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Required skills and Competences of Librarians for Effective Software Application and use in Contemporary Libraries in Nigeria

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Abstract

Libraries today are in the process of transiting from traditional/manual operations to digital/electronic ones especially in developing countries such as Nigeria. To effectively address this, librarians need software application and user skills and competences to migrate totally to ICT (automation).The paper therefore identified the software applications, user skills and competencies needed. To arrive at that the concept of librarian, software application and use, required skills and competences are examined. They have been identified as skills in computer, ICT, knowledge of the types of software in existence generally and in the library, knowledge of how to select appropriate software for the library, knowledge of how to use them, avoiding inadequate ones in quality and services and so on. It assert that skills and competences can be acquired via suppliers of software, computer science program, workshops and conferences, short courses etc and concluded that these skills and competences are a must for librarians given their information provision role on the internet.

Keywords: Software application and use, librarians, required skills and competences

Introduction

Librarians are managers of library and information systems. Library and Information science is a dynamic field and today is in the era of information age managed by ICT. The deployment and use of ICT in libraries is a function of the knowledge, skills and competences of ICT possessed by librarians. However for most libraries in Nigeria, emphasis has been on ICT facilities rather than on skills and competences acquisition. Situations abound where the state of the art ICT facilities are provided with no adequately trained and knowledgeable ICT literate personnel with requisite software skills and competences for application and use to manage. This explains how great plans of ICT application and use in libraries have failed before they take off on account of lack of librarians with the necessary skills and competences. In this light, Oketunji (2000) had earlier asserted that application of computers to library and information activities in Nigeria has been more of a dream than reality in spite of the good intentions that heralded it. As far as this situation prevails no head way is in sight for effective software application and use in contemporary libraries in Nigeria in spite of the much noise that attend it. The result has remain inefficient and ineffective management of information and information service delivery because of lack of skilled and competent professionals to configure and program computers to handle library activities in a manner congruous to users' needs and acceptable best practices and standard. The dream of a global village will always therefore remain a mirage in contemporary Nigeria.

Conceptual Clarification

Who are Librarians?

The role of librarians/information officers in society is undoubtedly important and critical. According to Mngutyô (2010) librarians are persons who are rigorously trained to work in the library after their first degree or masters' degree of education in librarianship or library and information science in an authorized institution. Edoka (2000) in addition stated that their training demands specialized knowledge and skills in part as well as being theoretical in nature. He further admitted that their training is reasonably conducted over a prolong time and tested by examinations and a period of practical training necessary for modern library service. Today they can work in any information environment such as the net among others. Librarians are library professionals that manage the library (Mngutyô, Okpologidi & Tseeneke 2016).

In Nigeria, librarians are graduates of Library and Information Science (LIS) with a combined subject area. Etim & Udofia (2011) posited that they are not anyone who works in a library but an information professional trained in library and Information Science whose main focus is the organization and management of information services or materials for those with information needs; a field that is rapidly changing in terms of information contents and information technologies. In United States of America and Europe librarians are graduates of postgraduate programs (Ekere, 2017). Etim & Udofia (2011) also collaborating stated that in western nations like United States, Canada, Australia, etc they are seen as professionals with Masters Degree in Library and Information Science. They further asserted that they are capable of analyzing information, information needs and of providing information services and materials to patrons in a variety of settings with available and appropriate resources. The implication is that the responsibility of information management in society is placed squarely in the capable hands of Library and Information Science professionals. Quite so, they are expected to adequately equip and prepare themselves with necessary skills and competences of software

application and use which is the core of information technology for effective information management.

Librarians therefore by training are the pillars and managers of libraries and information systems. They are both graduates and postgraduates of Library and Information Science with subject specialization. Expectedly, they should be in forefront of new skills and competences acquisition in ICT especially software application and use, the force that drives ICT for effective service delivery that is required today in libraries.

Software Application and Use

Software is central to any computer system. According to Nwachukwu & Mngutyô (2013) computers are design to operate with software. Software is an instruction that require computers to perform specific task required at a specific time. These instructions which indicate which tasks are to be performed are known as program or software (Nwachukwu, 2008). Dictionary of Information Technology 1996 cited in Nwachukwu and Mngutyô, (2013) stated that software is the name given to programs. It further stated that it is a complete set of instructions to follow by a computer to carry out a particular job.

