ISSUES IN SELECTING APPROPRIATE SOFTWARE FOR AUTOMATION AN D MANAGEMENT OF ACADEMIC LIBRARIES IN NIGERIA

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Abstract

The world is dynamic and information management is also dynamic. As such, one needs to change to the trend of global information management. There is an eagerness on the part of academic libraries and librarians in Nigeria to shift from traditional methods of information to modern information technologies. This has led to the influx of library software into the ICT market to drive automation needs of the academic libraries. There is need, however, for quality and reliable software that can effectively run on the operating systems of computers in academic libraries. This paper therefore, aims at creating awareness on the issues of selecting appropriate software for automation and management of academic libraries in Nigeria, and the existing software so as to enhance quality selection. The paper further portrayed the criteria in making an effective selection of software in academic libraries and provides guiding steps libraries should follow before selecting software. The paper not only discusses problems associated with software selection but also made recommendations for a way forward. It recommended for the library software developers to endeavor to always providing an upgrade that will not wipe out away old data, software that will be compatible with other library software user groups.

Introduction:

Software according to Concise English Dictionary, (1999) can be defined as the programs that are used with particular computer systems. Computer software or software is a collection of computer programs and related data that provide the instructions to a computer or tell it what to do. It also refers to one or more computer programs and data held in the storage of computer for some purpose. Program software performs the function of the program it implements, either by directly providing instructions to the computer hardware or by serving as input to another piece of software. In contrast to hardware, software is intangible (Wikipedia, 2010). Wooster (2009) opines that software is the most valuable intangible product in the market place and outlines the qualities of good software .Almost thirty years now when academic libraries in Nigeria have embarked on automation, there are still challenges in software selection and acquisition. The world is growing in a geometric progression in the area of the application of Information and communication technology in Nigeria but there are still some challenges in the academic libraries in regards to software selection and its acquisition. It is obvious as noted and also reported by other scholars that software selection decision in the libraries is basically based on the report from others through conference on what they feel and heard that the software could offer. There has not been thorough system analysis to ascertain what is needed in library software before its selection and acquisition in some Nigeria University and Special Libraries.

Tiamiyu (2000) observed that libraries in most developing countries have low or lack the knowledge and or experience in automation. He found out that the greatest obstacles to library automation are the scarcity of internal library manpower with the requisite computer knowledge and experience to plan, analyses, evaluate and implement automated library systems. As a result the libraries depend solely on vendors of computer systems for both the hardware and the software selection. Such expertise recommend, design and implement an automated system, this not advisable because without adequate understanding, input participation of library staff in the automation project, the library would end up with an inappropriate automated system. In situation where the libraries are even having competent and experienced staff in such area, politics, sentiment and self interest would not even let them allow such staff to participate thereby losing such staff to oil or the banking industries.

Most libraries do not hold on to software selection process before its acquisition. Ifidon (1999) and Fatoki (2002) reported that most of the Nigerian libraries do not strictly hold on to automation guidelines such as : information gathering, funding, employing library system manager or analyst who will be involved in the automation process like the selection process or the development process, planning, assessment needs, requirement specification of the library, systems selection and data conversion. Even at the selection stage, the experienced staff are not even informed or involved in the selection process or giving pre-system analysis of what should be needed before the acquisition hence in most cases within a short time of the acquisition of the software, it becomes obsolete or have some limitation therefore being unable to meet up with what is expected.

The selection and acquisition process as stated above are not strictly followed in some libraries in Nigeria. It becomes necessary that software known as in-house monitored and computerized should be adopted by libraries. In this practice, a computer firm will be contracted to develop the software but the library being involve in giving the expert some details that may be needed for expansion in the future but in most cases in Nigeria, no staff is involve even in the selection process or engaged in the developmental process.

