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OVERCOMING CHALLENGES TO DIGITAL TECHNOLOGY IN NIGERIAN ACADEMIC LIBRARIES: THE CASE OF TWO POLYTECHNIC LIBRARIES

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Abstract: **The paper discusses the implementation of digital technology by academic libraries in the age of knowledge and information society, highlights the problems faced by the polytechnic libraries in Nigeria on the implementation of digital technology and how much has been achieved in overcoming them. 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 to all or peculiar to some. This paper concludes that some of the identified challenges have been surmounted. It also offered some specific suggestions for sustaining the successes that have been recorded and also for overcoming the remaining 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: **Challenges, Digital Technology, polytechnic libraries.**

1. INTRODUCTION

Libraries and digital technologies are becoming inseparable partners in this information age where digital technologies are being 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 and widen the scope of their sources and services. In addition to print, large volumes of information are now published electronically, making them accessible to both the library and users according to their demands. Professionally coordinating such information so as to protect users from irrelevances can also be achieved electronically. With digital technology, library services are being made available to users remotely and real time. One can go on and on with the benefits of digital technology to the library. Many libraries in Nigeria, particularly academic libraries, have adopted digital technology. It becomes important therefore to assess, from time to time, the state of digital technology applications in this type of library in the context of changing user needs so as to guide our developmental policies. Library automation is no more a new concept in Nigeria, but the situation may still not level up with developed nations. Most literature on this subject matter thus far focussed on the various challenges faced by the libraries on the implementation of digital technology since the past two or more decades. But the authors of this research are of the opinion that going by Raganathan's law that the library 'is a growing organism', the decades of attempts at implementing digital technology by academic libraries could not have been fruitless. It should have recorded some successes over those challenges it initially faced.

This paper therefore is set out to assess the successes that may have been achieved by academic libraries in surmounting the challenges facing the adoption of digital technologies.

The prime objective of the study is to explore the status of implementation of digital technology in two government-funded Polytechnic Libraries viz-a-viz some specific problems related to implementation of digital technology and to determine how much of the challenges have been overcome; and to make suggestions for improvement and sustainability.

Research questions:

1. How long has digital technology been implemented in your library?
2. Which of the following challenges to the implementation of Digital technologies were experienced in your library?
3. Presently, which of the challenges are still true of your library?

Significance of study:

It is hoped that the outcome of this work will provide pointers for Library Management Committees on the much that has been achieved thus far as to overcoming the common challenges to the employment/implementation of digital technology in academic libraries; and what is still achievable. It is hoped that the findings of this research will provide a basis for the focus of academic libraries' efforts at achieving full functionality of their digital status. This should aid in future plans for libraries' infrastructural and human capital development. It should also provide a useful basis for justifying the investments made in providing digital technology in the libraries by the parent bodies and the need for greater support.

2. LITERATURE REVIEW

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 are striving not to be left out of this global educational revolution due to its contributions towards achieving the purpose for their existence. 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 equally 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. From these submissions, it can be deduced that digital technology does not only support information services, but it also facilitate information sharing.

Furthermore, because digital libraries have global reach through international networks, such as the Internet, they possess the potential to supplant many of the services provided by traditional libraries, and also extend them. It can improve and promote information-related activities. According to Ojedokun (2000), it 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; offer several ways in which libraries can improve services while reducing cost; provide instantaneous access to online information; facilitate great user satisfaction; offer all time everywhere and seamless access to information, so long as requisite access infrastructure is in place and expunges deterioration associated with print media.

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. Madu (2002) described the inadequacies as Economical, Manpower problem, Political instability, Geographical isolation, and Socio- cultural intolerance. 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, it was 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 whereas a library homepage should be a component of an institution's website. Libraries suppose to upload their bibliographic records to become part of global resources and should also be able to download information, but 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; Non- availability of funds and poor 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.

From these literature therefore, challenges to digital technology that have been identified in academic libraries could be encapsulated as: Inadequate Finance, Lack of effective planning for Digital technology activities, inadequate Management support, Lack of trained IT manpower , Non-willingness of staff to embrace change, 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.

3. METHODOLOGY

The study employed the use of questionnaire and observation. The study is based on the two selected polytechnic libraries namely: The Federal Polytechnic, Ilaro (a Federal government-owned institution) represented with 'A' and Moshood Abiola Polytechnic, Abeokuta (a state government-owned institution) represented with 'B'; both of which are situated in Ogun state of Nigeria and are academic libraries. The two were selected being the oldest government-funded polytechnics in the state.

4. FINDINGS

Findings show that digital technology has been implemented in the two libraries under study within a space of the past five years. It was also established that the challenges listed were initial problems that were encountered in both libraries. However, the third question on which of the challenges to the implementation is still true of each of the libraries elicited the response in the table below.

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Table 2: From the list of identified challenges to the implementation of digital technologies in academic libraries, which ones are still true of your library?

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

The Table above shows that 5(26.3%) out of the nineteen challenges highlighted were marked 'UNTRUE' by both libraries. These are challenges numbers 13-15, 17 and 18. In Library B, 8 additional challenges (42%) were also marked 'UNTRUE'. They are numbers 2,3,5,6,11,12,16 and 19. Six challenges (31.6%), the challenges numbers 1, 4, 7-10 were marked 'TRUE' by both libraries. This goes to show that less than 30% of the challenges are no more true of both libraries while about 70% are still true either peculiarly or commonly.

The findings of this study therefore revealed that Polytechnic libraries have implemented digital technology and recorded some progress in overcoming the challenges which were identified with implementation of digital technologies in academic libraries. Another revelation is that these libraries are still grappling with many of the challenges in which some are found to be peculiar to one while others are common to both. Loss of electronic records, Lack of policy for periodical evaluation and Lack of Motivation to staff, make up the peculiar one while the common ones 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 are common.

5. CONCLUSION

Polytechnic libraries that have implemented digital technology have recorded some degree of progress in overcoming the challenges initially experienced as highlighted but when generalized, the level of achievement is still relatively low at 26%. **T**he 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 the challenges are still calling for concerted effort before the implementation of digital technology in the academic libraries in polytechnics can effectively function like their counterparts in developed countries. So, there is still much to be done.

SUGGESTIONS:

Here are some suggested ways by which the challenges facing the implementation of digital technologies in libraries may be addressed and the successes sustained:

There should be provision by the parent body of some specific fund for the development of digital technologies.

Adequate funds should be provided for the functioning and development of libraries through direct budget allocations.

Taking advantage of consortia by Librarians or Information managers in order to share the cost of provision and access to library and information resources could help in ameliorating the problem of financial crisis in the cost of Digital resources.

The school management should invest more on the acquisition of hardwares and other electronic resources.

The culture of regular manpower development programme on Digital technology for library staff should be imbibed.

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.

E-resources training/awareness programme may be organized from time to time for users.

Due to the total dependence of digital technology on electric power supply, there should be provision for alternative power supply through dedicated generating plant for the library's use. This will help offset the adverse effects of erratic power supply. .

In order to equip the upcoming library professionals with some practical knowledge to handle and manage digital resources, the practical Digital Resource Management as a course should be integrated in the LIS curriculum.

Efforts should be made to set up academic library networks at state and national levels to deploy digital technologies and to build electronic information sources, engage in creating various databases of experts, assisting in retrospective conversion, providing training to library staff etc.

The libraries must have to develop a collection development policy for digital resources in which specific criteria for adding and cancelling e-resources should be stated.

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.

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