According to Karim, Selumun and Seember (2016) software drive control hardware components of the computer in the same way human body is driven by souls (non-physical aspect of human beings).They further noted that just as a human body without a soul is a lifeless body so also is a computer without software is nothing but an empty box with some wires and chips. On that account they simply defined software as a set of programs that execute in the computer. These programs according to them are responsible for controlling, managing and enabling computer carry out important and useful tasks. Furthermore they stated that software is

categorized into two, system and application software. Dictionary of Information Technology 1996 cited in Nwachukwu and Mngutyô (2013) however identified three main types of software to include application software, system software and other tools used to write these programs. Software package is explained to be a collection of everything needed to run a software program. This includes the software, the user manual, and other documents. A software package therefore is a set of instruction designed to carry out a particular type of job. Computer software is important because it enables computer carry out tasks assigned to it by the user. Pressman 2001 in Samber, Omeje & Onah, (2013) opined that computer software may be applied in any situation for which a pre-specified set of procedural steps (i.e an algorithm) has been defined and that they deliver the most important product of our time-information. They further stated that in librarianship they are needed to allow librarians to program the package to the library specifications because with the packages the librarian can define all the parameters and create all the needed files. These library software packages enables librarians display their professional skills such as selection, acquisition, management and render the most crucial information which is the product of our time to clientele.

Software applications are therefore those programs designed to solve specific problems for the users. These programs are executed under the control of the system software. They can be developed by individuals and organizations for solving specific problems. They also provide interfaces for users to interact with the system.

Application software gives the user a set of commands to work with (an interface) and then translates those commands into instructions which are passed to the computer's operating system software. It also provides users with interfaces for selecting commands. There are many different commands performing many different functions in different applications. Common

application software from popular manufacturers includes word processing, spread sheet, database, communication and Desktop Publishing.

Software application and use is therefore the way computers are programmed by individuals or organizations and deployed to execute certain specific functions. All these require skills and competences to achieve. Longman dictionary of contemporary English (2001) defined competence among other things as the ability and skill to do what is needed. The same dictionary defined required, as to need something that is necessary to possess. Required skills and competencies are the needed ability to do something well.

Skills and Competences Librarians Need in Software Application and Use

One of the challenges facing IT/digital library projects in Nigeria is the readiness of the university libraries in terms of knowledge and skills to implement the digital and electronic library services (Ayoku and Okafor,).This is equally true of other types of libraries in Nigeria. The skills and competences include:

Computer literacy and skills: Ademodi and Adepoju (2009) identified computer literacy and skills as one of the basic skills and competences librarians need for software application and use. This involves basic knowledge of computers generally such as:

- Understanding basic computer hardware components and terminology
- Understanding the concepts and basic functions of a common computer operating system
- Starting up, logging on, and shutting down a computer system properly
- Using a mouse pointing device and keyboard
- Using Help and know how to troubleshoot routine problems
- Identifying and using icons (folders, files, applications, and shortcuts/aliases)

- Minimizing, maximizing and moving windows
- Identifying common types of file extensions (e.g. doc, docx, pdf, html, jpg, gif, xls, ppt, pptx, rtf, txt, exe)
- Checking how much space is left on a drive or other storage device
- Back up files
- Down loadings and installing software on a hard disk
- Understanding and managing the file structure of a computer
- Checking for and installing operating system updates as well as how they work and knowledge of their use.

Alonge (2012) also identified specific basic technology skills for information managers in a networked environment to include computer operating system such as downloading and installing programs, connecting an auxiliary device to a computer such as a printer, scanner etc and understanding the system settings; Knowing how to troubleshoot anything involves knowing what to ask a library user who reports a technology-related problem whether it's a hardware or software issue, knowing how to replicate a problem and knowing how to research a solution on the web; Knowing how electronic resources work- This consist of understanding what a persistent URL is and being able to tell what a URL is or not, knowing what authentication and proxy means in the library setting, understanding how an electronic resource is set up for access from a trial to the link placed in different library systems such as OPAC (Open Public Access Catalogue), ERMS (Electronic Resources Management System),Open URL Link Resolver, and the library website, knowing how to troubleshoot remote access issues to electronic resources; Knowing systems –This consist of knowing what different library systems do and how they work together to provide users with access to information resources (e.g.