Library managers and information personnel therefore need to conduct research on the various software being paraded in the Nigerian market before making choice. Experience has shown that very many libraries in Nigeria run into one problem or the other due to the wrong choice of library software. For instance, some of the first generation universities in Nigeria started with TINLIB software but they could not continue due to some technical difficulties, maintenance problem, poor revision policy and the prohibitive cost of processing and maintaining it. Adogbeji and Onohwapor (2007) revealed that Kenneth Dike library of University of Ibadan, Nigeria had earlier used TINLIB software and could not continue. Also, University of Ilorin started with TINLIB and later shifted to Alice software. University of Lagos was equally affected in the wrong choice of library software. This university started with TINLIB and later shifted to a modified version of TINLIB called Graphical Library Automation System (GLAS). When the latter software could not adequately sustain the library operations, the library then opted for Millennium software in 2012.
 The purpose of opting for Millennium software was because it is web-based. Therefore, the reports highlighted above coupled with the experiences Nigerian libraries faced in the wrong selection of library software called for this research.

Automation in Library

Library automation may be defined as the application of computers to perform traditional library housekeeping activities such as acquisition, circulation, cataloguing, and reference and serials control. Automation is used to reduce the amount of staff time devoted to repetitive (and often less challenging) activities that must be done in any properly functioning library.

Many authors use the term 'library automation' to mean the use of computers as an aid for library activities. Markus() on says that "library automation in its broadest sense can be taken to mean the employment of machines for library processes. In general, it means the application of computers and related data processing equipment in libraries".

According to Salmon (), "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".

Traditionally, library automation is referred to the computerization of the entire library housekeeping operations like acquisition, cataloguing, circulation & serials control. But today it is also referred to handle the large quantity of data and information more efficiently and quickly with the help of computers and other modern information technologies.

Automating an academic library is the process which restructures its functions and reinvents its services. By keeping a database as the basis, automation converge new technologies of information storage and retrieval with traditional housekeeping operations. An automated academic library can serve the teaching and learning community more effectively. A reduction in the time needed for routine operations can be utilized to give customized services to the users. The process of library automation has a short history in our country. It needs proper planning and active implementation. Academic libraries 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 lifelong learners.

According to Bhardwaj & Sukla (2000) library automation is generic term used to denote the various activities with an improving 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.

Library automation according to Bhardwaj (2000) is refers to the use of computers, associated peripheral media such as magnetic tapes, disks, optical media etc. and utilization of computer based products and services in the performance of all type of library functions and operations. Computers are capable of introducing a great degree of automation in operations, functions since they are electronic, programmable and are capable to control over the processes being performed. Ugah (2001),defined library automation as the use of computer to carry out library services that are routine and repetitive. Such services that involve routine and repetition include acquisition-request, selection, ordering processing of arrivals, cataloging, circulation, information storage and retrieval, current awareness services, bibliographic searches.

Therefore, the aims, objectives and need for the change of library tools and technique under the changing environment with the concepts of automation of library activities, networking for managing library and information services such as acquisition, database management, classification and cataloguing circulation, serial control, information retrieval, communication networks, and documentation services etc., in Nigeria depends mainly upon the proper planning and appropriate decision taken by the authorities from time to time.

History of Library Automation Software

The library software packages did not develop at once. The study shows that it has developed generation wise which has been divided into four generation.

The first generation software was developed to run on specific hardware platform and proprietary operating systems. Low level programming language was used and the non standard database management

systems were common feature of these software. Circulation module and cataloguing module were the priority issues for these systems. Although these software packages were module-based systems, there was no or very little integration between modules. The single user stand alone structural design was used in this generation opined by John, P. (1946).

The second generation library software packages, with the introduction of UNIX and DOS based systems, become moveable between various platforms. Limited number of users and shared structural designed can be seen. The special features of these packages are the ability to shift between systems for specific function. Command driven or menu driven features can be seen in this generation. The capacity of record holding has been improved according to John, P. (1955-1964).

The third generation library management software packages provide fully integrated systems. They are based upon relational database structure according to John, P. (1965)

Fourth generation programming language was used in this generation. These software packages introduced a range of standards, which were a significant step towards Open System Interconnection (OSI). Colour and Graphical User Interface (GUI) features, such as windows, icons, menus and direct manipulation have become standard and norms in this phase. User support was extensively increased. Based on the improvement of the technology, the features of fourth generation library management software are based on client server architecture and facilitate access to other servers over the internet. Object oriented database management system and windows operating system have been introduced in this generation. These systems allow increasing multiple sources from one multimedia interface. Customized report generation was also available in this phase. Moreover the latest library automation software allows customized report generation and to manipulate data and investigate various scenarios and therefore they have all the potentials to be a decision support tool John, P. (1960).

