

# Use of Information and Communication Technologies (ICTs) and Professional output of Librarians in Nigeria: Issues, Challenges and Imperatives

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## Abstract

**Purpose:** The aim of this paper is to examine the use of information communication technologies and professional output of librarians in Nigeria. This is necessitated by the fact that information communication technologies have become the driving factor in the provision of quality service to the library patrons.

**Design/ Methodology/ Approach:** The survey design was used. Six research questions were promulgated. The population included two hundred and one (201) academic librarians and Information Professionals in Nigeria that attended the 2008 Nigerian Library Association Conference in Kaduna, Kaduna State. In addition to the structured questionnaire, a semi-structured interview schedule was used to elicit information from heads of libraries and their deputies.

**Findings:** The paper revealed that librarians are generally comfortable with the use of basic ICT's , particularly software that are only tangential to their professional output such as Microsoft word and power point and can also use the internet effectively.

**Practical Implications:** To breach the social divide between librarians in developed economies and librarians in Nigeria, there is need for training of staff in critical areas tangential to their jobs so that librarians in Nigeria would work in comparable conditions as their counterparts abroad thereby reducing the incessant brain drain experienced in the country.

**Originality/Value:** The value of this paper lies in its identification of the strategies by which the use of ICTs can be enhanced in Nigeria, such as increase of bandwidth, libraries having their own Internet Service Provider (ISP) , computing centers, alternative power supply and constant training and update through workshop and other capacity building programmes.

**Keywords:** Authorship, Book-chain, Education, Literacy, National Development, Nigeria, and Publishing.

**Paper Type:** Empirical

## Introduction:

The increasing complexities of contemporary educational systems as well as socio-political and economic demands have made the use of information communication technology (ICT) very imperative. Today, librarians are confronted with challenges to do more with smaller resources as they try to meet the complex and ever-changing demands of an array of new kinds of library users. Librarians have discovered that the traditional methods and skills for managing information resources and transmitting information are inadequate for meeting the challenges and demands made on their profession. In order to achieve the highest quality service in the library and information

profession, librarians must be versatile in the use of information communication technology (ICT). This will encourage diversity and build a foundation for continuous innovative learning. Librarians are encouraged to reinterpret traditional library skills, to explore new ways of putting those skills to work. Librarians and information professionals presently operate within a professional climate that is characterized by change. This change has been brought about by fast-paced technological change. Library and information professionals need to retool and reskill in order to align with these new technologies. The major challenge facing LIS professionals is the need to maintain professional skills, increase skills knowledge base and develop new competencies. The advent of Internet has drastically changed the

needs of the information society. This no doubt, has also affected the way work is performed by professionals. This also has necessitated the need for the acquisition of a broad range of skills necessary to function in an electronic environment. The LIS professionals are therefore expected to leave their comfort zone and make a paradigm shift which inevitably will change the whole organizational culture.

Information communication technology can be defined as the convergence of multi-media facilities for the purpose of acquiring, recording, storing, retrieving and transferring knowledge. It is in fact a synergy of machines, audio and visual technology that facilitate information processing and communication effectiveness Economic and Social Commission for Art and the Public (ESCAP 2000). Also( Ige 2002) defined ICT as a term encompassing the notion of the application of technology to information handling. (Olakunle 2007) defined ICT as the range of technology that is applied in the process of collecting, storing, editing, retrieving and transferring information in various forms. This implies the use of a broad range of technological equipment such as computers, MP3//MP4/WMA storage devices, file transfer protocols, list serve, satellites, world-wide-web, videos, CD-Rom, floppy disks, flash drives etc to mention a few. (Owen 2003) submitted that ICT is the backbone of the knowledge of the economy and in recent years has been recognized as an effective tool for promoting education, economic growth and sustainable development.

Studies of ICT use in Africa are replete. Scholars have made their varied contributions to the growing discourse of ICT use by library and Information science professionals. (Chifwepa 2003) in his study, opined that library patrons who do not use the Internet cited lack of guidance on how to use the Internet and lack of technical know-how. Library professionals would have to have these skills to be able to educate their patrons. Chifwepa therefore recommends the up scaling of the technical know-how of staff in order to be able to give meaningful guidance to users.

