

Chapter No.1

INTRODUCTION

1.0 Introduction

The man has the need of information since very beginning for his various usages. Hence the demand for the information is rapidly increasing day by day since then. Due to its significance, it is being engaged in every human activity, so in lack of it, the society in which the human live feels difficulties in being developed and strengthen.

Information is an essential component of growth and improvement in living standards. In modern society, information is closely interrelated with growth and development which is reflected in the areas of economic, political, social, occupational and cultural spheres. A sea change is taking place in society due to the application of information and knowledge for development. Information technology with all its spectacular advances has been the chief instrument of these revolutionary changes leading societies to its phase of development known as 'information age'. Libraries and information centers should tune with their activities in such a way as to meet the new challenges and fast and sweeping changes taking place in the society.

Due to the advancement in science and technology number of communication mediums have been developed, which are very much helpful to the modern intellectual society. Some of them are popularly used, which are as; oral, verbal and audio visual communication, television, radio, telecommunication and satellite communication. Computer are mostly used instrument for communication. Computer is a machine that is being used in a variety of activities, to perform. Government departments, agencies, institutions and other similar organizations are making use of it in variety of their activities such as data processing management information system. The use of computer is also being done in library to improve their operational efficiencies.

The main part of a computer system is in the terms of hardware and software. We know that hardware is the collection of physical components of a computer whereas software is the means by which the general purpose of hardware of a computer system is made to perform specific tasks. Software also defined as 'a set of

programmes for a computer'. Libraries are used computer and softwares for automation (Automation is the technology concerned with the design and development of the process and systems that minimise the necessity of human intervention in their operation) to increase the efficiency and effectiveness of their operations and services.

All over the world, even in India several commercial firms have developed the library softwares, but they are expensive. Further research try to evaluate library management softwares packages developed in India.

1.1 Research Statement :-'Comparative Study of Library Management Software Packages'.

1.2 Conceptual Description:

1.2.1 Library management software :-

'A software is a set of programmes written or developed to enable the computer to do desired operations in libraries.'

"The processes of having a machine or machines accomplish tasks hitherto performed wholly or partly by humans. As used here, a machine refers to any inanimate electromechanical device such as a robot or computer." As a technology, automation can be applied to almost any human endeavor, from manufacturing to clerical and administrative tasks.

The fundamental constituents of any automated process are a power source, a feedback control mechanism, and a programmable command structure.

Definitions

1. The automatic operation or control of equipment, a process, or a system.
2. The techniques and equipment used to achieve automatic operation or control.
3. The condition of being automatically controlled or operated."

Some of the Synonyms of automation are mechanization, computerization, cybernation, robotization, industrialization, motorization, and self-regulation. (Galhotra,M.K.2008, p.233)

a) Application software :-

Application software is a software developed or written to enable the computer to carry out specific functions required by particular group of users. eg. SOUL, LIBMAN, etc. (Vasanth&Mudhol 2000, p.44)

b) System software:-

The term system software will be taken to mean all the programmes used within a computer installation which are neither assemblers or compilers although some definitions include this group nor application programmes. i.e. those that produce directly useful output for the user of the computer.

c) Open Source Software :-

This is the term that represents virtually the same thing as “Free software”. Only its newer, more popular and doesn't have the ambiguity problem. It amplifies the freedom to modify software as it points out to the fact that this software has the open source code, which allows it to be freely modified by everyone. However, many believe that it doesn't emphasize the importance of freedom enough, as it says nothing in general about other very important freedoms. In general, open source refers to any program whose source code is made available for use or modification as users or other developers. (Ex. Koha, E-Granthalaya, etc.)

(Kumar 2009, p.10)

1.2.2 Library Automation

Library automation refers to use of computers, associated peripheral media such as disks, optical media, computer networks etc. and utilization of computer based products and services in the performance of all type of library functions and operations.