Selection and Evaluation of Software

In respect to the vast explosion of information, the librarians are facing difficulties to meet the user demand and are forced to take up the task of systematic organization of the recorded knowledge. The market of library automation software package is unstable and subject to rapid expansion and software for library automation has to be decided before the selection and procurement of hardware**.** In fact**,** every librarian and information officer should keep in mind the requirement of the library automation and fitness of software for their purpose. Then he should select such software which should fulfill his requirements and also compatible with the future technology and multimedia.

Joint (2006), in his article "*Evaluating library software and its fitness for purpose"* provides a conceptual paper based on existing software evaluation models. The main purpose is to adapt general principles used for evaluating software quality to more specific requirements characteristic of information retrieval and educational applications in library environments. It also provides a model of software quality which embraces a number of top level factors. These are functionality, reliability, usability, efficiency, maintainability and portability.

Bhardwaj and Sukla (2000)**,** in the article **"***A Practical approach to library automation"* discusses that software selection is a very complicated issue, on the observation of experts. The discussion should be made by the selection committee and most suitable in regard of flexibility, capacity, expandability, security, economically, user's friendly, module based and updated with the latest technology is to be procured. He further discusses the leading names of the software packages with its features which are available in the market.

Software Used in Nigeria

There are considerable numbers of library software products in use in Nigerian libraries. However, some of them have fizzled out of the market. These various library software that have penetrated the Nigerian market include:

1. Micro CDS/ISIS (free),
2. Library Plus (which replaced x-lib software),
3. Green Stone Software,
4. Graphical Library Automation System (this replaced the Information Navigator Library Software, TINLIB),
5. Alice for Windows Software
6. EBSCO Software.
7. Docuware, Strategic Library Automation Management(SLAM),
8. Liberty 3 Software,
9. Micro-CDS/ISIS.

Selection Criteria for Appropriate Library Software

Software selection is not an easy task but selection should always be reflective of the mission. The quantity of commercially available software is vast and grows every day. The success of automation depends on selection of right software and its correct implementation. A very few library software packages can meet all the requirements of a particular library. Each package has its own unique features and limitations. Hence, it is necessary to evaluate the library automation software with varying facilities according to the requirement. To determine the best package, analyze and identify the needs and match it with the features and functions of integrated library systems is important. Moreover, the library software should be selected to satisfy the present and prospective needs of the library. To assess the value of software based on certain important check points, a comparative study is essential to understand any software. Therefore, this study is carrying out using the important checklist to be used for evaluation of software. It would help to librarian to know the benefits and limitations of particular software and to decide about the selection of a software package suitable for their own requirements. Selecting the right integrated library management software package is very important. The strength of the automation is mainly depended on the quality of the system software. A number of software are available in the market and some have special academic library modules. Adogbeji and Onohwapor,(2007) states that selecting high quality software requires some processes or guidelines which a library needs to follow.

These Are Major Factors to be Considered While Selecting Software .These Include:

1) Cost

This is a very important factor to be considered before selecting library software. The cost of commercial software package varies considerably across the range of packages available except open source and free software. Most of the library automation software is costlier. Commercial software has initial purchase fees, licensing fees as well as up-grade fees. Moreover, the software designers also claim additional charges for customization, on-site training and data conversion from other DBMS / data sources, annual maintenance contract and customer support service. But the software developed locally might be cheaper price in comparison with foreign software. Some software package developed

using open source and free software is available free of cost and offer only on the distribution charge. Facts to be considered under cost as one of the factors are as following:

❖ Are the license costs justified given the functionality offering?
❖ Is the required database affordable?
❖ Are annual maintenance charges reasonable?
❖ What is ratio of software costs to the implementation cost?

