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THE POTENTIALS OF ICT APPLICATION TO INCREASED RELEVANCE AND SUSTAINABILITY OF UNIVERSITY LIBRARY SERVICES IN NIGERIA

Stella N. I. Anasi (Mrs)*

*Stella N.I. Anasi holds a Bachelor of Education degree from University of Nigeria, Nsukka. She obtained a Master's degree in Library, Archival and Information Studies from University of Ibadan and also a Master's degree in Public Administration from Lagos State University. She is a staff of the University of Lagos Library. E-mail: anasistella@yahoo.com

ABSTRACT

This paper examined the capabilities of ICT application in University Library services in Nigeria. Two complementary methods were used for collecting data: direct observation of ICT application in Kenneth Dike library, University of Ibadan and University of Lagos Libraries and library search of recent literature on ICT application and marketing of ICT based services in Nigerian University libraries. It revealed that a few university libraries have reached appreciable level in ICT application but most libraries in Nigeria are still at the lowest level of ICT application. It stressed the need for marketing of ICT enhanced-services. The paper suggested that university libraries should provide access to electronic information resources such as copyrighted e-books and e-journals, site-licensed databases and websites that are too expensive for people to subscribe to individually by forming themselves into a consortium. Access to such rich electronic information resources should be provided to library users for fee. Finally, it recommended that fiscal and institutional commitment should be demonstrated by National Universities Commission (NUC) and all other stakeholders to speed up the execution of all ICT projects in university libraries.

KEYWORDS: UNIVERSITY LIBRARIES, ICT, SERVICES, SUSTAINABILITY, NIGERIA.

INTRODUCTION: and learning activities revolves. Libraries in universities are functional units responsible for providing and facilitating access to scholarly information required for the achievement of the

The University library is not an appendage of the university system rather it is the hub around which teaching, research

university basic function of human resources development. Libraries perform these roles by acquiring, processing, organizing, storing, preserving and disseminating relevant information resources necessary for sustaining the teaching, learning and research functions of the universities.

Breakthroughs and developments in information and communication technologies (ICTS) have increasingly reshape the way libraries and librarians' access, retrieve, store, manipulate and disseminate needed information to their actual and potential users. CD-ROMs, online databases, emails, facsimile, the internet, online public access catalogues, and other technologies that facilitate virtual communication have contributed vastly to knowledge creation, development and access.

Wholesale application of ICTS in Nigerian universities libraries has its impacts, draw backs and constraints and this has been the experience of most university libraries in Nigeria. Unlike the developed countries where academic infrastructure is robust; financial resources for the payment of services are widely available; technical resources to establish, run, maintain and upgrade infrastructure are abundant, full scale automation of universities libraries in Nigeria are characterized by inadequate human and capital resources, as well as insufficient infrastructures.

Presently, there is a growing concern on how and means of making libraries relevant in the information age and at the same time sustain library services especially in the universities with large community of scholars. The idea of marketing library services appears to be the only viable option

necessary for qualitative and efficient service delivery to the users.

Objective of the study

The purpose of this study is to review the current state of information and communication technologies (ICT) application in the provision of information services in Nigerian University libraries and to stress the need for sustaining such ICT-enhanced services through marketing.

Methodology

Current librarianship literature on ICT application in Nigerian University libraries was reviewed to x-ray the state of the art and the possibility of marketing such ICT-enhanced services to sustain effective and efficient service delivery.

To complement library search method, physical visits were paid to University of Lagos and University of Ibadan libraries for direct observation of ICT application in service delivery to patrons.

The Concept of Information and Communication Technologies (ICTS).

The convergence of computers and telecommunication technologies led to the emergence of a new creation – information and communication technologies. Information and communication technologies according to Hamelink (1997) “encompass all those technologies that enable the handling of information and facilitate different forms of communication among human actors, between human beings and electronic systems, and among electronic systems”.