In a study conducted by (Steimueller 2001) cited in (Ashcroft and Watts 2005) the author opines that many ICT users particularly in Africa are usually self-taught and usually develop an understanding of the use of ICTs through the

experience of utilizing them. The import of this is that countries unable to provide extensive access of ICTs are usually marginalized, as they are less likely to produce capable self-taught persons. This is in fact the major problem facing many African countries—the ability to provide ICT access to its populace. This undoubtedly has cascaded to the LIS profession making it difficult for staff to learn to use these ICTs through practice.

In a related study by (Chisenga 2004) the researcher encapsulates the barriers to the effective provision and use of ICTs in public libraries in Africa thus: (1) lack of adequate or reliable funding (2) lack of strategic planning (3) lack of use of the Internet to provide information services to users and a lack of consistent training for library users in new ICT services.

(Ondari-Okenwa 2004), in his survey of 46 Sub-Saharan countries discovered the impediments to providing access to ‘global knowledge’ as unreliable electricity supply, high cost of ICTs and these posed significant barriers to accessing online information.

(Norris 2001) quoted in (Ashcroft and Watts 2005) elucidates 3 types of digital divide (1) social (within countries) global (between countries) and democratic (those unable to use ICTs to take part in public life). Norris observed that the social digital divide has an impact upon information professionals in developed environments with many libraries lacking resources and technical support, and staff struggling continuously to acquire appropriate training in order to deliver up-to-date services and troubleshooting equipment. (Ashcroft and Watts 2005) in discussing global digital divide opines that one in 100 people have access to a personal computer in Africa, the few Internet service providers are comparatively expensive and power supplies may either be non-existent or unreliable. Part of the problems relating to Internet use in Africa is the exorbitant cost of Bandwidth. There is evidence through research that rates are usually ten times higher in Africa than they are in North America and Europe (The partnership for higher education in Africa 1996:22).

In Nigeria, (Mbawonku and Okwilagwe 2004) surveyed lecturers’ use of information technology in Nigerian library and information science schools. The study found that in library

schools in Nigeria, that there were inadequate computers for staff use and Internet access was seriously impaired. Only few departments had computer laboratories manned by systems support staff. In addition, many lecturers lacked ICT skills as more than half of the respondents had no skill in word processing package while 67% had never done CD search and 70% had not done Internet access or download for academic purpose. The major inhibitors the researchers discovered to the use of information technology were infrastructures, irregular electricity supply, non-availability of equipment, materials and software and no alternative source of electricity.

There is no recent study that has deals with the use of ICTs by LIS practitioners in Nigeria. This is a gap which this work aims to bridge. This work therefore, is an empirical attempt to ascertain the extent of use of ICTs by librarians with a view to documenting the emerging issues, challenges and imperatives associated with such use. The researchers believe that the findings of this study, the suggestions and recommendations will not just contribute to the literature in this area but will also bring the library and information profession into a closer union with information communication technologies (ICTs).

### **Statement of the Problem**

The 21<sup>st</sup> century has brought a series of revolutionary changes with regard to the processing, storage, dissemination and distribution of information. This therefore, has brought rapid changes in libraries all over the world. In addition, the ease of communication initiated by the Internet has brought great changes in the way information is harnessed and disseminated. Information which before now would have taken hours to access is done presently with a click of the mouse. Our clients' information seeking behaviour has also changed over the last couple of years because of the emergence of ICTs, necessitating that librarians would need a paradigm shift in their method of information delivery. However, librarians have to be adept at using these technologies to be able to use them for both education and proper information delivery to patrons. This work is aimed at contributing to the growing discourse in this area, by studying the use of ICTs and professional output of librarians in Nigeria with a view to ascertaining the present status of the use of ICTs in fulfilling their professional duties; the encumbrances to ICT use in Nigeria by

librarians and to proffer strategies for the improvement of ICT use by librarians in Nigeria.