2)   Supplier Longevity

Supplier longevity is also very important factor to be considered before selecting the software that the numbers of years has the company been actively engaged in this software industry, when was the product's first released and what is the current release version being quoted. The reliability, customization and durability depend on the stability of the software designer and supplier. If the company has been consistency profitable year over year and the recent turnover has been on the management staff, there is no doubt on the company's longevity. Similarly, the costumer's reference is also supportive factor to take a decision.

3)   Services

The most important factor is the service part of any software package for the library, because the library. The librarian can serve the people effectively, efficiently as well as rapidly with the help of automation using good library software package which is integrated by all required services.

4)   **System support and maintenance**

Especially the training, maintenance and documentation are included in the customer support services. It also includes publications (e.g. manual and newsletter) which contain information about latest development of the software. It helps to keep the users up to date in the latest development of the library software.

i)   Training

The training of the library staff in computer operation is of vital importance. Every library staff member should be given a training and orientation about the computer system. The responsibility of the software designer or supplier does not end by selling the software without training until and unless the people learn entire operations of the software. Because the most important people in making library computerization successful are librarians. It must be realized that librarians will not be able to make any use of computer equipment until they are provided with the know-how required to use it. So, it is necessary to make training arrangements for the professional development of librarians.

ii)   Maintenance

One should examine very carefully the support and maintenance arrangements being offered by the vendor/ supplier. Maintenance may include removing the bugs or errors that might become evident in the software as it is used for a greater variety of applications and improving the software. Regarding maintenance, following things should be in mind in the software selection process:

❖ Does the software has De-bugging facility and scope of proper error message
   while executing the software
❖ How quick is non-critical software bugs fixed for the upgrading the software to
   adopt new technology?
❖ Is there any supplier for annual maintenance contract in discounted rate?

iii)   Documentation

The reference manual with detailed written instruction (step by step) is necessary for using software package after training programme. The language of the manual should be easy to understand and should have a table of contents, glossary and index. It is also important to know whether they have any regular newsletter or user information up-date publication regarding the library software.

iv)   **Performance**

Provision of searching the OPAC and web simultaneously (Meta search) using a single word search, search response time, search options, back-up facilities, database security etc. shows the performance of any library automation software. The functions of packages are inter-related each other. The response time of the search module depends on different factors, such as file organization, operating system, hardware platform, numbers of records in database, etc.

v)   **Search Options**

The search option include simple search, Boolean search, (AND, OR, NOT) Advanced search, string search, keyword search, field limitation search, truncation, use of related terms in searching. Provision of multiple manipulations and adequate searching capabilities must be in good characteristic software.

vi)   **Security**

Security mechanism prevents the software from misusing database by the users and other people. For the safety purpose, the software should have following things:

❖ Provision of user id /barcode etc.
❖ Provision of access restriction to certain records/ fields.
❖ Provision for students and staff to log in and log off on their own
❖ Modification/ new version of the software obtain by the librarian

vii)   **User Friendliness**

The system should be easy to use and check whether the system empowers the experienced user with short cut and flexible tool. The system should be easy to learn, menu driven and command mnemonic based. Besides the above criteria, copyright & licensing consideration is also important for evaluation of software.

5)   **Copyright & Licensing Considerations**

All commercial software is copyright protected. The purchased package will contain a licensing statement to which the purchaser agrees by the action of opening the package. An advantage of the licensing agreement is that a registered owner (registration cards are also included in the software package) can usually obtain upgrades at far less than the full market price. Free software is not copyright protected. Usually referred to as "Public Domain Software," such packages are freely copy-able and/or transferable.

6)   **A good library software package should be the integrated for the entire range of**

Library activities such as Acquisitions, Cataloguing, Circulation, Online-Public Access catalogue,   Serial Management, Providing Reference Service

Others factors include -:

❖ Does this package meet the overall requirements listing?
❖ Is the menu structure easy to follow and understand?
❖ Are the help files easily assessable and easy for users to understand?
❖ Can the user customize help to meet the individual needs of the organization?
❖ Is the product overly complex or to sophisticated for the average user?
❖ Are there standard reports available and are they useful?

