Exhaustive Study on Automation in Institutional Libraries: With Special Reference to Sangamner Tahsil.

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By

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CERTIFICATE OF THE GUIDE

This is certify that the work incorporated in this Master of Philosophy (M.Phil) dissertation, **exhaustive study on automation in institutional libraries: with special reference to sangamner tahsil** Submitted by Mr. Kawade Ravindra Shivaji was carried out by the candidate under my supervision .The candidate has conducted genuine work , has completed all the required course work for the Master of Philosophy (M.Phil.Library & Information Science), and such materials as have been obtained from other sources have been duly acknowledged in the dissertation.

Place: - Pune

Date: - / /20

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DECLARATION

I hereby declare that the thesis entitled "**exhaustive study on automation in institutional libraries: with special reference to sangamner tahsil**". Has been undertaken & Completed by me for the award of the degree of master of philosophy in library and information science This entire work has been carried out by me under the guidance of Dr. Aparna Rajendra. Deputy librarian, Jayakar Library ,University of Pune.

I also declare that this theses or any part of there has not been submitted for any other degree or diploma of this or any other university.

Place: - Pune

Date: - / /20 Mr.Kawade Ravindra Shivaji

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ACKNOWLEDGEMENTS

I have tried to express my views on the subject, **exhaustive study on automation in institutional libraries: with special reference to sangamner tahsil.** In the modern age the vole of librarian is changing .It is observed by me through the research and I have tried to explain it. I thankful to my guide **Hon'ble Dr.Mrs Aparna Rajendra**, who has guided, supported and improved me for the Research .I am thankful to Hon'ble **mrs. Dhanishtha Khandare** TMV Librarian, Pune, **Hon'ble Dr.Konnur & Patil Sir** Asstt. Librarian PVP College Pravaranagar,Loni for valuable guidelines regarding the subject and kind co-operation .I have got the help and co-operation time to time from **Library Staff of Tilak Maharashtra University**, Pune.

I am hearty thankful to **Hon'ble Dr.Chaudhari Sir Principal** & senate member university of pune and all member of our **avcop santha** who have inspired me for the research study as well as everybody who have helped and co-operated me directly or indirectly in the research work.

Mr.Kawade Ravindra Shivaji

Researcher

CHAPTER 1: INTRODUCTION

1.1 Introduction

Libraries are in the midst of radical changes. These changes are, perhaps, unavoidable and compelling in the present day context .Libraries are moving beyond and their traditional role as custodians of recorded knowledge and integrating new methods of information storage retrieval and transmission. Into their existing services and patterns they are, at the same time incorporating the extensive changes .That new technologies bring to organizational structures and staff responsibilities, libraries currently are experiencing technological transition in how services are provided. These services, changes are attributed in literature to three major phenomena. That is the information explosion, escalating costs, and the technology revolution. In particular in the recent past, it is the computer and communication technologies, which have drastically changed the working of libraries. While the computer technology provided hither to unavailable power for the organization. And manipulation of information, communication and technology provided immense scope for the speedy and accurate dissemination of information.

Over the past few years, there have been many developments in computer technology. One of the revolutionary developments has been the advent of comparatively cheap microcomputer systems. With increasingly sophisticated features, this can be used for a variety of library application. As a result it is not uncommon to find a micro-computer even in a small library. In a developing country, libraries are used to assist a variety of functions such as maintaining and providing access to catalogue items. The collection, managing the circulation of items searching external online information sources for reference or for full text of documents and so on.

Application of computer for library activities is no longer a controversial issue; many authors have identified and justified the reasons for the development. Automated library systems (computer –based library system) joseph Matthews (1980) has summarized them as follows:

1. The tasks of a function may be eliminated or completed more accurately, more quickly and with increased control. With other alternatives typically these tasks are clerical, routine and repetitive in nature and thus desirable candidates for Automation.
2. Increase demands for service and their accompanying library workloads must be counterbalanced with improved productivity. Especially with either septic or dealing budget resources.
3. Automation way facilitates the collection of data that will assist the librarian. The management of the library's collection while simultaneously providing new and more detailed data to support its budget requests.
4. Automation may avoid the need to hire additional staff even with increased demands for service.

1.2 Need for the study

The word 'Automation' means something which has the power of spontaneous motion or self movement (Webster's third new International Dictionary of English Language, 1966). The term 'automation' was first introduced by D.S. Harder in 1936 .Who was then with the general motor company in United States. He used the term automation to 'mean automatic handling of parts between progressive production processes.'

The Library automation is the general term for information & communications technologies .It will increased the operational efficiencies of lib staff. The library automation decreases the workload of the library staff. Give them a relieve from clerical chores, so that they are available for user oriented services. And they provide the service, with better quality, speed and very effective & user friendly services.

After the development of powerful microcomputer at a comparatively low cost, libraries in Sangamner tahsil started utilizing computers for their routines well as other activities. One can vividly see the upsurge of articles/reports in journals and conferences about the computerization activities in academic libraries.

AUTOLIB Software system, Chennai, EASYLIB (Library Automation Services) easylib software Pvt .ltd, Bangalore ,GRANTHALAYA , National Information Centre (NIC) ,Bangalore, Library Manager, Rajasthan, LIBSUT, Corporate marketing software, p. ltd, Erandawane ,pune, LIBSYS ,LIbsys Corporation, Haryana, ROVAN LMS, Rovan software solutions p.ltd, Tamilnadu, SLIM ,Algorhythms, Soul ,software for university libraries, Ahamadabad, VTLS, vision Technology in Library Solution, Noida. And so on libraries seem to have preferred to develop their own tailor-made systems. Reasons for this, perhaps, are:

- The cost of commercial systems is high.
- They do not suit the local requirements of the libraries.
- Ignorance about the availability of the systems.

Apprehensions about the quality and reliability of the systems as comprehensive evaluation of commercials systems have been reported so far. The literature survey conducted by the investigator before taking up this study .The literature on library automation, unfortunately is not evaluative in nature and it either tells about success or what is planned. The reason for such a tendency is, purchase that when an automated system is up and running. It is considered as a sufficient evidence of its success, however, it is needless to say that only evaluation studies be able to quantify the goodness of the systems, further, reporting of successes of system .

So, there was a need for taking up a research project to evaluate the performance of the indigenously developed systems. To measure how well the systems are and now much well do they perform, further, system are implemented to achieve

specific purposes and it is important for the development of any organization. That new systems are evaluated to check what has been achieved. Evaluations of system in operation can serve a number of objectives, firstly, they can demonstrate. Whether the intended improvement in the activity has been achieved, secondly, evaluations can show the barriers and difficulties that prevent the full exploitation of the system. The users and may lead to remove these barriers, thirdly, evaluations can provide the evidence upon which future development plans can be built.

Apart from these, as noted in the earlier part of this chapter, evolution (Post-Installation Evaluation) forms. An integral part of any systematic project thus, an systems need to be evaluated. The major benefit of evaluation is that not only will the library using the system know the quality of its. system but it will also help other libraries working on similar projects to be wiser by such evaluation reports.

In view of these considerations, the investigator took this study to evaluate the existing automated library systems in certain institutional libraries in Sangamner tahsil.

Objectives of the Study

Following are the broad objectives envisaged for the present investigation:

1. To identity libraries from Sangamner tahsil where library automation is already carried out.

2. To examine the development of Library automation system in different libraries from Sangamner tahsil .

3. To determine the reasons underlying success or failure of each system covered in the study.

4. To find out common problems faced by the libraries in relation to automated systems.

5. To explore and suggest areas of improvement for increasing the performance level of the systems.

1.3 Scope of the Study

The following is the scope of the study:

1. The study covers automated systems which are in actual use in Sangamner tahsil.
2. The project was done in only Sangamner tahsil libraries .This study is implacable to only the librarians of the colleges in Sangamner tahsil.

I am doing the research study on the automation system in the Sangamner tahsil libraries. The reason for selection of Sangamner tahsil is because of i am from Sangamner tahsil .Sangamner tahsil is very developed about education institute. The education facilities provided in this institute is very advanced & well developed. The libraries of this institutes is well automated & having all the advanced equipments. Till date no research work is carried out on the Sangamner tahsil libraries. So, for knowing the present situation of this well established institute libraries & there automation system, I have select the Sangamner tahsil libraries.

To cover the above topics of the study, the following college libraries taken for study.

1) Amrutvahini college of Pharmacy,Amrutnagar,Sangamner
2) Sahakar Maharshi Bhausaheb Santuji Thort college of arts, commerce & science college Sangamner.
3) Amrutvahini Sheti & Shikshan Vikas Sanstha Amrutvahini College of Engineering Sangamner, Ahmednagar . Maharashtra.
4) Amrutvahini institute of Pharmacy, Amrutnagar Sangamner

5) Amrutvahini Polytechnic,Amrutnagar Sangamner.
6) Nutan arts college Rajapur,Sangamner
7) Amrutvahini Management & Business Administration,Amrutnagar,Sangamner
8) Smt.Mathurabai Bhavsaheb Thorat Dental College, Sangamner
9) Sagamner Nagarpalika Arts, D.J.Malpani Commerce & B.N.Sarada science college
10) Sangamner Low College,Sangamner
11) Sangamner College Of Education (B.Ed,D.Ed)
12) RameshFirodia Education Trust'sRameshFirodia Arts Commerce & Science College ,Sakur.
13) Global Institute Of Management Velhale,Sangamner
14) Vamanrao Ithape Polytechnic College Sangamner
15) Vamanrao ithape homeopathic medical college,Sangamner.
16) Vamanrao Ithape Nursing College (Vinc), Sangamner
17) Vamanrao ithape d pharmacy college Sangamner
18) Dr.bhanudas genuji dere Ayurvedic medical college Sangamner.
19) Radesham gunjal homeopatic medical college Sangamner.
20) Shri rangdasswami shikshan vikas mandals bhausaheb bora arts and commerce college ghargaon,Sangamner.

Above all libraries are of different types. The big libraries are selected & there automation work is at different – different level, For knowing automation system development level, I have selected the Sangamner tahsil for my research study. Study includes all the Sangamner city & rural level libraries. The Libraries included of basic Science, Medical Sciences, Dental college, education , Pharmacy Engineering, Polytechnic, Ayurvedic college libraries. The study include the UGC approach, AICTE approach towards the colleges & technical institutes. All of this libraries the Aurvedic , Medical , Dental & pharmacy colleges are using the well automated system because the colleges are library oriented.

The study helps the getting information about automation system in different library of different colleges & different courses run by this colleges.

1.4 Methodology

Meaning

Research in common parlance refers to a search for knowledge. Once can also define research as ‘a scientific and systematic search for pertinent information on a specific topic’. In fact, research is an art of scientific investigation. The Advanced Learner’s Dictionary of Current English lays down the meaning of research as “a careful investigation or inquiry especially through search for new facts in any branch of knowledge.”

Types of Research

The basic types of research are as follows:

(i) **Descriptive vs. Analytical**: Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. In social science and business research we quite often use research methodology: An Introduction the term Ex post facto research for descriptive research studies. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. Most ex post facto research projects are used for descriptive studies in which the researcher seeks to measure such items.

(ii) **Applied vs. Fundamental:** Research can either be applied (or action) research or Fundamental (to basic or pure) research. Applied research aims at finding a solution for an immediate problem facing a society. An industrial/business organization, whereas fundamental research is mainly concerned with generalizations and with the formulation of a theory. “Gathering knowledge for knowledge’s sake is termed ‘pure’ or ‘basic’ research.”Research concerning some natural phenomenon or relating to pure mathematics

are examples of fundamental research. Similarly, research studies, concerning human behavior carried on with a view to make generalizations about human behavior. All also examples of fundamental research. But research aimed at certain conclusions (say, a solution) facing aconcrete social or business problem is an example of applied research.

(iii) **Quantitative vs. Qualitative**: Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research.

(iv) **Conceptual vs. Empirical**: Conceptual research is that related to some abstract idea or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones. On the other hand, empirical research relies on experience or observation alone, often without due regard for system and theory. It is data-based research, coming up with conclusions which are capable of being verified by observation or experiment. We can also call it as experimental type of research. In such a research it is necessary to get at facts firsthand, at their source.

The investigator could not trace any reference models suitable for evaluating automated systems in India libraries, thus, he had to make special efforts to develop a reference model each for acquisitions, serials control and circulation control. The models are, however deriver from the models check lists and similar studies.

Each model has a serials of functions involved in that particular operation i e , Acquisitions , Serials Control, or Circulation. For example- acquisitions model has got functions like ordering, Receiving items, processing items, claims, search etc. In the model every function invariably has a number of features, although the number of features vary from function to function each of these features represent a specific requirement of an automated system. All the features together under a function will reflect a overall functional requirement.

RESEACH DESIGN:-

A research design is logical and systematic plan prepared for directing a research study. It specifies the objectives of the study, the methodology, and the techniques to be applied for achieving the objectives.

A research design is the programme that guides the investigation in the process of collecting, analyzing and interpreting the observations.

It provides a systematic plan of procedure for researcher to follow.

Appropriate design prevents the researcher from wandering aimlessly. It guides him to collect only the relevant data and provides the kind of information.

Survey Method:-

A survey is a data collection tool used to gather information about individuals. Surveys are commonly used in psychology research to collect self-report data from study participants. (Kothari C R" Research Methodology, Methods and techniques" 2nd Ed) A survey may focus on factual information about individuals, or it might aim to collect the opinions of the survey takers.

A survey can be administered in a couple of different ways. In one method known as a structured interview, the researcher asks each participant the questions. In the other method known as a questionnaire, the participant fills out the survey on his or her own. Surveys are generally standardized to ensure that they have reliability and validity.

Standardization is also important so that the results can be generalized to the larger population.

Advantages and Disadvantages of the Survey Method

Advantages:-

- Surveys are relatively inexpensive (especially self-administered surveys).
- Surveys are useful in describing the characteristics of a large population. No other method of observation can provide this general capability.
- They can be administered from remote locations using mail, email or telephone.
- Consequently, very large samples are feasible, making the results statistically significant even when analyzing multiple variables.
- Many questions can be asked about a given topic giving considerable flexibility to the analysis.
- There is flexibility at the creation phase in deciding how the questions will be administered: as face-to-face interviews, by telephone, as group administered written or oral survey, or by electronic means.
- Standardized questions make measurement more precise by enforcing uniform definitions upon the participants.
- Standardization ensures that similar data can be collected from groups then interpreted comparatively (between-group study).
- Usually, high reliability is easy to obtain--by presenting all subjects with a standardized stimulus, observer subjectivity is greatly eliminated.

Disadvantages:-

- A methodology relying on standardization forces the researcher to develop questions general enough to be minimally appropriate for all respondents, possibly missing what is most appropriate to many respondents.
- Surveys are inflexible in that they require the initial study design (the tool and administration of the tool) to remain unchanged throughout the data collection.
- The researcher must ensure that a large number of the selected sample will reply.
- It may be hard for participants to recall information or to tell the truth about a controversial question.
- As opposed to direct observation, survey research (excluding some interview approaches) can seldom deal with "context".

The survey is a non-experimental, descriptive research method. Surveys can be useful when a researcher wants to collect data on phenomena that cannot be directly observed (such as opinions on library services). Surveys are used extensively in library and information science to assess attitudes and characteristics of a wide range of subjects, from the quality of user-system interfaces to library user reading habits. In a survey, researchers sample a population. Basha and Harter (1980) state that "a population is any set of persons or objects that possesses at least one common characteristic.

They often employ methods of randomization so that error may be estimated when inferring population characteristics from observations are sampled. Useful the Survey methods for library automation research.

Types of Surveys

Data are usually collected through the use of questionnaires, although sometimes researchers directly interview subjects. Surveys can use qualitative (e.g. ask open-ended questions) or quantitative (e.g. use forced-choice questions) measures. There are two basic types of surveys: cross-sectional surveys and longitudinal surveys. Much of the following information was taken from an excellent book on the subject, called Survey Research Methods, by Earl R. Babbie.

Cross-Sectional Surveys

Cross-sectional surveys are used to gather information on a population at a single point in time. An example of a cross sectional survey would be a questionnaire that collects data on how parents feel about Internet filtering, as of March of 1999. A different cross-sectional survey questionnaire might try to determine the relationship between two factors, like religiousness of parents and views on Internet filtering.

Longitudinal Surveys

Longitudinal surveys gather data over a period of time. The researcher may then analyze changes in the population and attempt to describe and/or explain them. The three main types of longitudinal surveys are trend studies, cohort studies, and panel studies.

Trend Studies

Trend studies focus on a particular population, which is sampled and scrutinized repeatedly. While samples are of the same population, they are typically not composed of the same people. Trend studies, since they may be conducted over a long period of time, do not have to be conducted by just one researcher or research project. A researcher may combine data from several studies of the same population in order to

show a trend. An example of a trend study would be a yearly survey of librarians asking about the percentage of reference questions answered using the Internet.

Cohort Studies

Cohort studies also focus on a particular population, sampled and studied more than once. But cohort studies have a different focus. For example, a sample of 1999 graduates of GSLIS at the University of Texas could be questioned regarding their attitudes toward paraprofessionals in libraries. Five years later, the researcher could question another sample of 1999 graduates, and study any changes in attitude. A cohort study would sample the same class, every time. If the researcher studied the class of 2004 five years later, it would be a trend study, not a cohort study.