The utilization of computer and related techniques make the provision to provide the right information to right reader at the right time in a right form in a right personal way. Automation of library activities provides the services very efficiently, rapidly, effectively, adequately and economically. The modern libraries and information centers facilitate free communication because access to information has become a fundamental right of the clientele. The role of computers and their associated peripheral media are being increasingly used in library and information services for acquisition, storage, manipulating, processing and repackaging, dissemination, transmission, and improving the quality of products and services of library and information centers. (Bhardwaj & Shukla 2000, pp.1-9)

Library software has become the most powerful tool for changing the scenario of libraries from traditional to automated, from automated to electronic, from

electronic to digital, and from digital to virtual. Software has become increasingly more powerful and the introduction of new applications has increased. Producing customized programs has become easier with software development packages. A number of software packages have been developed for use in the management and dissemination of data in libraries. Some have been developed by commercial agencies; others have been developed indigenously by institutions for in-house use; and there is yet another class where customized applications have been generated on the basis of existing software.

(Nair 1992, pp.17-18)

1.2.3 Why Library Automation?

“Information is the key for any development. The important feature of today’s information society is the efficiency with which data can be collected, collated, repackaged, transmitted and disseminated. The need for information is growing, and libraries, the storehouses of information, play a major role in the collection, organization and dissemination of information. The availability of precise and timely information is critical. Keeping this in mind, libraries in India are being computerized and automated to meet the growing needs.”

(Singh 2003, pp51-56)

Due to characteristics like speed, promptness, huge storage capacity, accuracy, versatility, diligence, cost effectiveness, ease in functioning, elimination of duplication of work, greater possibility of manipulation, etc. the computer can be used as a device to help the librarian in doing things rapidly, more economically and efficiently. Apart from these, the following can be the intangible benefits of the library automation:

Faster response and accuracy in providing information can improve the quality of library services; Growing Information shrinking space; Incensement of users and organizing the flood of information; Cost hick of printed as well as electronic reading materials and needs of resources sharing ; Enhancement in budget; Availability of statistical information from the system which can lead to effective decision making and elimination of wastage; Saving of future expenditure in collection development because of possibility of sharing resources with other libraries by linking through INFLIBNET; Provision of new information services like current awareness service, selective dissemination of information, retrospective search, etc.; Automation will

relieve the existing professional staff from their routine clerical activities to enable them to perform intellectual professional duties.

(Kochar & Sudarshan 2007, pp.117-120)

1.2.4 Areas of Library Automation

“Library automation is generic term used to denote the various activities related with the location, acquisition, storage, updation, manipulation, processing, repackaging or reproducing, dissemination or transmission or communication, an improving the quality of products and services of library and information centers.

It enhance the speed, productivity, adequacy and efficiency of the library professional staff and save the manpower to avoid some routine, repetitive and clerical tasks such as filing, sorting, typing, duplication checking etc. on which we can conserve costly professional manpower for technical service' and readers service. The main activities and services of library automation are given below.

- Information Resource Building * Serial Control
- Acquisition * Data Entry
- Classification and Cataloguing * Circulation Control
- Documentation and Allied Services * Information Retrieval
- Communication Networks * Information Services

(Manjunath 1998, pp.5-25)

1.2.5. Evolution Criteria of Library Software

In some developed countries, a majority of the labor force already works in service industries, Yet, Performance evaluation in the these industries has been difficult. In particular, the quality of service provided by information technologies is not easy to evaluate. In the information industry itself, which is a labour-intensive service industry because of the cost of software, no appropriate way of evaluating a software product is yet known (Goswami, 1995, p.69-70). Although the problem indicated by Goswami is to a certain extent significant, yet many authors have outlined the criteria for evaluating software. Good (1983) stated that the most important rule in software selection is to know your application an buy for your applicaton. Mandelbaum (1992) has outlined a ‘software evaluation criteria’, which provides an overview of the types of general issues that can be considered with any types of software.