This includes all communication devices or applications such as radio, television, cellular phones, computer and network, hardware and software, satellite

systems as well as the various services and applications associated with them like video conferencing, teleconferencing, etc. Hamelink (1997) categorized these technologies into five namely capturing technologies, storage technologies, processing technologies, communications technologies, and display technologies.

The Current Situation of ICT application University Libraries in Nigeria

Alabi (1985) reported that attempts in 1970's and 1980's by some university libraries to computerize their resources and services hit the rock. For example, experiments by University of Lagos library, University of Ibadan library etc to automate basic routine library operations flopped. This was the scene until 1994 when National Universities Commission (NUC) through the US \$120 million World Bank credit facility was introduced. This spurred most university libraries to computerize their services. Presently, University of Ibadan Library, Obafemi Awolowo University Library Ife, University of Lagos Library, and University of Jos Library, among others have automated their library operations to a large extent. Tables 1 and 2 shows the level of ICT application in University of Lagos Library, and University of Ibadan Library.

TABLE 2: ICT APPLICATION IN KENNETH DIKE LIBRARY UNIVERSITY OF IBADAN

LIBRARY UNIT	NO OF COMPUTERS	NETWORKED	INTERNET CONNECTIVITY	APPLICATION
LIBRARY UNIT	NO OF COMPUTERS	NETWORKED	INTERNET CONNECTIVITY	APPLICATION
University Librarian's office+ Automation*	3 18	3 NIL	1 1	Data entry, word processing and Database search
Law library	6	6	-	Data entry, word processing, Database search, 3 servers and 11 work station
Cataloguing	5	5	-	Word processing, database search, 3 OPACs
Acquisition	2	2	-	Data entry, word processing and 2 work stations
Serials	3	3	-	Data entry, word processing
Readers' Services	8	6	3	Data entry, word processing literature search, 4 OPACS
Education Library	2	-	-	Data entry, word processing
Ghandi	1	1	-	Data entry, word processing literature search, 4 OPACS
Total	53	28	5	Data entry, word processing
Medical library:				
Medical Librarian's office	2	1	1	Data entry, word processing, literature search
Cataloguing	2	-	-	Data entry, word processing
Serials	2	-	-	Data entry, word process
Circulation	2	-	-	Word processing, Data entry
Reference	4	-	-	Word processing, Data entry
Acquisition	1	-	-	Data entry, word processing
CD-ROM Library	7	-	-	Database search, word processing
Internet laboratory	8	-	8	Internet search
Total	28	1	9	
Grand Total	81	29	14	

Key: +includes one fax machine

*includes two scanners.

Source: Inspection and observation.

Table 1: indicates that university of Lagos Libraries has 7 OPACs. Three are located at the law library while 4 are located at the first floor. These OPACs are accessible only at the main library of the university. The library at present uses the university's website but the development and designing of the library's website has been contracted to a company. Plans to digitize library materials - books and journals are

underway. Every librarian and some library officers have a computer for administrative record keeping, technical processing and literature search. The model and capacity of most of the computers is Pentium with CPU 2.50 GHz 256 MB of RAM. Also, all sectional heads have printers. Presently, the University of Lagos library has migrated from TINLIB software to GLAS and the cataloguing module is already in use.

The Current Situation of ICT application University Libraries in Nigeria

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Category	UNIVERSITY OF LAGOS	UNIVERSITY OF IBADAN
Grand Total	1	1
Total	1	1
Acquisition	1	1
Reference	0	0
Circulation	0	0
Serials	0	0
Cataloguing	0	0
Medical Libraries	0	0
Medical Journals	0	0
Total	1	1
Grand Total	1	1
Total	1	1
Acquisition	1	1
Reference	0	0
Circulation	0	0
Serials	0	0
Cataloguing	0	0
Law Library	0	0
Automation	0	0
University Librarian's office	0	0