Panel Studies

Panel studies allow the researcher to find out why changes in the population are occurring, since they use the same sample of people every time. That sample is called a panel. A researcher could, for example, select a sample of UT graduate students, and ask them questions on their library usage. Every year thereafter, the researcher would contact the same people, and ask them similar questions, and ask them the reasons for any changes in their habits. Panel studies, while they can yield extremely specific and useful explanations, can be difficult to conduct. They tend to be expensive, they take a lot of time, and they suffer from high attrition rates. Attrition is what occurs when people drop out of the study.

Instrument Design

One criticism of library surveys is that they are often poorly designed and administered (Busha and Harter 1980), resulting in data that is that is not very accurate, but that is energetically quoted and used to make important decisions. Surveys should be just as rigorously designed and administered as any other research method. Meyer (1998)

has identified five preliminary steps that should be taken when embarking upon any research project: 1) choose a topic, 2) review the literature, 3) determine the research question, 4) develop a hypothesis, and 5) operationalization (i.e., figure out how to accurately measure the factors you wish to measure). For research using surveys, two additional considerations are of prime importance: representative sampling and question design. Much of the following information was taken from the book Research Methods in Librarianship: Techniques and Interpretation by Charles H. Busha and Stephen P. Harter.

Representative Sampling

A sample is representative when it is an accurate proportional representation of the population under study. If you want to study the attitudes of UT students regarding library services, it would not be enough to interview every 100th person who walked into the library. That technique would only measure the attitudes of UT students who use the library, not those who do not. In addition, it would only measure the attitudes of UT students who happened to use the library during the time you were collecting data. Therefore, the sample would not be very representative of UT students in general. In order to be a truly representative sample, every student at UT would have to have had an equal chance of being chosen to participate in the survey. This is called randomization.

If you stood in front of the student union and walked up to students, asking them questions, you still would not have a random sample. You would only be questioning students who happened to come to campus that day, and further, those that happened to walk past the student union. Those students who never walk that way would have had no chance of being questioned. In addition, you might unintentionally be biased as to who you question. You might unconsciously choose not to question students who look preoccupied or busy, or students who don't look like friendly people. This would invalidate your results, since your sample would not be randomly selected.

If you took a list of students, uploaded it onto a computer, and then instructed the computer to randomly generate a list of 2 percent of all UT students, then your sample still might not be representative. What if, purely by chance, the computer did not include

the correct proportion of seniors, or honors students, or graduate students? In order to further ensure that the sample is truly representative of the population, you might want to use a sampling technique called stratification. In order to stratify a population, you need to decide what sub-categories of the population might be statistically significant. For instance, graduate students as a group probably have different opinions than undergraduates regarding library usage, so they should be recognized as separate strata of the population. Once you have a list of the different strata, along with their respective percentages, you could instruct the computer to again randomly select students, this time taking care that a certain percentage are graduate students, a certain percentage are honors students, and a certain percentage are seniors. You would then come up with a more truly representative sample.

Question Design

It is important to design questions very carefully. A poorly designed questionaire renders results meaningless. There are many factors to consider.

Babbie gives the following pointers: Babbie Earl R. "Survey Research Methods" Wadsworth Pub. Co.

- Make items clear (don't assume the person you are questioning knows the terms you are using).
- Avoid double-barreled questions (make sure the question asks only one clear thing).
- Respondent must be competent to answer (don't ask questions that the respondent won't accurately be able to answer).
- Questions should be relevant (don't ask questions on topics that respondents don't care about or haven't thought about).
- Short items are best (so that they may be read, understood, and answered quickly).
- Avoid negative items (if you ask whether librarians should not be paid more, it will confuse respondents).

- Avoid biased items and terms (be sensitive to the effect of your wording on respondents).

Busha and Harter provide the following list of 10 hints: Charles H. Busha, Stephen P. Harter "Research methods in librarianship"

1. Unless the nature of a survey definitely warrants their usage, avoid slang, jargon, and technical terms.
2. Whenever possible, develop consistent response methods.
3. Make questions as impersonal as possible.
4. Do not bias later responses by the wording used in earlier questions.
5. As an ordinary rule, sequence questions from the general to the specific.
6. If closed questions are employed, try to develop exhaustive and mutually exclusive response alternatives.
7. In so far as possible, place questions with similar content together in the survey instrument.
8. Make the questions as easy to answer as possible.
9. When unique and unusual terms need to be defined in questionnaire items, use very clear definitions.
10. Use an attractive questionnaire format that conveys a professional image.

As may be seen, designing good questions is much more difficult than it seems. One effective way of making sure that questions measure what they are supposed to measure is to test them out first, using small focus groups.

1.5 Review of Literature

The purpose of this chapter is, to present a brief review of the literature published relating to application of computers in libraries. From the perusal of the

literature it is clearly discerned that the leadership of Western nations in application of modern technology continues to be strengthened. On the other hand, the response to the challenge of application of modern technology in India is rather slow. Nevertheless, with the advent of powerful and economically viable microcomputers in 1980s, libraries in India are also increasingly adopting computers for their work and as a direct consequence of this there is a steady increase in the literature on the subject.

Nelson (2008) emphasizes that the "key to making KM work is not to manage knowledge but rather to make knowledge more visible by using several tools and techniques" such as blogs, wikis, and tagging (p. 135). Incorporating these tools will enhance communication and collaboration to share the knowledge "that is needed for the future" which "already exists in the collective wisdom of the organization" (Nelson, 2008, p. 137).

Abram (2008) expanded this idea by noting "libraries should interoperate on a global basis, and immerse people in content" and suggests 25 technologies to prepare ourselves for the future of collaboration and interoperability. The top 10 technologies on his list include: (1) mobile; (2) presence management - Twitter; (3) tagging - Delicious; (4) scrapbooking - Zotero and Connotea; (5) personal homepages, (6) microblogging – Twitter; (7) social content – Wikipedia and Knol; (8) public social networking – Orkut, Facebook, and MySpace; (9) private social networking.

Singh, S.P. (2007). What are we managing – knowledge or information? VINE: The Journal of Information and Knowledge Management Systems, 37(2), 169-179.By defining, contrasting, and comparing, Shashi Prabha Singh provides clarification of the terms information management and knowledge management in relationship to libraries. He also discusses the importance of knowledge management and the skills and competencies needed by knowledge managers. The clear presentation and practical application provide an excellent foundation to understand the transition from library automation to knowledge management.

Nelson, E. (2008). Knowledge management for libraries. Library Administration & Management., 22(3), 135-137.Elizabeth Nelson, a knowledge analyst, discusses knowledge management tools and techniques that can increase communication and collaboration that, in turn, increases the knowledge base and wisdom that will be needed in the future. The tools and techniques suggested encompass internal users as well as patrons. Ms. Nelson's article provides concrete examples of features to integrate into an automated library system.

Abram, S. (2008, Aug. 27). Stephen Abram at Ticer: twenty five technologies to watch and how. Retrieved September 21, 2008, from http://wowter.net/2008/08/27/stephen-abram-at-ticer-twenty-five-technologies-to-watch-and-how Stephan Abram emphasizes that libraries must provide services for the users or lose them. His list of 25 technologies embraces social and technological innovations that connect the patron to knowledge quickly and efficiently. Mr. Abram has published extensively about libraries; his name alone brings credibility to the information offered.

Muhammad Riaz , "Library automation" PP.202-206 In a readable manner the book (races the history of computer, basics of hardware and software, input-output concepts and devices. It describes the offline and online methods of omputer applications in six areas of library work: circulation, cataloguing, reference service, acquisition, serials control, and information retrieval. It also projects current scenario of information technology, online information services, and computerized library networks used in the Western World. It outlines telecommunication aspects and satellite communication with actual and potential use in library operation.

Library Automation This literature is available in hundreds of books, thousands of journals' articles and on several websites. There has been so much surge of literature. The subject since the beginning that an exclusive journal named Journal of Library Automation has been published since late 1960s. Covering important issues and aspects of library automation. Notably; therefore, it was not possible to review all the

available literature. An attempt has been, however, made, to review a reasonable amount of related literature. Library Automation assured a great deal of importance in libraries in the mid-1960s. Since then, it has become a household word in librarianship. Library automation may be defined as the application of automatic and semi-automatic data.

The process of library automation has a short history in our country. It needs proper planning and active implementation. Kendriya Vidyalaya Pattom initiated the automation of its library to cope with the ever changing needs of the students and staff. The modernization of the Library Media Centre helps the students to become skilled information users and life long learners.

As the domain of the present study pertains only to study of automated house-keeping systems, only the literature related to computerized acquisitions, computerized serials control and computerized circulation control is reviewed. for the sake of convenience. Books also have been published in India on library automation. Important among them are those published by Singh, S.P (1975), Mahapatra, P.K (1985); Kumar, P.S.G. (1987); Madan, Som Nath (1987); Devarajan, G & Rahelamma, A.V (1990); Ravichandra Rao, I.K (1990); and Raman Nair, R (1992).

Another early effort in automation of circulation was reported by Keshav Kumar, S.S (1982) of HAL library, Bangalore. In this experiment a computer program in COBOL was developed to perform various functions such as maintenance of files, printing and other transactions. Kumar, P.S.G (1989) has reported automated circulation systems used at IIP, Dehra Dun, TIFR, Bombay, RRC, Kalpakkam; NAL, Bangalore; HAL, Bangalore; and IDL Chemicals Ltd, Hyderabad. Many efforts made at various institutional level have been reported in the literature. Bajaj, Rajendra Prasad and Bhooshan Lal (1986) have discussed about efforts made at IIT, Delhi library. Gowri, R & Yadumani (1986) discuss about the automation of library circulation at IISc library, Bangalore. Subramanian, K.R and others, (1987) have described the advantages of using dbase III for developing a circulation system. Satyanarayana, N and Hugar, N.C (1988)

report their experience of using an automated circulation system at IIT, Bombay.

Computer application to library and information sector has been one of the major factors attracting the attention of the information professionals through out the world. This process is hastened by the fact that the prices of computer hardware are fast decreasing and are increasingly coming within the reach of purchase by libraries and information centers. This has a clear impact on the libraries of the developing countries like .In the last two decades; several attempts were made in India at institutional level for computerization of library and information services. Most of these efforts seem to have piece meal approach and are not backed up by proper planning. Hence, there is no integrated system of library automation reported in the literature which can be considered as a model. However, a number of R&D organizations, Information Centers and Commercial Establishments are making efforts in this direction

Over the past decade, libraries have formed relationships with vendors of new kinds of services and of markedly changed products. One source of new relationships is the outsourcing of services formerly provided within a library's staff. Some libraries now contract with vendors to provide professional librarian functions such as cataloging, selection, and reference services. In addition, these new relationships, along with libraries' relationships with traditional vendors, are increasing in complexity. Thus, contracting with vendors of new services and with vendors of information in newer formats requires new management skills on the part of librarians. Part of the broad issue of managing these vendor relations is the narrower issue of vendor assessment. This review will focus first on the topic of vendor assessment in the general scholarly management literature and then on the coverage of this topic in the scholarly managerial literature within library science.

The strategic importance of vendor selection and subsequent assessment is well established in the literature of business purchasing, beginning with the seminal work on vendor selection criteria published in 1966 (Weber, 1996). Significant research continues to be done on this topic in part because of its particular relevance to manufacturers in a

just-in-time environment where vendor price, quality, and delivery are key performance criteria. There are even numerous trade journals and scholarly journals devoted to vendor relations.

Weber describes the three common and flawed current approaches to vendor evaluation (1996). First is the "categorical or key-factor rating method" in which potential vendors are assigned subjective, largely intuitive, ratings based on the evaluator's judgment and experience. A second current method is the complex "cost-ratio method" which requires a comprehensive, precise cost-accounting system to determine the buyer's internal operating costs associated with the vendor's quality, delivery, and service. The third common approach, the "linear average or weighted-point method," modifies the first method by providing numerical weights to the subjective evaluation criteria.

Many other approaches have been described and proposed in the literature. Researchers have suggested using more objective quantitative approaches. All including mathematical programming models, statistical approaches, and analytical hierarchical processing. Weber, for instance, demonstrated the use of a mathematical programming model employing data envelopment analysis to measure vendor performance on multiple criteria and to identify comparative benchmark values (1996, p.28; see also Talluri, Narasimhan, & Nair, 2006, p.212). Dogan and Sahin employed mathematical models to select vendors using activity-based costing and fuzzy present-worth techniques (2003, p.420). Babu and Sharma gave an example of analytical hierarchy processing (2005, p.101). Still other researchers proposed methods which combine both objective and subjective data. An example is Li, Fun, & Hung, who used two-dimensional analysis to propose a performance measure based on both quantitative and qualitative criteria (1997, p.753). Going the opposite direction are other research groups which proposed vendor performance measurements based on an evolutionary fuzzy system for evaluating attributes described linguistically (Ohdar & Ray, 2004, p.723; Jain, Tiwari, & Chan, 2004,

Vendor evaluation strategies exist within the context of an organization and its

processes. Choosing an assessment approach is just one of the seven steps of a process of developing and deploying vendor assessment outlined by Gordon (2005, p.20). Although this article is found in a trade press, it includes a useful bibliography of books about supplier evaluation and managing relationships with suppliers. Another aspect to consider is that many of the assessment techniques require technological tools such as software packages. Examples of descriptions of such software implementations were provided by Choy, Lee, and Lo (2004, p.191), by Humphreys, Huang, and Cadden (2005, p.147), and by Lau et al. (2005, p.61).

Libraries, like other organizations described in the general managerial literature, must deal with vendors and hence must assess both potential and ongoing vendor relations. While the scholarly library literature contains few descriptions of general vendor assessment approaches, it does contain many descriptions of specific approaches to evaluating particular types of library vendors. First the general and then the specific vendor type approaches will be described below.

Many of the articles in the library literature of vendor assessment provide general ideas and areas to consider in the evaluation process. Pavelsek (1998, p.40), however, argues that vendors should be evaluated using prescribed guidelines so that decisions can be better informed. Such precise guidelines are not often found, with even fewer guidelines able to accommodate new criteria necessary to evaluate rapidly changing vendor programs and services. Librarians should begin a vendor assessment project by reviewing the ALA's Guide to Performance Evaluation of Library Materials Vendors, which mainly addresses monograph vendor assessment, and the ALA's Guide to Performance Evaluation of Serials Vendors. Practitioners seeking guidance will find little direct assistance from general managerial literature but will find helpful articles in the library literature.

CHAPTER 2: LIBRARY AUTOMATION: CONCEPT

Introduction

The word 'Automation' has been increasing greatly in recent years. This means something which has the power of spontaneous motion or self movement (Webster's third new International Dictionary of English Language, 1966) The term 'automation' was first introduced by D.S. Harder in 1936 .Who was then with the general motor company in united states .He used the term automation to mean automatic handling of parts between progressive production process.

However the modern usage of the word automation is not in vogue in the above sense McGraw-Hill Encyclopedia of Science and Technology (1982) defines automation as " a coined word having no precise .generally accepted ,technical meaning but widely used to imply the concept development or use of highly automatic machinery or control system"

From the above definition one can observe that 'automation' is the application of 'machines' to perform a task automatically. Howerver, 'In business world, the words automation' and 'computer' are often used synonymously". (Encyclopedia of computer science and technology, 1975) In most of the literature on automation the term automation is used in the above sense. The modern usage of the word automation implies predominant use of computers and other modern technologies for any application /system. In this study also the term 'automation' is being used by the investigator in the same sense.

2.1 Library Automation

The word ‘Library Automation’ is being used in literature for the last four decades. A perusal of the literature would indicate that many authors have not tried to define the term explicitly. They use the term ‘Library Automation’ to mean the use of computer as an aid for library activities. “Library Automation in its broadest sense can be taken to mean the employment of machines for library processes .In general; however, library automation has come to mean the application of computers and related data processing equipment to libraries’

Salman (1975) has tried to give a more exhaustive definition, according to him “library automation is the use of automatic and semiautomatic data processing machines to perform such traditional library activities as acquisition, cataloguing and circulation. Although these activities are not necessarily performed in traditional ways, the activities themselves are those traditionally associated with libraries “library automation may thus be distinguished from related fields such as information retrieval, automatic indexing and abstracting and automatic textual analysis”

Further he says that linguistic purists have argued rightly that the term ‘automation’ applies more correctly and narrowly to automatic process control … and ‘library automation’ is now far the most commonly used term for mechanization of library activities using due to processing equipment.

From the first part of the above definition it can be observed that the term ‘library automation’ is used to imply just the mechanization of traditional and / or manual house-keeping routines of a library .In other words, it confines it self to the use of data processing equipments and associated technology to perform exactly. What has always and already been done in libraries through manual process of course with the justification of reduced cost and/or increased performance. However, literature shows that, such distinction is not maintained, the scope of library automation goes beyond house-keeping activities of the libraries.

