



Application of Information and Communication Technology (ICT) in Library Routines in Rivers State University: Challenges and Prospect

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Abstract

*The study examined the Application of ICT in Library Routines: Challenges and Prospect in Rivers State University library using the descriptive survey research design purposive sampling technique was used to select a sample of 16 librarians out of the total population. The instrument used for data collection was a structured questionnaire while simple percentages and frequency tables were used for data analysis. The result of the study revealed that computers are used for library operations and routines especially in the areas of cataloguing and classification, Charging and discharging of information resources, purchasing of information resources, online public access catalogue (OPAC), registration of user, amongst others. The study also revealed that **inadequate funding, lack of qualified staff, inadequate information communication technology infrastructure, erratic power supply, and inadequate support from administration are the major challenges faced by the library. It was recommended that there should be regular training and finance provision, strong institutional support for computer projects and provision of alternative power supply.***

Keywords: Application, Computer, Library Routines, Challenges, Prospect, Academic Library

1.1 Introduction

Libraries before the advent of information communication technology (ICT) had been looking for better ways to improve her services in order to offer equitable services to her clients. With the advent of ICT in the 21st century, libraries have now witnessed tremendous growth in information and the delivery of information services to users due to the capacity of ICT in bringing about effectiveness and efficiency. In the past few decades, the application of computers to library work has become

extremely fast in satisfying the needs of library users. Speed and accuracy have been the most important dimensions. Basically, the use of computer in libraries is not able to eliminate the human factor from the library operations and services. Computer is use as helping tool for library housekeeping jobs and functions. It enhances the workflow of the library which helps in reducing the manual work processes. Therefore, a computer-based information services helps to meet the users' demands (Woodward, 2009 cited in Kumar, 2017).

In academic libraries, the volume of publication continues to grow which creates problems for selection, acquisition, organization and services in academic libraries. On the other hand, it is essential to fulfil the needs of the teaching learning community by collecting, organizing, retrieving and disseminating the information through the creation of bibliographic database of the academic libraries, which cannot be achieved easily without computer application. This is to say that computer has dramatically enhanced the mode of operations and services of the academic libraries. It has been a tremendous improvement in the library services offered by the library to the users. Now in the information era, in order to avoid obsolescence of information, library professionals are applying advanced technologies like the computers to enable its user community to get the right information at the right time. In order to achieve this objective, libraries are automating their services. Many Libraries mainly concentrated on the circulation, reference etc. In some libraries: OPAC's, WebOPAC's, CD-ROM Networks, DTP Office Automation etc (Patel, 2018).

Shukla & Sialia (2015) state that a Computer is a technology that can store every variety of information recorded by people, recall it whenever need arises and can calculate millions of times faster than human brain. Thus, computer can do precisely all the jobs in the library with ease, in that case, it is a system that enables information to be collected, analyzed, processed, stored and disseminated. Similarly, Adebayo, Ahmed & Adeniran (2018) opine that computers are used to perform various library operations and routine such as ordering/acquisition, circulation, cataloguing and classification, desktop publishing, circulation, etc., and an essential management tools which can be used to handle different operations more efficiently. Therefore, the use of computers in

the library is noted with great assets such as speedy information transmission, cost effectiveness and optimal utilization of available resources.

Many academic libraries had, at different times, planned to automate their activities, but had to drop the plans mid-way due to certain inadequacies, which Madu (2002) enumerated to include Economical, Manpower problem, Political instability, Capital, Geographical isolation, Social cultural and Exposure. Consequently, libraries especially those of tertiary institutions have had difficulties in their attempts at achieving full application of computers in the conduct of their operations; thereby failing to benefit maximally from such adoption. The justification of this study lies in the central and critical role that computers playing education generally and library operations in particular this is attested to by Nwizu(2008) when he argued that the use of computer and electronic resources has broken the barriers of time, distance, and locale, which impeded the growth of library operations and services. Similarly, Adeyemi (2004) emphasizes that students use these resources to complete major assignments in academic libraries. This position was supported further that “computers and other electronic resources have the potential for enhancing the operational activities of staff in the library.