TABLE 1: ICT APPLICATION IN LIBRARIES OF LAGOS LIBRARY

TABLE 2: ICT APPLICATION IN KENNETH DIKE LIBRARY UNIVERSITY OF IBADAN

LIBRARY UNIT		NO OF COMPUTERS	NETWORKED	INTERNET CONNECTIVITY	APPLICATION
University office+	Librarian's	5	5	5	Data entry, literature search, word processing
	Automation*	9	9	9	Data entry, on main server one internet server,
	Law library	NIL	NIL	NIL	one back up server.
	Cataloguing	10	10	10	NIL
	Acquisition	1	1	1	Data entry, work stations, word processing
	Serials	1	1	1	Data entry, word processing
	Circulation	16	16	16	Data entry, word processing literature search
	Reference	4	4	4	4 OPACs, 4CD-Rom data base search, 6
	E-Class room	32	32	-	internet search, data entry, literature search,
					literature search, word processing,
					Seminars, lectures, Symposia, etc.
Total		78	78	46	

Key: +Includes scanners fax machine, telephone

Source: Inspection and observation.

Table 2 shows the level of ICT application at Kenneth Dike Library, University of Ibadan. The Library's attempt at the computerization of its operations started in 1975 with production of the first automated serial catalogue. Today most library procedures have been computerized. All the computers in the library are networked (LAN). About forty-six of these computers are connected to the internet which is monitored through the internet server located at the automation unit. There are nineteen CD-ROM databases in the library and four computers are dedicated for CD-ROM database search. KDL has 12 printers and fax machine. The Library has migrated from TINLIB software to Alice for windows. Another giant stride in the ICT application in KDL is the establishment of E- classroom with about 32 computers all on Local Area Network(LAN). The E-classroom attests to the fact that KDL is a pacesetter in many respects as regards ICT application in library services.

At the University of Benin Library, Sanni and Idioidi (2004) reported that automation of library routines started in 1994 when NUC/World Bank supplied 17,000 volumes of monographs, 344 journal titles and installed a 386 ICL computer system and 4-user TINLIB software. However, this effort was short-lived until 1999 when actual process of computerization of library operations was initiated by the University itself. Presently, over sixty thousand monograph records have been automated. Full computerization of library activities is under way. The library uses oracle-based software dubbed Strategic Library Automation and Management software (SLAM). It

also has a 500KVA generating plant to support national electric power supply.

Akintunde (2002) highlights the successful computerization of library operations in University of Jos Library. The library has about forty computers, 23 of which are networked (LAN and WAN). It has a server and point-to-point 10 bases T hub and switches connections on the network. The library has a computer laboratory equipped with 11 computers, printers together with a 7-rack CD changer hosting the bibliophile cataloging software. Four of the computers are used for literature search, one for data entry, one for word processing, three for e-mail services and web browsing. The library has digitized her General Studies Use of library lectures, over 1,200 serial titles, over 85% of catalogue of Documents and Special Collections, Strategic Plan of the Library, Guide to the Library booklet etc. It has its own website at <http://www.uiowa.edu/intlinet/unijos/departments/libraries> on the internet or <http://192.168.101.6/libraries/> in the intranet. The library utilizes bibliophile software called ITS for windows". In February 2002, it acquired 800 Watts Solar electric power back-up system, this has given the library uninterrupted power supply.

To facilitate internet connectivity the National universities commission in 1995 through NUNet (Nigerian Universities Network) project proposed to connect all universities in Nigeria to the internet through a national gateway at National Universities Commission (NUC). About 24 federal universities are being gradually linked electronically through the NUNet. University libraries that are connected to the internet include University of Jos Library, University of Lagos Library, University of Ibadan Library, Obafemi Awolowo University Library, Ife, etc.

Furthermore, to increase efficiency and relevance as well as improve the quality of library services in the universities the Federal Ministry of Education, Nigeria planned a virtual library project in selected university libraries. The thrust of the project is to bring academic libraries up-to-date and sustain currency at lower cost. Till date, the Nigerian virtual library project is still on the drawing board more than five years after its proposal. (Daniel, 2002).

