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USE OF SOFTWARE PACKAGE IN COLLEGE LIBRARIES: AN EVALUATIVE STUDY[1]

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INTRODUCTION

Today we are in an information age, computer and communication technologies are together entering in to each and every activity of everyday life. Hence libraries are no exception, they are also moving fast towards automating their various activities with the changing scenario and specialized increasing needs of specialist and automation has become essential because it saves time of the other, user, researcher, reader.

Today the information need and expectation of the users are increasing therefore to meet the complex and multi-dimensional needs of the users, use of computers in college libraries is also increasing, to fulfill user's diversified information needs, new library application software are emerging and this trend has been identified by the Indian and foreign software manufactures. More during last few years as a result a large numbers of firms are coming up with new library software packages. Because of the availability of a number of library specific application software and increasing number of libraries going for computerization.

The present study has been carried out to know about the availability and capability of these software packages being used in college libraries of Delhi University. For the purpose same criteria have been evolved which would be helpful for selecting a suitable software for library.

Indian libraries has already, started using library software packages for various operations. Thus it has become an important responsibility for a library professional to choose a right application software, which suits the requirements of the library. The selection of the library application software should be such that it should not only satisfy the present need but also the prospective needs of the library. This study would further be helpful in guiding the libraries. Which are either in the process of computerization or in near future, because selecting a suitable software package has a direct impact on the efficiency and effective-ness of the library as well as providing the need based services to the users.

OBJECTIVE OF THE STUDY

The present study has been undertaken with the following objectives:

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- To prepare a list of a various indigenous library software packages being used in India.
- To know about various library software packages being used by the selected college libraries in Delhi.
- To formulate a criteria for evaluation of library software package.
- To know about libraries reaction and satisfaction on various aspects of the library software packages used by them in their respective college libraries.
- On the basis of various criteria used, for evaluation in the study, to suggest, as for as possible, the best software packages suitable for meeting the requirement of college libraries.

METHODOLOGY

For conducting any research planning of the study, is most vital upon, which the whole process of the study depends. Such a planning get as a guideline while investigating the problem.

METHODS AVAILABLE:- There are different methods available for collecting the data, to achieve the objective set for the study. Different authorities have supported various methods useful for the study under investigation are:

INTERVIEW:- Interviewing is a commonly used method for collecting information from people and person to person interaction between two or more individuals with a specific purpose in mind is called an interview. Interviews are classified in two types:-

(i) Unstructured Interview

(ii) Structured Interview

(i) Unstructured Interview: In an **'Unstructured Interview'**, also known as an in-depth interview, the interviewer, develops framework called an 'interview guide', with in which to conduct the interview with in this structure, the interviewer formulates questions spontaneously during an interview.

(ii) Structured Interview: In a **'Structured Interview'** the investigator asks a pre-determined set of questions, using the same wording and order of questions as specified in the interview schedule.

QUESTIONNAIRE: A questionnaire is a written list of questions, the answer to which are recorded by respondents. In a questionnaire respondent read the question interpret what is expected and then write down the answer. In the case of questionnaire as there no one to explain the meaning of questions of respondents. It is important that questions are clear and easy to understand. Also the layout of questionnaire should be such that it is easy to read andpleasant to the eye and the sequence of questions should be easy to follow. A questionnaire

should be developed in an interactive style. This means respondents should feel as it someone is talking to them.

OBSERVATION: 'Observation' is one way to collect primary data observation is a purposeful, systematic and selective may of watching and listening to an interaction or phenomenon as it takes place. There are many situation in which you are interested in the behaviour than in the perception of individuals or when subjects are so involved in the interaction, that they are unable to provide objective information about it in such situation, observation is the best approach to collect required information.

LITERATURE SURVEY: 'Literature Survey' involves the review of literature problem under study. It helps in understanding the problem clearly and knowing what work has already been done in the area under study included allied areas, It helps in the refinement of ideas, specification of research procedure clarity and understanding of things to be done for reviewing the literature primary and secondary sources and used such as periodicals, indexes, abstracts etc.