1.2 Statement of the Problem

It has been observed that the application of ICT to academic libraries' activities and services in Rivers State seems inadequate probably due to certain variety of factors. Those who are aware of the benefits of computer are not still able to apply it to library routines such as administration, acquisitions, cataloguing and classification, circulation, information retrieval and serials control which would facilitate effective and efficient job performance. This study is aimed at

finding out some common problems affecting computer application and to proffer solutions to those problems in academic libraries. Hence, the study is focused essentially in the central library of Rivers State University, Port Harcourt, Rivers State.

1.3 Objective of the Study

The objective of study is to find out the application of ICT in library routines: challenges and prospect in academic library of Rivers State University specifically, the study seeks to:

1. To determine areas of operations that ICT has been deployed so far in Rivers State University Library
2. To identify other areas of operations ICT can be applied in Rivers State University Library
3. Proffer solution to those problems affecting computer application to library routine in Rivers State University Library

2.1 Review of Related Literature

The “Application of ICT in library operation is often refer to “Library automation” which means the application of computers and utilization of computer-based products and services in the performance of different library operations and functions and providing various services and producing outputs. It implies a high degree of mechanization/computerization of various routines and repetitive tasks to be performed by human beings, thereby reducing human intervention to a great extent (Kemdarne, 2012). However, the application of computers to library operations and services are used to reach all the potential library users without the library staff travelling out of the library. This encompasses the notion of the application of technologies to information handling (generation, storage, processing, and retrieval dissemination). In general terms computer is

the tool and technique used for utilization and gathering of information.

In libraries, several systems have been developed for their various house-keeping chores and more still are being designed and refined, due to the technology of large-scale integration. These are known as microcomputers; designed to handle any of the library processes like acquisitions, cataloguing, serials control, circulation control, bibliographic control, or Selective Dissemination of Information (SDI) (Ogunsola, 2004). Computer is applied to the operation of libraries and information centres to ensure that information delivered is timely, accurate, precise and relevant (Madu, 2002). The concept, Library Automation, thus became popular and of which Ekong, (2005) explained that “in the traditional manual library system, staff perform the various tasks required to complete each operation, but if a computer is used to perform some processing operations, an automated library results”. Bierman (1980) cited in Madu (2002) defined library automation as “the application of computers and associated technology to do exactly what has been done in libraries with the justification of reduced cost and or increased performance. Thus, computer application helps in the acquisitions, organization, storage and dissemination of information in libraries.

Generally, Ebunuwele, Ola & Uduebor, (2014); Khan, (2016); Patel, (2018) & Adebayo, Ahmed Issa, Ayodele, Abubakar, & Aliyu, (2011); Adeniran (2018) and others, identified that computers can be applied to library services and operations in the following areas, which include: Acquisitions, Cataloguing, Classification, Circulation, Serials, Reader's Services and Online Public Access Catalogue. All these, covers the various activities and routine duties of the library and can be summarized as follows:
Acquisition: With the help of web, acquisition work has become very much

simplified. Order placing, duplication checking, price checking etc. are done very effectively using computer technique. Receiving suggestions or demands and placing the order for purchasing library materials have become easy through the online. As publishers and vendors are available through the website, such as Amazon, Flipkart, Infibeam, etc. the quantity of workload has reduced and due to this the time can be saved and make it applicable to the other services. Invoices can be downloaded from the Websites that make service faster and avoids postal delay. E-mail helps in sending reminders to the publishers, vendors and even to the borrowers of the books (Antherjanam & Sheeja, 2008).

Cataloguing: There has always been awareness among librarians that without cataloguing and classification, the goal of making materials and information resources available would have been difficult. The advent and use of computer has made it possible for remote libraries to access the huge databases of big libraries in developed countries for the purpose of adopting or adapting their bibliographic data for their own library use; and indeed the online catalogues have transformed the landscape of cataloguing and classification (Adeleke & Olorunsola, 2010). With the help of Internet and different web-sources, the cataloguing and classification work has been stress-free. The organization like Library of Congress has made the work possible to classify or catalogue a resource in the minimal time. The LC online catalogue is a database of records representing the vast collection of materials held by the Library of Congress.

