Full Length Research Paper

The challenges of effective implementation of information and communication technology (ICT) in Polytechnics and Colleges of Education Libraries in Delta State, Nigeria

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Abstract

The digital age has brought about a completely different way of providing library services resulting in the development of new services. This study assessed the challenges of effective implementation of information and communication technology (ICT) in polytechnics and colleges of education libraries in Delta State. Descriptive survey research design was used for this study; data was collected by means of a questionnaire from thirty-nine (39) librarians of six (6) academic libraries in polytechnics and colleges of education in Delta State. The study revealed that the academic libraries under review is face with the following challenges in implementing ICT policy, thus, unreliable power supply, inadequate funding, shortage of manpower, lack of information and computer literacy skill among librarians. The study concluded that information and computer literacy skills are vital for the proper implementation of ICT in libraries for better information service delivery and therefore recommended that library administrators should introduce and organize different ICT training programmers for librarians at regular interval and federal government should provide adequate funding for ICT implementation.

Keywords: Challenges, Implementation, Information, Communication Technology.

INTRODUCTION

Information and Communication Technology (ICT) refers to the systems for producing, storing, sending and retrieving digital files. These files can contain text, sounds and images, both still and moving. Information and Communication Technology (ICT) refers to the application of modern electronic technology for the creation and storage of meaningful and useful tracts or data (Information) and its transmission to users by various electronic means (Feather and Sturges, 2003). (Ndukwe et al., 2006) stated that ICT is a revolutionary tool that can enhance multifaceted development of a nation.

The international Encyclopedia of information and Library Science (2003) defined Information and Communication Technology (ICT) as the application of modern electronic and computing technology to the creation and storage of facts, data or information and its transmission to users by various communication media. UNESCO (2000) defines ICT as the "Scientific,

technological and engineering disciplines and management techniques used in information handling and processing." The use of ICT provides quality services to its users.

On the other hand, the contributions of library to social economic development cannot be overemphasized. In the present information and knowledge world, Nigeria and other countries are faced with changes induced by development information and communication technology (ICT) and the likes that have engulfed business organizations, institutions society and education in general. The development in ICT has affected the operations as well as the purpose of library establishment with respect to services rendered. These new challenges and opportunities especially in ICT cannot be addressed with outdated dated services but by developing a formidable system and effectively utilizing the internet and ICT in rendering services. The online environment particularly the World Wide Web (W.W.W) has an

unstructured environment and the advancement in technology has made it possible for anyone with the necessary technology and skills to post anything on the internet. The result is an exponential increase in electronic documents with a dynamic nature. (Wurman, 2009) observed that between 60 and 80 percent of people searching for information on the web fail to find what they were looking for. This clearly reveals the much needed role of the library and information professional in the digital age.

Traditionally, librarians select the materials for their collections using criteria that help establish the authority and accuracy of the materials. In an online environment, it is often difficult to establish reliability and authority of information. This substantially increases the chance that patrons may access incorrect information. To address these issues librarians must begin to establish their presence to guide their patron. Librarians and information professionals are responsible for creating innovative information, systems for the collection, organization, dissemination and preservation of information and new knowledge regardless of format (Lakos, 2004).

Apart from automating the library collections and adding computers which library patrons could use to search catalogue, online databases and the internet, librarians have the responsibility of enhancing the value of existing information resources by customizing and transporting their services to the online environment. Libraries that cling to traditional service models in an era of new information technology, rising costs and flat budget cannot thrive. Transporting library services to the online environment will involve designing and maintaining a library website as a platform for delivering online services (O'Leary, 2006). Today, ICT is used by more than 50percent of the world population as its applications are found in nearly every field of life (Baekhe, 2010). (Omekwu, 2002) enumerated some of the importance of information and communication technologies as:
i.   Co-operation and formation of library networks
ii. Elimination of uninteresting and repetitive routine
iii. Provision of opportunities for information marketing
iv. Save/generate income
v.   Increased efficiency
vi. Contacts, co-operation and communication

Objectives of the study

The specific objectives of this study are to:
1. Find out the ICT facilities available in the academic libraries under review
2. Determine the knowledge of librarian about ICT in the libraries
3. Assess the frequency of librarians use of ICT in the libraries
4. Find out the challenges of implementing ICT in the libraries.