USE OF RECORDS: Library and official records have been regarded to be important sources of information which can be used to supplement the data, available through all other methods. These records include annual-reports, hand books, information brochure and other official files and records of library. These records are considered as the primary sources of information and they are the most authentic sources of retrospective as well as currentinformation.

ANALYSIS OF THE DATA

Basic data related to the objectives of the study was collected through questionnaire however the gap was filled through use of other methods like interview, use of official records etc. After collecting the questionnaire all the questions in the questionnaire were analyzed and comprehensive report was prepared. Which proved to be very helpful for further analysis. Analysis of the questionnaire has been done in the same order as given in thequestionnaire.

REVIEW OF THE RELATED LITERATURE

INTRODUCTION

The entire world is busy in using computer based technologies to exception. The major reason for getting involved in the automation of library operation is to improve the efficiency and effectiveness of library operations for library users. As more information available in a variety of format worldwide the need of manage information efficiently becomes more critical.

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Today librarians are supported to manage a great deal of information with less staff and less money. Moreover users have become more demanding so libraries cannot continue with the old procedures that are excessively costly in terms of staff or users. Therefore automation of libraries has become essential in this age of information. It enables us to implement Ranganathan's five laws of library science, particularly the fourth law "save the time of the reader and of the library staff".

The technologies available for library automation include microprocessors incorporated in to personal computers (PCs) compact disc- read only memory (CD-ROM), telecommunications with pocket switching and satellite systems, micrographics, fax machines, integrated with telephones and computers, electronic mail, electronic publishing, satellite and cable television etc. All or any of these technologies are referred to by the general term of information technology.

HISTORY OF LIBRARY-AUTOMATION

It could be said that library automation began in 1930's when punched card equipment was implemented in library circulation and acquisition, Harbey E Tillitt began experiments on storage and searching of a coordinate index using an IBM 701, soon after the machine arrived in September 1953. Tillett's program was operational, searching the library's Coordinate index, which had been later converted to a truncated machine readable form. In the early 1954, Tillett presented his report in the IBM computational seminar at Endicott, New York. This paper is believed to be the first report on library related computerization (Tillett, Harbey E).

Fredrick G. Kilgour provides the history of library computerization from its initiation in 1954 to 1970 He finds that the first half of the period was devoted to computerization of user-oriented subjected information retrieval and the second half to library oriented procedures. The further reports that online systems were being designed and activated. Three phases in the history of the library automation have been identified in an article on the subject"A brief history of library automation: 1930-1996" posted on the WWW.

BENEFITS OF LIBRARY AUTOMATION

There are many good reasons to automate library, but the main one are improved access to information for patrons and increased efficiency in managing the library's collection and circulation, as given below:

- Automation can expand the library's usefulness to patrons and staff by providing them with instant access to information available in the library.
- Automation also helps provide access to information at remote location with an automated even small, geographically isolated varies can be connected to national and international data bases.

- Automation relieves library staff from many tedious clerical tasks. When library staff is freed from labour intensive tasks, they can spend more time with patrons and performs other professional duties.

- Computerised records are simple to update so reports and inventories are more accurate and can be compiled quickly.

- Computerised records and statistics provide library administrators with data that is invaluable in planning and decision making.

ADMINISTRATIVE BENEFITS OF LIBRARY AUTOMATION

There are increased demands for librarians and information specialists to practice good collection management and provide accountability to institutions and patrons.

- Library automation system provide invaluable assistance for performing management tasks. The computer programmes compiles the data and generates the reports, staff time is minimal. Statistics can be broken down easily and use for reporting and long or short range planning.

- Reports provide accurate, detailed information about the collection's usage, circulation patterns, the data is useful for acquisition, budgeting, and weeding. Other data provides information about which patrons the library serves and how this data is helpful when compiling information necessary for funding distribution.