The Potentials of ICTS Applications in University Libraries

Information and communication technologies (ICTS) have profoundly revolutionized the world of libraries, librarianship, and information profession as in other walks of life in the last two or three decades. The capabilities of ICTS applications in academic libraries are great. Unfortunately, most academic libraries in Nigeria are not harnessing and utilizing the vast opportunities and resources which ICTS proffers unlike the trend in developed countries.

Commenting on the impact of the new technologies on libraries Omekwu (2003) asserted that the new information environment provides libraries of all types and archival institutions with limitless access to global information at the pressing of the keyboard. These include cooperation and formation of network systems; opportunities for information marketing; elimination of uninteresting and repetitive routines; increased efficiency; easy integration of various activities; e.t.c.

Beyond facilitating the automation of conventional library operations and procedures - acquisition, cataloguing, circulation, reference etc ICTS provide libraries immense opportunities for accessing and retrieving of the universe of information resources without the restriction of time, space or format through the following:

Online database searching:

The library can help users to conduct searches, download results and even request for document delivery from online database providers such as DIALOG, BRS, Medline, Lexis and Westlaw. These services are generally offered with cost to library patrons through librarian mediated searching. Online searching has decreased in most university libraries with CDROM searching. The advantage of online database is the speed of locating materials by using search strategies such as key word searching and other methods that facilitate retrieval of needed information.

CD-ROM searching:

CD-ROM is an information and communication technology with great potential for all types of libraries. CD-ROM was introduced to university libraries in 1992 by the National Universities Commission to assist in selection of books on Book Bank databases donated by World Bank. To facilitate the CD-ROM searching, the NUC donated a 386 PC and a CD-ROM drive and also organized training on CD-ROM Technology for librarians. (Omoniwa (2001). Since then the technology has been adopted by most university libraries because of its obvious

advantages. These advantages as articulated by Oketunji (2000) quoting Compton (1994), Obajemu, Ogunyade and Nwoye (2004) includes: high storage capacity, durability, low mailing cost, no telecommunications required, user friendly, opportunity for marketing, not affected by power supply, quick and easy access, e.t.c.

Many university libraries like University of Lagos, University of Jos, University of Ibadan, University of Ilorin, Obafemi Awolowo University, Ife, Ahmadu Bello University Zaria etc subscribe to Silverplatter, EbscoHost, Institute for Scientific Information and many others for CD-ROM databases.

Online Public Access catalogue searching

OPACs are important finding tools for information held in the library, as well as information that is not within the library. ICTS have made it possible for access of a library's OPAC from remote locations. OPACs provide access to a vast majority of electronic resources such as indexes, abstracts, other electronic texts and materials found on the internet as well as digitized materials from other libraries and organizations. (Moahi, 2003). Most university libraries have their OPAC accessible at their own premises; some have them accessible through the internet.

Electronic mail services

This is another technology that is ICT – based. Oketunji (2000) defined electronic mail as “the transmission and receiving of messages, information, data files, and letters of documents by

means of point-to-point systems or computer-based message systems”. Studies by Akintunde (2002), Ikem and Ajala (2000), and Ibegwam (2004) revealed that a large number of staff and students in Nigerian universities patronize the library for electronic communication with their colleagues within and outside the university community via the internet. Their preference for e-mail service in the library may be because it is free in some institutions and in others access fee is cheaper than those of the Cyber cafes. Also the e-mail enjoys wider appeal due to the speed at which messages are delivered from one email address to another.

Telefacsimile Services (Fax):

Fax is one of the fastest means of transmitting information. Oketunji (2000) noted that in spite of availability of improved fax equipment, a greater degree of compatibility, increased user familiarity, and relatively reasonable cost, most libraries have not embraced its use in providing better, faster and improved services to library users.

Internet Services:

The communication and information delivery capability of the internet is incredible. Alasa and Ibenne (1998) articulated these capabilities as follows: quick and convenient information exchange; access to experienced and expert individuals in thousands of fields; access to regular updates on topics of interest; librarians have the opportunity for selection of books required in their institutions and order them without going from one bookshop or publisher to another, electronic journals and news letters are made available on a regular basis; e.t.c.