To carry out this investigation the following research questions guided the study.

1. What is the level of proficiency of librarians in Nigeria in the use of ICTs?
2. What are the different ICTs used in the workplace by librarians in Nigeria?
3. What do librarians use the Internet for?
4. What ways have ICTs enhanced professional output in the library?
5. What are the constraints to the use of ICTs in libraries in Nigeria?
6. What are the strategies by which the use of ICTs can be enhanced in Nigerian libraries?

### **Research methodology**

The research design used was a survey. The population included all academic library and information professional in Nigeria who attended the 2008 Nigerian Library Association conference in Kaduna, Kaduna State. The nominal list of practicing librarians in Nigeria (2008) published a total of five hundred and forty- eight qualified librarians. However, this list included librarians in other types of libraries. A further filtering of the list gave a total of two hundred and fifty five academic librarians. This published list is by no means exhaustive as many librarians in the list have since retired and many also have been recently employed.

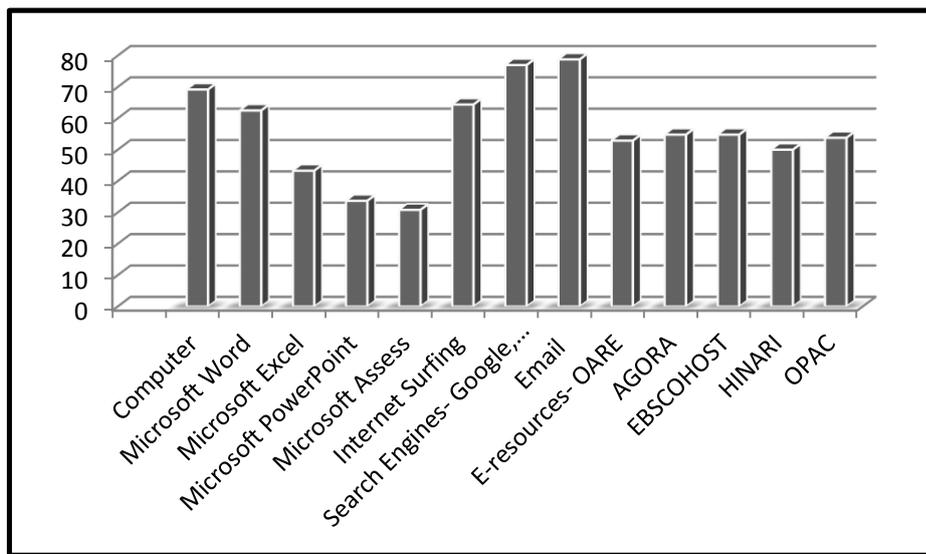
However, the list provided a rough estimate of the population to be sampled. The researchers deemed it fit to sample two hundred and one (201) registered academic librarians who participated in the 2008 conference as this was adjudged one of those gatherings where more than eighty percent of the respondents would be sampled. This is because prior to the workshop questionnaires were sent twice to institutions without much response. Purposive sampling technique was therefore used to sample only the academic librarians as the researchers felt that these target respondents would provide answers to the questions posed. Again, the work targeted only academic librarians.

A structured questionnaire was used to elicit responses from the respondents. In addition a semi-structured interview schedule was used to further elicit information from major stake holders of the library and information

professionals such as heads of libraries and some deputies of academic libraries in Nigeria. Responses from the scheduled interview helped to authenticate some of the findings from the instrument. The questionnaires were administered to the respondents and collected back immediately to ensure high return rate. In spite of this effort, it was discovered that only a hundred and four (52%) responses were useable. Even though the response rate is seen to be relatively small, the consensus in survey research by Babbie and Mouton (2001) quoted in Ngulube and Mngadi (2009) is that a response rate of 50% was considered adequate for

analysis. Both descriptive and inferential statistical methods were used in data analysis. Specifically Percentages, frequencies, tables and graphs were used to collate, analyze and present data. A four point Likert scale of Strongly Agree, Agree, Disagree and Strongly Disagree was used to elicit responses. A criterion mean (a mid-point mean score) of 2.50 was adopted. Any mean ranking 2.50 and above was regarded as positive while anything below 2.50 was treated as negative. The figures below were used to address the six research questions posed earlier in the paper.