- Data about collection's age and monetary value can be used to establish insurance needs records of capital items and fixed assets such as computer or audio visual equipment are useful if there is theft or damage.

- Overdue are more easily traced and fines more easily collected. Statistics on lost materials helps to determine if there is a need to established a security system or recourse display areas, and assist in collection planning.

- Automation makes it easier to co-ordinate and plan with other libraries with in a system statistical data provides information that's helpful for writing grants andproposal or reports to governing institutions.

INTRODUCTION AND EVALUATION OF LIBRARY SOFTWARE PACKAGES

Advances in information technology are bringing a progressive change in modern society all over the world. Newly emerging society is known as information intensive society among the characteristic feature of this society, the most important one is that a majority of the members, this society have developed a confidence of self-reliance in the matter of solving their problem by using pertinent information. They believe that relevant technology

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like software-technology would play an important role in getting access to pertinent information. A large segment of society in India too have begun to feel the impact ofsoftware technology in different ways. Over the last twenty years, there have been dramatic changes in computing and communication technology. The major changes have imagedbecause with their application system and services can be made up to date and comprehensive, more compact, more responsive and all so at lesser cost. The microprocessor using software package is the main development which made the personal computer which is leading the modern society in to an entirely new information technology environment. Advances in software package are the dominant impetus behind the acceptance of the microprocessor. As we know that a computer system consist of three basic elements, hardware, software human ware. The electronic and electromechanical equipment including CPU, primary storageunite, peripheral devices such as terminal, printers, disk-drive and tape drives are called hardware.

Hardware of a computer system alone is little different to any other complex. Piece of electronic machine the hardware of the computer system will not work without programs, that are the set of instruction that direct and guide the operation of each device including the CPU. The set of programs which control the activities of a computer system or which may be processed, that is run on computer to some useful work are called software.

"Humanware" is people who write computer programs designed computer system test the program, operate computer hardware and maintain them computer hardware and software and developed to accomplish a task. Its two important characteristics are that it should be hardware independent as far as possible and it must fit specification yet to be easily altered to meet changing circumstances, for example a book acquisition system must be able to be changed to incorporate report acquisition routines also without effecting the entire structure.

Software may be put on disk, cassette, magnetic-tape, semiconductor memory, software is designed specifically for one type of machine and for particular application and is not compatible with other computer hardware or will not do work for another application software programs, software programs that are permanently stored in semi-conductor, read only memory (ROM) are called firmware. This type of programs can be used only for read, but cannot be alter. Further even with power off condition, the programs will not be lost. It isper permanent.

DIFFERENT CATEGORIES OF SOFTWARE

Computer software exists in a number of different form and three categories may be identified, these are programming languages, system-software and application software. Programming languages are the medium used by man to communicate his wishes that is instruction to a computer, in a way that is analogous to the use of English or any other natural language by a librarian or manager in giving instruction to his staff. Programming language are of three main types; machine language, low level languages and high level languages.

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SYSTEM SOFTWARE:- 'System software' is a set of program that used within a computer installation which are neither assemblers nor compilers, although some definitions include this group or application programs i.e, those that produce directly useful output forthe user of the computer. This broad definition embraces programs which are almost essentialand are in constant use. They are independent of any specific application area. "System software" can be grouped in to four main categories; operating system; utility programs, database management system and data communication software.

OPERATING SYSTEM:- 'Operating system' can be defined as an integrated set of program, that controls, supervises and supports a computer system. All hardware and software, both system and application are under the control of the "operating system". The important objective of an operating system is to managed the hardware carefully and efficiently and also to hide and protect the user from the difficulties of dealing directly with the hardware of the computer system.

The **'operating system'** programs are stored on the system residence device (as library files on disk, floppy diskettes, or ROM/RAM, chips). They are transferred in to primary memory as and when needed. When the system residence device is disk or diskette,it is known as disk operating system (DOS). The tape operating system (TOS), functions the same way as DOS, except that the storage medium is magnetic tape or cassette tape. In the virtual storage operating system (VS/OS), computer's virtual storage capability is utilized to divide programs in to small subprograms called "segments".