Integrated Library System(ILS), OPAC, discovery service, open URL link resolver, ERMS, digital repository system, content management, proxy server, etc.);Knowing web –This involves having proficiency in research tools available on the web, understanding the difference between HTML and MS Word document, understanding what a web browser does, knowing how to make screen casts (video tutorials) and podcasts, knowing how to create and edit images and video for the web, knowing what usability is and how it applies to a library, knowing how to write for the web, knowing how to utilize social media such as Facebook and Twitter, understanding the mobile devices and related technology that are applicable to a library.

***ICT skills*:** Information and communication technology (ICT) is a set of sophisticated and expensive computer based technologies. These are a diverse set of tools and resources used to communicate and to create, disseminate, store and manage information (Blurton in Chisenga, 2004:3).They encompass conventional technologies such as the radio, television and telephone technology (Karim, Selumun & Seember, 2016:128).They are tools for information delivery in the new millennium. Some of the tools include internet, world wide web (www), electronic mail etc. ICT emerged as a result of the need to manage the exponential growth of information. Their advent has turned the world into a global village (Anunobi, 2005:39). The result is that the ways and means of packaging and delivering information has changed. Guragi (2009) therefore stated that there is need for professionals to have e-competencies along with other skills which are required in the present context. These e-competences include having basic knowledge of computer and their capabilities, competency with internet facilities, competency with search engines, competency with e-mail, competency with web URL's, competency with navigation tools, competency with web browsers and web file formats, competency with database software, internet development and management. This is to enable them know the software that can help in

efficient and effective communication, sharing and other collaborative efforts with other computers in their area and globally to serve their users anywhere they are.

Proficiency in using productivity software. This involves the following:

- Creating documents of various types and saving in a desired location
- Retrieving an existing document from the saved location
- Selecting, copying, and pasting text in a document or desired location
- Printing a document
- Naming, renaming, copying and deleting files
- Understanding and knowing how to use the following types of software programs:
    - Word processing (example: MS Word, Google Doc, Writer)
    - Presentation (example: PowerPoint, Impress)
    - Spreadsheet (example: Excel, Calc)
    - PDF reader (example: Acrobat Reader, Preview)
    - Compression software (example: WinZip, StuffIt, 7-Zip)

      http://www.sis.utk.edu/computing/ict retrieved 10/5/2017

Knowledge of software application generally and those for library: Generally there are many different software applications for different purposes. Usman, Agber & Tyoakosu (2016) identified some common application software from popular manufacturers to include word processing, spreadsheet, database, communication, desktop publishing**.** Those for library include TINLIB (The Information Navigator Library),CDS/ISIS (Computerized Documentation Service/Integrated Serial Information System), Bibliofile Catalogue, Book Shelf PC, Micro-Integrated Library System(MILS).Others include X-lib, Erudite, ITS library system, SABINET

interlibrary loan module, micro scribe, In-magic, LIBPLUS and many others (Nwachukwu & Mngutyô, 2013). The knowledge of this should enable them know what is available and go for, without being restricted.

Analytical skills: A lot of library oriented software is already available in the market for grabs. But not all may be appropriate for all types of libraries. As such Nwachukwu and Mngutyô (2013) assert that librarians must be able to evaluate the many choices in order to develop or select the software that would best meet the library's needs. On this, citing Marron and Fife (1999) they posited that there is no definite formula for selecting microcomputer software for in-house databases but that one can base one's choice on how given software worked in a comparable library because there are many types that has worked in various libraries. Other necessary guidelines for selecting library application software and sustaining are examining hardware connections to see that they agree with software goals, library's right in respect of the software, history of supplier to determine those dedicated to library systems or not that is those who are portfolio those dealing in several products and services of which library systems is only one; the possibility of preview or demonstration, that is those ready to give a demo; the pricing structure that is those with straightforward cost structure that is those that allow an unrestricted number of users for a fixed purchase price; is it user friendly, that is easy to use by the targeted users; do they have support issues, that is level of support, quality of support and response time for call assistance that would be provided by the vendor; do they have a reference sites, to enable potential buyers understand what other users of the software have to testify about it; parameterization, does it have the feature of system that provides options to configure the system to meet operational requirement of each library; are there teaching aids? That is those with manuals; is there a system administration with data security, data backup and

restore procedure; end of day processing that is not cumbersome. And finally, it is necessary to analyze the system to be automated in order to ascertain the objectives, functions, data elements and storage capacity.