1. The application of data processing equipments to do/to support the clerical /repetitive functions found in technical processing,circulation control and serials control.
2. The application of data processing equipments to the fields of information storage and retrieval automatic indexing abstracting and in reference work.
3. The application of computer /data processing equipments for operation research and system analysis.

It is observed that much work has been done in the first two areas, where as one finds less literature on the third. Though, it might be difficult to find a universally accepted and a comprehensive definition of library automation. One can accept, the areas identified by Hayes and Beckar as coming under the purview of library automation.

2.2 System approach to Library Automation

The question before the libraries now is not ‘to automate’ or ‘not to automate’ rather ‘how’ to automate .It is a well known fact that considerable human and financial resources are utilized in launching upon automation project .In this connection K.J.Singh (1985) has rightly observed that “no body the advantages of automation .In developing countries like India it adoption has to be done with caution, as some of the huge installations may prove to be white elephants surplus manpower, over-population and unemployment”. Hence, enough care has to be taken at each and every stage of the project. Ignoring or over looking even a minute aspect may later prove to be serious. Broadly speaking the various aspects involved in automation project, viewed from the angle of system development cycle .may grouped under the following three stages.

One has to structure the existing systems study by seeking answers to following Questions:

- What is being done?
- What is the purpose of the activity?
- How is it being done?
- What steps are performed?
- How frequently does it occur?
- How long does it take?
- How great is the volume of transaction?
- What needs to be changed? etc

The outcome of such a study should help to identify features of the new system including both the information. The system should produce and also the operational features such as processing controls, response time, and input and out put methods.

The next step in designing the system is normally referred to as 'logical design' in contrast to the process of developing actual source code (program/ software).Which is referred to as 'physical design' this is the state where system specification are made, because of the technicalities involved in this phase it is relatively. Unfamiliar to librarians, these specifications include the details of output, input, files, database interaction, controls and procedures. The specification should also include the hardware aspect of the system; these specifications are to be well documented. That it is free from ambiguity in fact, many design tools such as charts tables, data flow diagrams, data dictionaries etc. Are used to portray the design accurately Physical design follows the logical design; physical design refers to the development of 'software' for automated systems.

The life blood of any automated (computerized) system is its software the software decides the success or failure of a system software design should accomplish the following objectives:

- The actual programs perform all required tasks and do so in the manner intended:
- The structure of the software permits suitable testing and validation: and

- ❖ Future modification can be made in an efficient manner and with minimum disruption to the design of the system.

Literature of the field identifies six principles which may be deemed as the characteristics of a good software design (Senn.1989) .They are top-down partitioning .loose coupling, functional grouping for cohesion, limited span control, manageable module size, and shared modules of the software.

There are two approaches for software developments. One may install purchased software as in turn-key systems or may develop a new custom designed programmed.

The choice depends on the cost of each option, the time available to write. Software, and the availability of programmers. In any case, the software should be aimed at fulfilling the above objectives and principles.

Further the software should be well documented. So that it ensures easy use of the system and helps in the future developments.

2.3 RFID Library Management System

A) RFID (Radio Frequency Identification) is the latest technology to be used in library theft detection systems. Unlike EM (Electro- Mechanical) and RF (Radio Frequency) systems, which have been used in libraries for decades. RFID-based systems move beyond security to become tracking systems. That combines security with more efficient tracking of materials throughout the library, including easier and faster charge and discharge, inventorying, and materials handling.

B) RFID is a combination of radio-frequency-based technology and microchip technology. The information contained on microchips in the tags affixed to library materials is read using radio frequency technology regardless of item orientation or alignment. (i.e., the technology does not require line-of-sight or a fixed plane to read tags as do traditional theft detection systems) And distance from the item is not a critical

factor except in the case of extra-wide exit gates. The corridors at the building exit(s) can be as wide as four feet because the tags can be read at a distance of up to two feet by each of two parallel exit sensors.

C)The targets used in RFID systems can replace both EM or RF theft detection targets and barcodes.

Advantages of RFID systems

The use of RFID reduces the amount of time required to perform circulation operations. The most significant time savings are attributable to the facts that information can be read from RFID tags much faster than from barcodes and that several items in a stack can be read at the same time. While initially unreliable, the anti-collision algorithm. That allows an entire stack to be check-out or check-in now appears to be working well. The other time savings realized by circulation staff are modest unless the RFID tags replace both the EM security strips or RF tags of older theft detection systems and the barcodes of the library management system - i.e., the system is a comprehensive RFID system that combines RFID security and the tracking of materials throughout the library; or it is a hybrid system that uses EM for security and RFID for tracking, but handles both simultaneously with a single piece of equipment. There can be as much as a 50 percent increase in throughput. The time savings are less for check-out than for check-in. Because the time required for check-out usually is extended by social interaction with patrons.

Simplified patron self check-out / check-in

For patrons using self check out, there is a marked improvement because they do not have to carefully place materials within a designated template and they can check out several items at the same time. Patron self check-in shifts that work from staff to patrons. Staff is relieved further when readers are installed in book-drops.

High reliability

1. The readers are highly reliable. RFID library systems claim an almost 100 percent detection rate using RFID tags.
2. There is no false alarm than with older technologies once an RFID system is properly tuned.
3. RFID systems encode the circulation status on the RFID tag. This is done by designating a bit as the "theft" (EAS) bit and turning it off at time of check-out and on at time of check-in. If the material that has not been properly check-out is taken past the exit sensors, an immediate alarm is triggered.

High-speed inventorying

A unique advantage of RFID systems is their ability to scan books on the shelves without tipping them out or removing them. A hand-held inventory reader can be moved rapidly across a shelf of books to read all of the unique identification information. Using wireless technology, it is possible not only to update the inventory, but also to identify items which are out of proper order.

Automated materials handling

Another application of RFID technology is automated materials handling. This includes conveyer and sorting systems that can move library materials and sort them by category into separate bins or onto separate carts. This significantly reduces the amount of staff time required to ready materials for re-shelving.

Long tag life

Finally, RFID tags last longer than barcodes because nothing comes into contact with them. Most RFID vendors claim a minimum of 100,000 transactions before a tag may need to be replaced.

SIX Sentence About RFID for Library

1. RFID tags replace both the EM security strips and Barcode.
2. Simplify patron self check-out / check-in.
3. Ability to handle material without exception for video and audio tapes.
4. Radio Frequency anti-theft detection is innovative and safe.
5. High-speed inventory and identify items which are out of proper order.

2.4 Theoretical Background of the study

Introduction

Theoretical background of the study my research and lists the main conclusions drawn from tests and experiments. The analysis typically summarizes two main parts of a research document: data preparation and descriptive statistics (experimental studies) and inferential statistics (quantitative studies). The final section is the qualitative analysis that explains why some types of results are relevant.

All Libraries work with data on a continual basis. Data can include anything from financial and accounting information to detailed information about customers. Most data are maintained in a computer database and used as needed by management employees and analysts. Because various data are complex and often involve multiple columns of the primary goal of financial data analysis is to maximize the wealth of the shareholders and the overall profitability of the company. Financial managers maximize

the wealth of the shareholders by applying such concepts as credit and inventory management. Outline your method for gathering results. Explain how you gathered the data and what measures you took to make sure these were objective and accurate.

Draw conclusions and make comparisons. Explain what the results mean, why they are important and how they compare to previous studies or similar experiments.

An attempt is made in this chapter to delineate the objectives of three automated operations considered in this study, viz., acquisition, circulation and serials control. Each operation involves a number of automated functions which are briefly described. These explanations convey the significance and meaning of the functions involved in each of these operations. These explanations hold good for the remaining part of the thesis.

Cataloging module

- Used for the creation, storage, retrieval and management of bibliographic records and/or indexes.
- Defines the record format used in the database and provides for authority control author, subject headings etc.
- Usually there are two different interfaces for search and retrieval of the electronic catalog :
    - For catalogers that allows them to maintain the library database (the main cataloging module),
    - For users that allows them to search and display the results – the Online Public Access Catalog (OPAC)

Acquisitions module

- Automates the acquisition process - ordering, receiving, claiming materials from suppliers, and returns, and cancellations of materials
- Used to maintain statistics, and in some cases manage accounting activities.

- Acquisition can be done online if system is linked to an external network.

Serials Control Module

- Manages placing, canceling, claiming of orders; returning defective, unwanted and unordered material; and accounting and statistical information
- Provides a system for recording issues and keeping track of undelivered issues by generating claim reports.
- May permit serial ordering online.

Interlibrary Loan Module

- Provides staff with an information management system for interlibrary loan transactions. This includes automatic monitoring of loans and accounts, making claims, putting holds on materials being borrowed, etc. Can also monitor the library's ILL activities, e.g. the number of items borrowed by individual clients, from where, for whom, etc. This module is seldom required except by libraries with very heavy ILL transactions

Add-on Module

Usually offer additional functions and features as optional to the basic functions or as an integral part of a module. Examples are, report generation, inventory, short loan transactions, import / export of records from / to MARC formats, Web OPAC, Z39.50 client and/or server services, and security systems linked to or integrated with the cataloging / circulation module.

Acquisitions

The acquisitions module enables the librarian to create records of items to be ordered and to print out order slips in cases. The order must be transacted by ordinary mail. Recent developments have provided electronic means of ordering items and paying for them. A lot of information is now available on the Web about online ordering of books and other materials. The module may also supply accounting information relating to acquisitions activities.

Acquisitions are mainly repetitive work/routine because it is not unusual to find the same information being repeated at various stages right from selection to the procurement processes. Acquisitions involve a great deal of record keeping as well as the usual difficulties of tracking orders and determining when claims should be produced. Manual acquisitions systems are labor-and paper-intensive, and usually produce only a limited amount of management information. Automated acquisitions reduce the amount of paper handling and generate a wide variety of reports which help in taking appropriate decisions at various stages of acquisition operation.

However, this study will follow the common library practice of using the term ‘acquisitions' to collectively a library materials which are published on a nonrecurring basis, including books, technical reports, government publications, and a/v materials. The procurement may either through purchase or through gifts.

The major objectives of automated acquisitions systems may be summarized as follows:

- To reduce labor- and paper-intensive work involved in.
- To maintain up-to-date information/record of all activities involved in acquisitions.
- To have effective and efficient control over ordering claiming and cancellation functions.
- To provide accurate and timely financial information.

- To provide necessary management information reports whenever they are required.

While difference in purchasing practices and procurement regularities may lead to local variations in acquisitions systems, certain basic characteristics and work steps are always similar in all the systems. Thus this study concentrates more on this commonality found in automated systems. The following sections describe briefly about these various automated functions which are considered in this study.

The library acquisitions process begins with the selection of materials by the acquisitions staff or with the arrival of a request from the patrons. The library's catalogue and on-order files are first consulted to determine whether the item is on order or already in its collection. A thorough checking is, normally, done to avoid unwanted duplication. If the acquisitions system contains document data file (bibliographic data file of library holdings). It is searched to determine whether a given material is already owned. Otherwise, (ie. in case the system does not have on-line catalogue) the manual catalogue is consulted manually. Further, on-order/in- process file will have to be checked to see whether the item is already on order. If a record is already there either in the on-line catalogue or in the on-order file, assuming that an additional copy will be purchased, the system should support the creation a new order record just by copying automatically the relevant field. By this, the operator's efforts and time to create an order record are minimized. Then, the system should extract necessary.

Details from the operator to reflect the specific requirements of the new order
However, for a completely new order (i.e. when no matching records are either found in on-line catalogue or Is on-order file), all the details are to be filled-in fresh. While specific details will necessarily vary from one system to another, each order record typically consists of some combination of the following fields: an order control number; an order date; a purchase order number; a requester name or code; a vendor name or code an indication of the acquisition type (a new order, stand in order, prepaid order, and so on), price, a fund name or code to which the item is to be charged; and a status code

or other inform motion required for the tracking of an item at various stages of acquisitions process

A) Received Invoice Processing

For the sake of simplicity of discussion, it is assumed that items and invoices are processed separately. However, a close interaction between the item receipt and invoice receipt is essential in the acquisitions system.

If an item is received before its invoice, the receipt of the item is recorded into the system. Further, the non-receipt of the invoice is also recorded in the system so that the system can generate claims for the invoice. Similarly, if the invoice is received before its item, the receipt of the invoice and along with other details is entered into the system with an indication of the non-receipt of the item. In this case, the system generates claims for the item. Further, the fund file has to be suitably updated automatically.If the item and invoices are received together, after verifying their correctness the receipt of the both are recorded. Suitable updating in order file, invoice file and fund file may be made at this stage.

B) Claims

Claims is an area where an automated system has been found very helpful.If an order is not received within the specified periodical claims notice has to be generated and sent to the vendor unless notification. It has been received and noted in the system. A system should provide for both automatic claiming of ordered materials and operator initiated (forced) claims. In the former case, the system triggers claims notice production automatically and in be claimed in vendor order and print all claims to the latter case the claims are reviewed and released by the staff for printing. A good system arranges the items to vendor on a single claim notice unless the library requires that they be printed on separate forms.

The claiming function should also incorporate the claiming of invoices and bindery orders.The system should have the capability of producing follow-up (subsequent) claims if no response is recorded by the system within a specified period. Although the acquisitions systems may support the issuance of any number of claims, generally, a maximum limit is fixed by the library as the probability of receiving the item after that limit is very low.

C) Cancellations

An automated system needs to have a function to support the cancellation of orders, and open-ended order plans, of claims and of payments. However, this function has to be carefully monitored by the system and should allow only authorized staff to carry out this function. Though, the cancellation is usually an operator initiated function, the system can trigger the cancellation function automatically. If the responses to claim notices are not received within the maximum time limit specified by the library. It is a matter of efficiency if an acquisitions system allows for the issuance of an order previously cancelled though this is a rare occurrence. Naturally this facility will reduce the time and effort needs to get the order out cancellation normally requires the production of appropriate notice to be sent to a vendor.

D) Search

Access to database is frequently cited as an essential requirement for an automated acquisitions system. In fact, one of the important advantages of an automated system is its capability to provide wide range of access points to search one or more data files in support of acquisitions. As the type and nature of search cannot be predetermined, there should be sufficient flexibility in this function. It is not uncommon to combine two or more terms during searching. This requires that the system should allow for the use of logical connectors between search terms. The most commonly used connectors are AND, OR and NOT The relational connectives are also quite useful as search tools. The basic set of connectives include equal to (=).

An efficient and flexible system provides for searching using truncated forms of search terms. Truncation not only permit the searcher to overcome the vagaries introduced by variations in spellings, but also those introduced by linguistic devices as well. A good system allows for three different types of truncation, viz., Prefix, Infix and Suffix, though the last one is the most common form.

The use of general qualifiers in a search also can be a very useful technique for increasing the specificity of the results of search. For example, the form of publication (e.g., reports), the medium (e.g., printed or microform), and so on may be used to restrict the search to just those types of records that are of interest to the searcher. Another facility which is useful while searching is the establishment of "universe" within which a search will be performed. This filtering of data is highly useful if the database size is quite large.

E) <u>Retrieval</u>

The term ‘retrieval’ in this study has been referred primarily to retrieving of records in response to a search query and their mode of display or downloading the system should display a suitable message in the event of a null retrieval (i.e., no matching records are found in response to a search query). A good system may provide an option to display lexicographically adjacent search terms, in case of a null retrieval. Of course, the option to choose this facility may be given to the opera tar. In the interest of convenience and efficiency, the system should provide maximum control to the operator to indicate the display pattern. Further, the system should allow the display of full bibliographic details or brief details (in selected fields) depending upon the context.Features like bidirectional browsing, saving of search strategy, and specifying of output device will enhance the efficiency and effectiveness of the system.

F) Routing

This function intends to send materials to faculty staff, researcher, or other specified categories of client for review prior to shelving. The existence of this function eliminates one more source of exception processing and its attendant manual efforts. Routing information need to be suitably maintained by the system. But it has to be always linked with the order record. On demand, routing of selected items should also be supported. All of this means that the data contained in the acquisitions system must be specific enough to enable the system to determine what is to be done for each item received.

G) Financial records/Audit trial

Automated systems are particularly valuable in fund accounting and audit trial. A good system maintains correct and current financial records and a good audit trial. Obviously, this function must be sufficiently flexible to operate with the library's policies and changing fiscal management requirements.

One of the main features in this function is that the system should allow maintaining funds under different. Budget heads as required by the library from time to time. The maintenance will encompass creation modification and closing of funds by specifically authorized staff.

The appropriate fund should be encumbered immediately as soon as the material is ordered. Once items are received and invoices are approved for payment, the funds must be disencumbered and correct expenditure is recorded this needs to be automatically done. Once the price and other amounts (such as discount, postage, foreign exchange etc) are recorded into the system and the payment signal is indicated to the system.

Other features related to accounting function include alerting depletion of accounts, calculation of foreign currencies and handling of exception situations.