Indeed, internet represents a single repository of resources far more than any single institution can organize and

manage. Studies by Ikem and Ajala (2000), Ibegwam (2004), Akintunde (2002) indicated that most federal university libraries provide internet services to staff and students for exchanging technical and scientific information and materials with other universities and research centers all over the world.

Document Delivery services:

Document delivery according to Kiondo (1997) "refers to loan, sale or donations of documents from one library or information centre to another, what is generally referred to as inter-library loan". The acquisition and installation of CD-ROM technology and its associated services has positive impact on document delivery services in libraries. Presently, electronic document delivery is the emerging trend in both developed and developing economies. Electronic document delivery implies that the text is delivered electronically on the network, directly to the user. (Sweeney, 1997). For example, EBSCO (Ebsco Information Services), BIDS (Bath Information Data Service) among others offers electronic document delivery services.

Network:

ICTs provide a platform for library network. It offers opportunity for resource sharing, communication, and data exchange. Library networks have been developed in many countries. For example in Nigeria there is the Nigeria Universities Network (NUNet) and in South Africa there is South African Bibliographic and Information Networks (SABINet).

(Okike 2000). Commenting on the benefits of library network Daniel (2002) affirmed that networking of the libraries ensures that network members make up for shortfalls from the strength of others. This implies that collections that are not available in a library can be accessed from another library having such collections within the frame work of a network.

Digitization:

Digitization according to Hamelink (1997) "is the process through which information (whether relayed through sound, text, voice or image) is converted into the digital, binary language computers use". Proposal for the digitization of library materials – journals, books and audiovisual media of some university libraries in Nigeria are already in the pipeline.

Virtual Library:

Daniel (2002) opined that virtual library is "a collection of library resources in electronic/digital format at various locations, which can be assessed and used with great ease using computer, information and telecommunication technologies for the purposes of teaching, study, research, learning, leisure and decision making". The justification for virtual library project in tertiary institutions in Nigeria is based on the need to improve the quality of higher education in Nigeria; the need to bring higher education libraries up-to-date and sustain currency at lower cost; and preservation of materials held in academic libraries in Nigeria. (Daniel 2002).

There is no doubt that the establishment of virtual libraries in Nigerian universities will enhance the provision of current and comprehensive resources necessary for effective teaching, research and learning. The National Universities Commission (NUC) should therefore put in place all the infrastructure

and resources required for the take off of the virtual library in Nigeria.

Marketing ICT enhanced-services for increased relevance and sustenance of university libraries

The viability and sustainability of ICT enhanced services in university libraries in the midst of unstable economic situation is a challenge before library managers. In expressing her doubts Kiondo (1997) cited Massawe (1993) who observed that "although the ... technology is beginning to be accepted by librarians and users alike there is still the need to address the question of sustainability given limited library budgets as well as additional costs of ... supply."

To respond to the challenges of meeting increased demand for ICT – based services, university library managers have made concerted efforts to ensure sustainability of the services by going beyond the traditional pattern of service delivery and introduce elements of marketing and cost effectiveness in the provision of information services. Hitherto, most of these essential services were offered free of charge in university libraries. Commenting on the situation, Wilson (1987) insists that "although the idea of free access is a noble one it begins to lose its attractiveness once the quality of free information offered is seriously impaired by the lack of monetary resources with which to offer anything more than mediocre services."

Gradually, marketing of library services and products appears to be gaining ground in developed and developing economies. Joseph and Parameswari (2002) captured the emerging scenario. They stated that:

Libraries and information centers have begun to realize that

marketing of information products and services is an integral part of administration, especially as a means for improving user satisfaction and promoting the use of services by current and potential users. Three main factors namely information explosion, the technology revolution, and escalating library costs are responsible for encouraging the library profession to develop a marketing approach in its operations and services. Some information service managers feel that marketing is inimical to the nature of their activities. But with increased competition in the world of information, marketing is a factor for survival.