**Level of ICT: Proficiency in the Use of ICT**

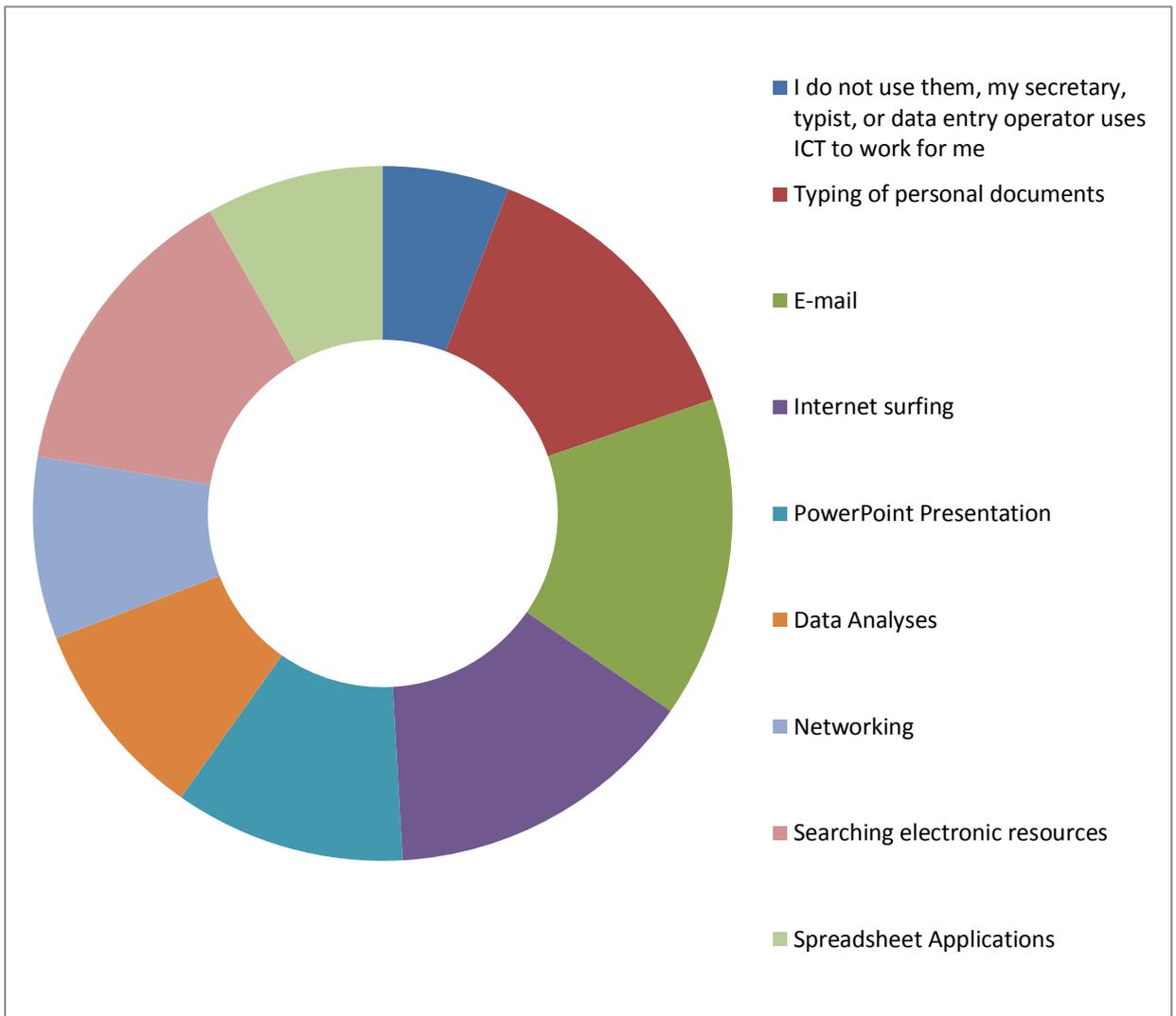


**Figure1: Level of ICT literacy of librarians.**

The first research question dealt with the level of proficiency of librarians in the use of ICTs. The above figure shows the level of ICT literacy of librarians in Nigeria. Librarians can not use all the Microsoft applications effectively. They are adept at using Microsoft word (62.5%) and can surf the Internet (64%) and e-mail and use several search engines. However, other packages within Microsoft office are not effectively used by librarians. This can be adduced to the kind of applications they use in their work places. Microsoft word is the popular application used

for formal communication whilst the Internet is tangential to the work of Librarians as they use it to surf for materials for patrons and own use. These findings are in line with (Ezeji and Mole 2010) who opined that people often have a comfort level with the applications they use