

## Overcoming Challenges to Digital Technology in Nigerian Polytechnic Libraries

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### ABSTRACT

The paper discusses the impact of digital technology and role of libraries in the age of knowledge and information societies. It also highlights the problems faced by the polytechnic libraries in Nigeria in implementation of digital technology. This paper is based on primary sources of analysed questionnaire and observation, the findings shows that while polytechnic libraries are already advanced in the implementation of digital technology, their sustenance is still faced with some challenges that are either common or peculiar to them. This paper concludes with some specific suggestions to overcome the challenges, such as creation of back-ups for electronic resources in form of “change media” which involves printing out digital materials and preserving the hard copy or storage in external hard disk, among others.

**Keywords:** Digital Technology, polytechnic libraries, electronic resources.

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### 1. INTRODUCTION

Digital Technologies are used for accessing, processing, gathering, manipulating and presenting or communicating information. The application of modern Digital Technology in the academic libraries is providing the library professional with new opportunities to improve their sources and services. In addition to print, information is now published electronically, making it accessible to users according to their demands. It is important to assess the Digital technology applications in library and information centres in the context of changing user needs. The world is undergoing a transition from paper economy to digital economy. Library automation is no more a new concept in Nigeria, but the situation is still not levelled with developed nations. The prime objective of the study is to explore the status of implementation of digital technology in selected polytechnic libraries of different status. More specifically the objectives of the study are to take a look at the employment of digital technology in Polytechnic Libraries, identify specific problems related to implementation of digital technology in academic libraries of Nigeria and make suggestions for ameliorating the problems.

The Internet and its technology continued to have profound effects on the promotion of information sharing; especially in the academic world, making possible rapid transactions among businesses and supporting global collaboration among individuals and organizations. These technologies have the potentials to develop “virtual campuses” and “virtual libraries” thus, increasing students’ access and participation (Ogunsola, 2004). Consequently, libraries can be transformed into a new information services unit, providing electronic cataloguing (OPAC), electronics acquisition/serials control, electronic interlibrary loan and calculation functions. Nigerian academic libraries should not be left out of this global educational revolution.

Dhanavandan, Esmail and Nagarajan (2011) posited that the establishment of ICT infrastructure facilities in college libraries “can improve the efficiency of information support, the information retrieval and quality of education also”. Ekong (2005) pointed out that both the Federal Government of Nigeria and International funding agencies are now interested in the general development of IT in Nigerian universities. He also noted that, the Federal Ministry of Education embarked on the establishment of the National Virtual (Digital) Library Project, to provide, in an equitable and cost-effective manner, enhanced access to national and international library and information resources and to share locally available resources with libraries all over the world using digital technology; among other objectives. Digital libraries have global reach through international networks, such as the Internet.

Digital libraries have the potential to supplant many of the services provided by traditional libraries, and also extend them. It can improve and promote information-related activities.(Ojedokun, 2000), enable users to access a single electronic copy simultaneously from many locations; copies can also be delivered with high speed, saving time, and reducing the need for proximity to information resources. Digital libraries offer solution to problems of storage and maintenance costs; great user satisfaction; offer several ways in which libraries can improve services, while reducing cost; provide instantaneous access to online information; offer all time everywhere access to information, so long as requisite access infrastructure is in place and obviates deterioration associated with print media. In theory, Digital Librariess provide seamless (i.e. easy connectivity) access to electronic resources.

However, there are constraints related to technology that may hinder access to such libraries. 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. Salma Khan and J. Dominic (2009) while analyzing the patterns of internet use, the internet skills of professionals, the perceived impact of the internet on their academic efficiency and problems faced by them in using the Internet among Engineering colleges of Moradabad, Uttar Pradesh, found that the use of conventional document is decreasing and dependency on internet is increasing. Sampath Kumar and Biradar (2010) observe the use of information communication technology in 31 college libraries in Karnataka, India by analyzing the ICT infrastructure, status of library automation, barriers to implementation of library automation and librarians' attitudes towards the use of ICT.

The survey carried out using questionnaire, observation and informal interview with selected college librarians show that lack of budget, lack of manpower, lack of skilled staff and lack of training are the main constraints for not automating library activities. Even though library professionals have shown a positive attitude towards the use of ICT applications and library automation, majority expressed the need for appropriate training to make use of ICT tools. Mohamed Haneefa and Shukoor (2010) observe the Information and Communication Technology (ICT) literacy among the library professionals. The study found that majority of the professionals need training or orientation in library automation, digital library and institutional repository software. Waigado (2006) cited in Yacob (2011) submitted that power unreliability, management attitude and poor ICT skills of the librarians; inadequate computerization, infrastructure and human capacity, are the major challenges towards ICT use.