Maintenance of a full audit trial particularly for financial transaction is essential. The audit trial details should be recorded in such a way that they should identify the person effecting the transaction, as well as the date, time, nature of transaction carried out etc

H) Payment

The purpose of this function is to assist the library staff in performing the work related to payment of invoices for library materials acquired via, the different types of purchase schemes. The assistance includes maintenance of record of all invoices approved for payment, maintenance of records of payment (by payee) maintenance of chaque register (if the library staff is authorized to write cheques), maintenance of voucher register etc.Though very rarely seen in practice, the system may be made to write the chouse also. The most important thing is the maintenance of complete audit trial for all transactions done in this function.

I) Printing

This function is one of the most used functions in automated acquisitions system. The system should be capable of printing, preferably at the work station orders, routing slips, cancellation notices, claim notices, various management reports and so on as required by the library. It is better if the system uses pre- printed forms for printing.

J) Access control

Even though acquisitions is strictly a ‘staff-use’ system. It is important for any automated system to have access control facility to ensure data security. Normally access control is achieved by making the system workable at ‘operator level’ i.e., certain designated staff member(s) is/are given the authority to have the authority to access and/or

modify the data. A system having a good access control facility may allow even the patron of the library to interact with it. However he/she will be allowed only for simple search and retrieval from on-line catalogue or in process files. In other words, the interaction with the files is strictly restricted to 'read-only' mode. On the other hand, a staff member may be allowed to perform more functions Even among the staff, it is possible to have 'staff-level' to control the authorization to carry out various function provided by the system.

2.5.1) Data entry and update

The principal mode of data entry in acquisitions is on-line and interactive. Most of the data entry occurs within the ordering and receiving functions .Once the initial creation of different databases is done, subsequent data entry and update will involve augmentation of these files. The updating means the addition, modification and deletion of data/record as the situation warrants. It is always essential for the system to validate the data entry wherever possible. This validation may be done. Through range test, data existence test, data for mat test and so on.

2.5.2) Documentation

A good documentation helps in overall usage maintenance and usefulness of a system. The documentation must be accurate, well-organized, well illustrated, easy to read to understand, and indexed for quick reference to information required by the user.

It is useful, if separate documentation is available for technicians and users. The technical documentation may include technical aspects such as, design specifications, hard ware configuration, software descriptions, operating procedures and so on. On the other hand, user documentation may include all operational aspects required for using the system. Further, there must be ample information about messages produced by the system and their meanings, error messages and the probable solutions to remove the error, informational messages and other .

2.5.3 Acquisitions module

Very few articles have been published before 1985 on automated acquisitions. Kulkarni, D.R and others (1983) have described a detailed system analysis of computerized book procurement systems. Rajagopalan, N (1981) describes, in his article, a module for computerized book acquisitions using IBM 370 system. Ravichandra Rao, I.K (1983)has described about the issues involved in automated acquisitions in his paper 'Library automation'. After the mid 1980s, one finds an increase in the number of articles published on this specific area. A detailed account of what an automated acquisitions system should cater to has been discussed by some authors(Bal Subramanian, V (1986); Bhattacharyya, Swathi and others 1986; Kumar, P.S.G (1988) and Ravichandra Rao, I. K(1989 & 1990). All these authors have touched the important aspects like functional needs, software characteristics, file structures of automated acquisitions system, etc. From experiments reported in the literature, one gets the description of various systems used in different libraries. Haravu, L.J and others (1987) have described the micro-computer based book acquisition system (A revised version of which is evaluated in this thesis) used in ICRISAT library, Hyderabad. Similarly, Satyanarayana, V. V and Savale, V.T (1986) have described the working of the book acquisitions system used at Technical Information Centre of BHEL, Hyderabad. Kumar, P.S.G (1987) has surveyed and reported in his thesis various acquisition systems used at libraries of IIT, Madras; BHEL, Hyderabad; NAL, Bangalore; IDL Chemicals Ltd., Hyderabad; RRC, Kalpakkam; PRL, Ahmedabadand ICRISAT, Hyderabad. Deshmukh, Subhash (1993) has reported a unique experiment of using CDS/ISIS software for some of the acquisitions work. Two papers presented in DRTC Annual Seminar (1989) by Chandrasekhar, G & others;and Chudamani, K.S and Subhan, V.A which describe the automated acquisition systems at SHAR Centre,Sriharikota; and IISC, Bangalore respectively. Murthy, S.G.K and others (1989) have described in their paper the Document Acquisition System (the present study includes this system its study).

2.5.4) Cataloging module

Cataloging module provides a fully functional, or one who prefers to edit in a labeled display. The future of the library and the library catalog, writing on the computer revolution, most of those futurists correctly foresaw a library and catalog that could be accessed from the user's office or home. Some even predicted the eventual dissolution of the physical library, with all documents and all services being digital. But none of them envisioned the rise of a vibrant information environment entirely outside of libraries: the World Wide Web. Our users have shifted their attention from the library to other sources of information. The question today is not how we get users into the library, but how we can take the library to the users. The answer will necessarily involve a transformation of the library catalog.

In the era of the library with walls, the library user's accessible information universe was bounded by those walls, and the catalog was the user's entry into that accessible realm. Today's library without walls provides access over computer networks to a wide variety of resources, most of which are not represented in the library catalog. There are journal articles, full text reference books, institutional repositories, digitized archives, and curriculum materials. The materials that are available through the library are generally not part of the open access information sources that the user encounters through Web search engines. Yet those open access resources are also a valuable part of the user's information environment, and should not be seen, either by librarians or users, as rivals to library resources. The challenge today is to present all of this as a coherent whole, and still help users make choices between the different offerings.

In the library press and the professional blog-o-sphere there are ongoing discussions of the future of the catalog, of cataloging, and of the library itself. In fact, we can't discuss these three topics separately; as the library changes, the catalog must change; and as the catalog changes then cataloging must change to fulfill its needs.

The discussion about changing the catalog tends to focus on the creation of new user services, sometimes layered on top of the current library system and catalog data, sometimes in terms of a new model for the library's service to the user. There is also

discussion about changing cataloging, in particular the work of the Joint Steering Committee for the Revision of AACR and its work on Resource Description and Access, the presumed successor to the AACR2 cataloging rules. The broader question of changing the library does come up, and often in the context of adjusting to new models of scholarly communication.

In a world that is constantly and rapidly changing, the declaration that we are approaching something called "Web two-point-oh" is a strong statement that this change will be substantial. Not that there will be an actual moment in which the Web 1.9 will become Web 2.0, because this isn't a planned or even a coordinated change. The term "2.0" is just shorthand for an unknown but desired move to something new. The change is evolutionary and relatively gradual in a world where it is almost a full-time job to keep abreast of new daily developments. There is no single definition of Web 2.0, although certain experts can describe its characteristics. Tim O'Reilly, founder of the foremost publishing house for computer and networking titles, gave these as some of the key elements of a Web 2.0 application: it takes place on the Web; it is a service, not a product; it is not limited to a single software product or a single machine; it is open and shared; users in group and social interaction are part of its organization. Users provide content and add value.

The concept of the catalog as a one-to-one representation of the library's holdings carries with it the assumption that the user accesses the catalog to find something that the library owns. If the user is not looking for a known item Dempsey refers to this as the difference between discovery (an information query) and location (where a resource can be found). In a book-oriented world, this is the difference between bibliography (a topical study not limited to any location) and the holdings of a particular library. Library catalogs are the latter; printed bibliographies and indexes are the former. In fact, the OCLC report on user perceptions of the library shows that only one percent of users begin their information search in the library catalog. The library catalog comes in when the user seeks to locate something that he or she expects that the library might have. Since the same OCLC report shows that most user’s think of libraries

as mainly having books, this gives you an idea of when users will choose to turn to the library catalog.

The information environment based on distributed electronic resources is much less geographically bounded than the hard copy world. The user experience with the use of discovery tools that are part of the electronic environment is that the discovery and "obtain" functions are satisfied with the same search. Another common experience is that one’s search is not limited to a single institution or location but goes against an aggregate of information sources. This is true not only when using a general Web search engine, but even on branded sites. When a user searches Amazon for a book, Amazon helps the user purchase the book from any number of different booksellers. In the networked"2.0" world, the organizing principle is the *service*, not the institution or the geographical location.

Today's users have an expectation that they will find a community at their electronic destination. They also expect to interact with their information resources, not to consume them passively. This creates something of a dilemma for libraries. Library catalogs are created by professionals using a set of rules that even few in the library world can say they have truly mastered. The idea that users would be allowed to modify the catalog is about as far from the mentality of the cataloging rules as you can possibly get. OCLC is experimenting with some user input by allowing users to add reviews to Open World Cat. The basis of the catalog and cataloging remains the same, and the reviews as yet do not affect retrieval. Most online library catalogs are un-social, not even allowing the electronic equivalent of the penciled comment on the back of the catalog card.

Users also expect their information resources to interact with one another. The Open URL browser plug-in, mentioned above, allow users to move seamlessly from a citation on the Web to a copy of the cited article that is not available on the open Web. Other plug-in help users create bibliographies from bibliographic information on the screen, including the screens of library catalogs. This bibliographic information can then be added to documents that users are writing.

2.5.5) Circulation Module

Circulations efficient design puts frequent circulation activities One-click functionality for loans, returns, reserves, renewals, status review, booking, and fine processing means shorter lines and fewer personnel at the front desk. Enable Self Check or Self Return, and expand your patron offerings without library staff.

Circulation Features

- Fully customizable screens.
- Multilingual interface (English, Spanish, and French).
- Ability to link images to patrons and items.
- Standard or customized patron and item messages.
- Immediate update and display of item and patron status.
- Self-service check-in/check-out options.
- Backdating check-in and override capabilities available to authorized users.
- Flexible calendar interface, including fixed and repeated closed days for holidays.
- Fast multiple-item batch return.
- On-the-fly transaction processing.
- In-house circulation to track usage within the library.
- Hourly loan capability.
- Special reserve collection management.
- Library transaction reports.
- Circulation Desk receipt printing for patrons.
- Quick return functionality via a single barcode scan.
- Sound/Voice alert options.

- OPAC and Cataloging search access from Circulation.
- Ability to assign items to collections with specific due date parameters with group editor.
- Ability to set patron and staff circulation rights and authorization levels with group editor.

Circulation is a central and highly visible function of a typical library. Circulation, which is often compared with inventory control, involves a great deal of record keeping and correspondingly, staff time. It is highly essential that the records have to be accurate and all information has to be updated immediately after each transaction. In other words, circulation control is useful if it is in online real-time interactive mode.

The objectives of an automated circulation control may be summarized as follows:

- ❖ To record timely and accurately the loan transaction data.
- ❖ To have efficient and effective control over dues, fines and records.
- ❖ To provide necessary statistical and management reports .

The following sections briefly describe the functional requirements of an automated circulation system.

Charge/Issues, Discharge/Return, Renewal, Holds/Reservation, Recall, Overdue, Fines/Overdue Charges, Handling of Loss of documents, Circulation of reserve. Collection, Special Materials handling, Printing, Document Identification Number, Patron Identification Number, Search, Retrieval, Access Control, Override, Financial Records/Audit trial, Help, Reports, Report generator, Data entry and update, Documentation. Backup and recovery. Users today are technology literate and technology competent. They expect libraries to be technology-baled. The circulation module is the service point that users immediately encounter and take note of. ICT applications for circulation enhance the image of the library. The circulation module monitors the loans, fines, and the stock. Having a circulation module has been the dream of asian librarians

for more than a decade. At present the cost of an integrated library system is still beyond the reach of many medium- sized libraries.

A circulation module makes use of only two sets of numbers to record a transaction. The item number(accession number) and the user number (user ID number). A program can be easily written for such a transaction. In practice, however, the circulation module is linked to the bibliographic database so that the description of the item can be displayed and the OPAC can also display the status of the item, that is, whether it is on the shelf or on loan to a borrower. More sophisticated systems are linked to security systems. This is true especially with self checkout and check-in systems. To borrow books using a self check out system, the borrower simply goes to the loan terminal and inserts a borrower's card. The system then asks for the borrower's pin, and once recognized as a library member, the system asks the borrower to place the book on the terminal so that it can scan the book's barcode. After the terminal has read the barcode, the loan is processed and the security strip is demagnetized so that the borrower can take the book out without alerting the security system. Returning books is an easier procedure. Only the barcode of the book needs to be scanned by the return terminal.

2.5.6) Serials Control module

Not all integrated library systems have this module. Large libraries with large serials subscriptions require the serials control module because it provides them with a more efficient means of managing serials. The system usually alerts the library when claims have to be made. It also enables the library to automatically record arrivals through the barcode attached to the serial.

Serials management, an integral part of library operations, has become increasingly complex over the years. Serials management always has been an area that is labor intensive, & demanding high degree of attention to accuracy and detail. The benefits of the application of automation in other areas of library operations is now well established; it is a natural progression for librarians and system designers now to seek to apply the power

of the computer to control one of librarianship's most troublesome processes.

As used in this study, the term ‘Serials’ denotes those publications which are issued in successive parts on a recurring basis, usually, but not necessarily, at regularly scheduled intervals and usually having numerical or chronological designation. The term ‘Serials control’ refers to those tasks which support the procurement and management of serials collection in a library.

The major objectives of automated serials control

- To record and maintain accurately and timely the serials holdings data.
- To have effective & efficient control over subscriptions claiming and cancellations activities.
- To have a good control over binding & related activities.
- To provide accurate and timely financial information.
- To provide necessary management information reports whenever they are required.
- To reduce labor- and time-consuming work involved in manual serials control systems.

The following sections describe briefly the various functional requirements of an automated serials control system:

- Check-in, Claims, Binding , Acquisition, Circulation , Shelving, Search, Retrieval, Printing, Access control, Document Identification Number, Overrides, Financial records/Audit trials, Help, Reports, Report Generator, Data entry and update, Documentation, Back-up and recovery,

2.5.7) Reports

One of the advantages of automated systems is the relative ease with which reports can be generated. A good system should produce a wide variety of reports required for day-to-day as well as occasional work/decision making process. The system should provide statistical as well as management reports .Based on literature on automated acquisitions, one can say that a good system should provide activity reports.(such as number of pre-order searches, number of order records created, number of binding orders created, number of fund records created, number of invoices processed number of items received and such others), financial reports (such as accounts payable reports, cash flow analysis, commitment register), database statistics vendor performance reports, and similar other reports.

Since no system designer can anticipate all of the possible reports that might be required in a given library over a course of time, it is essential that the acquisitions system provide a flexible report generator that library staff can use to produce special reports Such generator should have the facilities like specifying the format (column width, page length, foot notes, top margins, and so on), specifying the sort sequin deviation and so on). A report generator is highly and allowing the use of mathematical as well as statistical operations (sums, mean, maximum, minimum, standard) helpful if it provides the facility to output the data in graphical format also.

2.5.8) OPAC Module

The OPAC is the electronic equivalent of the card catalog. It has the added advantage of being searchable by keyword and by call number in addition to searching by author, title and subject. The OPAC could also be in the form of a Web OPAC if made available over the Internet. The OPAC provides users with access to the bibliographic database found on the file server of a local area network. Recent developments in ICT

have enabled libraries to publish their catalogs on the Web. OPACs can also be linked to the circulation module so that users can find out if an item is on loan. OPACs also allow for Boolean searching to enable the user to combine keywords to make the search more specific. Libraries with integrated library systems benefit more from the system when they join networks because they can share the resources of other libraries. This has implications for acquisitions, cataloging, interlibrary loan, reference and access to resources. The OPACS of participating libraries can be made searchable from any network member. The OPAC can also be used as an acquisitions tool because libraries can easily see other libraries' collections and choose not to duplicate the holdings of other member libraries.

The OPAC is an electronic catalog. It is the equivalent of the card catalog but it is searchable online. The OPAC could also be Web based called a Web OPAC. The Web OPAC is used by libraries to share bibliographic information.

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CHAPTER 3: AUTOMATED LIBRARY SYSTEM IN SANGAMNER TAHSIL: A FIELD STUDY

3.1 Introduction

The 'Exhaustive study of automation institutional libraries Sangamner tahsil' is the topic of research. In Sangamner tahsil very few colleges are used the library automation The Amrutvahini college of Engineering, Sagamner Nagarpalika Arts, D.J.Malpani Commerce & B.N.Sarada Science college Sangamner, Amrutvahini College of Pharmacy etc, colleges are used the library automation software. Especially soul .library manager software are used in surrounded libraries. All libraries are well developed.

There is many types of educational institutes like, Junior-senior colleges medical college, dental college, engg. college. MBA, pharma ITI, Diploma College. This educational institute are very well developed& well known. In all of this

institutes having big library with sufficient books & journals. Many users get benefit from this books .In all libraries reference section is independently used. In college infrastructure, there is special location & area is given to libraries. All college are established near Sangamner city & 6 k.m. area around sugar factory. The details about the college taken for field study are as follow:-

1. **College Name- Amrutvahini College of Engineering (ACOE).**

   Address- Amrutnagar, Sangamner (District Ahmednagar) Maharashtra, India, Pin Code : 422608.

   Establishment- 1983

   Websites- http://www.amrutvahiniengg.org/, http://www.avcoe.org.

   Mail- principal@amrutvahiniengg.com

   Automation software used- Library automation software name ananosoft ems. Using Acquisition, Circulation, OPAC, Serial control, Cataloguing modules. OPAC on the web. Lan for hole library.