Compatibility

- Is the software designed to do what you need it to for this function?
- Will it run on the computer you expect to use, or on any other computer? Are there computers on which it definitely will not work?
- How much memory does it need to operate at a minimum? How much memory does it need to operate well?
- Does it require any specific equipment or other pieces of software?
- Will your printer be appropriate for the speed any types of output required? Is a graphics printer required?
- Are there ways to speed up the software? Do you need them?

User Interface Issues

- Who will be the primary user? Are they comfortable with the software?
- Does the interface lead users to the right functions and minimize frustration? For an example, can it accommodate typical library users such as patrons, students, volunteers, or temporary staff?
- If any users are physically disabled or visually impaired, can they use the interface successfully? Is it comfortable with any adaptive equipment they might have?
- Are both command-driven and menu-driven options possible?
- If the interface is graphical, does the software require specific hardware and accompanying software? Can the software be run on other configurations? Is there a character-based equivalent?
- How do you select what to do next? Can you use both the keyboard and a pointing device (such as a mouse)?
- Can you 'stack' commands to have the software do a series of commands without waiting for your input?
- Can you change defaults?
- Regardless of skill levels does it have both novice and expert ways of operating?
- How is online help provided?
- Is it visually well designed? (Vasanth&Mudhol 2000, pp.51-53)

Learning

- Is there an easy-to-use manual?

- Is there an online tutorial you can follow?

Messages

- Does the software provide messages (such as errors and prompts in plain English)?
- Are error messages helpful?
- Does the software provide status messages when it is processing?

Installation

- Does the installation process give you choices, so you can install, as you want to?

Output

- Can you send output to the screen, a file, or a printer?
- Does the software create standard ASCII test files for transfer to other applications?
- For reports, are there ways to modify the format, sort order and selection criteria?

Support

- What about knowledgeable assistance? Is there toll-free telephone support or an electronic bulletin board?
- What about updates? Is there a maintenance contract option?
- What about update? Is there a maintenance contract option?
- Is the software copy protected?
- Is training available?

User References

- Can you get references from other users of the software?

Meghabghab (1997) has mentioned the following criteria that should be considered for evaluation :

- The capability to integrate multiple modules;
- Presence of all modules needed;
- Presence of essential features in each modules;
- Strengths of each module;
- Overall software capabilities (e.g. for multi-user access, Internet access, networking expandability);

Compliance with the latest bibliographic standards (i.e., U.S. MARK and U.S. MAR/Micro LIF) and the information retrieval standard Z39.50 (pp.40-41). Cohn and Kelsey (1997) have outlined evaluation criteria for library software.

- Compliance with specifications set forth in OR (Operational Requirements)
- Adequacy of hardware configuration
- Availability of all desired software modules
- Functionality (workflows between functional processes) Capability for system expansion and upgrading
- Cost
- Training
- Documentation
- Supplier's past performance
- Supplier's financial and organizational credibility
- Overall suitability of the system.

Balboa (1992) has mentioned the attributes of good library management software, which can be used as evaluation criteria. These attributes are as followed:

- Flexible data structure
- Simple to learn and use
- Powerful data management
- Rapid and powerful searches
- Flexible report generation
- Network compatible
- Importation of data from any source
- Reliable data security.

Rowley (1998 pp. 83-86) has pointed out the specific factors that must be considered when choosing any specific kind of software package, such as library management system. First he has mentioned few general points i.e. other people's experiences, cost, originator and supplier. In addition to general points, he has mentioned a number of technical features of software packages i.e. language, operating system, hardware, ease of use, and support: it may take various forms i.e. a) Documentation, b) Advice in setting up. c) Training, d) Maintenance, e) User clubs .