often. In their study on the extent of use of computers by undergraduate students in two universities in Nigeria they observed that there is a correlation between the use of computers and the level of academic work they are expected to perform.

**Use of ICT in the Workplace**

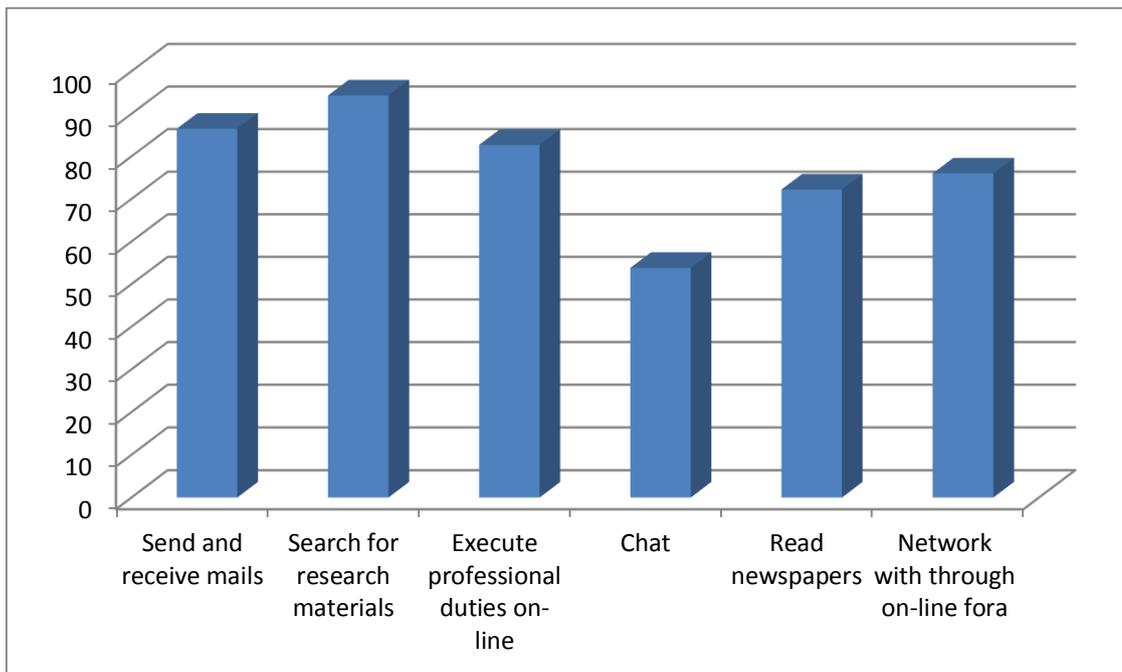


**Figure 2: Use of ICT in the Workplace by Nigerian Librarians**

The figure above addresses research question two sought to ascertain the different ICTs used in the workplace by Librarians in Nigeria. The figure shows that in the workplace librarians are mostly constrained to use ICTs. Most librarians as can be seen from the graph can type their personal documents (80.8%) e-mail (87.5%) can

surf the Internet (84.6%), search electronic resources (82.7%). However, for using spreadsheet applications (48.1%) and Networking in the web (49.6) librarians did not fare very well. This might be because these applications are not tangential to their job and can be done without.