   Instruments available in library- Photocopying machine, Barcode scanner Microform reading, Digital cameras, LCD Projector, Barcode printer, UPS facility, Battery Backup.Library

   Library Staff Details- Librarian Mr.P.N.Wakchaure (M.A.Blib), Asstt.Librarian Ghagarmale Nitin (B.A.M.Lib.I.Sci).

   Books & other material- Books -29800,Audio Cassettes- 27,C.D.(Books & periodical)-225.journal subscribed -85.

2. **College Name- Sahakar Maharshi Bhausaheb Santuji Thort College Of Arts, Commerce & Science College Sangamner.**

   Address- Nashik Road near Nagarpalika Water Tank, Sangamner 422605 Tal: Sangamner, Dist: Ahmednagar, Pincode: 422605

   Establishment- 1990.

   Websites- http://www.smbst.com.

Mail- smbst_22@yahoo.com.

Automation software used- Library automation software name Soul(Inflibnet) . using Acquisition, Circulation, OPAC, No Lan connection in library.

Instruments available in library- Photocopying machine, Barcode scanner , Barcode printer, UPS facility, Battery Backup.

Library Staff Details- Librarian Mrs.Alka Surve (M.A.M.lib),Mr.Gopal (Library clerck B.A.).

Books & other material- Books -26700, C.D.(Books & periodical)-325.journal subscribed -75.

3. **College Name- Amrutvahini College Of Pharmacy, Amrutnagar,Sangamner**

Address- Amrutnagar, Sangamner (District- Ahmednagar) Maharashtra, India, Pin Code : 422608

Establishment- 2004

Websites- http://www.amrutpharm.org

Mail- principal@amrutpharma.org.

Automation software used- Library automation software name Library Manager Using Acquisition, Circulation, OPAC,. OPAC on the web. Lan for hole library.

Instruments available in library- Photocopying machine, Barcode scanner Microform reading, Digital cameras, LCD Projector, , UPS facility, Battery Backup.

Library Staff Details- Librarian Mr.Kawade R S (M.A.M.lib.I.Sci),Mr.Murtadak P.L(M.Com ,Library clerk).

Books & other material- Books -5778,C.D.(Books & periodical)-55.journal subscribed -25,Online journal Science Direct-94**.**

4. **College Name- Amrutvahini Institute Of Pharmacy, Amrutnagar Sangamner**

Address- Amrutnagar, Sangamner (District Ahmednagar) Maharashtra, India, Pin Code : 422608.

Establishment- 2006

Websites- http://www.amrutdpharm.org/

Mail- principal@amrutpharma.org

Automation software used- Library automation software name Library Manager Using Acquisition, Circulation, OPAC.

Instruments available in library- Photocopying machine, Barcode scanner , UPS facility.

Library Staff Details- Librarian Mr.Pansare S.K.(B.A)

Books & other material- Books -1245,journal subscribed -05**.**

5. **College Name- Amrutvahini Management & Business Administration, Amrutnagar,Sangamner.**

Address- Nashik-Pune Highway, Amrutnagar (S.K.), Sangamner, Tal: Sangamner, District: Ahmednagar Pin Code : 422608.

Establishment- 1995

Websites- www.amrutmba.org.

Mail- director@amrutmba.org,

Automation software used- Library automation software name ananosoft ems. Using Acquisition, Circulation, Lan connection to all computer in library.

Instruments available in library- Photocopying machine, UPS facility, Battery Backup.

Library Staff Details- Librarian Mr.Kahandal Chagdev B (M.Lib.I.Sci)

Books & other material- Books – 12325 C.D.(Books & periodical)-225.journal subscribed -35.

6. **College Name- Sagamner Nagarpalika Arts, D.J.Malpani Commerce & B.N.Sarada Science College.**

   Address- Pune-Nashik Highway, Sangamner, Dist:Ahmednagar Tal:Sangamner India, Pin Code : 422608.

   Establishment- 1961

   Websites- http://sangamnercollege.org/

   Mail- bvchavan@yahoo.

   Automation software used- Library automation software name Soul (UGC). Using Acquisition, Circulation, OPAC, Serial control, Cataloguing modules. OPAC on the web. Lan for hole library.

   Instruments available in library- Photocopying machine, Barcode scanner , Digital cameras, LCD Projector, Barcode printer, UPS facility, Battery Backup.

   Library Staff Details- Librarian Prof. B. V. Chavan (B, Sc., M. A., M. Lib. & I. Sc., SET), Asstt.Librarian Miss. Shaikh A.S. (M.A., M.Lib. & I.Sc.),Clerck Mrs. Mathakari S. V, Mr .Shelake H.N. Mr. Dhadge N.K., Supporting Staff : Mrs. Abhale J.K.(M.A., B.Lib. & I.Sc.), Mr. Sahane C.B.(B.Com, B.Lib. & I.Sc.), Mr. Navale S.V.(B.A., B.Lib. & I.Sc.)

   Books & other material- Books -93905,Audio Cassettes- 51,C.D.(Books & periodical)-514.journal subscribed -134.

7. **College Name- Shri Omkarnath Malpani Law College.**

   Address- Pune-Nashik Highway, Sangamner Tal: Sangamner Dist: Ahmednagar Pincode: 422605

   Establishment- 1998

   Websites- http://sangamnercollege.org

   Mail- omlc_sangamner@rediffmail.com

   Automation software used-.All Library work are manually not using library automation software

   Instruments available in library- Photocopying machine,printer.

   Library Staff Details- Librarian Mr.Godge S.K.(M.Lib,M.Phil)

Books & other material- Books -7762, C.D.(Books & periodical)-02.journal subscribed -22.

8. **College Name- Global Institute Of Management**

Address- Velhale, Tal: Sangamner, Dist: Ahmednagar, Pincode: 422605

Establishment- 2010

Websites- www.giom.org.in

Mail- globalsangamner@gmail.com

Automation software used- No Library software

Instruments available in library- only cupboard for stack room and one computer.

Library Staff Details- Librarian Mr.Sarode S S (M.Lib.I.Sci)

Books & other material- Books – 2223 C.D.(Books & periodical)-07.Journal subscribed -65.

9. **College Name- Shri Rangdasswami Shikshan Vikas Mandals Bhausaheb Bora Arts And Commerce College Ghargaon,Sangamner.**

Address- Bhausaheb Bora Arts & Commerce College Ghargaon Sangamner District: Ahmednagar(Maharashtra) Pincode: 422605

Establishment- 2002

Mail- college@afsal .

Automation software used- All work are manually nothing any automation work in under process.

Instruments available in library- printer.

Library Staff Details- Librarian Mr.Lahamge N P (M.A.B.Lib.I.Sci).

Books & other material- Books -3900, C.D.(Books & periodical)-14.journal subscribed -28.

10. **College Name- Dr.Bhanudas Genuji Dere Ayurved Medical College Sangamner Address-** Pune-Nashik Highway, Sangamner Ta: Sangamner Dist: Ahmednagar Pincode: 422605

    Establishment- 1989

    Websites- http://www.sstayurvedmedicalcollege.com

    Mail- principal@sstayurvedmedicalcollege

    Automation software used- Library automation software name Library Manager Using Acquisition, Circulation, OPAC **.**

    Instruments available in library- Photocopying machine, Barcode scanner, UPS facility, Battery Backup.

    Library Staff Details- Librarian Miss.kanawade S B (M.A.B.lib.I.Sci).

    Books & other material- Books -9800, ,C.D.(Books & periodical)-285.journal subscribed -22,Online journal 46.

11. **College Name- Smt.Mathurabai Bhavsaheb Thorat Dental College, Sangamner**

    Address-
    Ghulewadi(Amrutnagar)P.O.SangamnerS.K. Tal:SangamnerDistAhmednagar - 422608,Maharashtra State,INDIA.

    Establishment- 2001

    Websites- http://www.smbtdental.com

    Mail-smbt2k@yahoo.com

Automation software used- Library manager using Acquisition, Circulation, OPAC, Serial control, Cataloguing modules. OPAC on the web. Lan for whole library.

Instruments available in library- Photocopying machine, Barcode scanner Microform reading, Digital cameras, LCD Projector, Barcode printer, UPS facility, Battery Backup.Library

Library Staff Details- Librarian Mr.Bansode M M (B.A.B.lib.I.Sci)

Books & other material- Books -9800, ,C.D.(Books & periodical)-285.journal subscribed -22,Online journal 46.

12. **College Name- Amrutvahini Polytechnic College Sangamner Address-**P.O.SangamnerS.K.,Tal.Sangamner,Dist.Ahmednagar422608, Maharashtra , India.

Establishment- 1983

Websites- http://www.amrutpoly.org

Mail-principal@amrutpoly.org

Automation software used- ananosoft ems. Using Acquisition, Circulation,. Lan connection to all computer in library

Instruments available in library- Photocopying machine, Barcode scanner Microform reading, Digital cameras, LCD Projector, Barcode printer, UPS facility, Battery Backup.Library

Library Staff Details- Librarian Mr.Aher K B (B.A.B.lib.I.Sci) Asstt.Librarian Gaikwade N N (B.A.Blib.i.sci)

Books & other material- Books -31000, ,C.D.(Books & periodical)-640.journal subscribed -68,Online journal 12.

13. **CollegeName- Gokhale Education Society Sangamner B.Ed.College, Sangamner**

Address-P.O.SangamnerS.K.Tal.Sangamner Dist.Ahmednagar.422605.

Establishment- 1970

Websites- www.gescoledusgm.org

Mail-bedsangamner@rediffmail.com

Automation software used- Library manager potesir Nashik . Using Acquisition, Circulation,opac.

Instruments available in library- Barcode scanner , , LCD Projector, Barcode printer, UPS facility, Battery Backup.

Library Staff Details- Librarian Shri. Amol Sureshrao Chawande (B.Sc., M.L.I.Sc., M.Phil, SET)

Books & other material- Books -1200, ,C.D.(Books & periodical)-04.journal subscribed -11.

14. **CollegeName- Vamanrao Ithape Polytechnic, Velhale**

Address- At Post Velhale ,Sangamner. Tal-Sangamner.Dist.A.Nagar.422605.

Establishment- 2006

Websites- www.ithapepoly.org

Mail- ithapepoly@gmail.com

Automation software used- No any software used - All work doing manually.

Instruments available in library- Photocopying machine,

Library Staff Details- Librarian Mr.Lad CK (B.A.B.lib.I.Sci) Library clerk Mehetre B.B. (B.A.)

Books & other material- Books -5890, ,C.D.(Books & periodical)-14 .journal subscribed -22.

15. **College Name – Vamanrao Ithape Nursing College**

Address-New Nagar Road ,Sangamner. Tal- Sangamner.Dist.A.Nagar 422605.

Establishment- 1998

Websites-http://ithapenursing.org

Mail- vihmc@rediffmail.com

Automation software used- soul inflbnet using Acquisition, Circulation, OPAC,. OPAC on the web. No Lan connection.

Instruments available in library- Photocopying machine, Barcode scanner Barcode printer, UPS facility.

LibraryStaffDetails-LibrarianMr.Kharote S A (B.A.Library diploma)

Books & other material- Books -6600, ,C.D.(Books & periodical)-85.journal subscribed -12.

16. **CollegeName- Vamanrao Ithape DPharmacy College, Sangamner Address-** At Post Velhale ,Sangamner. Tal-Sangamner,Dist.A.Nagar.422605.

Establishment- 2006

Websites- http://ithapepharmacy.org

Mail- ithapepharmacy@gmail.com

Automation software used- No any software used -All work doing manually.

Instruments available in library- Photocopying machine,

Library Staff Details- Librarian Mr.Lad CK (B.A.B.lib.I.Sci) Library clerk Mehetre B B (B.A.)

Books & other material- Books -1089, ,C.D.(Books & periodical)-04 .journal subscribed -04.

17. **College Name- Vamanrao Ithape Homoeopathic Medical College & Hospital, Sangamner**

Address-New Nagar Road, P.O.SangamnerS.K. Tal:Sangamner,DistAhmednagar-422608,Maharashtra State,INDIA.

Establishment- 1994

Websites- http://vihmc.org

Mail-vihmch@rediffmail.com

Automation software used- Library manager using Acquisition, Circulation, OPAC, Serial control,. OPAC on the web.

Instruments available in library- Photocopying machine, Barcode scanner LCD Projector, UPS facility, Battery Backup.Library

Library Staff Details- Librarian Mr.Kharote S A (B.A.Library diploma)

Books & other material- Books -16000, ,C.D.(Books & periodical)-695.journal subscribed -52,Online journal 35.

18. **College Name- Radesham Gunjal Homeopatic Medical College Sangamner**.

Address- Chandanapuri Ghat, Gunjalwadi Pathar, Tal. Sangamner, Dist. Ahmednagar. (M.S.) 422 620.

Establishment- 1998

Websites- http://mhfhmc.org/

Mail- rs_gunjal@rediffmail.com

Automation software used- No library automation software, all work doing manually.

Instruments available in library- Photocopying machine.

Library Staff Details- Librarian Miss.Ranjana Gosavi (B.A.Blib.i.sci)

Books & other material- Books -9050, ,C.D.(Books & periodical)-65.journal subscribed -18,Online journal 22.

19. College Name- Nutan Art's Senior College, Rajapur

Address-Tal.Sangamner,Dist.Ahmednagar. 422616.

Establishment- 2001

Mail- navalekishor@rediffmail.com

Automation software used- All work doing manually.

Instruments available in library- Only table and cupboard for stack room.

Library Staff Details- Librarian Mr.Bansode M M (B.A.B.lib.I.Sci)

Books & other material- Books -3800.journal subscribed -06.

20. College Name- Ramesh Firodia Education Trust's Ramesh Firodia Arts Commerce & Science College

Address- A.P. Sakur,Tal–Sagamner ,Dist – A'nagar ,Maharastra (India)

Establishment- 2000

Websites- http://www.unipune.ac.in

Mail- firodisarts@gmail.com

Automation software used- All work doing manually

Instruments available in library- Photocopying machine,

Library Staff Details- Librarian Mr.Kolhe R T (B.A.B.lib.I.Sci)

Books & other material- Books -7900, ,C.D.(Books & periodical)-15.journal subscribed -10.

3.2 A Fild Study

Sangamner tahsil requires constant positive changes to go with the changing mind of its user. The invention of computer brought a rapid change in the institute, therefore it grow with the society; automation has become the need of the hours. Library automation not only, improves the images of the library staff but also provide additional services to the users. The impact of automation on the library is quite obvious. It creates new environment where each function redefine and transformed traditional organizational structure into new institutional entries. Library automation in Sangamner tahsil success through the combination and work performed by technology and people. Without the right human skills, & advanced technology library automation will yield disappointing results. Amrutvahini College of Engginring library automation programmed in 1983-84, immediately after receiving software. Progressing in automation will because of the skills of knowledgeable practical professionals who are supporting and associating with library automation.

Sangamner tahsil library can be use computer in performing each and every activities of the library. Library automation can serve as panacea to all existing ills of libraries. In simple library automation means all housekeeping operations will be carried out automatically, which will avoids or reduces human action.In Amrutvahini institute use of automation significantly increase the accuracy of files and records. Processing rules may be standardize and given to the computer in the form of a program , which can be used to verify that rules for the new data are being followed. Also inputs are edited by computer much error can be deleted before the information

is entered into the files and processed. The libraries speed up the folw of work within the system new books, report and other material can therefore be released sooner to the waiting reader. In automated environment searching of information can be perform speedily, saves the time of the library staff as well as user.

Sangamner tahsil library r has been use cpmputer successfully in the following areas of library activities. House keeping operation, the selection of materials online computerized library system has access to catalogue entries and biographic data of all the libraries in the tahsil .The ordering and acquisition are the routine jobs in the library and for a single time ordering it requires repetitive operations at different section.

The library catalogue or index to the collection forms the base for most of the library activities such as acquisition, reference, bibliographic service & inter-library loan etc other technology which libraries can make use of is the e-mail system. This not only reduces the recurring expenditure but also be effective and fast. Sending reminders for non- receipt of journal but mail has proved to be very cost –effective.

Selection of library software following criteria might help the librarians to select the right software for other housekeeping operations: who are the developers? Whether an institution, or reputed company or few individuals. The preference is for institution and second preference is for the reputed company. One has to be skeptical about the software developed by individuals as there will be no continuity. How many times the software has been revised since the time of its first launch, many parameters are available for each module. More the parameters better will be the flexibility and needs no or minimum customization.

Sangamner tahsil library can understand purpose& need, of the automation of the library. It is highly felt that it will not cope up with the new generation of users . And slowly will lost in the dark days of history the users of any library now a day expects to use their computer literacy in the library. Environment also, automation helps to achieve the same .It is also needed to satisfy the new

generation of user, to procure online publication. Libraries are growing organism so without the application of computer it is vary difficult to handle the space problem of a library. Library role as philosopher and guide are generally ignored by the vast number of the members of the society. Application of computer in libraries hopes to make a positive change of the people. Resource sharing among libraries demand library automation as minimal requirement.