Kochtanek (2004) has mentioned following factors to evaluate a system :

- Cost-includes both the purchase price, as well as ongoing maintenance charges
- Software functions
- Software ease of use
- Adaptability flexibility system sets up parameters so the software will follow the library's policies
- Documentation typically includes user manuals for each module
- Hardware manufacturer the reputation of the company
- Scalability-ability of the system to easily expand
- System reliability- is there system availability (up-time) statistics to demonstrate the server's reliability?
- System response time- what is the response time experienced by other customers? Does the vendor provide any benchmarking data?
- Training services-time spent on-site training staff
- Vendor support services-can a customer visit a web site to report a problem or track the status of a previously reported problem? How often are new releases of the software distributed to customers?
- Purchase/Maintenance agreement guarantees
- Vendor's past performance
- Vendor's financial stability/profitability
- Overall suitability of the system

Arizona (2004) has provided a number of factors, which can be considered while evaluating the library software.

- Technical requirements
- Operating systems & hardware configuration
- Special versions & security
- User friendliness & documentation
- Limitations
- Database Vs non-database (RDMS)
- Input & maintenance of data
- Indexing of stored information
- Retrieval of stored information
- Output of data

- Housekeeping activities
- Ease of use
- Tried & tested features
- Good documentation
- Large user community
- Built-in routines
- Compatibility
- Vendor
- Performance
- Flexibility value
- Continuous support
- Obsolescence and upgrades
- Software guides & directories
- Reviews
- Benchmarks (No. of records)

Selection and evaluation of the library software is very difficult due to non availability of any standard guide and selection tool. Mahmood (1996) has also discussed that hundreds of library packages have been developed and run successfully in advanced countries and there are many directories and other tools available that help librarians to select suitable software for their libraries.

1. Acquisition Work

- Selection of material
- Checking of duplication ordering work
- Ordering work
- Preparation of order cards/slips
- Sending orders to suppliers/vendors
- Updating record file
- Verification of books with order file and invoices
- Accession work
- Print out of received and non-supplied documents
- Control of book budget i.e., expenditure incurred and balance

2. Cataloging

- Preparation of authority file/thesaurus of subject heading list
- Original cataloging
- Arrangement of catalog cards into classified, alphabetical or subject wise alphabetical
- Preparation of shelf-list
- Preparation of list of catalogued item in any desirable form
- Provision of access points in a variety of ways and in an appropriate physical form
- Centralized/cooperative and shared cataloging

3. Circulation control

- Registration of members
- Issuance of borrowers cards
- Charging and discharging items
- Preparation of overdue and recall notices
- Updating of record file
- Managing of book reservation system
- Calculating of necessary fines for overdue books
- Detection of problem borrower at the point of issue
- Maintaining statistics in variety of forms

4. Serial control

- Selecting suitable title for purchase
- Generation purchase orders; renewal and new
- Receiving issues and claiming issues not received
- Preparation catalogues of serials and other records
- Keeping current and accurate details of serials holdings
- Allowing access to details of current holdings
- Routing individual issues to various members
- Organizing completing volumes of serials for binding
- Exercising budget control and producing management information.

(Shafique,F 2011, pp. 39-46)

1.2.6 Library Automation in India

India is estimated to have around 65,000 libraries, including public, college, university, departmental and other libraries. Computerization of library services has been slow in India so far, but is expected to turn into a movement in the coming years given the requisite attention and support.

(Singh 2003, pp.55-56)

1.2.7 Library Management Software in India

The automation of libraries and their networking have become very important for effective resource sharing among libraries. There is a need for good hardware and software which libraries can use for automating their day-to-day functions, creating databases of their holdings and providing online access for users. In India many software packages are available for these activities (i.e.SOUL,LIBSYS, LIBMAN, SLIM,LIBRARIAN etc) and many libraries have automated their various functions. Some of these are integrated packages covering many functions like network resource sharing, online OPAC, providing CAS and SDI services through INTERNET etc, while others concentrate on specific functions including cataloguing and management of information.

(Vasanth&Mudhol 2000, pp.62-63)

1.3 Objectives of Research:

1. To collect and compile necessary information to describe library softwares and its operations.
2. To find out best library management software and to set priorities for software selection.
3. To evaluate National level Library Management Softwares.
4. To point-out views of librarians & users about softwares which is used for automation.