Classification: With the technological development, the classification work has been possible through online tool. There are many online catalogue records available from where one can get the whole bibliographic record of

the library resources. Along with the record, we can also get the classification number in the catalogue record. British Library catalogue, Trove-National Library of Australia's catalogue, Library of Congress's online catalogue can be used to search the catalogue record and data can be copied for own catalogue preparation. These libraries provide classification details in their catalogue record, but there are also some online resources where library resources/materials can be classified. OCLC classify, LOC classification web and WebDewey are the examples of online classification tools

Circulation System: Circulation procedure in a conventional system is very lengthy and consumes much of staff time in repetitive works. The use of technological devices such as computers, barcode scanners, and its software in circulation helps in performing these routine operations easily and quickly.

Serial Control: Serials or periodicals are the backbone of the library. Automated serials management gives quickest information access about the resources

Therefore, “computer” is important and necessary to handle the vast amount of information and for providing faster, accurate, precise, efficient, and effective information and services as well. The 21st century is the era of computerization, but traditional manual working system still exists among libraries especially in under-developed countries. In the series of development in library world is acclimatized to computer environment in daily routine as well as information storage and retrieval. Computers to a greater extent can reduce pressure of library workload. It also shelters from work stress and fatigue. It not only offers efficient services and opens a new era in bibliographical control but provides access to required database in the country and abroad as well (Rajput & Gautam, 2010).

Explosion of information is a challenging job for modern libraries and librarians. They have to select the relevant information for their users from the newly generated information. In this regard by use of Computer Technology will help the libraries and librarians to cope with the situation and render quality services to its users (Das & Tripathi, 2007). Ossai-Ugbah (2010) opines that ignoring the potentials of computers for learning and service delivering will even lead to institution being less competitive and attractive to prospective students. Some of the cultural functions of academic libraries are changing in the digital age and providing promising opportunities for the acquisition, organization and bibliographic control of the available vast knowledge. It is worthy to note here that the rate at which the computer application process is done however, varies between the developed and developing countries and, from one institution to another (Ezechukwu, & Adewole-Odesi 2018).

Shrama (2007) opines that computer application in academic library has lots benefits which apply to users, the staff and the library in general, these benefits include: enhanced productivity/efficiency, better use of information resources through improved access, improved resource sharing through the virtual catalogue or network, reduced duplication of cataloguing effort, improved use of resources, improved customer services, improved image of the library, accurate production and evaluation of management information, optimized use of human and other resources, and facilitation of the acquisition of new skills and knowledge. In spite of all these benefits, there are bound to be several factors as opposed to the system.

According to Mishra, Thakur & Singh, (2015) challenges of computer application are caused by lack of proper planning, lack of fund/economical resources, lack of resources and technology, lack of

competent and willing manpower, lack of skilled or trained staff /professional, lack of willingness for computer application, inadequate support from administration, and lack of awareness on the benefit of automation. Issa, Ayodele, Abubakar & Aliyu, (2011) agree that the factors include: human factors, fear, and the state of infrastructural development of the country and also few library practitioners also believe that there is hardly much benefits that can be derived from the use of computer thereby giving preferences for the manual library operations, more so those who are aware of its benefits are afraid of being eliminated from their jobs.

Still on the challenges, Khan, (2016) stated that Poor funding of computer infrastructures, Constant change of software and hardware, Erratic power supply, Insufficient bandwidth, Lack of technical IT knowledge by library staff are the major problem of computer application in academic libraries. Ebinuwele *et al*, (2014) summarized the major problems that can face libraries as they become progressively involved with the use of computer as follows: (i). General inadequacy in the level of relevant infrastructure particularly telecommunication facilities and power supply, (ii). A large exploitative computer market and unsatisfactory after sales maintenance and support, (iii). The potential of library staff resistance to the introduction of computer technology, (iv). The potential of the resistance of users and failure to adapt to the use of online information, (v). The data base conversion problems, (vi). Frequent change in technology, (vii). Inadequate relevant technical staff and problems in recruitment and retention. Based on the above challenges, they recommended that the application of computer technology in the libraries will be very bright if there is a strong institutional support for the project and regular finance provisions. Added to this is the contribution of

a committed and dedicated staff who are prepared to work and take instruction. Mairaj & El-Hadi, (2012) suggested that proper training facilities for computer literacy. Workshops, seminars, and continuing education programs for librarians should be arranged on regular basis to enhance their profession on the use of computer and providing an adequate budget for the purchase of computer peripherals. Concerning provision of funds on a regular basis, Issa, etal(2011) are of the opinion that the mandatory 10% of the budgetary allocation of the University set aside for the University Library should be so disbursed and monitored for judicious utilization. If this is realized, the Library Management should make computer application top on its priority list and pursued conscientiously and to a logical and beneficial end. They also added that there should be provision for alternative power supply by having a dedicated generating plant for the library use to offset the adverse effects of

constant power outage that has come to stay in Nigeria. This is especially important because of the total dependence of the computer use on electric power supply.