The all institutional library not use computer by acquisition. The ordering and acquisition are the routine jobs in the library and for a single time ordering it requires repetitive operation by different section. These repetitive operations and the requisite checking can very well be done by the application of computer system .In computer operated acquisition system.

- The name and address of the book supplier are sorted in a disk file and each one is assigned a number.
- A suggested list of document for procuring is made.
- Preparation of book order and its processing.
- Receiving the documents.
- Claiming the unsupplied documents.
- Processing bills.
- Preparing a standing order plan.
- Preparing a report of the document being received.

In case of serial, the current issued the retrospective or immediate back issues and bound volumes under every year of publication is an ongoing process. In this case the library should encounter the search problem because of the conflict between the title and the corporate body, the old title and the changed titles, nature of irregularity in publication. The periodical document involves the following main jobs.

- The name and publisher address of the serial and its supplier are stored in a disk file and each one is assigned a number.

- A suggest list of serials title for procuring is made.
- Preparation of serial order and its processing.
- Receiving the serials.
- Claiming the unsupplied periodicals.
- Processing a standing order plan.
- Preparing a report of the document being received.
- Completing the volumes and sending them for binding.
- Classification and cataloguing.
- Preparing list of holding and its union list.

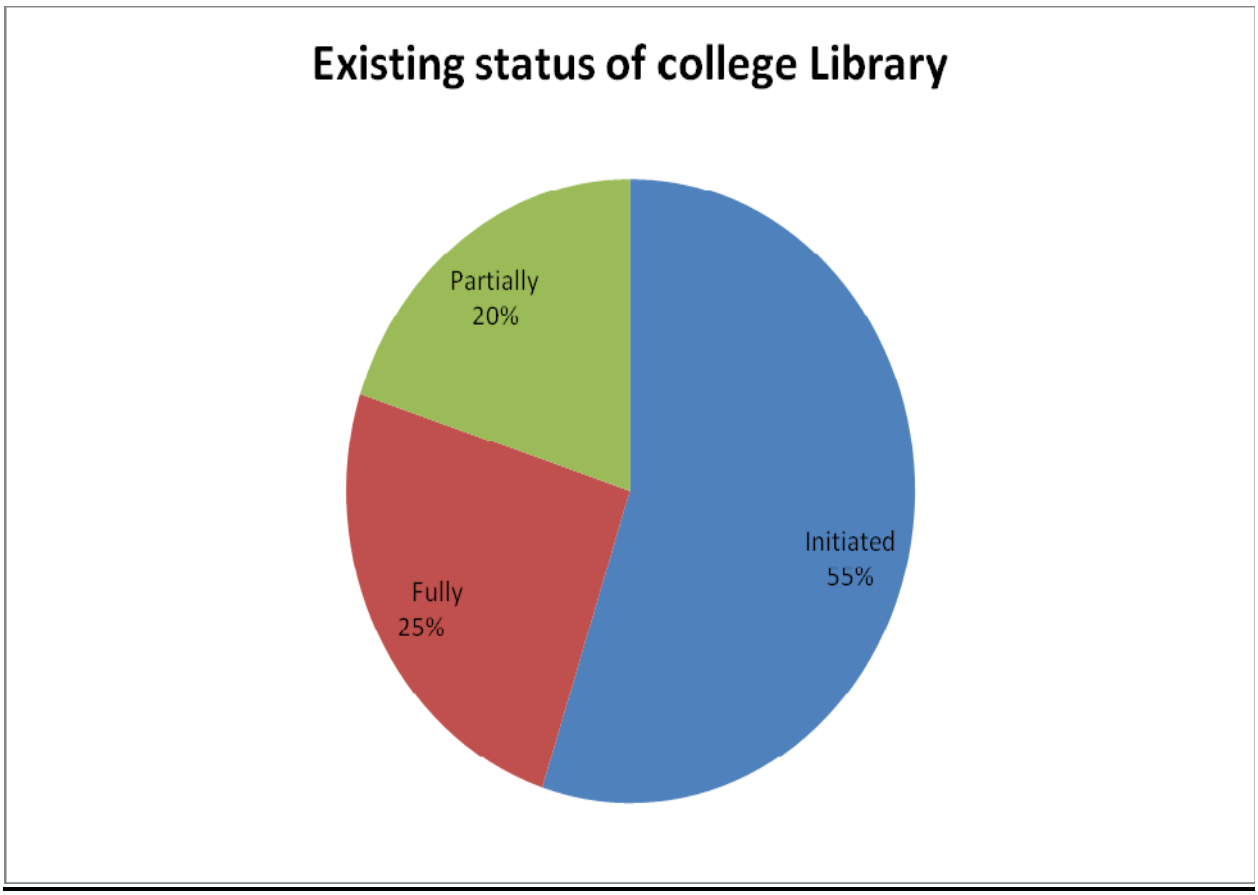
CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

1) Existing status of college Library automation.

Table no.1

Sr.no.	Status	No of respondent lib.	% of libraries
1	Initiated	11	55
2	Fully	05	25
3	Partially	04	20
	Total	20	100%

Fig. no.4.01



Interpretation:-

It is observed that, the automation process is in initiated stage in 55% libraries, in 20%Libraries automation work is partially completed and 25% libraries are fully automated.

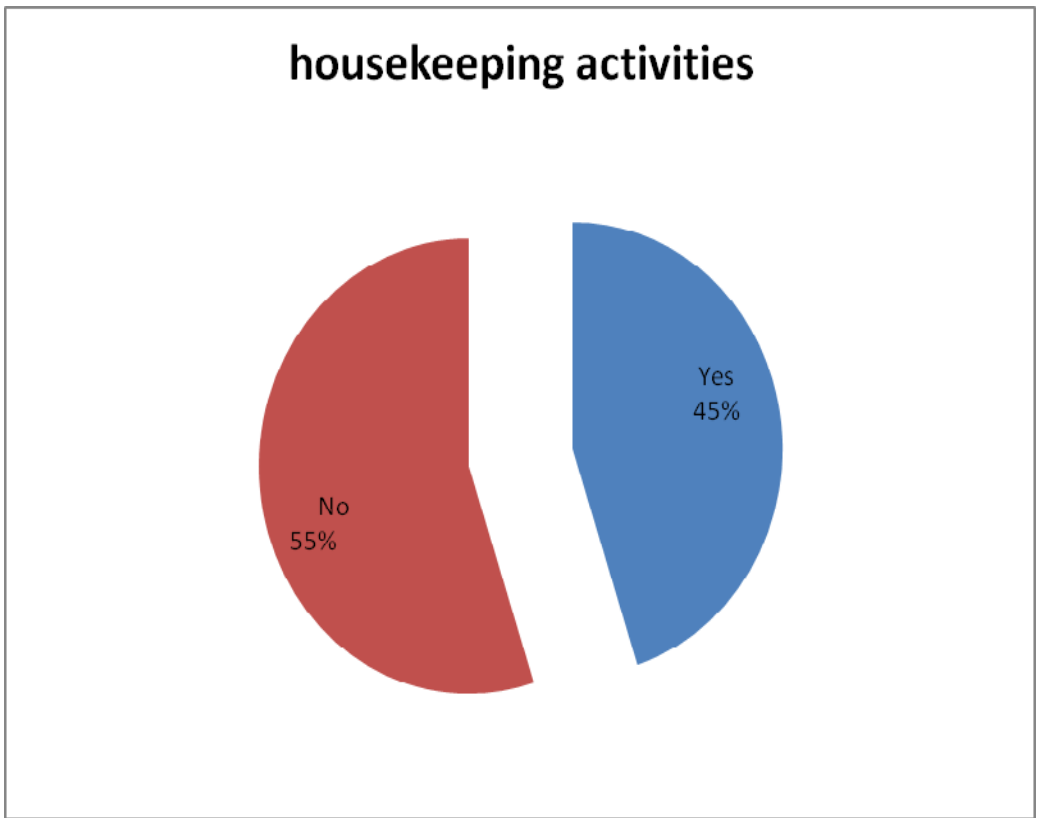
2) Is it supportive to all the housekeeping activities?

a) Yes b) No

Table no.2

Sr.no.	Status	No of respondent lib.	% of libraries
1	Yes	09	45%
2	No	11	55%
	Total	20	100%

Fig. no.4.02



Interpretation:-

It is observed that, 45% of colleges said that it is supportive to housekeeping activities while 55% are not.

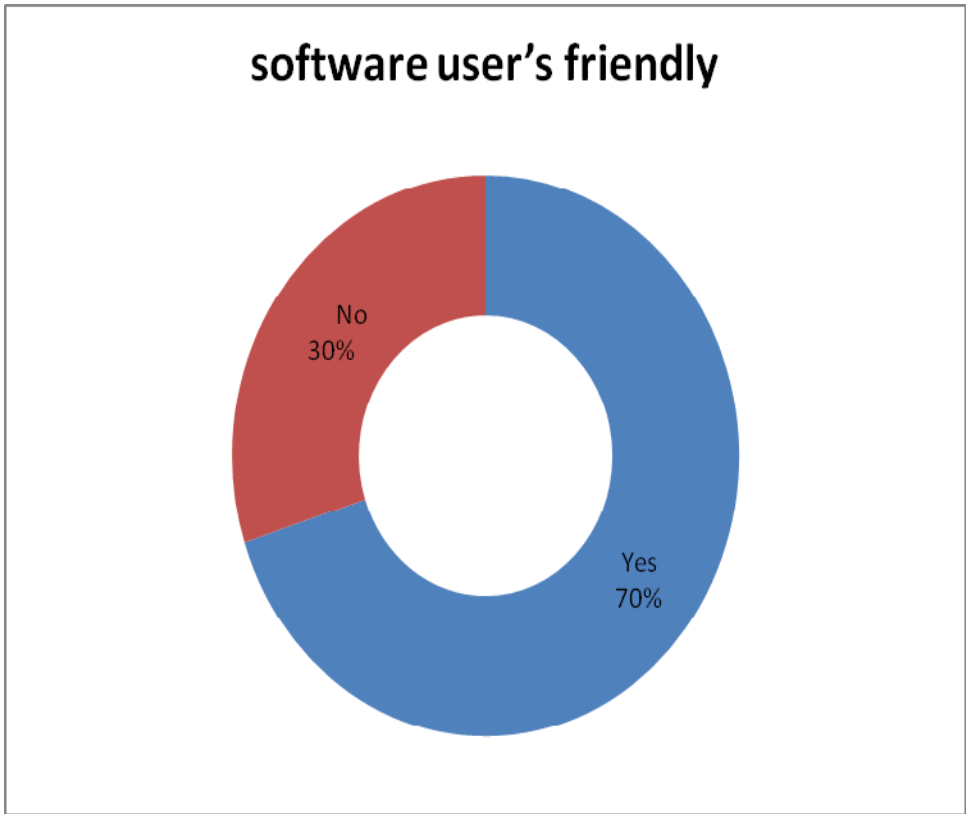
3) Is the software user's friendly and menu driven?

a) (Yes) b) (No)

Table no.3

Sr.no.	Status	No of respondent lib.	% of libraries
1	Yes	14	70%
2	No	06	30%
	Total	20	100%

Fig. no.4.03



Interpretation:-

It is observed that, 70% colleges are said that these software is user's friendly and menu driven.

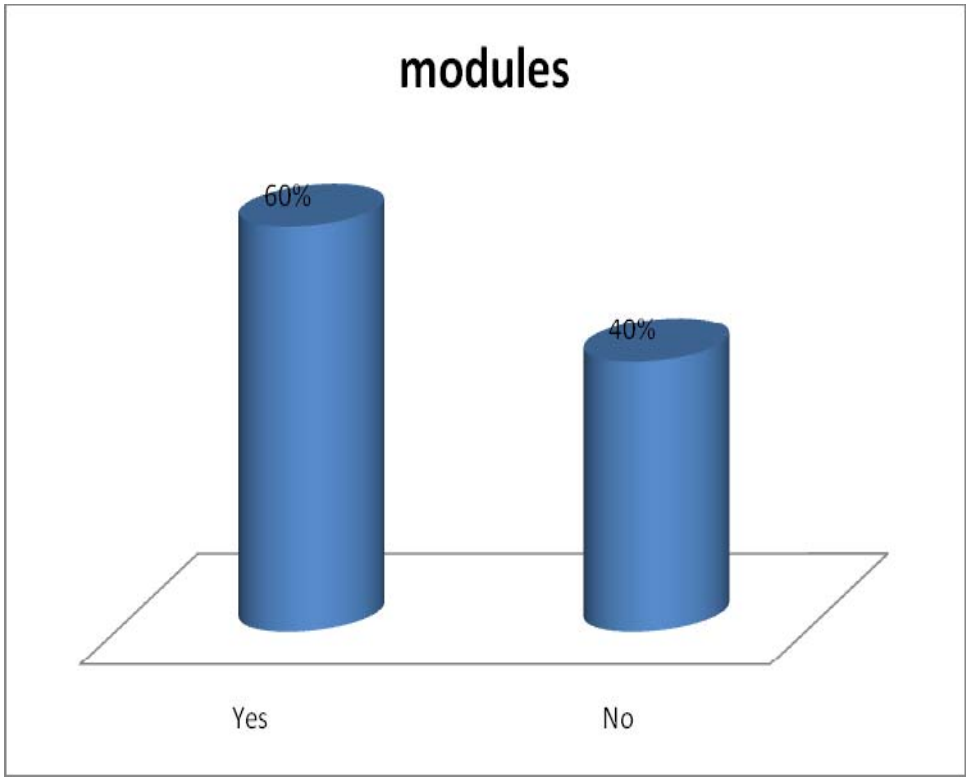
4) Do you use the following modules?

1) Acquisition 2) Circulation 3) Cataloguing 4) OPAC

Table no.4

Sr.no.	Status	No of respondent lib.	% of libraries
1	Yes	12	60%
2	No	08	40%
3	Total	20	100%

fig no 4.04.



Interpretation:-

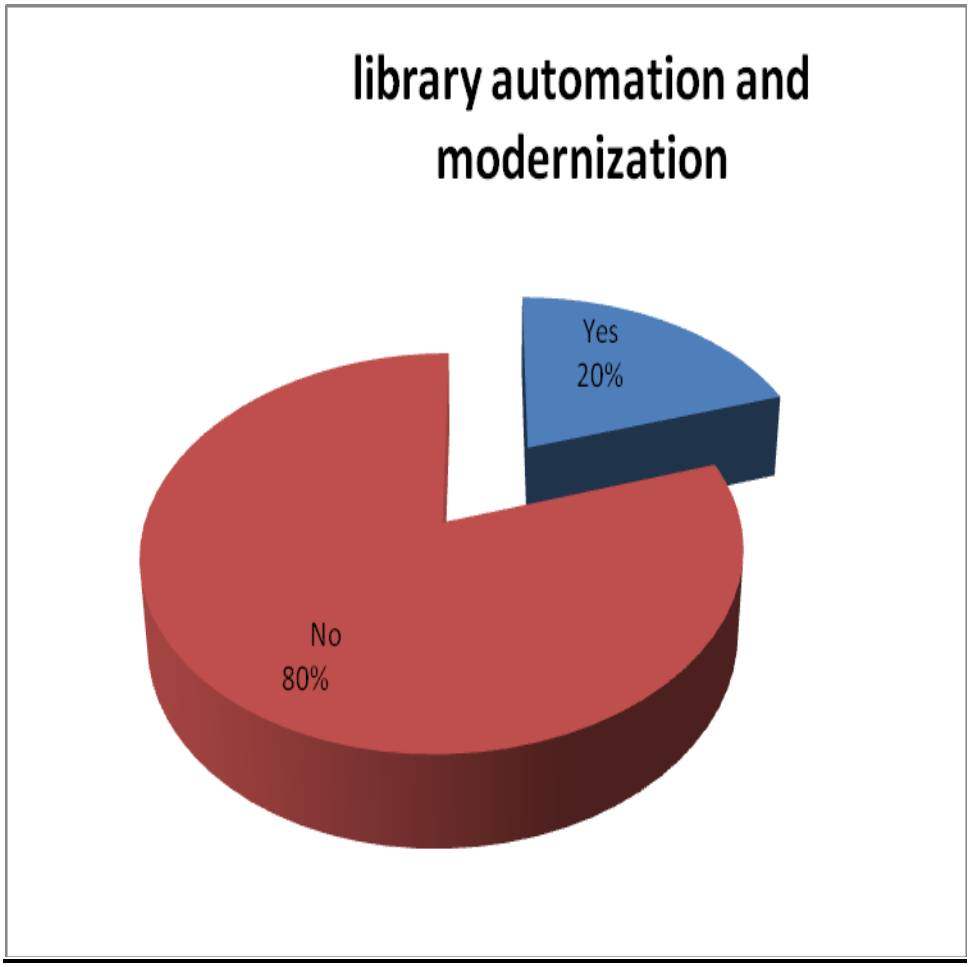
It is observed that, 60% of colleges libraries said that they use above module while 40% are not.

5) Is manpower trained for the library automation and modernization?