***Knowledge of how to acquire and use software*:** The knowledge of how to acquire and use software is capable of ensuring that the right software is selected. This involves where to obtain them from. Nwachukwu (2017) identified the sources as being through acquisition of prewritten off the shelf package. This is already made packages that can be bought and inserted for use; acquiring a turnkey package that incorporates both hardware and software, that is already prepared for use. A computer with an in-built software for library oriented functions already; written in-house programs by librarians who are experts; commissioning the writing of the program; participating in or joining cooperatives that offer access to software databases such as UNESCO that offers CDS/ISIS; and in doing that look out for technical capability of suppliers, their responsiveness to consumers needs, the profile of their support services and consumers training feature and how to choose a vendor.

***Knowledge of how to maintain software installed for use*:** It is expedient that librarians know how to manage software acquired so that they can function optimally. This means going for those ones that enable users do something they could not otherwise do or do things better or more efficiently, is it multipurpose, versatile and open ended, appeals to a wide range of ages and interests, easy to use, offers constructive feedback, encourages creative, individualized, original input, enhances content through electronic presentation, provides audio help and or instructions or where on –screen help is clear and useful, employs tasteful and attractive graphics that are non-violent, free of gender or ethnic stereotypes, representative of user population,

provides a tangible product and is fun to use and gives users a sense of accomplishment (Oketunji,2006).

Ability to foresee possible challenges to encounter while using software: The ability to foresee likely future challenges to be encountered in the use of software is a panacea to avoiding them. They include those limiting users interaction to pressing return or making a choice between presented options, requiring simultaneous depression of several keys in order to accomplish a routine or frequently used function, has a large amounts of text on the screen, does not allow the user to control sound levels, timing or other intrusive features, presents content in a violent racist, sexiest or condescending fashion, duplicates experience that is just as easily or more easily presented in another medium or through a more versatile software product, is little more than an automated workbook and repeats exaggerated or lengthy graphics displays that have little to do with the advertised "content"(Oketunji,2006). Ability to know what to do in order to avoid challenges such as knowing soft ware's that are user friendly.

Nwachukwu and Mngutyo (2013) stated that these skills and competences are necessary to step up supports and services after installation and subsequent maintenance and repairs. And Sass in Guragi (2009) state that for librarians to remain relevant in the face of challenges and changes to a new generation of users "we need to be where our users are even if they are not inside our libraries"

How to Acquire Required Skills and Competences of Software Application and Use

Formal training is regarded as one way that required skills are taught; learners are exposed to both the rudiments and intricacies of computer programs and packages (Ademodi and Adepoju,

2009). They further debunk that being computer literate does not necessarily mean possessing the required computer skills to determine how library activities are carried out.

Through training by suppliers- These are vendors who are chosen or selected to supply software and are responsible for it installation in the library on the condition that they will train the personnel of the organization or library on the use and maintenance before being selected.

Through formal education in library schools- This can be achieved through software computer courses being included in the curriculum of library schools and taught to undergraduates. They are also exposed to practical applicability of it in respect of their field. This is usually handled by experienced librarians in software.

Through attending computer science oriented programs in tertiary institutions- This involves librarians going on further studies in other fields of study to enhance their performance in rendering library services. This also includes undertaking studies in computer science where they can be trained and exposed to soft ware's and its application and use.

Through short duration courses organized by manufacturers of software. These are short term courses that last for three to six month at home or abroad, where librarians are exposed to both theory and practical aspects of software application and use. Another way could be through workshops and conferences organized by library association in conjunction with United Nations or UNESCO.

Through library workshops and seminars organized in individual organizations. Some academic and special libraries are known to organize monthly in-house library seminars. These are avenues and opportunities where experienced and knowledgeable librarians in software

application and use can be invited several times over to share their knowledge, impart skills and expertise with the sister library with practical sessions. In some cases they can be contracted to do so at a fee to enable them do a more thorough job.