Through researches carried out in Nigeria, India and South Africa, it is obvious that academic libraries have joined the digital library train but with challenges that are common to Africa of which Nigerian polytechnic libraries are not left out. Obajemu and Ibegwam (2006) pointed out that libraries in Nigeria are still on the race to make their services totally ICT-based. Omekwu (2006) observes that Nigerian libraries generally lack functional Web access, and do not have home pages. Some institutions have an institutional website, but the library has no presence there. The websites of such institutions are being used for only admission purposes. A library homepage should be a component of an institution's website. Libraries must upload their bibliographic records to become part of global resources and should also be able to download information. As none of the institution's libraries have a web presence, they do not exist in the virtual environment.

Etebu (2010) opined that without vast array of Internet facilities, librarians will not be helpful to their clientele. It is only when they are skilled in the use of the Internet that they can teach other library users to navigate the World Wide Web. Fagbe, et al. (2015) in their study on the role of information technology in the academic libraries found the constraints to effective information technology availability and application in academic library to include: Lack of trained Information Technology (IT) Manpower; People's negative attitude to change in technology; Encountering technical problems in the course of usage; The conversion of analogue information into digital format and its storage capacity place a high demand on the bandwidth of the University; Crashing of a computer due to virus, malware, hackers etc. which can have a large negative effect of loss of data and exposure of information to non-users; Availability of funds and Maintenance Culture.

Muhhammad and Widad (2004) identified lack of cooperation from higher authorities and insufficient budget as the most significant problems hindering effective computerization of libraries. Inadequate Finance, Lack of effective planning for Digital technology activities, inadequate Management support, Lack of IT trained staff, Lack of willingness of staff, Lack of consultancy service for Digital technology, Lack of well accepted standard of Library Management Software, Inadequate Hardware, Lack of Training facility, Delay in retrospective conversion of documents, Delay in bar-coding of documents, Lack of policy for periodical evaluation and Lack of upgrading of basic infrastructure.

The objective of this study is to take a look at the implementation of the concept of digital libraries in two Nigerian polytechnics and to find out how far the problems that have been so associated with digital libraries still persist in polytechnic libraries, and to make suggestions as to how to ameliorate them. The study employed the use of questionnaire and observation. The main question of interest was: What are the challenges to the implementation of Digital technologies in your library? Coined as: The table below shows a list of identified challenges to the implementation of digital technologies in academic libraries, which ones are still true of your library? If still True, tick 'Agree' but if Untrue, tick 'Disagree'.

**Table 1: List of identified challenges to the implementation of digital technologies in academic libraries,**

CHALLENGES TO DIGITAL TECHNOLOGIES	LIBRARIES	
	FedPolyllaro	MAPOLY
Inadequate Finance	AGREE	AGREED
Lack of effective planning for Digital technology activities	AGREE	AGREED
Inadequate Management support	AGREE	AGREED
Lack of consultancy service for Digital technology	AGREE	AGREED
Inadequate Hardware	AGREE	AGREED
Lack of Training facility	AGREE	AGREED
Delay in bar-coding of documents	AGREE	AGREED
Erratic power supply	AGREE	AGREED
Low priority to Digital technology	AGREE	AGREED
Frequent change in Information Technology	AGREE	AGREED
Loss of electronic records	AGREE	DISAGREE
Lack of IT trained staff	AGREE	DISAGREE
Lack of willingness of staff	DISAGREE	DISAGREE
Delay in retrospective conversion of documents	DISAGREE	DISAGREE
Lack of upgrading of basic infrastructure	DISAGREE	DISAGREE
Lack of policy for periodical evaluation	AGREE	DISAGREE
Lack of awareness/hesitation in users of Digital technology	DISAGREE	DISAGREE
Lack of control over Library Staff	DISAGREE	DISAGREE
Lack of Motivation to staff	AGREE	DISAGREE

The Table above shows that 6(31.6%) out of the nineteen challenges highlighted no more exist in the two libraries, as they disagreed with challenges numbers 12-15 and 17 & 18; 3(15.8%) so that while FPI agreed, Mapoly disagreed to challenges number 11, 16 and 19; 10(52.6%) still remain as challenges common to both as they both agreed on the challenges numbered 1-10. The findings of this study therefore reveals that Polytechnic libraries which have implemented digital technology have recorded substantial progress with the overcoming of some previously highlighted challenges while challenges such as Loss of electronic records, Lack of policy for periodical evaluation and Lack of Motivation to staff, may be peculiar some polytechnic libraries. The findings also reveal that some challenges still persist in Polytechnic libraries which include: Inadequate Finance, Lack of effective planning for Digital technology activities, Inadequate Management support, Lack of consultancy service for Digital technology, Inadequate Hardware, Lack of Training facility, Delay in bar-coding of documents, Erratic power supply, Low priority to Digital technology and Frequent change in Information Technology.

