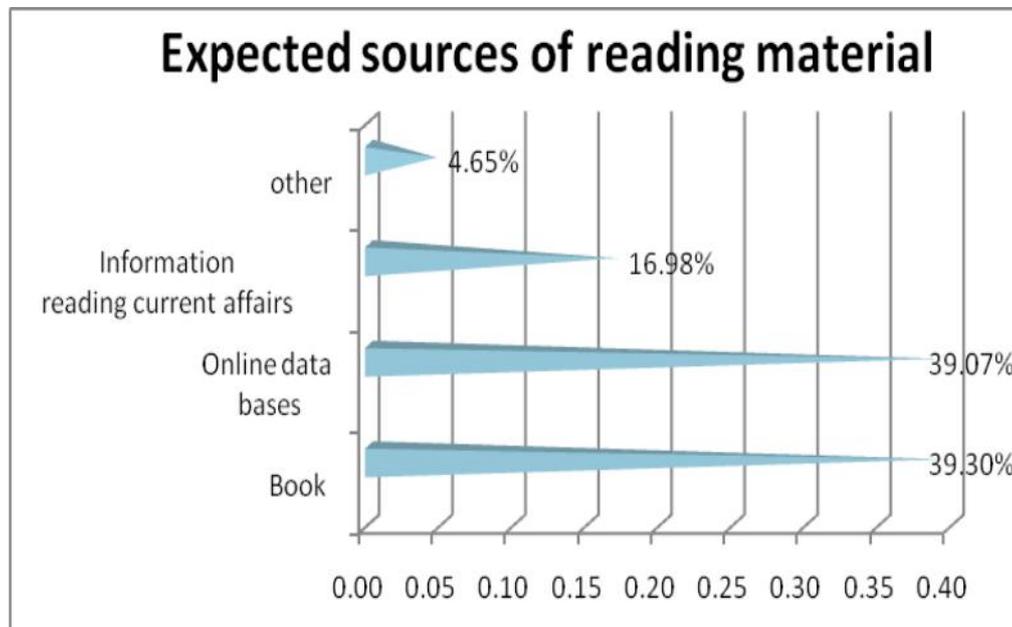
It is clear that quite a sizeable number of students feel that the information in the library is incomplete, and has no time to look into the information to gather the same. It is unwise to state that they lack time and as such they are unable to access the information. The students should be made aware of the information and its importance in education, so that they spare time to gather new information and excel in their area of studies

3.20: EXPECTED SOURCES OF READING MATERIAL:

As discussed in the previous paragraphs, the information required by the students is available in different formats and in different locations. As such an attempt is made to find out the sources preferred by the students in seeking h information. The replies are presented in table:

TABLE NO 20: EXPECTED SOURCES OF READING MATERIAL

S. No.	College	Book	Online data bases	Information reading current affairs	Other	Total
1	SAIT	53	28	14	2	97
2	SD BANSAL	30	25	21		76
3	MITM	31	41	10	3	85
4	IPS	29	37	13	8	87
5	MIST	26	37	15	7	85
6	Total	169	168	73	20	430
7	Percentage	39.30	39.07	16.98	4.65	100



Graph.20

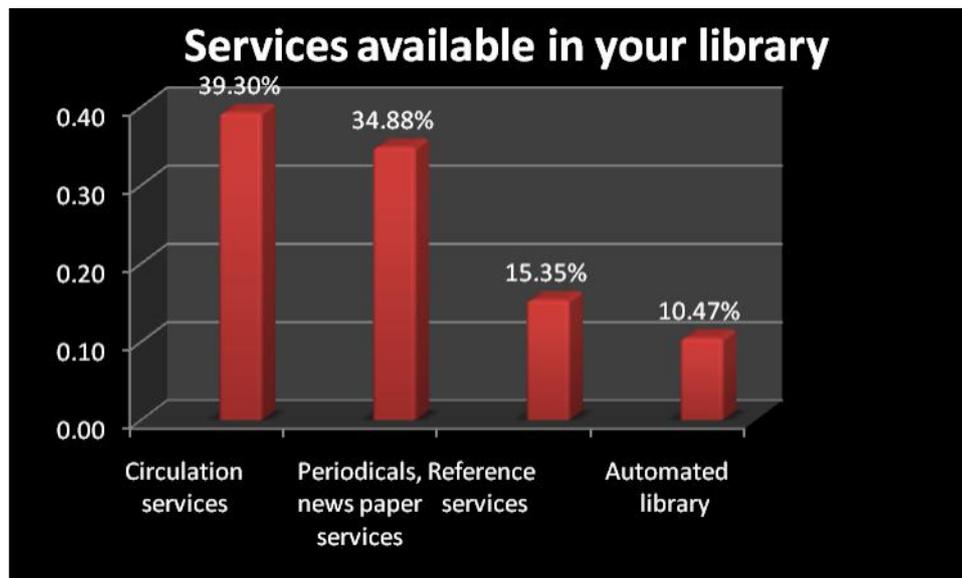
The table and graph shows that Books and online databases are the preferred sources of information among the students of the engineering colleges in Indore city.