Table no.5

Sr.no.	Opinion	No of respondent lib.	% of resp.lib
1	Yes	04	20%
2	No	16	80%
	Total	20	100%

fig no.4.05



Interpretation :-

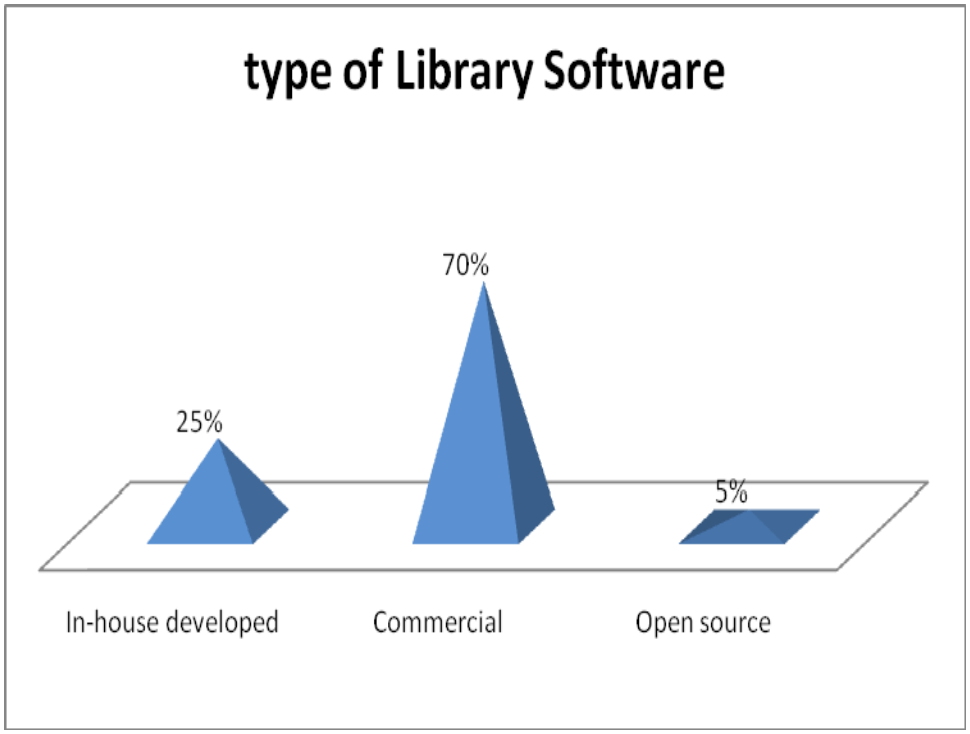
It is observed that, only 20% of libraries are having highly trained manpower but in 80% libraries. have not the trained staff.

6) What type of Library Software you use.

Table no.06

Sr.no	Type	No of respondent lib.	% of libraries
1	In-house developed	05	25%
2	Commercial	14	70%
3	Open source	01	05%
	Total	20	100%

fig no.4.06



Interpretation :-

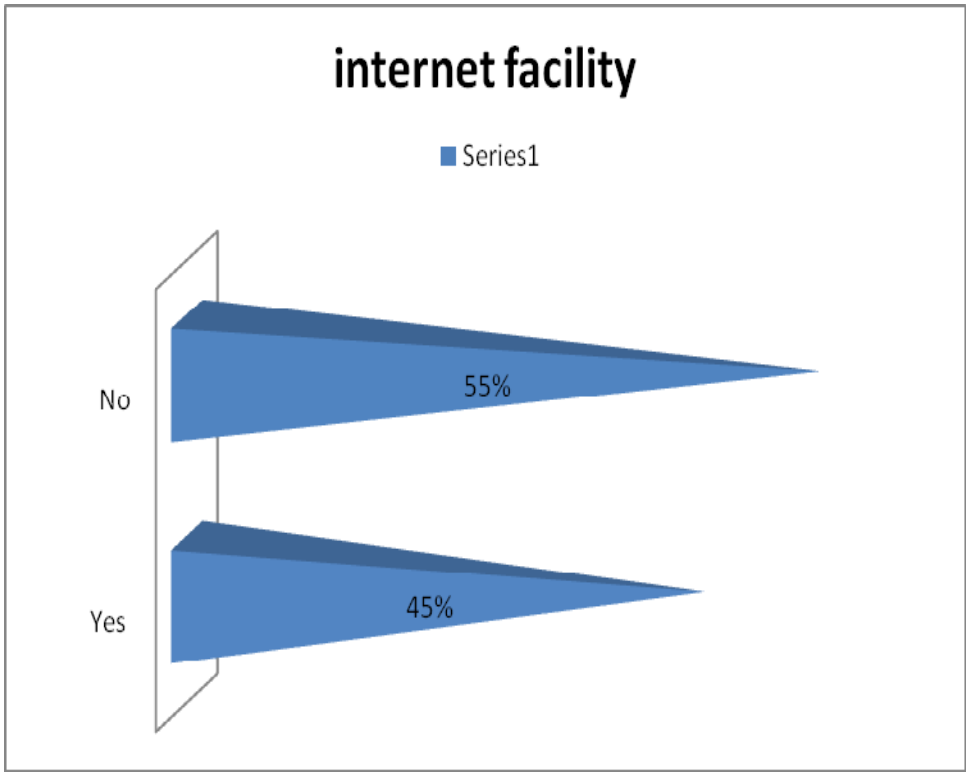
It is observed that, 25% libraries are used In-house developed system software, 70% are used commercially developed, software, whereas 5% are used Open source software's.

7) Does library providing internet facility.

Table no.07

Sr.no.	Opinion	No of respondent lib.	% of libraries
1.	Yes	09	45%
2.	No	11	55%
	Total	20	100%

fig no.4.07



Interpretation :-

It is observed that, 45% libraries are providing internet facility while 55% are not providing internet facility.

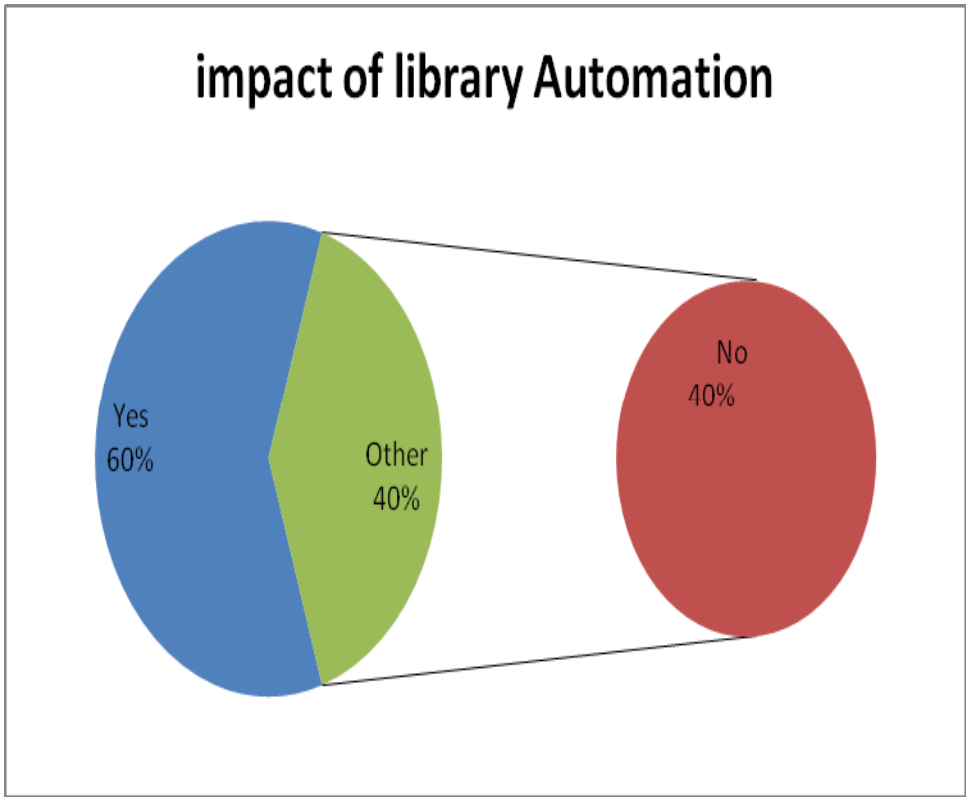
8) Do you find positive impact of library Automation?

Table no.08

Sr.no.	Opinion	No of respondent lib.	% of libraries
1.	Yes	12	60%
2.	No	08	40%

	Total	20	100%

fig no.4.08



Interpretation :-

It is observed that, 60% libraries are having positive impact on library Automation and 40% are not.

9) How would you explain your work load?

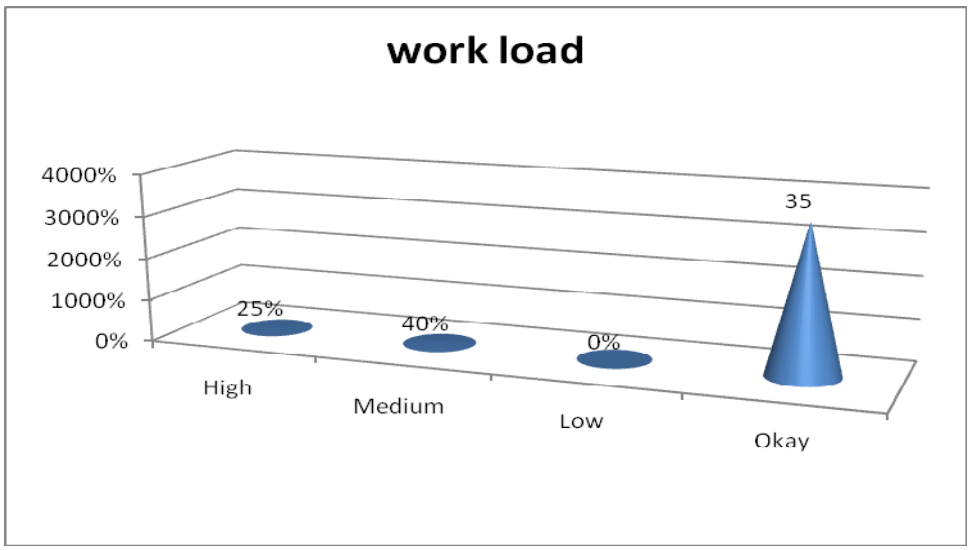
a) High b) Medium c) Low d) Okay

Table no.4.09

Sr.no.	Options	No of respondent lib.	% of respondents

1.	High	05	25%
2.	Medium	08	40%
3.	Low	00	0%
4.	Okay	07	35%
	Total	20	100%

fig no.09



Interpretation:

It is observed that 40% librarians said that work load is medium l 35% are said work load okey, 25% are said highly loaded work.

10) How do you take the back-up of library data?

a) Manually (by using the back-up module)

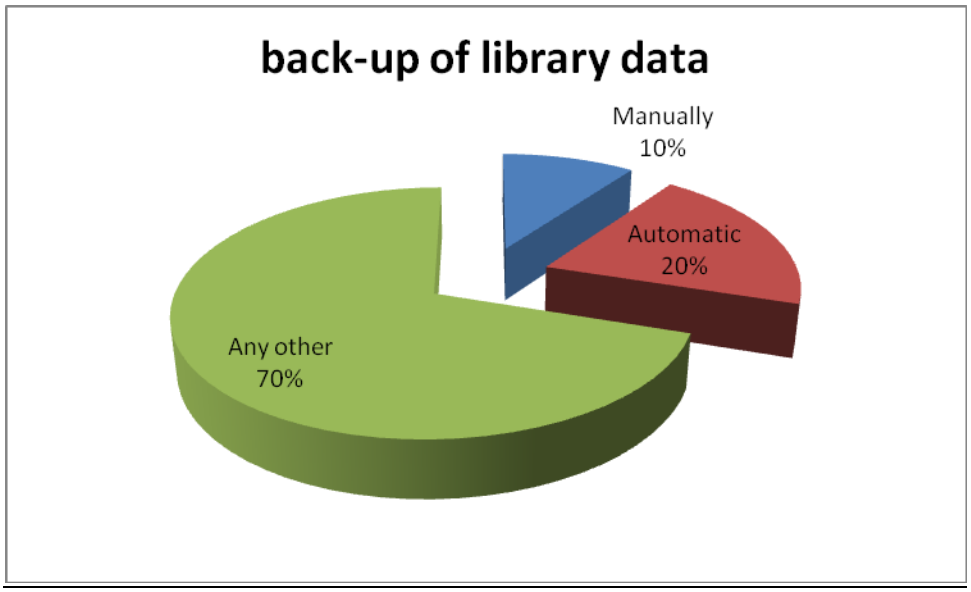
b) Automatic (by the machine itself)

c) What kind of media you use for back-up (Cd-room, pen drive)

Table no.10

Sr.No	Kind of media	No of respondent lib.	% of Librarians
1	Manually	02	10%
2	Automatic	04	20%
3	Any other	14	70%
	Total	20	100%

Fig, no.4.10



Interpretation:

From the above graph It is observed that 10% of the librarians are take manually back up.20% takes the automatic back up & 70% librarians using cd-room, pen drive.

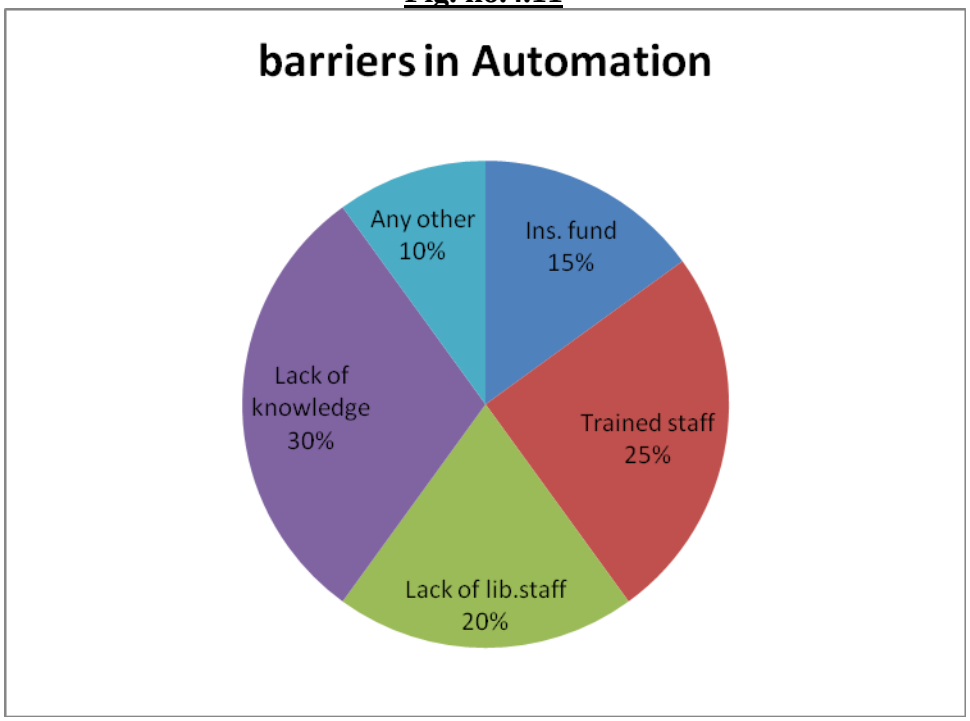
11) What do you think are the barriers in Automation in the library operation?

a) Insufficient fund b)Inadequate trained library staff
c) Lack of Co-ordination among library staff d) Lack of library Automation Knowledge e) Any other

Table no.11

Sr.no.	Options	No of respondent lib.	% of respondents
1.	Ins. fund	03	15%
2.	Inadequte staff	05	25%
3.	Lack of lib.staff	04	20%
4.	Lack of knowledge	06	30%
5	Any other	02	10%
	Total	20	100%

Fig. no.4.11



Interpretation:

It is observed that, the 25 % Librarian said that Inadequate trained library staff is the main barrier. 15% said that insufficient fund and 30% said lack of library automation knowledge are the barriers in automation in the library operation .