Selection must always be based on merit and not on financial inducements and Idowu (2000) outline   library **software selection procedures or guidelines** which can be followed by library managers and other information experts in Nigeria in particular and Africa in general. These are:

❖ Do a need analysis;
❖ Consider the various alternatives available;

- ❖ Request for proposals from software vendors;
- ❖ Follow due process in arriving at final decision;
- ❖ Seek knowledge from experts and libraries already
- ❖ using the same software;
- ❖ Read relevant literature;
- ❖ Demonstrate the software;
- ❖ Recommend the preferred option to management;
- ❖ Keep all records relating to automation

The Qualities/Characteristics that should guide the Selection of Good Software are as follow:

A software package used for library work and services should have at least the
Following qualities-:

- ❖ Correctness (that is, software doing what it is supposed to do)
- ❖ Robustness
- ❖ User-friendliness (Menu driven and user friendly)
- ❖ Adaptability
- ❖ Re-usability
- ❖ Inter-operability (interface with other software)
- ❖ Efficiency
- ❖ Portability (easily movable to other operating systems)
- ❖ Security (that is ability to protect data or information)
- ❖ After Installation service availability
- ❖ Cost of Installation
- ❖ Proper documentation
- ❖ Database Management System (DBMS) features
- ❖ High level integration
- ❖ Data entry facility
- ❖ Data updating/editing
- ❖ Search/inquiries
- ❖ Report/Display/Print
- ❖ Compatibility
- ❖ Reputation of the sponsoring
- ❖ Scope for local variation

Steps to software selection

There are seven processes for responsible software selection and are-:

1. **Analysing needs, including the differentiation between needs and objectives:** In this case, there
is   need to analyze what is expected in software which must be in line with the library objectives. This
is an   area that many libraries in Nigeria do not take time to delve into.

2**. Specification of requirement:** This implies that the specification of the requirements for the   softwar
e must be specified by the library concern especially before or at the time of software   development.

3. **Identifying promising software:** The library must be able to identify the promising library software,   which must be able to address the various library operations especially the catalogue, acquisition, circulation and report generating etc.

4. **Reading relevant review:** The intending library that wants to buy the software must read other relevant   literatures and act on the usage by knowing more from the libraries that have used them, especially   the area of prospect and difficulties.

5. **Previewing the software with intended user group:** Any library that want to select a software must   involve the intending user group, as the users will be acquainted with the difficulties and how flexible   the software is, thereby making useful suggestions for the improvement of the software.

6. **Making recommendations on software for purchasing:** After the previewing of the software, recommendations can be made for its purchase when the software has been test run and thoroughly evaluate to meet with the library needs and objectives.

7. **Getting post – use feedback:** This is the stage whereby one needs to determine the compliance or   discrepancy between the library objectives and the actual user performance. The post –user feedback   can be of significant to a library's systematic process of software selection, purchase and use.

Features of Some Library Software Used in Nigerian Universities

a) **CDS/ISIS**

The acronym for CDS/ISIS is Computerized Documentation System/Integrated set of Information System or simply ISIS. It has been designed and developed by UNESCO's Division of Software Development and Applications office of Information programme and service. The windows version is called WINISIS. It is a menu-driven generalized information storage and retrieval system, designed specifically for computerized management of structured non- numerical data bases. **(UNESCO, 1989)**. The first version of CDS/ISIS was released in 1985, similarly, its 2nd version 2.3 in 1989, 3rd 3.07version in 1992 and latest version 3.08 is available now. The range of ISIS users includes all types of libraries, as it is distributed free of charge. More than 5,000 libraries are licensed users worldwide. It is a non-numeric database specially designed for bibliographic records, and is multilingual. A database can hold 16 million records. It provides variable length fields, repeatable fields, and sub-fields. It has powerful indexing and searching techniques. It provides a stop word file. Advanced programming can be done using PASCAL language. Data can be exchanged according to international standard ISO 2709.

b) **Alice for Windows (AFW)**

Alice was developed by Softlink International Australia in 1983. It is known as Alice for Windows all over the world. It is marketed through a number of agencies.This software is suitable for all types of libraries, such as primary and secondary schools in the public and private sectors, colleges, public libraries, booksellers, educational resource centers, charities, hospital, prisons, law practices, police forces, industrial companies, consultancies and palaces. **(Softlink, 1999).** The software is included the demonstration package also. According to the Brochure, annual support/maintenance fee provides libraries with an unlimited number of support hours. This automation package is available in four distinct versions such as Public Library