### Use of Internet

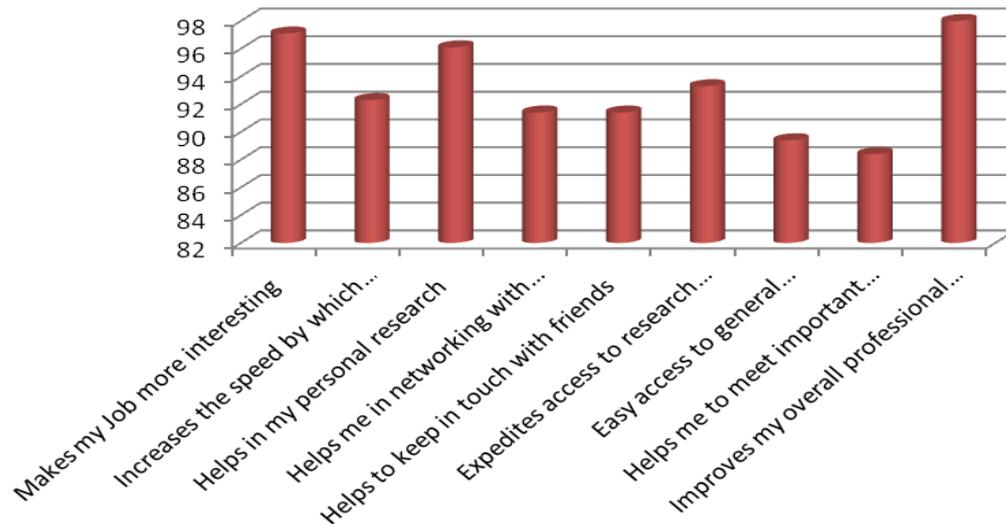


**Figure 3: Use of Internet Services by Librarians in Nigeria.**

The Figure above deals with the third research question which examined the different uses of the Internet by Librarians in Nigeria. The figure shows that librarians put the Internet to a lot of uses, such as sending and receiving mails, using the Internet to search for research materials, execute professional duties on-line, chat, read newspapers online and network with professional colleagues through online fora. It is pertinent to observe that networking which previously in figure 2 scored low had a higher score in this table. This might be attributed to the manner in which the question was posed initially. In this section the question was more specific, in addition librarians in Nigeria have an

online forum where professional issues are discussed. Many Nigerian librarians belong to this newsgroup. This ostensibly supports (Adekunle, Omoba & Tella 2007) study on the attitude of librarians in selected Nigerian Universities toward the use of ICT. Their results affirm this finding that librarians have a positive attitude towards the use and implementation of ICTs in Nigeria. The reasons the authors adduced for this positive attitude is the understanding of the benefits of ICTs. It would be acceptable to suggest that much as the Nigerian librarians are enthused about the use of ICT they still lag behind when compared with their western counterparts.