METHODOLOGY

A survey research design was adopted for this study. The population of this study is made up of thirty – nine librarians of six (6) academic libraries of Polytechnics and colleges of education in Delta state see table 1. The entire population of thirty – nine (39) Librarians was used as the sample for this study, the research instrument that was used for the study is the questionnaires. The questionnaire was administered to librarians in the six academic libraries of polytechnic, and colleges of education in Delta State. The questionnaire sought to obtain data on the ICT facilities available in the libraries, determine the knowledge of librarian about ICT in the libraries, and assess the frequency of librarian's use of ICT in the libraries and determine the challenges of implementing ICT in the libraries. A total of thirty – nine (39) copies of the questionnaire were distributed by the researcher, a total number of thirty – six (36) completed copies of the questionnaire was retrieved and found useable. Simple descriptive statistics using percentages and frequency count was used in analyzing the thirty – six (36) copies of the questionnaire returned.

FINDINGS AND DISCUSION

Out of the thirty – nine (39) copies of questionnaires administered, thirty – six (36) were found useable for data analysis.

Table1 below shows the percentage of returned questionnaire.

From Table 2, it was revealed that a total of thirty – six (36) respondents responded to the distributed questionnaire, of this number, 15 (42%) are male while 21(58%) of them are female.

As shown in table 3, 2(6%) respondent have PhD in librarianship in the libraries under review, 13(36%) have MLS/M.sc/MA while 9(25%) are holders of BLS/B.A/B.Sc. and the remaining 12(33%) respondents are diploma holders.

In the ranking order, table 4 above shows that almost all the ICT facilities listed are available in the academic Libraries under study with computers, printers and photocopiers having the highest frequency of 34(94.4%) while 30(83.3%) respondents indicated that internet is available in the libraries, 28(77.7%) respondents revealed that scanners are available in the libraries. It is however appalling that 16(44.4%) of the respondents affirmed that telephone which are the cheapest form of technology are not available in the libraries.

Librarians' knowledge of ICT facilities was assessed and the study revealed in Table 5 above that there is a very good knowledge about telephone 27(75%). That is to say that majority of the respondents lack adequate knowledge about the use of other ICT facilities mentioned above.

Table 1: Percentage of Returned Questionnaire.

S/N	Institutions	Population		
		No of Questionnaires administered	Responses	Percentage (%)
1	Delta State Polytechnic library, Ozoro	8	8	22.2
2	Delta State Polytechnic Library, Ogwashi – Uku	7	7	19.4
3	Delta State Polytechnic Library, Otefe – Oghara	6	5	13.8
4	College of Education library, Agbor	5	5	13.8
5	College of Education library, Warri	6	6	16.6
6	College of Physical Education library, Mosogar	7	6	16.6
	Total	39	36	

Sources: Head of Departments of the six (6) Academic libraries under review
(Resource persons, 2016)

Table 2: Distribution of Respondents by Gender

Gender	Response	Percentage (%)
Male	15	42
Female	21	58
Total	36	100

Table 3: Educational Qualification of the Respondents

Qualification of respondents	Response	Percentage (%)
DLS	12	33
BLS/B.A/B.sc	9	25
MLS/M.sc./M.A	13	36
Ph.D	2	6
Total	36	100

The table 6 above revealed that the internet 25(69.4%) is used daily with the computers 21(58.3%), while multimedia projectors are used 25(69.4%) occasionally as indicated by respondents.

As shown in table 7 in ranked orders, the challenges of implementing ICT are: inadequate funding, maintenance and security problems, poor state of information infrastructures and unreliable power supply having the same frequency of 34(94.4%). These tallies with (Nwalo, 2000) that emphasized those libraries at all level get very little funds from their parent institution and the government support of their activities is not encouraging.

Lack of information and computer literacy skills are indicated by 32(88.8%) respondent as a setback in the implementation of ICT facilities in the sampled academic libraries.

As explained by (Emmanuel and Site, 2008), most library users and staff lack adequate information and computer literacy skills which have made them unable to use the simplest library catalogue (online public Access Catalogue – OPAC) to locate books and other library materials. More so, the academic libraries lack awareness and commitment among library stake holders as indicated by 31(86.1%) respondents.

Also a preponderance 32(88.8%) of the respondents indicated that sustenance of journal subscription is a big challenge affecting the implementation of ICT, the educational qualification of library staff is not left out as 30(83.3%) respondent pointed out.