12) Do you have following equipments/ instruments in the library?

a) Photocopying machine b) Printer

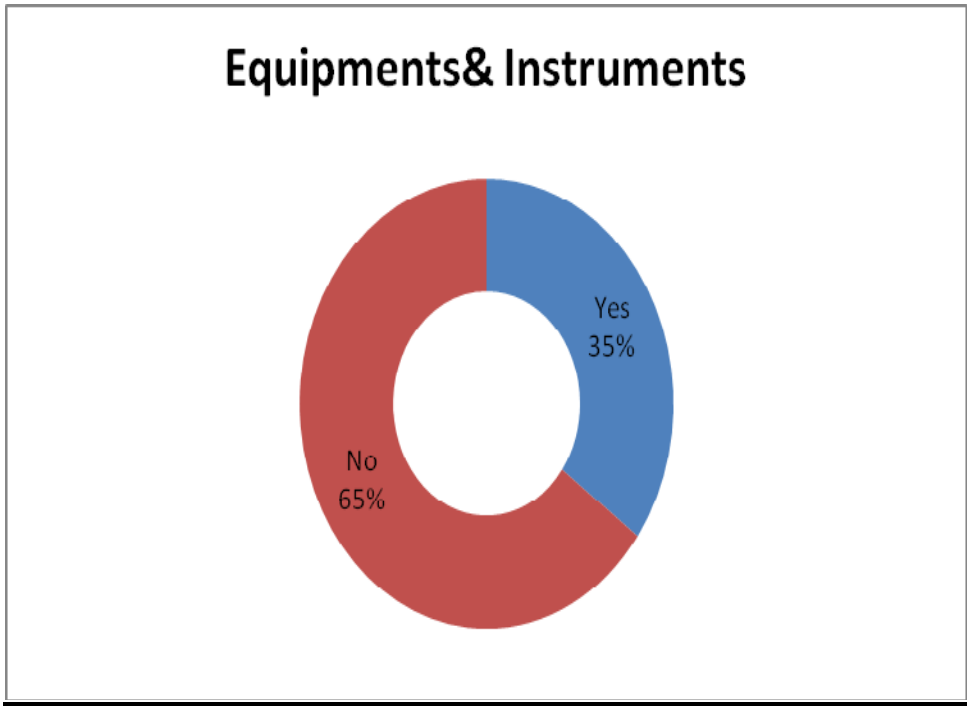
c) UPS facility d) Barcode Scanner e) Barcode printer

1) Yes 2) No

Table no.12

Sr.no.	Opinion	No of respondent lib.	% of libraries
1.	Yes	13	65%
2.	No	07	35%
	Total	20	100%

Fig. no.4.12



Interpretation:

Thus, from above Graph 65% libraries having above Instruments and 35% libraries are not having above instruments.

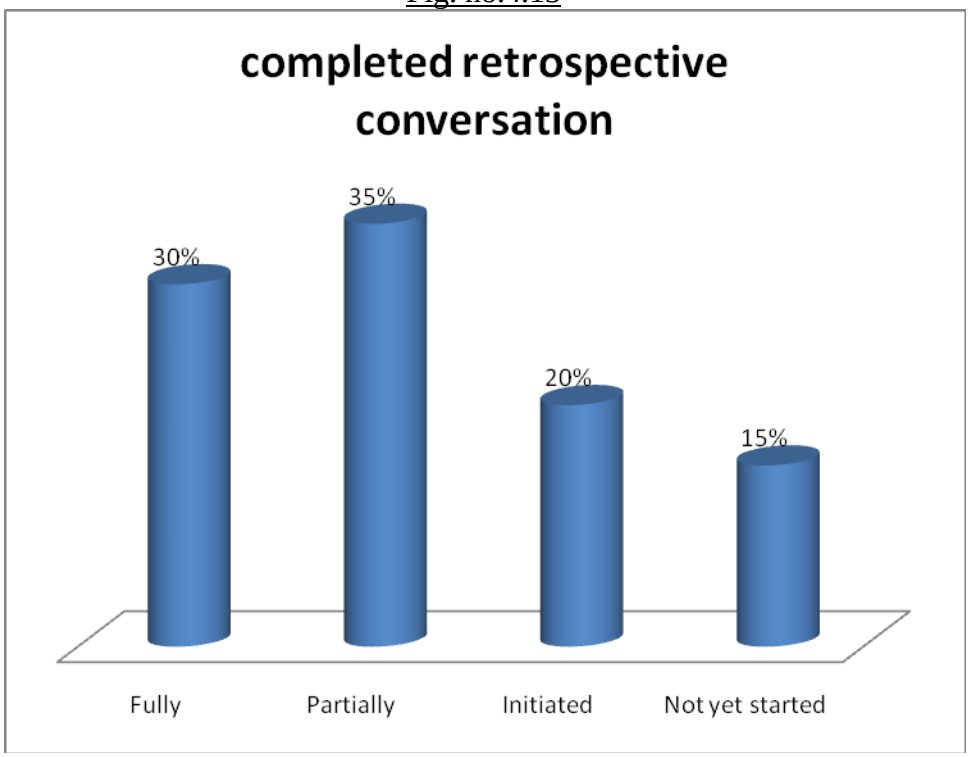
13) Is your Library completed retrospective conversation?

a) Fully b) Partially c) Initiated d) Not yet started

Table. no 13

Options	Fully	Partially	Initiated	Not yet started	Total
No of respondent lib.	06	07	04	03	20
No.of libraries	30%	35%	20%	15%	100%

Fig. no.4.13



Interpretation:

Thus, from above graph retrospective conversation completed fully in 30% libraries, partially 35% libraries and it is in initiated stage in 20% libraries ,it is not started in 15% libraries.

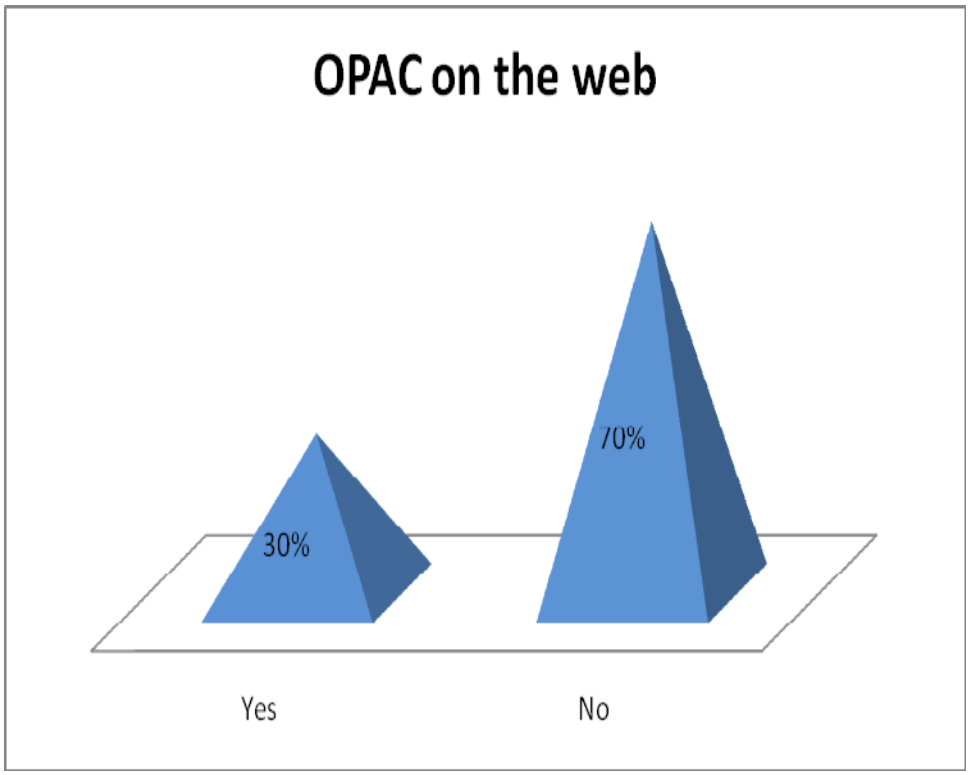
14) Is OPAC on the web?

a) Yes b) No

Table.no.14

Sr.no.	Opinion	No of respondent lib.	% of Libraries
1	Yes	06	30%
2	No	14	70%
	Total	20	100%

Fig. no.4.14



Interpretation:

It is observed that, 60% libraries having OPAC on the web whereas 40% libraries have not .

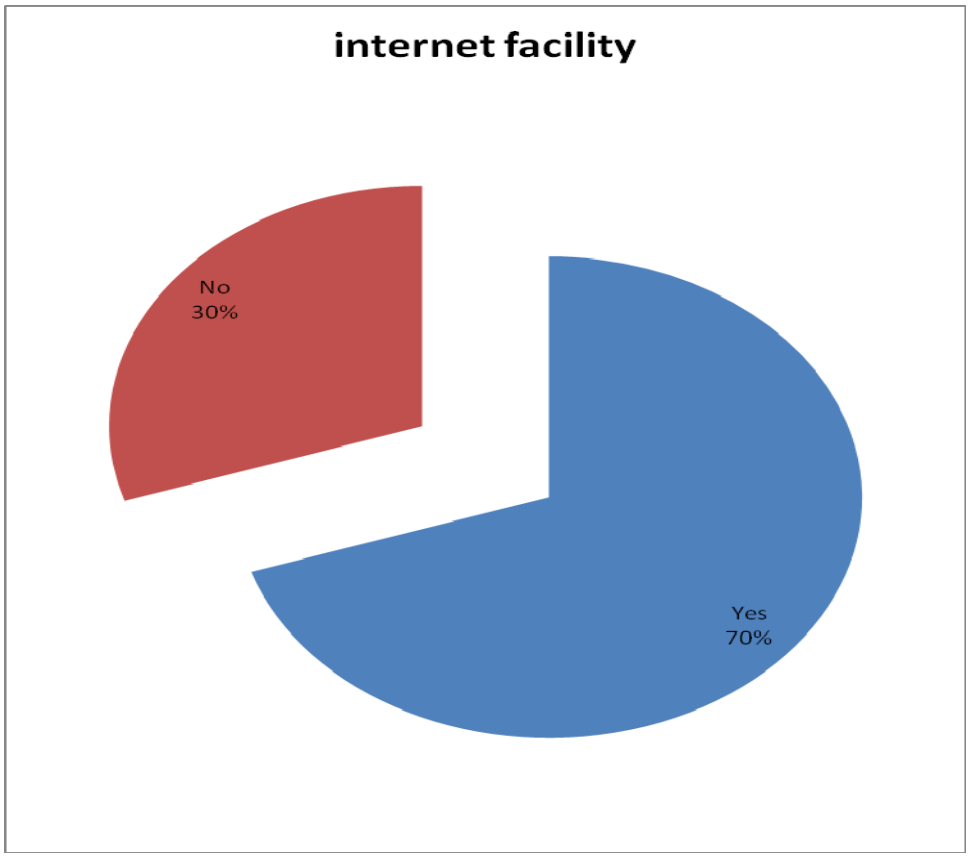
15) Does library providing internet facility?

a) Yes b) No

Table No.15

Sr.no.	Opinion	No of respondent lib.	% of Libraries
1	Yes	14	70%
2	No	06	30%
	Total	20	100%

Fig. no.4.15



Interpretation:

It is observed that, 70% Libraries are providing internet facility whereas 30%are not providing internet facilities.

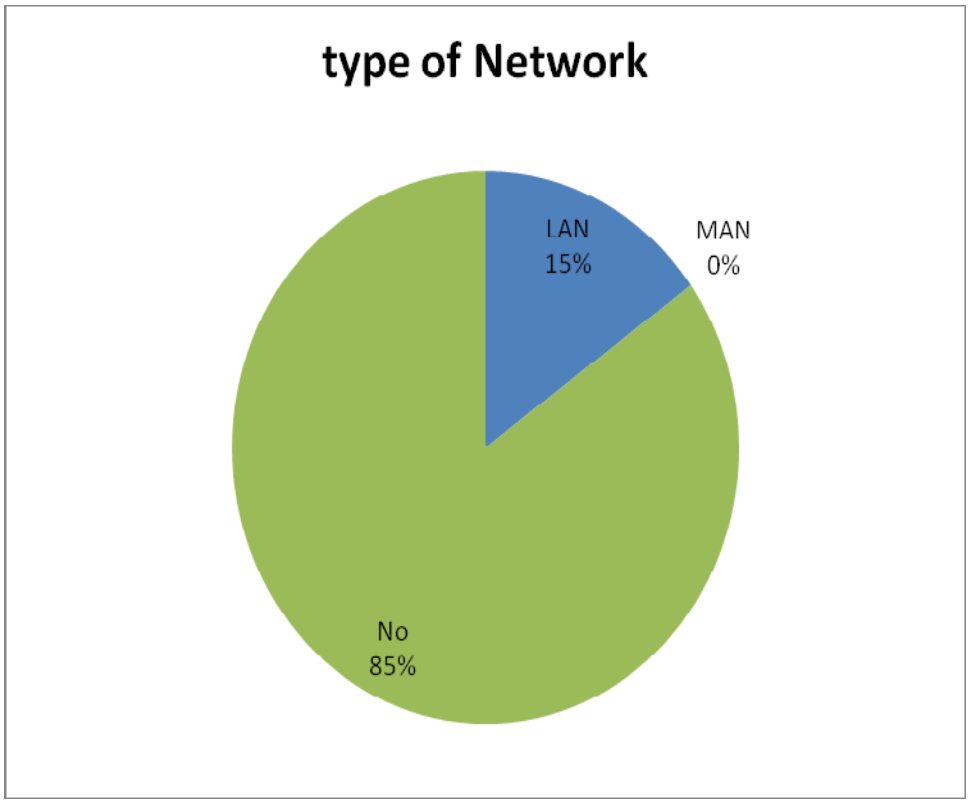
16) What type of Network your Library is carrying?

a)) LAN b) MAN c) No

Table No.16

Sr.No	Opinion	No of respondentlib.	% of Libraries
1	LAN	03	15%
2	MAN	00	00%
3	No	17	85%
	Total	20	100

Fig. no.4.16



Interpretation:

It is observed that, 85% Libraries are not used any type of network in library.

CHAPTER 5: FINDINGS AND SUGGESTIONS

Libraries in Sangamner tahsil are increasingly using the computers for their various operations. A perusal of the published literature indicates that many libraries in Sangamner are using home-grown systems. The present study is aimed at studying and evaluating such indigenously developed systems in selected libraries in Sangamner tahsil.

5.1 Findings

1) It is observed that, the automation process is in initiated stage in 55% libraries, in 20%Libraries automation work is partially completed and 25% libraries are Fully automated.
2) It is observed that, 45% of colleges said that it is supportive to housekeeping activities while 55% are not.
3) It is observed that, 70% colleges are said that this software is user's friendly and menu driven.
4) It is observed that, 60% of college library said that they using acquisition and opac transaction module while 40% are not.
5) It is observed that, only 20% of libraries are having highly trained manpower but in 80% libraries. have not the trained staff.
6) It is observed that, 25% libraries are used In-house developed system software, 70% are used commercially developed software, whereas 5% are used Open source software's.
7) It is observed that, 45% libraries are providing internet facility while 55% are not providing internet facility.
8) It is observed that, 60% libraries are having positive impact on library Automation and 40% are not.
9) It is observed that 40% Librarians said that work load is medium 35% are said work load okey, 25% are said highly loaded work.

10) It is observed that 10% of the librarian are take manually back up.20% takes the automatic back up & 70% librarians using cd-room, pen drive.

11) It is observed that. 25 % librarian said that inadequate trained library staff is the main barriers 15% said that insufficient fund and 30% said lack of library automation knowledge are the barriers in Automation in the library operation .

12) It is observed that, 65% libraries having UPS facility, LCD Projector, Barcode printer Instrument and 35% libraries are not having these instruments.

13) It is observed that, retrospective conversation completed fully in 30% libraries partially in 35% libraries and it is in initiated stage in 20% libraries ,it is not started in 15% libraries.

14) It is observed that, 60% libraries having OPAC on the web whereas 40% libraries have not.

15) It is observed that, 70% Libraries are providing internet facility whereas 30%are not providing internet facilities.

16) It is observed that, 85% Libraries are not used any type of network in library.

5.2 Suggestions

The present study on the subject relating to the **"The Exhaustive Study on Automation in Institutional Libraries: With Special Reference to Sangamner Tahsil** "with reference to research work, I suggest the following suggestions-

1. Efforts should be made to improve the awareness among the library professionals relating to the capabilities of automated library systems. This is because, during the course of this study, it was found that many librarians are not aware about the full potentials of an automated system. Perhaps, this may be one of the reasons for low performance level of the systems. So, they improve there performance level& effectively used the library system.
2. To arrange the proper training programmed for the library staff for using the software.
3. For the development of the library automated system & equipments, the related higher authorities & institutes should provided proper funds & financial support.
4. The staff recruited should be qualified & well trained for using this software.
5. For development of the better automated system, the evaluation of these systems at regular interval should be carried out .So, that the defects in the system should be eliminated.
6. To formulate the library committee for helping & giving the guidelines for librarian & library staff.

5.3 Conclusion

Though, there is an upsurge in the usage of computers in libraries in Sangamner tahsil in the recent past. The present study which covered some of the important leading libraries in Sangamner tahsil, shows that the performance level of the library automated systems is not at a satisfactory level. This situation calls for serious attention from the library authorities and professionals. At least now, to work out ways and means of improving the situation. Only well planned and coordinated efforts would lead to a solution to the problem.

2. In Many libraries the library automated system software has been purchased but there is no skilled worker.
3. Many of the libraries have budgets problems or some other problems the facilities as per there requirement are not provided. So they not purchased the barcode scanner, printer as well as their less number of computer so, autoimmunization system is not fully developed. This creates many problems in research work.

On the whole, of the Eight systems studied in this research project, Amrutvahini college of pharmacy, Sangamner & Amrutvahini college of engineering ,sangamner have performed better than other system. Just because a system is functioning should not lead one to consider it as an indication of its efficiency. Only a systematic evaluation from time to time reveals the efficacy of the system. Every automated system needs to be evaluated in a systematic and objective manner and the results need to be reported and shared among professionals. This will help not only in improving the existing systems but also help others who are involved in similar efforts in the near future.

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