3.21: SERVICES ABAILABLE:

The college libraries collect and store lots of reading material to provide the best services to its students. However, it is presumed that many a times, the students are unaware of the services available to them, thus, the libraries are underutilized. As such, an effort is made to find out the awareness of the services among the students. The replies are presented in table-

TABLE NO. 21: SERVICES ABAILABLE IN YOUR LIBRARY

S. No	College	Circulation services	Periodicals, news paper services	Reference services	Automated library	Total
1	SAIT	28	45	13	11	97
2	SD BANSAL	49	25	2		76
3	MITM	27	33	17	8	85
4	IPS	33	20	17	17	87
5	MIST	32	27	17	9	85
6	Total	169	150	66	45	430
7	Percentage	39.30	34.88	15.35	10.47	100



Graph.21

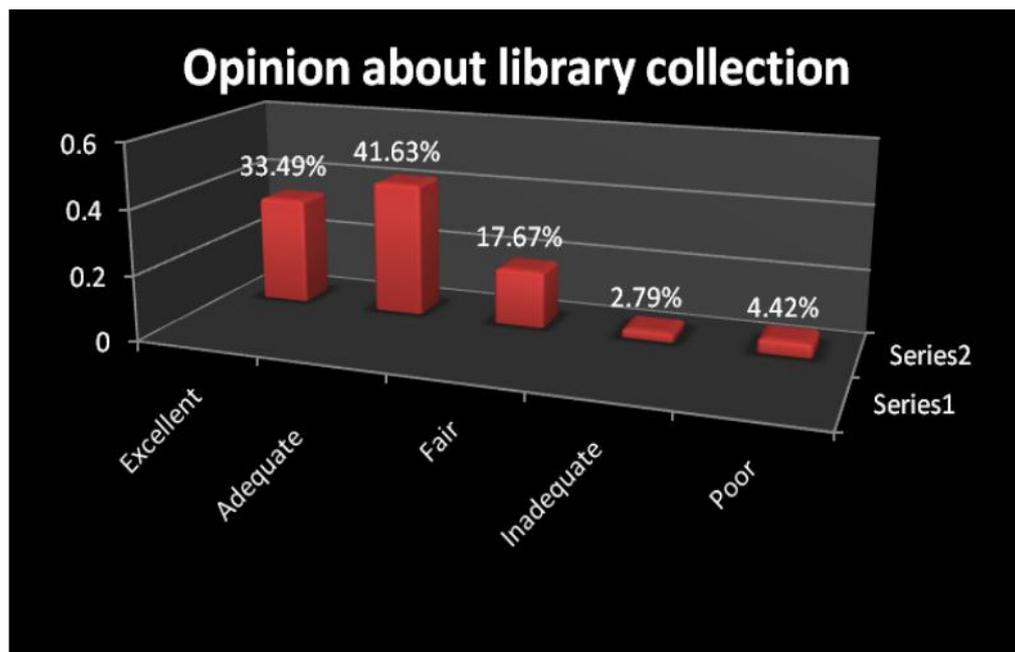
It is noticed that the circulation, periodicals, reference service are the most popular services in all the college libraries. this shownstst the students are familiar with the print collection based services and the libraries should increase the e- collections amd maek the students aware of the same, in view of its advantages over print.

3.22: OPINION ABOUT LIBRARY COLLECTION:

Despite the odd situations, the libraries try to build up a collection to meet most of the needs of its members. Because of several problems, the students are not fully satisfied with the collections for many reasons. as such, an attempt is made to find out the level of satisfaction among the students regarding the library collections. The replies are presented in table--.