Conclusion

Acquiring required skills and competences for Software application and use is challenging but is however a necessary evil that must be constantly updated with the emerging and rapid growing world of ICT and information system enhancing tools. It has great influence on the way and manner information work is being done today. The need for librarians to acquire necessary skills and competences in order to address the changing taste of existing users and attract new categories of users having preference for information in electronic form is a must that should be taken seriously by professional librarians. These are skills in computer, ICT, knowledge of the types of software in existence generally and in the library, knowledge of how to select appropriate software for the library, knowledge of how to use them, avoiding inadequate ones in quality and services and so on. The skills and competences can be acquired via suppliers of software, computer science program, workshops and conferences, short courses etc**.**

References

Ademodi, D.T. and E. O. Adepoju (2009). Computer Skill among Librarians in Academic Libraries in Ondo and Ekiti States, Nigeria. ***Library Philosophy and Practice 2009***

Alonge, J.A. (2012).Conventional Tools and Technologies of Information management in A Networked Environment: A paper presented at NLA Cataloguing, Classification and Indexing Section 32nd Annual Seminar/Workshop.43-50.

Anunobi, C.V.(2005).ICT Available and Use in Nigerian University Libraries. *Global Review of Library and Information Science* 1(1):39-51

Ayoku, O. A. and Okafor, V.N. (2017). ICT skills acquisition and competencies of librarians: Implications for digital and electronic environment in Nigerian universities libraries *(PDF Download Available)*. Available from: https://www.researchgate.net/publication/277967997_ICT_skills_acquisition_and_competencies_of_librarians_Implications_for_digital_and_electronic_environment_in_Nigerian_universities_libraries [accessed May 10, 2017].

Chisenga, J. (2004) ICT in libraries: An overview and general introduction to ICT in libraries in Africa *WASP ICT workshop*, Kopanong Hostel and conference center, Johannesburg, South Africa July 21st -23rd

Edoka, B.E. (2000) *Introduction to Library Science* Onitsha: Palma.

Ekere, F.C. (2017).Career prospects in Library and Information Science. Lecture Material of Ph.D. Students in Dept. of Library & Information Science, UNN. P.1

Etim,I.A. & Udofia, E.P. (2011).Service orientation and Librarians Choice of Library Profession as a career in Tertiary Institutions in Akwa Ibom and Cross River States of Nigeria *Nigerian Journal of Library, Archival and Information Science* 1(12):11-16

Guragi,A.(2009).Repositioning for National Development : Management of Polytechnic Libraries A paper Delivered at the 2nd Heads of Libraries National Workshop,Kaduna State University, Kaduna, 13-15 October.

Kari, U., Selumun, A.& Seember, T.(2016). Introduction to information and Communication Technology In David Aju & Usman Karim (Eds.) *Ground work on the use of Library, Study Skills and Information Communication Technology*. Makurdi: Midan

Longman (2001). *Longman Dictionary of Contemporary English*. UK: Longman

Mngutyo, J.N. (2010) Job satisfaction Among Librarians and Library Officers in Public Libraries: Myth or reality? A Case Study of Benue State Library Board, Makurdi. *Nigerian Journal of Library, Archival and Information Science* 1(10):22-30.

Nwachukwu, O.A. & Mngutyo, J.N. (2013). Acquisition of Library Oriented Software Packages: Challenges and Strategies *African Library Sentinel* 2(1):1-10

Nwachukwu, V.N. (2008).Contemporary Technologies in Libraries. Lecture Note on LIS 816. Department of Library and Information Science, UNN.P.45

Nwachukwu, V.N. (2017). Micro computer Software use & Maintenance, Application and Networked Information System. Lecture Note on LIS 902.Department of Library and Information Science, UNN.

Oketunji, I. (2000). Application of Information Technologies in Nigeria libraries: problems and prospects in being a paper presented at the *10th Biennial conference of national association of library and information science education (NALISE).*

Oketunji, I.(2006).Choice of Library Application Software and Their Sustainability: Necessary Guidelines. *Current trends in information and communication Technology Application To Technical Services: Proceedings of Selected Seminar Papers of the Cataloguing, Classification and Indexing Section of Nigeria Library Association* 48-66

Sambe, M.T., Omeje, C.O. & Onah, E.E.(2013).Library Orientated Software Packages in University Libraries in North Central Nigeria. *African Library Sentinel* 2(1):74-83