ASSEMBLER:- used to convert the program written in assembly language in to machine readable language.

COMPILER:- Compiler translates a source program, that is usually written in high level language by a programmer into machine language.

INTERPRETER:- Interpreter translate each source program, statement in to sequences of machine instructions and then executes. These machine instruction before translating language statement. Interpreters and unique for each high level language.

APPLICATION SOFTWARE:

'Application software' is a collection of related programs or sub-programs, designed and written to perform specific business or scientific processing task, for example pay-roll processing, housekeeping jobs of library, registration system of a University. Statisticalanalysis of problem etc.

'Application software' for an organization may be developed in house by data processing department. In some cases, the vendors supplying the hardware also provide some application software to meet user requirements. Still, the application software can be purchased from a third party source called, "software houses"

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Numerous software packages are available for a variety of computer, Here we shall consider some of the popular types of software packages.

Word Processing Software:- Today **'word processing software'** is one of the most wide spread application software in use. It is an application program that enables to create, edit, manipulate, print and save the text for future revision and retrieval without the need for extensive, retyping e.g., word star, word perfect, MS word etc.

Electronic spread sheets: - Electronic spread sheet program transforms the computer in to a "number crunching" tool or visual calculator for solving problems, once tackled with pencil, scratch pad, and a calculator on the display screen, it appears just like a conventional paper, and it is a table of columns and saws of numbers and text tables. These packages are useful and flexible tools that can be applied to a variety of common problems. These packages can be used, for typical business accounting problems like preparing balance sheets, income statements, tax returns etc.

Data base packages:- On these days, computers are used mainly for information storage and retrieval from, huge capacity secondary storage devices. In other words, now we do not want the computer to actually "Compute or calculate anything rather we are interested to store, sort, locate and print out information".

Graphic packages:- Computer generated graphics can transforms boring lists and tables of data in to attractive and informative visual images and creative pictures. Now there are many graphic packages available for this purpose, strength and capability of graphic packages depend upon the display hardware, main memory and other peripherals. There are alsopackage with interactive drawing and painting programs. It enables users to expose their artistic talent and capabilities.

Integrated Software packages:- The "integrated software packages" provides commonly used tools that will be needed in an everyday working environments in the fields of education, information service and business. Such packages usually offer word processing, electronic spread sheets, database management and graphics capabilities, communications all with in some program. The primary objective of integrated software approach is ease for learning and use Lotus 1-2-3 is an excellent examples of best-selling integrated software packages.

Business Accounting System:- Accounting packages are concerned with managing financial information. They deal with collection, storage, analysis and presentation data that represent all of a business's financial transactions.

Statistical Package:- At first computers were used mainly for numerical calculations for solving, complex, scientific and engineer problems. This has given rise to a branch of computing known as Numerical analysis and techniques, statistics, another branch of mathematics also allow to analyze a scientific or engineering problem having large data to

predict or forecast the effects of consequences; like analysis of population census of a country to find trends in education, housing etc.

SELECTION OF A RIGHT SOFTWARE PACKAGE

A library introducing a computer or an individual buying a computer may find that many of the problems, they are facing are, quite common, although those have varied characteristics. Independent software firms were quick to realize this and they started to market prewritten software packages to be run on a variety of computers to cater for a variety of problems. These off the shelf packages of prewritten programs have opened up the world of computer use to everyone.

To decide whether to buy prewritten or develop in house debate is going on in the data processing world for quite long time, for individuals, buying a prewritten software is the only solution. These prewritten software packages developed by well-known software houses offer several significant advantages such as quick installation, well defined, low cost, easy updating and documentation, etc.