TABLE NO. 22: OPINION ABOUT LIBRARY COLLECTION

S. No.	College	Excellent	Adequate	Fair	Inadequate	Poor	Total
1	SAIT	37	33	20	4	3	97
2	SD BANSAL	18	41	10	7		76
3	MITM	35	40	9	1		85
4	IPS	39	24	17		7	87
5	MIST	15	41	20		9	85
6	Total	144	179	76	12	19	430
7	Percentage	33.49	41.63	17.67	2.79	4.42	100



Graph.22

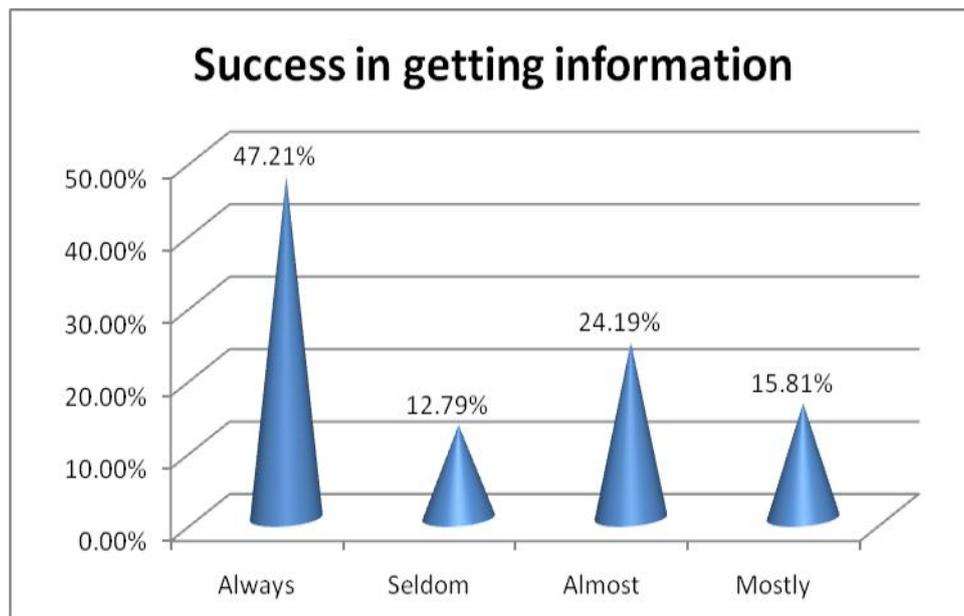
The above table and graph show that around seventy five percent of the students have rated their collection as excellent and adequate. This is a positive sign; still the libraries can work to increase the percentage of satisfaction form adequate to excellent.

3.23: SUCCESS IN GETTING INFORMATION:

Stated in the previous paragraphs, it is always necessary to assess the success of the studnets in getting the right information at the right time, so that new initiates can be initiated by the authorities. As such, an effort has been made to findout the success rate in getting the information by the studnets. The results are rpesented in Table-

TABLE NO. 23:SUCCESS IN GETTING INFORMATION

S. No.	College	Always	Seldom	Almost	Mostly	Total
1	SAIT	40	9	33	15	97
2	SD BANSAL	47	9	20		76
3	MITM	40	11	28	6	85
4	IPS	39	15	7	26	87
5	MIST	37	11	16	21	85
6	Total	203	55	104	68	430
7	Percentage	47.21	12.79	24.19	15.81	100



Graph.23

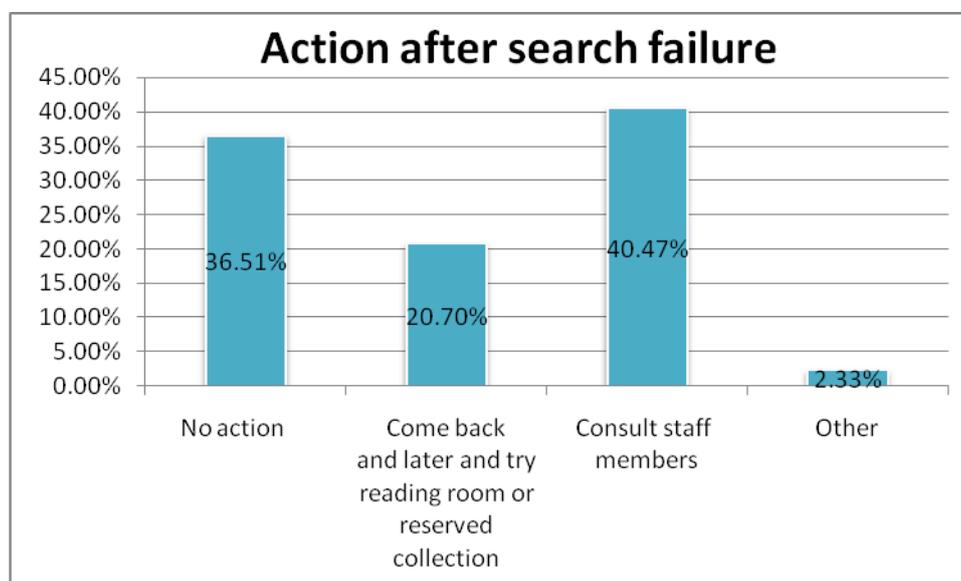
The above table and graph show that almost eighty seven percent of the students are of the view that the information required is being available and are happy.