**Perceived benefits of ICT**

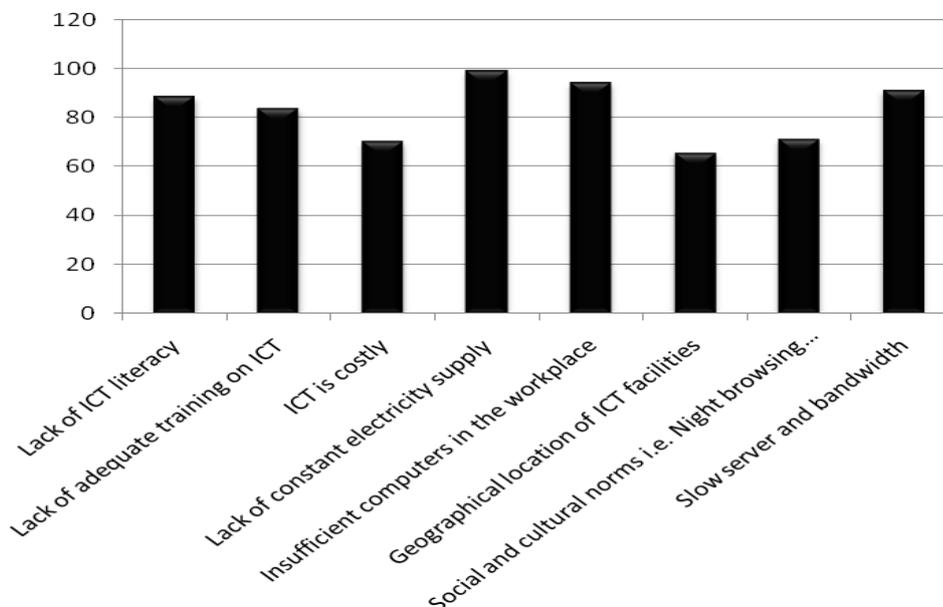


**Figure 4: Perceived Benefits of Use of ICTs in the workplace by Librarians**

The responses in figure 4 align with research question 4 of this article and show positive scores for questions posed about the perceived benefit of the use of ICT in the workplace. Librarians agreed that ICT makes their job more interesting, increases the speed by which they perform their professional duties, helps them in personal research which undoubtedly helps

professional growth as academic librarians have to publish in order to earn promotion. ICT also helps them in networking and keeping abreast with professional issues, helps in providing access to newspapers for general reading. ICT in addition, helps librarians meet important deadlines and consequently helps in improving their overall professional output.

**Constraints to the Use of ICT**



**Figure 5: Constraints to the use of ICT by academic Librarians**

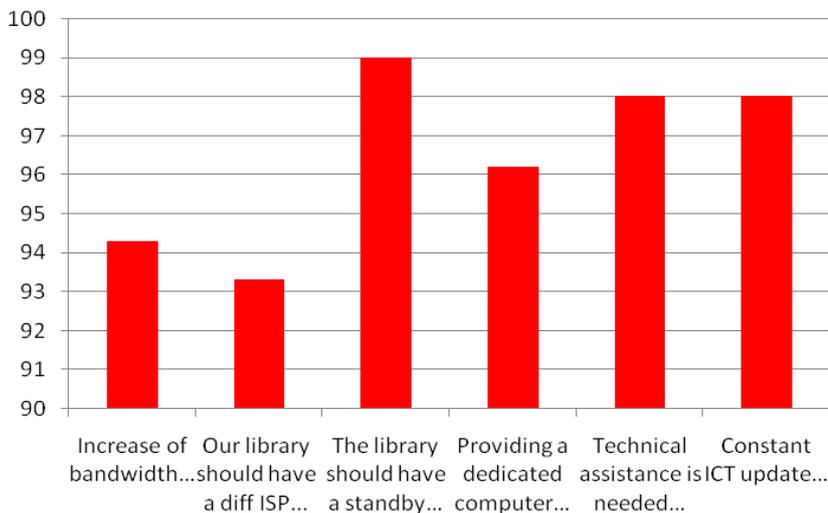
Figure 5 above dealt with research question 5. Ostensibly, Librarians in Nigeria, have delineated the following as encumbering the effective use of ICT in Nigeria. These are lack of ICT literacy, lack of adequate training on ICT;

the costly nature of ICT in Nigeria; lack of constant electricity supply; insufficient computers in the workplace; slow server arising from the use of small bandwidth. These are crucial problems facing the effective use of ICT

in Nigeria. These findings corroborate the findings of (Islam & Islam 2007) who Identified similar problems in the findings of their survey. They opined that even though Bangladesh adopted information technologies in 1964 that

ICT is still at its infancy in Bangladesh because of the problems they identified such as lack of financial support, lack of ICT resources, lack of infrastructure and absence of local resources to leverage ICT.