## 2. SUGGESTIONS TO OVERCOME THE CHALLENGES

The followings are suggested as ways by which the challenges facing the implementation of digital technologies in libraries can be addressed:

- Adequate funds should be provided to libraries for their development and functioning and it should be utilized properly.
- To overcome the problem of financial crisis in the cost of Digital resources, Librarians or Information managers should form consortia in order to share the cost of provision and access to library and information resources.
- The school management should invest more on the acquisition of computers and other new electronic resources and computerized tools.
- The management should imbibe the culture of manpower development programme on Digital technology regularly for workforce. E-resources training/awareness programme may be organized from time to time by the concerned authority.
- The emphasis should be given to the accessibility and subscription of electronic information resources, locally relevant digitized information resources, as well as free web based information items by libraries.
- The management committee should take steps to take help/assistance from the UGC for the successful implementation of modern technology.
- 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. This is especially important because of the total dependence of digital technology on electric power supply.
- The parent body must have to co-operate with the library authorities and have to give them some specific fund for building and increasing digital information reserves.
- The Practical digital resource management course should be integrated in the LIS curriculum so that the upcoming library professionals gain some practical knowledge to handle and manage digital resources.
- The libraries must have to develop a collection development policy for digital resources. Specific criteria for adding and cancelling e-resources should be developed.
- Lots of efforts has to be made to set up networks at local, regional and national level to deploy digital technologies and to build electronic information sources. These networks should engage in creating various databases of experts, providing training to library staff, , assistance in retrospective conversion etc.
- To help prevent loss of digital materials, there should be back-ups in form of “ change media” which involves printing out digital materials and preserving the hard copy or storage in external hard disk; other strategies could include technology preservation which involves preserving the technology that was used to create the digital material, and migration which is a means of overcoming technological obsolescence by transferring digital resources from one hardware /software generation to the next.

### 3. CONCLUSION

In conclusion, the digital movement has already taken off in Nigerian polytechnic libraries and the future is bright with the findings that libraries have overcome some known challenges. However, a substantial number of challenges that must be addressed before the implementation of digital technology in the Polytechnic libraries can effectively function like their counterparts in developed countries.

### REFERENCES

1. Archana Saxena and Dr. T. N. Dubey (2014). Impact of Digital Technology on Academic Libraries of India: Problems and Prospects. *International Journal of Application or Innovation in Engineering & Management (IJAIEEM)*, Volume 3, Issue 3, 308-312
2. Dhanavandan, S., Esmail, S. Mohammed & Nagarajan, M. (2011). Information Communication Technology (ICT) infrastructure facilities in Self-Financing Engineering colleges Libraries in Tamil Nadu. *Library Philosophy and Practice*, <http://unllib.unl.edu/LPP/>
3. Dhanavandan, S. and Mohammed Esmail, S. and Mani, V. (2008). Awareness of Information and Communication Technology (ICT) Tools Among Library Professionals in Tamil Nadu. *Pakistan journal of library & information science*, n. 9.
4. Ekong, V. E. (2005). Advancing the Role of ICT in Nigerian University Libraries. *The Information Technologist*. Vol. 2(2) Pp.96-105
5. Emuakpor, A.O.S. (2002). The Impact of Information Technology in Collection Development and Management in Libraries. *Information Science and Technology for Library Schools in Africa*. Madu, E.C. et al. (ed) Ibadan: Evi-Coleman Publications.
6. Etebu, A. T. (2010). ICT availability in Niger Delta university libraries
7. Fagbe, A. O. et al.(2015). The role of Information Technology (IT) in the academic library. Paper presented at the 3rd School of Education and Humanities International conference on the future of higher education in Africa held at Babcock University, August 24-26.
8. Madu, E.C. (2002). Computerized Reference Source and Traditional Printed Reference Source: A Comparison of the Old and the New in Library Services. *Information Science and Technology for Library Schools in Africa*. Ibadan: Evi-Coleman Publications.
9. Mohamed Haneefa, K., & Abdul Shukkoor, C. K. (2010). Information and Communication Technology literacy among library professionals in Calicut University, Kerala. *DESIDOC Journal of Library & Information Technology*, 30 (6), 55-63.
10. Muhammad, Ijaz Mairaj & Widad, Mustafa El-Hadi (2004). Application of Information and Communication Technology in libraries in Pakistan. [www.ijodls.in](http://www.ijodls.in)
11. Obajemu, A.S. and Ibegwam, A. (2006). A survey of librarians' attitude to training programmes on ICT application to Cataloguing and Classification workshops in Nigeria. *African Journal of Library Archives and Information Science* 61:19-27
12. Ogunsola, L.A. & Boucouvalas, M. (2004). Nigerian University Libraries and the challenges of Globalization: The Way Forward. *Electronic Journal of Academic and Special Librarianship*. Vol. 5(2-3)
13. Ojedokun, A.A. (2000). Prospects of **digital libraries** in Africa. *African Journal of Library, Archives and Information Science* 10 (1),13-22.
14. Omekwu, O. C. (2006). Managing information and technology: critical roles for librarians in developing countries. *The Electronic Library*, 24(6), 847-863.
15. Yacob Haliso (2011) factors affecting ict used by academic librarians in south western Nigeria. *Library philosophy and practise (E-Journal)* paper 571.