3.24: ACTION AFTER SEARCH FAILURE:

ICT enabled services have a direct impact on the functioning of the libraries in the 21st century. All the libraries studied have computerized library services and the students. As such an effort is made to find out the availability of the information in the college library system. The information received is presented in Table-

TABLE NO. 24: ACTION AFTER SEARCH FAILURE.

S. No	College	No action	Try reading room or reserved collection	Consult staff members	Other	Total
1	SAIT	32	23	38	4	97
2	SD BANSAL	30	7	39		76
3	MITM	37	19	29		85
4	IPS	31	23	31	2	87
5	MIST	27	17	37	4	85
6	Total	157	89	174	10	430
7	Percentage	36.51	20.70	40.47	2.33	100



Graph.24

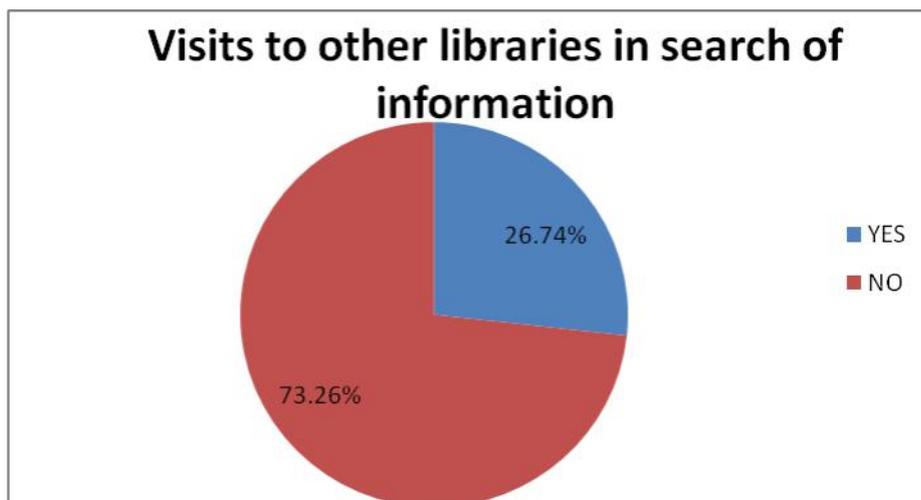
The replies show that as many as 36 percent of the students didn't take any extra effort to complete the task by other means. However, forty percent of the students take the help of the library staff in completing the task.

3.25: VISITS TO OTHER LIBRARIES IN SEARCH OF INFORMATION:

In the present day, it is very difficult to procure and arrange all the information required by the students in the private engineering colleges. As such many a times, the students have to go to other libraries in search of information. The student replies are presented in Table-

TABLE NO. 25: VISITS TO OTHER LIBRARIES IN SEARCH OF INFORMATION:

	College	YES	NO	Total
1	SAIT	26	71	97
2	SD BANSAL	23	53	76
3	MITM	27	58	85
4	IPS	18	69	87
5	MIST	21	64	85
6	Total	115	315	430
7	Percentage	26.74	73.26	100



Graph.25

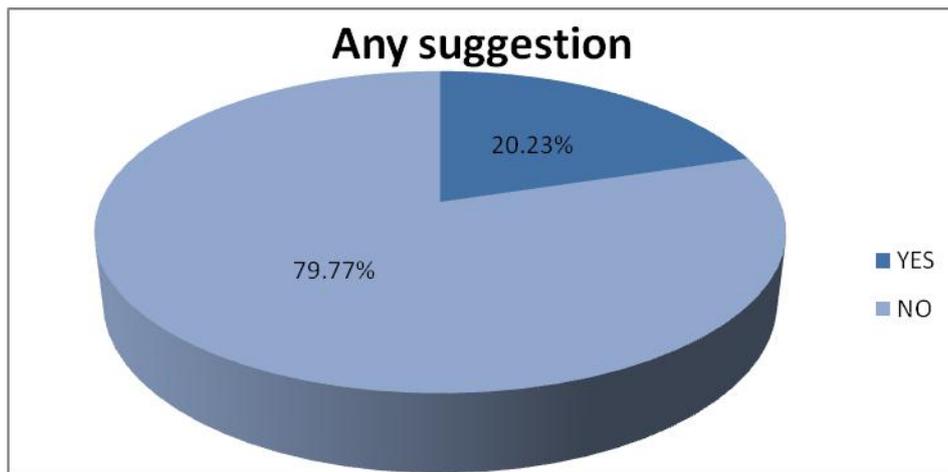
Despite the non availability of the information resources required, quite a large number of students are not visiting other libraries (27.00 percent)