1.4 Hypothesis of Research:

1. SOUL 2.0 is the best compatible to library needs.
2. Priority for software selection as SOUL 2.0, LIBRARIAN, LIBMAN, MAITRAYEE, GRANTHALAYA, SANJAY, KOHA etc.
3. OPAC service is available in most of all softwares.
4. Most of librarians are satisfied with SOUL 2.0 and LIBMAN.

1.5 Scope & Limitations:

1. Present study focused on only National level application softwares and open source softwares for evaluation.
2. For identifying, evaluating a packaged software for library the following criterias suggested by GAROOGAIN are adopted, a) Capabilities b) Maintenance support c) User friendliness d) Documentation e) Cost f) Flexibility g) updating and revision.
3. Present study confines itself to academic libraries.
4. Development of library management software included in research up-to 2011.

1.6 Research Methodology:-

Present research is a survey research in which random sampling method is used while collecting data. Primary and secondary information sources also used for research work. To select questionnaire as a tool for data collection. Structured questionnaires analysed with the help of SPSS (version 16.0) software.

Data collection Procedure :

Automated libraries were chosen as a sample for data gathering against questionnaires. Thus 400 automated libraries were chosen for questionnaire and mail by speed post and online also. The sample included academic libraries in India. Due to mailing questionnaires by speed post and online, the response rate against the questionnaire was 72.75 (291 out of 400) percent. Sections of this questionnaire was consist general questions about the library and different aspects of software being used. Questionnaire also entitle '*Your Opinion about the library Software package*' was designed for data collection its includes 58 attributes about software with responses made as EXCELLENT (Ccredit point-3), Good (Ccredit point-2),, Poor (Ccredit point-1), & Not Applicable(Ccredit point-o), it is also calculated as per Software Packages in chapter no.5.

1.7 Relevance of present research

This study will reveal the current status of the softwares used in libraries and the attributes of the software packages i.e., functions, cost, training facility etc. Recommendation will provide a comprehensive guidelines for professional librarians in choosing the most efficient software for their library. This study also provide guidelines for libraries, which are planning to automate their services, in

selecting and maintaining software most suitable to their needs. This research is most fruitful to software companies for their product evaluation.

1.8 Scheme of Chapterization :-

Chapter No.1 : Introduction

In this introductory chapter, described the background of research, Research statement, Conceptual description, Objectives of research, Hypothesis of research, Scope and limitations, Research Methodology, Importance of present research and Scheme of chapterization.

Chapter No.2 : Literature survey

Concern chapter is related to all conceptual description which is used in research and review. It also consists Introduction, Concepts and Literature survey. Literature survey includes doctoral research, research articles, research related books & various Web sites is described in the form of abstracts.

Chapter No.3 : Library Automation

Library Automation and related issues are described in this chapter such as Definitions, Library Automation, Need for Library Automation, Basic of Library Automation, Planning for Library Automation, Software Availability, Software Selection, Evaluation and Selection of Software Packages, Applications of Library Management Software Packages and Software Packages Developed in India.

Chapter No.4 : Library Management Softwares in India

This chapter provides a overview of the softwares. i.e.SOUL , LIBSYS, LIBSOFT, SLIM, LIBMAN, Delplus, LIBRARIAN, Sanjay, Granthalaya, Autolib,Suchika, Trishana,DELSIS, Libra2000,Gyanodaya, Maitrayee, Tulib, KOHA, E-Granthalaya, NGL and NALANDA.

Chapter No. 5: Comparative Study of Library Management Software Packages

This chapter explains statistical and qualitative data interpretation. Such as Opinions about Library Software Packages, Criteria-wise Comparison of Library Softwares, Software-wise Status of Evaluation Criteria, Features of Library Software Modules, Important Functions of Library Software, Correlation between Software , Opinion and Modules and Purpose of preference this Software package.

Chapter No. 6 : Finding , Suggestions and Conclusions.

This chapter presents, Findings, Testing of Hypothesis, Conclusions of the study, Suggestions and Topics for further study.

Appendices contain the Questionnaire, selected references and Index.

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