Version, Special Library Version, Academic Library Version and School Library Version. The software has many modules which are categorized as follows:

Standard Modules

Management, Circulation, Inquiry (OPAC) modules

Advanced Modules

Acquisitions, Serial control, Journal Indexing, Multimedia, Web Inquiry module

Special Modules

Multilingual features, Self circulation, Union catalogue, Quick Pics. Modules

The software provides data protections, retrospective conversion facility and online

tutorial and help system. It allows a library to purchase only the modules that suit its

needs. The software provides number of support services which include training programme, feedback system through user groups, free newsletters (Softlink, 2000) etc. It provides three types of training programs according to the requirement of the user, i.e. initial training, advanced training and office based training. Modules of AFW for an

academic library include:

Acquisition, Management, Circulation, Inquiry, Periodicals, Journal Indexing Web Inquiry, Rapid retrospective, Inter library Loans, Patron self checking

C) KOHA

The software, KOHA is the world's first open source integrated library system. The name Koha comes from a Maori term for a "gift" or "donation". The development of Koha began in 1999, funded by a group of libraries in rural New Zealand that found proprietary software expensive and lacking some needed features. The full featured Koha was developed initially in New Zealand by Katipo Communications Ltd and first deployed in January, 2000 for Horowhenua Library Trust. Koha is designed to work with a minimum of hardware resources. The Koha ILS can also be installed on Windows operating system but with a series of additional modules. Migration of data from one ILS to Koha can be done easily. Koha is an open source software, any library can make use of after developing according to their requirement. KOHA is basically designed to run on Linux operating system, but it can be installed on systems with windows 2000 and Windows NT. This software is dependent on other freeware software like Apache Web Server, MysQl or any other SQL based Relational Database Management System, Per Interpreter, Following Per modules. Regarding the size of the database, a big server with lots of RAM will increase the capacity of data. The latest version 2.2 includes support for importing and exporting of MARC records and supports Z39.50 standard also. Installation support and manuals are available. Koha supports all major library housekeeping operations except serial control.

Modules supported by Koha are listed below:

Acquisition, Circulation, OPAC, Membership, Accounts and reports, A library catalogue front end/ OPAC,A library system intranet, A circulation tracking system , An acquisition/budgeting system, A simple web based interface for patrons and library staff

The search interface is easily customizable, Simple acquisition system for smaller libraries, Able to catalogue websites as normal items, Web based OPAC and circulation system, Auto- remind notice and fines, Barcode support, Full MARC support.The software is available at http://www.koha.org while the Mailing list URL is: http://koha.org/mailing/.

d) Evergreen Software-

> This is an open source Integrated Library System (ILS). It includes circulation and cataloguing features, OPAC, SIP2.0 support for interaction with software administrator and search/retrieval through Z39.50. Evergreen also features the Open Scalable Request Framework (OpenSRF, pronounced 'open surf') that allows developers to create applications for Evergreen with a minimum of knowledge of its structure. It operates on Debian or Ubuntu Linux servers. It is operable in English and issued under a GNU General Public License (GPL) Evergreen software features include:

- ❖ Circulation: for staff to check items in and out to patrons
- ❖ Cataloging: to add items to the library's collection and input information, classifying and   indexing those items.
- ❖ Online public access catalog (OPAC): a public catalog, or discovery interface, for patrons   to find and request books, view their account information, and save book information in   Evergreen "book bags."
- ❖ Acquisitions: for staff to keep track of those materials purchased; invoices, purchase   orders, selection lists, etc.
- ❖ Statistical Reporting: flexible, powerful reporting for retrieval of any statistical   information stored in the database.
- ❖ SIP 2.0 support: for interaction with computer management software, self-check   machines, and other applications.
- ❖ Z39.50 compliant
- ❖ Available for Windows & Linux
- ❖ Easy to install and maintain

The software is available at: http://evergreen-ils.org/downloads.php, Software support URL is: http://www.evergreensys.com/support/contactsupport/ while the Mailing List is at: http://evergreenils-org/listserv.php.

e) GLAS

> Graphical Library Automation Systems was introduced in 1996 as an improvement on TINLIB by Electronic Online Systems International EOSI, manufacturer of TINLIB. GLAS is a window-based system and allows users to open multiple records.