LIBRARY APPLICATION SOFTWARE PACKAGES

Some of the prominent library software packages which are in greater use have been discussed briefly below:-

CDS/ISIS:- CDS/ISIS is a mini/micro computerized documentation system. That can handle any alpha numeric data of fixed or variable length. The file structure permits the uses to add, modify and delete the records, gain access to master file via any element in the corresponding database, build indexes from any keywords and to create a variety of print format like reports, catalogues, indexes etc. The package also supports ISO standard format to facilitate exchange of information among different system, CDS/ISIS will be discussed in detail afterwards.

Libsys: - Libsys is an integrated library management software package designed and developed by Libsys corporation, New Delhi. It was initially developed in Cobol language but now converted into C, language and covers all the activities of library related to acquisition, circulation, cataloguing, serials, centrals, article indexing and abstracting plus online public access interface.

Libsys follows international standards such as CCF, MARC, etc. Libsys has been installed at about 70 libraries in the country. Libsys has the following special features**:** interactive and screen oriented, menu driven, powerful editing facility, user defined, security, flexible operation, variable field length, help and multilingual use etc. The package is available under UNIX, VMS, CAN on PC- Ats and minis. Micro libsys, a subset of libsys canbe operated under XENIX and MS DOS. The package can be made available based on any performed RDBMS such as ORACLE, INGES, etc.

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Matryaee:- The package has been developed by CMC, Calcutta for Calcutta libraries Network (CALIBENET with the support of NISSAT, New Delhi. The package has been developed in India for a library network programme, providing specific network and communication facility using TCP/IP as the communication software with X.25 protocol in addition to library management function.

Sanjay:- Sanjay is a library automation software package which has been designed and developed by OC DESIDOC, Delhi, with support of NISSAT. by augmenting CDS/ISIS (Ver. 203) to cater to the need of library management. Special feature of the package are as follows:

- User friendly for library housekeeping operations.
- Has a set of 70 pascal programs 25 special menus
- Faster response time- 1 minute for a. query on 12000 documents
- Effective interlinking of data base
- Modified CDS/ISIS alimented to cover several additional applications.

The package is marketed by NISSAT, New Delhi at a nominal price. The package has already been implemented at 15 libraries including Technology Bhawan library and Indian Oil Corporation (R&D), library, New Delhi.

Suchika:- Suchika is an integrated software package for library automation, designed and developed during 1996 by the Defence scientific Information and Documentation centre (DESIDOC) Delhi, for its Defence-Science Library and other technical libraries/technical information centre (TICs) of Defence Research & Development organization (DRDO), scattered all over India. The purpose of developing this software is to automate all the DRDO libraries holdings database and help the libraries to follow uniform standard practices. The package has been developed in C $^{++}$ language in MS DOS and UNIX versions, keeping in view the requirement of big and small libraries of DRDO. The package is menu driven and user friendly. The package conforms to international standard like common communication format (CCF), ISO-2709, AACR2 and allows data Conversion from CDS/ISIS etc.

Suchika has powerful search facilities can be conducted on any field by specifying the field(s) or through the various indexes, like author subject, keywords, report no. patent no., etc Suchika also provides facility for free text searching. This package has been developed in modular form such as acquisition, circulation, OPAC, serial control, modules.

Granthalaya:- It is developed in FoxPro package by INSDOC, New Delhi. The salient features of the package are as follows:

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(i) Modularity: The package has seven modules designed to handle all functions of libraries and information centers.

(ii) Object oriented design.

(iii) CCT Compatibility.

(iv) Export and import of data to and from ISO-2709 and ASC II format is possible.

(v) Powerful query and search facility.

(vi) Ease of use: INSDOC is marketing and promoting this package for library automation in India. This package is already implemented at the national science library INSDOC, New Delhi.

Alice for window: - Alice for window has the four distinct versions V_{12}

- The public library version
- The special library and version
- The Academic library version
- The school library version.