3.1 Research Methodology

This study is a descriptive survey design and it investigated the application of computer in academic libraries, its challenges and prospects, particularly in Rivers State University Library. The entire population (professional and para-professionals) involved in library routine activities in the Library under study was used for the study, which is a total population of 16 staff. Questionnaire was used as the instrument for data collection. In carrying out the research, 16 questionnaires were personally administered to the staff in their various departments in the library under study and all the instruments administered were returned. The data collected was analyzed using percentages and frequency tables.

4.1 Results and Discussion of Findings

Table 1: Showing areas where ICT is presently being applied in Rivers State University Library

Items	A/%	SA/%	D/%	SD/%	Total
Selection of library resources	6(37.5%)	8(50%)	2(12.5%)	-	16(100%)
Ordering of information resources	2(12.5%)	14(87.5%)	-	-	16(100%)
viewing of publisher catalogue	2(12.5%)	14(87.5%)	-	-	16(100%)
Purchasing of information resources	-	16(100%)	-	-	16(100%)
Payment for information resources	14(87.5%)	2(12.5%)	-	-	16(100%)
Cataloguing /classification of information resources	-	16(100%)	-	-	16(100%)
Charging and discharging of information resources	-	16(100%)	-	-	16(100%)
Keeping of Library information resource statistics	4(25%)	4(25%)	8(50%)	-	16(100%)
Marketing of library and information products and services	2(12.5%)	6(37.5%)	8(50%)	-	16(100%)
Registration of library users	-	16(100%)	-	-	16(100%)
Library Staff/Students daily statistic records	2(12.5%)	2(12.5%)	10(62.5%)	2(12.5%)	16(100%)

Entrance/ exit to the library security devices	-	-	10(62.5%)	6(37.5%)	16(100%)
Fire and smoke detection facilities	-	-	10(62.5%)	6(37.5%)	16(100%)
Communication between library staff	8(50%)	6(37.5%)	2(12.5%)	--	16(100%)
Surveillance of information resources on the shelves	-	-	10(62.5%)	6(37.5%)	16(100%)
Online Public Access Catalogue(OPAC)	-	16(100%)	-	-	16(100%)

The data in Table 1 shows that computers are greatly used for cataloguing/classification, Charging and discharging of information resources, purchasing of information resources, online public access catalogue (OPAC) and registration of user as it was ranked 100% by the respondents. Followed by Ordering of information resources, Payment for information resources, viewing of publisher catalogue which 87% while 50% of

the respondents agreed that computers are applied to perform other activities such as; Keeping of Library information resource statistics, Communication between library staff, Selection of library resources. This result above indicates that the library is not fully automated as the librarians use manual system to support most of the activities mentioned above.

Table 2: Showing areas where ICT can be applied in Rivers State University Library

Items	Yes	No	Total
Entrance/ exit to the library security devices	16(100%)	-	16(100%)
Surveillance of information resources on the shelves	16(100%)	-	16(100%)
Fire and smoke facilities	16(100%)	-	16(100%)
Marketing of library products	10(62.5%)	6(37.5%)	16(100%)
Marketing of library services	14(87.5%)	2(12.5%)	16(100%)
Accessioning of information resources	10(62.5%)	6(37.5%)	16(100%)
Networking among library staff to share resources	14(87.5%)	2(12.5%)	16(100%)
Indexing and abstracting services	14(87.5%)	2(12.5%)	16(100%)
Preparation of cadex cards for processing of serials	16(100%)	-	16(100%)
Selective dissemination of Information	16(100%)	-	16(100%)
Keeping statistics in the library	12(75%)	4(25%)	16(100%)
Shelve reading	16(100%)	-	16(100%)
Current awareness services	16(100%)	-	16(100%)

Find from Table 2 above indicate that most of the respondents are not aware of the library services presented in the table. This shows that the library under study do not fully offer

the ICT services as presented or the services are not available in the library.