**Possible ways through which ICT can be improved**



**Figure 6: Strategies for enhancing the use of ICTs by Librarians**

Finally, in figure 6 above which dealt with the last research question on strategies by which the use of ICTs can be enhanced, librarians have presented a blue print for enhancing the use of ICTs in Nigeria. These are suggestions arising from the constraints mentioned earlier. First is the need to increase bandwidth which will cascade into increased speed of servers, most libraries in Nigeria are usually tied to the computing centre of their universities in ICT related issues as a result most do not have their own Internet Service Provider(ISP) and consequently, can not have any say in the status of their bandwidth. Librarians are proposing that libraries should have their own ISPs. In addition, to curb the problem of incessant power interruption, libraries should have alternative power supply through own generators. More computers should be provided for librarians and technical assistance provided for trouble shooting of these computers. Finally constant training and update should be ensured through workshops and different capacity building programmes.

**Conclusions**

The results of this study have shown that librarians in Nigeria fare well with regard to ICTs. Most of them can use some of the basic applications needed in their workplaces quite

effectively. However, there is a critical need for more input to be made in this area, since librarians are generally known to be custodians of information. Librarians according to (Chifwepa 2003) need these critical skills in order to be able to educate their patrons. Lack of adequate provision of computers in the workplace hampers its use. Librarians are supposed to have dedicated computers in their places of work as can be found in some countries but this is still elusive in Nigeria. (Steimueller 2001) cited in (Aschcroft and Watts 2005) that in Africa most ICT users are self taught and use ICTs effectively by constantly utilizing them, but one needs to have a dedicated system to be able to maximize its use and learn by working on it. It does not suffice to provide computers but it is also imperative that these systems be fully equipped with different soft wares and made Internet ready so that they can be put to multiple uses. Training of librarians can never be over flogged.

Librarians need to be trained in different applications and also troubleshooting so as to be able to constantly maintain hardware and software. Libraries are supposed to have a corp of technical manpower emanating from the library staff. The issue of training for librarians has been widely reported in library literature. (Rahman, Uddin & Akhter 2005), Islam & Islam

2007) (Ezeji & Mole 2010) have all suggested that training is crucial for librarians in developing economies. For librarians in developing countries to be able to leap frog and meet up with the needs of the teeming population of their clientele Training is critical. (Ondari-Okenwa 2004) went further to summarize the problems experienced by African librarians as lack of electricity supply, high cost of ICTs. These have all been mentioned as problems. In developing economies electricity supply is a major problem. Power supply is at best epileptic and no serious library can function without electricity. The cost of providing ICTs in Nigeria as with other African countries is very exorbitant as already noted by (partnership for higher education in Africa 2006) bandwidth rates are usually higher in Africa than they are in developed countries and because of this many academic libraries work with very limited bandwidth which makes their servers slow and also most times there is Internet down time as a result of the slow server. This impedes the services rendered by librarians.

### Recommendations

From all that has been discussed some very valid recommendations are hereby promulgated. First, to breach the social digital divide between librarians in developed economies and librarians in Nigeria, there is a need for training of staff in critical areas tangential to their jobs and also a need for constant training update. There is a need for the Federal government to apportion more resources to tertiary education in Nigeria. This will cascade into the provision of more computers and general ICT infrastructure in most academic libraries. Thereby ensuring that librarians have a dedicated computer system that is Internet ready and has all the necessary software applications needed for optimum performance of professional duties. To be able to curb the persistent epileptic supply of electricity, libraries should work towards an alternative energy source. This could come through solar energy or generating sets. The library schools in Nigeria should take the issue of training of librarians in the use of ICTs very seriously. Practical hands on sections should be mandatory and students should be made to graduate with critical skills needed to discharge their duties as professionals. Nigeria should also make a long term plan for the evolvement, development and growth of ICT in the country. An ICT policy which hitherto has been lacking in the country should be adequately crafted, for

the deployment of ICT in the country. With all the suggestions delimited in this section it is hoped that when effected librarians in Nigeria would work in comparable conditions as their counterparts abroad thereby reducing the incessant brain drain experienced in the country.

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