3.26: ANY SUGGESTION:

It is felt appropriate to take open suggestions from the students, so that new issues can be incorporated into the library management, so that their information requirements are met out from the library exclusively. The replies received are presented in the Table-

TABLE NO. 24: ANY SUGGESTION:

	College	YES	NO
1	SAIT	16	81
2	SD BANSAL	19	57
3	MITM	17	68
4	IPS	16	71
5	MIST	19	66
6	Total	87	343
7	Percentage	20.23	79.77



Graph.26

The suggestions mostly include, issues related to circulation of books like, more number of books should be issued, and fines need not be collected, starting of the book bank scheme.

CHAPTER-4

FINDING AND SUGGESTION

4.1. FINDING:-

The findings of the study” Information Resources and Services of Engineering college student in Indore city” are:

1. Sixty three percentage student users are boys.
2. Seventeen eight percentage students use of library daily.
3. More than Seventeen nine percentage students’ use of text book in library.
4. students using guide books is not a healthy trend and the library authorities, and the college authorities, should make the students to learn more from the text books than from the guide books.
5. Around seventy three percent students are aware of the access to e-books in their colleges and this is a good feature.
6. Fifty one percentage students go to the library to know more about the subject and to read the literature on the subject.
7. It is a good sign that nearly 57.67 percent of the students visit the library daily
8. The largest number of forty nine percent students is aware of the computerized library services and the computer center in the colleges.
9. Student prefers information forty percent student prefer in both print and electronic form for the information their personal use in library.
10. The largest group of students (49 percent) in the engineering is familiar with access the information in OPAC.
11. The information received depicts that as much as 85.00 percent users are very much familiar with internet and are using the same in seeking information.
12. However, reading articles in print and electronic form has the highest percentage with 55 percents of the student.
13. Fifty seven percent student the most popular documents used by the text book.
14. Forty percent of the students is aware of the circulation services, which means that most of the students visit the library to get the books issued only.
15. Thirty nine percent students either refers to the catalogue or ask the librarian in search of information

16. The Google search engine is used by most of the students with eighty one percent preferring the same.
17. The most of students Forty eight percent student access internet in their mobile phone for searching the information.
18. The students receive lot of information from the updation for the field searching followed by the library journals and conferences to uptodate themselves.
19. The most the student forty seven percentage of student problem faced in searching from information in not available in the library.
20. More than thirty nine percentage student use library in expected reading material use in text book in engineering college library.
21. It is notied that the thirty nine Percentage student openion are circulation service are the most popular services in all the college libraries.
22. Around seventy five percent of the students have rated their collection as adequate.
23. Almost eighty seven percent of the students are of the view that the information required is being available and are happy.
24. However, forty percent of the students take the help of the library staff in completing the task.
25. The suggestions mostly include, issues related to circulation of books like, more number of books should be issued, and fines need not be collected, starting of the book bank scheme.

4.2. SUGGESTIONS:-

1. Engineering College library have to use ICT in their library operations and introduce new innovate tools and techniques.
2. Libraries, which are lagging behind in collection development, should immediately develop the collection to meet the requirements of the users.
3. Libraries have to slowly shift from print to digital format and introduce collection based new services.
4. ICT enabled services should be introduced on top priority.
5. Computerization of libraries is a must and all the library authorities should give much significance for the same.
6. User needs have to be taken care in building the library collection.
7. Library services should be made effective. So that the user satisfaction level is increased.
8. The number of books issued to students should be as per the requirements of the students.
9. Arrangement of books and other material should be systematic.
10. The colleges should start reprographic and references services in these libraries.
11. All the college libraries should implement open access to the reading materials in these libraries.