GLAS posses some strengths such as-:

- ❖ Powerful search strategies ;
- ❖ Users can specify their search strategies.
- ❖ Graphical user interface ;
- ❖ Networkability on any of the Microsoft Windows products;
- ❖ It has help facilities.
- ❖ Integration: GLAS integrates other library modules that share one bibliographic database
- ❖ The software is user friendly and very much easy to learn;
- ❖ Back-up capabilities ;
- ❖ Flexible and comprehensive.

The GLAS software Limitations include

- ❖ The software does not allow multiple ISBNs ;
- ❖ No field for place of publication ;
- ❖ No field for corporate authors, conferences and meetings.
- ❖ No provision for parallel titles ;

❖ The data bridge which is a fifth module that makes it possible to import and export data was not highlighted ;

❖ The cost of the software is high, The technical support of the software is inadequate.

f) **WinISIS** (formerly CD/ISIS)- WinISIS is a Windows version of the CDS/ISIS system (Computerized Information Service /Integrated Scientific Information System) which was developed because CDS/ISIS was not compatible with the WINDOWS operating system. It originated at ILO and is developed by UNESCO. The first Window version of CDS/ISIS was distributed for testing in May 1995 and the first WinISIS version officially realized was version 1.31 launched in November 1998. It can run on a single computer or in a local area network.

It is available at: http://www.unesco.org/isis/files/winisislicense.html

g)**ABCD Software-** ABCD, which in full is, "Automation of liBraries and Centres of Documentation" is operable in English. The name itself already expresses the ambition of the software suite to provide not only automation functions for traditional libraries but also other information providers such as documentation centers. It is developed by BIREME (WHO, Brazil) in collaboration with the Flemish Interuniversity Council, Belgium, using UNESCO_s ISIS database technology. This software provides flexibility and versatility. It covers all the major functions in a library such as:

 Acquisitions, Bibliographic database management, User management, Statistical Reporting,

Serial control, Online end-user searching, Z39.50 compliant.

The software is available at: https://sites.google.com/site/abcdlibraryautomationsoftware/downloads. it is available for Linux and the tutorial can be seen at:

https://sites.google.com/site/abcdlibraryautomationsoftware/downloads/tutotials-help-filesh as

Conclusion:

Library automation in respect to software selection is the process which needs proper planning, timely implementation and periodical evaluation. The librarian with the administrators has to set the priorities after analyzing the current status and future requirements. Selection of the suitable integrated library management package according to the needs of the users and the library is important. The study revealed and explained in details the features of library software used in Nigerian libraries. This paper has equally spelt out the salient issues that should be considered in library software selection and also discusses the characteristics, criteria, benefits, among others that qualify them to be effective library automation software. The literature review shows the background, history, features, strengths and weaknesses of the various types of software. In addition to these, there is the need for a joint responsibility of every librarian, network administrator and information scientist in addition to the traditional librarian in order to move forward in library automation or information manager to be careful when making choices. Therefore, if selection procedures are strictly adhered to, there is the tendency that better software that can drive library programs to be purchased for libraries. Owning to this, it is pertinent that the academic libraries engage the services of systems analyst. This becomes necessary as many libraries have lost much fund to automation but no fruitful report in addition to the fact that the world is dynamic and Information management is also dynamic as such one need to change to the new trend of global information management. It is therefore advisable that the libraries should keep to Software selection steps or process. The following recommendations are therefore made to the libraries in Nigeria and the rest of the developing world.

Recommendations

The researcher seeing that the libraries change from one software to another even within a short time of committing fund should make sure that the following are achieved.