Table 4: ICT Availability in the Academic Libraries under Review

Which of these information and communication technologies (ICTS) are available for you to access in your library?	Yes		No	
	No	%	No	%
Computers	34	94.4	2	5.5
Printer	34	94.4	2	5.5
Photocopiers	34	94.4	2	5.5
Internet	30	83.3	6	16.6
Scanners	28	77.7	8	22.2
CD – ROM	25	69.4	11	30.5
Multimedia Projector	24	66.6	12	33.3
Telephone	20	55.5	16	44.4
Digital Cameras	15	41.6	21	58.3
Facsimile	10	27.7	26	72.2

Table 5: Librarians' knowledge about ICT

How can you classify your knowledge of these facilities	Very poor		Poor		Average		Good		Very Good	
	No	%	No	%	No	%	No	%	No	%
CD – ROM	2	5.5	3	8.3	9	25	10	27.7	12	33.3
Computers	2	5.5	3	8.3	10	27.7	12	33.3	9	25
Digital Cameras	1	2.7	8	22.2	14	38.8	6	16.6	7	19.4
Facsimile	12	33.3	10	27.7	9	25	2	5.5	3	8.3
Internet	2	5.5	4	11.1	10	27.7	10	27.7	10	27.7
Printer	2	5.5	3	8.3	10	27.7	12	33.3	9	25
Multimedia Projector	12	33.3	10	27.7	9	25	2	5.5	3	83
Scanner	10	27.7	12	33.3	8	22.2	3	8.3	3	83
Telephone	-	-	-	-	-	-	9	25	27	75
Photocopier	10	27.7	12	33.3	9	25	3	8.3	2	5.5

Table 6: Frequency of librarians' use of ICT in the libraries

How often do you use these ICTs?	Daily		Twice a week		Once a week		Twice a month		Once a month		occasionally	
	No	%	No	%	No	%	No	%	No	%	No	%
CD – ROM	4	11.1	6	16.6	5	13.8	5	13.8	15	41.6	1	2.7
Computers	21	58.3	4	11.1	4	11.1	3	8.3	2	5.5	2	5.5
Digital Cameras	2	5.5	2	5.5	3	8.3	4	11.1	5	13.8	20	55.5
Facsimile	1	2.7	1	2.7	4	11.1	5	13.8	7	19.4	18	50
Internet	25	69.4	4	11.1	3	8.3	2	5.5	1	2.7	1	2.7
Printer	15	41.6	8	22.2	6	16.6	4	11.1	2	5.5	1	2.7
Multimedia Projector	1	2.7	1	2.7	2	5.5	3	8.3	4	11.1	25	69.4
Scanner	2	5.5	2	5.5	3	8.3	4	11.1	4	11.1	21	58.3
Telephone	3	8.3	4	11.1	5	13.8	4	11.1	4	11.1	16	44.4
Photocopier	9	25	5	13.8	5	13.8	4	11.1	3	8.3	10	27.7

CONCLUSION AND RECOMMENDATIONS

The above challenges notwithstanding, the use of information and communication technologies (ICTs) has great potentials for improving the quality of library services. Libraries cannot afford to be left behind in this

Table 7: Challenges of implementing ICT in the academic libraries

Which of the following is a challenge of implementing ICT facilities in your library?	Yes		No	
	No	%	No	%
Inadequate funding	34	94.4	2	5.5
Maintenance and security problems	34	94.4	2	5.5
Unreliable power supply	34	94.4	2	5.5
Shortage of manpower	32	88.8	4	11.1
Poor sustenance of journal subscription	32	88.8	4	11.1
Information and computer literacy skills among library users and staff	32	88.8	4	11.1
Lack of awareness and commitment among stakeholders	31	86.1	5	13.8
Storage and preservation of electronic information resources	30	83.5	6	16.6
Educational qualification	30	83.3	6	16.6
Economic factor	30	83.3	6	16.6
Low bandwidth	26	72.2	10	27.7

rapidly changing world in which almost every activity are driven by technology. Therefore, for Nigerian academic libraries to attain global ICT standards, the following recommendations are proffered:

- Government should allocate sufficient fund to support library services.
- A reasonable percentage from the total budget should be allocated to the libraries.
- Library management should introduce different types of training programs for unskilled professionals
- The library should organize seminars, workshops, conferences, and so on, to create awareness among librarians about current development in ICT knowledge.
- International co-operation is a must in the library field. The Government and library authorities should partner with international bodies for the development of libraries.
- Libraries in Nigeria should step up effort in providing information literacy to the users so that they can benefit maximally from the ICT based libraries.

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