Table 3: The Challenges Affecting the Use Computer in Rivers State University Library

Items	A/%	SA/%	D/%	SD/%	Total
Inadequate funding	-	16(100%)	-	-	16(100%)
lack of proper planning	6(37.5%)	10(62.5%)	-	-	16(100%)
Frequent change in technology	4(25%)	8(50%)	2(12.5%)	2(12.5%)	16(100%)
Ignorance on the benefits of computer application	8(50%)	10(62.5%)	-	-	16(100%)
lack of skilled or trained staff /professional	2(12.5%)	14(87.5%)	-	-	16(100%)
Erratic power supply	-	16(100%)	-	-	16(100%)
Insufficient bandwidth	4(25%)	10(62.5%)	2(12.5%)	-	16(100%)
Lack of Manpower	8(50%)	2(12.5%)	4(25%)	2(12.5%)	16(100%)
inadequate support from administration	-	16(100%)	-	-	16(100%)
Fear of being eliminated from jobs	4(25%)	2(12.5%)	8(50%)	2(12.5%)	16(100%)

Data in Table 3 indicate that the respondents strongly accepted that inadequate funding, erratic power supply, and inadequate support from administration are their major challenges as represented by 100%, these has always been the major challenges in academic libraries as corroborated with an earlier study by Khan, (2016) and Issa, et

al.(201-71). Other problems include lack of skilled or trained staff /professional which is 87.5%, followed by lack of proper planning, Ignorance on the benefits of computer application, insufficient bandwidth as represented by 62.5% and Lack of willing manpower which has 50% representation.

Table 4 : Solution to the Problems Affecting Computer Application to Library Routine in Rivers State University Library

Items	A/%	SA%	D%	SD%	Total
strong institutional support for the project	-	16(100%)	-	-	16(100%)
regular finance provisions	-	16(100%)	-	-	16(100%)
proper training of staff on computer literacy	8(50%)	8(50%)	-	-	16(100%)
provision for alternative power supply	-	16(100%)	-	-	16(100%)
sufficient bandwidth	4(25%)	8(50%)	4(25%)	-	16(100%)
Creating awareness on the benefits of computer application	6(37.5%)	10(62.5%)	-	-	16(100%)
Dedicated Manpower	-	16(100%)	-	-	16(100%)

Solution to the Problems Affecting Computer Application to Library Routine in Rivers State University Library

The result in Table 4 shows that, Rivers State University Library needs strong institutional support for library projects, regular finance provisions, provision for alternative power

supply and dedicated manpower as represented by 100% of the respondents to enable the library fully automate her services. This is in line with a study carried out by Mairaj and El-Hadi, (2012) who recommended in their study that the application of computer in academic libraries

will be very bright if there is a strong institutional support for the project and regular finance provisions and they lamented that fund is a very important factor and must be provided on a regular/yearly basis. The finding also corroborated with Issa, et al. (2011) who also added that provision of alternative power supply by having a dedicated generating plant for the academic library will go a long way in sustaining the library. Other solutions to the problem include creating awareness on the benefits of computer application to help reduce the fear among workers which has 62.5 %, proper training of staff on computer literacy and enough bandwidth as represented with 50% respectively.

Conclusion and Recommendations

Based on the findings of this study, it was concluded that the application of computer technologies have facilitated the library operations and routines especially in the areas of cataloguing/classification, Charging and discharging of information resources, purchasing of information resources, online public access catalogue (OPAC), registration of user, Ordering of information resources, Payment for information resources, viewing of publisher catalogue, etc; The challenges to computer application in academic libraries if not properly handled, will reduce their potentials to achieve the goals and objectives of their parent institutions especially through the provision of current and relevant information resources that are necessary to sustain their learning, teaching, research, community services and functions.

Therefore, the study thus recommends that:

1. The application of computer technology in the libraries will be very bright if there is a strong institutional support for the project.

2. The Ministry of Education and university management should increase their budget to academic libraries and ensure a regular finance provision to enable them to provide and maintain the computer facilities.
3. There should be provision for alternative power supply by having a dedicated generating plant for the library in other to tackle the adverse effect of constant power outage.
4. There should training of staff to become computer literate, through workshops, seminars, and continuing education programs.

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