APPENDIX- I

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APPENDIX-II
INFORMATION SEEKING BEHAVIOR IN ENGINEERING COLLEGE STUDENTS IN
INDORE CITY, INDORE (M.P.)

QUESTIONNAIRE

Dear Student,

I am doing my dissertation for M.Phil (Library and Information Science) under the guidance of Dr. GHS Naidu, Librarian, DAVV, Indore (MP). I request you to fill in the questionnaire and return the information provided by you will be kept confidential and used in Academic purpose only.

Thanking You

Umrav Singh
M.Phil student in Lib & Inf. Science

Personal Information:-

Name:

Mobile No.....Email ID.....

Institute/College.....Course.....Branch.....

Gender: Male / Female

1. Do you use library? Yes/ No
2. Do you use Text books in Library? Yes/ No
3. Do you use Guide books in Preparation for exam, Like (Shivani)? Yes/ No
4. Do you read online E-Books? Yes/ No
5. Do you refer online E Journals? Yes/ No
6. What is the purpose of using library?
(a) Prepare the class notes (b) General awareness (c) Research Work
(d) Discussions (e) Other purpose [PI, specify].....
7. Please indicate the time you spend in information gathering activities?
(a) 0-3 hrs (b) 4-6 hrs (c) 7-9hrs (d) daily
8. Are you aware of the information technology used in library?
(a) Digitization (b) video conferencing (c) Multimedia
(d) Photocopying (e) Computer and its facilities
9. If given the option, how would you prefer to obtain journal articles?
(a) Print copy (b) Electronic copy (c) Both: Print Electronic
10. Which tools do you use to get access to the document you need?
(a) Library Printed catalogue (b) OPAC (c) web OPAC
11. Do you use internet for seeking information? Yes/ No
12. How often do you use internet?
(a) Daily (b) When we need of (c) At least once a week (d) Rarely
13. Please, choose from the following 5 information seeking habits you like?
(a) Reading articles (b) Reading Electronics (c) Attending conference
(d) Searching electronics data bases (e) other [PI], specify.....
14. What type of material you seek in your departmental library?
(a)Text Book (b) Reference book (c) Thesis (d) other [PI], specify.....
15. Which language of reading material you prefer?
(a)Hindi (b) English (c) any other [PI], specify].....
16. Which type of services of library do you prefer?
(a) Abstracting services (b) Circulation services (c) Display services board services

- (d) Indexing / periodical services (e) Reference services
17. What source of formal information do you refer for your work?
(a) Book (b) Reference book (c) Thesis (d) other [PI, specify].....
 18. What source of informal information do you refer for your work?
(a) Online journal (b) Online data bases (c) OPAC (d) other [PI, specify].....
 19. Where did received locating information source of internet?
(a) Search the catalogues (b) Ask the librarian
(c) Attending conference seminar etc (d) other [PI, specify].....
 20. Which search engine do you use frequently?
(a) Google (b) Yahoo (c) Sanook.com (d) MSN.com (e) Alta Vista .com
(e) other [pl], specify.....
 21. Where do you access the facility of internet?
(a) College library (b) Mobile (c) Home
(d) Cyber café (e) other [PI, specify].....
 22. How do you keep updated of current development in your fields?
(a) Through services from library (b) personal communication
(c) Internet (d) other [PI], specify.....
 23. Use of information sources for keeping up to date?
(a) Journals (b) Attending lecture, conference (c) Online (d) News paper
 24. Which problem do you meet while seeking information?
(a) Material is not available (b) do not know how to use the catalogues
(c) Lack of time (d) incomplete information material
 25. Which type of material is expected by student in library?
(a) Book (b) Online data bases
(c) Information reading current affairs (d) other [PI], specify.....
 26. What are the services available in your library known to you?
(a) Circulation services (b) Periodicals, news paper services
(c) Reference services (d) automated library
 27. Opinion about library collection?
(a) Excellent (b) Adequate (c) Fair (d) Inadequate (e) Poor
 28. Which type of method use by your library for housekeeping task?
(a) Advanced (Fully automated like online access)
(b) Modern (Including application of computer for in house activities)
(c) Traditional (manual / not computerized)
 29. Do you get success in getting information from library?
(a) Always (b) Seldom (c) Almost (d) Mostly
 30. Action intended after search failure?
(a) No action (b) Come back and later and try reading room or reserved
collection (c) Consult staff members (d) Other [PI, specify].....
 31. After search failure you visited to another library? Yes/ No
 32. Any suggestion

.....
Thanking you

Date.....

Place.....

Respondent Signature