It is a multi-user software package and works in a network environment. It comprises of modules from which one can select according to requirements. New modules are continuously being added. Each modules has sub modules, such as management, reports, utilities, circulation, inquiry etc. The user definable database is an integrated additional database, which enables the users to create their own files to assist in the day to daymanagement of the library. Alice supports Z39.50 client/server, architecture. It has WEB inquiry modules, that makes the database accessible on Internet.

Soul:- Software for university library (SOUL) a window based Library Management Software, has been developed by INFLIBNET Centre. It provides a total solution for library automation. SOUL is designed using client server architecture, which imparts, extra strength to storage capacity, multiple access to single data base, various level of security, backup and restore facilities etc. The software comprises of acquisition catalogue, circulation, OPAC, serial Control, administration of library activities. This inbuilt network features for the software will allow multiple libraries of the same university to function together as well as access distributed database installed at various University libraries and union cataloguemounted at INFLIBNET using VSAT network.

Nettlib / Vidyut

Features : Nettlib/ Vidyut is a total library management system development developed by a team of software engineers at Paramhansa / Kaptron. The Software development activity has been guided by user requirement and the software implementation

has been carried out, complying with professional engineering consideration and standards, Mr. Jitendra Verma, an eminent librarian retired from. JNU has provided the valuable concepts for automation of the functions of a large library all the known. Futuristic features essential for professional management of modern library.

Some of the features are:

- ✓ Multiuser
- ✓ Multilingual
- ✓ User friendly
- ✓ Easy installation and maintenance.
- ✓ OPAC Search facilities.
- ✓ Menu driven
- ✓ Runs on bar code technology
- ✓ Take care of various library functions.
- ✓ Interface to Network Data Import and Export.
- ✓ With CCC or AACR-2

Supplier : M/s Kaptron Pvt. Ltd., S-492, 4. K-1, New Delhi-110048

Troodon 3.0

It is user friendly, multi user and multitasking. The package is developed to work on window 95 /Windows NT the package is user friendly and can be operated by library staff without much prior knowledge of computer operation. Special features of Troodon software are.

- ✓ Multiuser, Multilingual in Windows NT/ Novell Netware Server.
- ✓ CCF, ISO-2709 and MARC compatible
- ✓ Bundled Troodon fonts library.
- ✓ User friendly GUI (Easy to operate)
- ✓ Web enabled to work perfectly on Intranet / Internet.
- ✓ Bare code generation / compatible.
- ✓ Integrated functional approach to reduce the data entry to maximum.
- ✓ Easy Retro – Conversion.
- ✓ Easy – interface with, standard office automation packages like, Word, Excel.
- ✓ Easy installation and maintenance.
- ✓ Less expensive.

CONCLUSION

The study is based on the analysis of the questionnaire administered to the librarians of the selected college libraries.

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The findings have revealed that criteria used by the librarians for selection of software is after sale-service, cost effectiveness, user friendliness and the popularity of the software.

All the software are good in one way or another but out of all the software, Libsys and Troodon are the most preferred software, because of better facilities among the college libraries and they are being recommended by not only, those libraries which are using them atpresent but also by those libraries which are not using them. Libsys has one major weak point i.e. its cost is very high, if that point can be taken by the developing agency then most of the other college libraries would select libsys for their library.

After Libsys and Troodon, librarians prefer Nettlib. Most of the college libraries also go for develop in house built software so as to meet their need.

While selecting software, librarians should keep in mind the present as well the future need of the library because selection of the library software involves heavy cost which cannot be bought frequently, librarians should evaluate library software on the basis of the criteria evolved, as well as the view point of the fellow librarians who are using that library software as they are in better position to all about the strong and weak point of the software.

At last, I would like to conclude by saying that there is a continuous need for further improvement of existing library software's so as to meet the future need of the library automation, because in future user will prefer to use network information or resources, through LAN, WAN, INTRANET, INTERNET, to meet their requirement the agencieswhich bring out newer versions from time to time as to meet the changing requirements of users of library software.

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