1. Each academic library should employ at least a system analyst, / network administrator or any   computer literate person that has good understanding of the library operations that could be of   help   even before the selection and the acquisition of library software and them make   suggestions

2. There should also be a nearby library that makes use of such software in case of difficulties or   there   should be maintenance contract with the vendor to attend to their difficulties.

3. Before the acquisition of the software, the library must make sure that the following among   others   must be in place:

❖ The software must be able to work on standalone computer as well as a network system.

❖ It must be developed for that type of library – small or large library

❖ It must have contained all the needed modules: Acquisition, circulation, catalogue, report among others.

❖ It must support graphics and be able to run well on the operating systems that it installed.

❖ It must meet up with all the library specification and transactions.

❖ There must be room for expansion. That is creating additional fields when the need arises   without necessary calling the vendor or the developer. For instance if the edition created ends in 31st edition, there should be room for the systems analyst to create additional field to accommodate such.

❖ The software must be flexible and easy to use.

❖ It must be menu driven and easy to manipulate and navigate

❖ The software must support multi-access and must pass through evaluation test. That is testing the software to ascertain if it could withstand the purpose for which is purchased for.

❖ There must be local maintenance agents that will readily available in case of difficulties.

The library software must be upgradeable and upgraded to work with popular operating   system that may be needed in near future. Other recommendations are-:

4. **Installation of Standard Software Package**

The international standard library software should be installed to satisfy the present and prospective needs of the academic libraries. Because these types of softwares are more reliable, efficient, flexible, expandable, safety, user friendly, module based and updated with the latest technology. Therefore, it is recommended that academic libraries should use international standard library software for their automation such as **AACR-2, CCF, MARC 21** and **ISO 2709** etc. for their selection.

5. **Trained Manpower**

Training is the most important activity that plays an important role in the development of librarian. It is unfortunate that most academic libraries in Nigeria do not have adequate professional staff in the library and the sufficient number of professional manpower for the libraries in the country is still lacking. Therefore, Librarians should be taught skills, which will enable them identify appropriate software for their library needs. The most important people in making library computerization successful are librarians. They know their job well and should be most qualified to decide which function should or should not be computerized.

6. **Training Facilities**

Most academic institutions do not give preference to train the library personals. Therefore, it is recommended to develop and provide training opportunities suitable to train library staff on the use of

computers, especially on the use of existing software and hardware with adequate practical experience. These training opportunities will help to overcome the problem of insufficient skilled and trained staff. Training makes people more competent, personnel become committed to their job resulting in proactive-ness, increases productivity, reduces cost and enhances skill and knowledge of the employee and helps in developing a problem solving attitude and gives people awareness of rules and procedures. Therefore, training should be continuous. Training can be either on the job or off the job. In the first case, the worker is trained under the guidance of a supervisor whereas off the job training is usually through lectures, conferences, case studies, audio visual etc. Therefore, it is essential to provide training of library as well as software packages and advance course of computer to all of the staff and executives of the organization to make them competent and able to handle various problems regarding modern information technology.

7. Adequate Funds

Sufficient funds therefore, should be made available by the university administration to automate their libraries. This is because the various information services that can be deployed in libraries are dependent on sound financial position of the libraries. The escalating cost of the reading materials on one hand and huge cost of the infrastructure on other have made the academic libraries to suffer from insufficient flow of funds. Similarly, day to day the price of the software is rising up with the number of value - added services and enhanced services incorporated in the library automation package. Due to the high cost and lack of fund, library cannot afford for international software for the automation of the library. The following institutions may also involve in funding for the library automation:

❖ University Grant Commission should also provide the grants in the initial
    stage of automation project.
❖ University also should play active role for fund raising activities.
❖ Universities should also collect certain additional charges at

the time of admission from every student, and it should be expended only for the library automation   purpose.

8. Formulation of a Special Committee for Library Automation Project

Evaluation of the library software may be done at national level. Software Evaluation Committee (SEC) should be constituted for the purpose. It is also suggested to appoint an IT committee in each university library including both library and computer staff to deal with automation activities. The committee should evaluate the library software package before implementation.

9. Automation and Networking of Libraries

It is essential to take immediate steps for automation and networking of the libraries for effective and expeditious service to the students, faculties and researchers

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