Currently, librarians in university libraries in Nigeria are responding to the challenge of increased demand for information provision and are making sure they get their share of the information age financial largesse. For example in Medical library at College of Medicine, University of Lagos (CMUL) access to the internet costs one hundred Naira for 15 minutes, N200 for 30 minutes while sending e-mail through the library account was N50, receiving was N20 and printing per page was also N20. (Ibegwam,2004). Also University of Jos Library charges fee for the printing of documents down loaded from the internet, e-mails and other word and graphic documents. Printing of a page of word processed material is ten naira while N20 per page is charged for graphics. (Akintunde,2002).

For effective marketing and advertising of library services, librarian and information professionals must bear these in mind:

1. Competition for customers – libraries and part of a highly competitive service industry. Competition comes from mega-bookstores, online book dealers,

consultants, the internet, and individuals who feel they can go it alone. Libraries are no longer the only information show in town. Free web access to information is here to stay and non-library and fee access information providers won't hesitate to market to library customers.

2. Competition for resources – Libraries of all types have to compete with other organizations or departments for funds. Public libraries have to vie for public monies that provide for their existence. Special libraries find their funding is frequently targeted during parent organization budget cuts. Market library services benefits the bottom line.

3. Maintain your relevance – Libraries need to market themselves to remain connected with their communities and have some bearing on real-world issues and present-day events.

4. Stop being taken for granted- Libraries need to convey what is unique about the access and services they provide. Both customers and librarians cannot assume that libraries will always be available.

5. Promote an updated image – Librarians are not perceived as well trained, technologically savvy information experts. Most customers do not see the demanding information management responsibilities of a librarian.

6. Visibility – Librarians are not on the radar screens of many people who think of themselves as

information literate. People who are in positions to employ librarians are not reading much in their professional literature about a librarian's value.

7. Valuable community resource – Libraries are and should be viewed as essential and valuable community resources. People need to be made aware of the services and products that are provided and their comparative value. Librarians should be the resource that the local power structure goes to for information.

8. Rising expectations – Library users expect recognition, attention, and appreciation for their individual information needs. Customers also have ever changing needs and wants, which makes the library market as dynamic as retail markets. Marketing helps to create an environment in libraries that fosters customer consciousness among employees.

9. Survival – Libraries depend on the support of others for their existence. A library must communicate and work with its customers and governing/funding entities to provide information about what the library is doing and to enable the library to learn about the community it serves.

10. Beneficial to library image – Effective marketing can among other things increase library funds, increase usage of services, educate customers and non-customers, change perceptions, and enhance the clout and reputation of the library and its staff. (Kumbar, 2004).

Barriers to Marketing Library Services.

Free library and information services delivery is an age-long tradition hence any attempt to place monetary value on library and information services meet with stiff opposition. Constraints to marketing library and information service as discussed by Joseph and Parameswari (2002) includes.

- The relatively low level of knowledge and lack of agreement on user requirements, wants and needs;
- The subsidized non – market environment in which most scientific and technical information products and services are used;
- The virtual impossibility of estimating the value contributed by information products and services to the efficiency and conduct of research and development and the advancement of scholarly pursuits;
- The general economic unsophistication of those mostly schooled in the humanities and the non-market oriented library school environment, who purchase information products and services.

Despite these constraints, marketing of library and information services and products is imperative for sustainability and relevance of library as an institution. Also the availability and accessibility of ICTs facilities as well as efficient and effective service delivery demands that marketing function should be given priority within other library activities.

Conclusion/Recommendation

University libraries in Nigeria traditionally offer its services free. But the introduction of information and centers have begun to realize that

communication technologies into the system and the attendant cost of maintaining services and facilities demand a reorientation of the modes of services and operations in order to survive. This implies that library acquisition, organization and dissemination must be based on the modern concept of marketing for maximum reader satisfaction. There is therefore need to draw a line between the normal services that are offered free and those that should be offered for fee. To remain relevant in this digital age university libraries should provide access to electronic information resources such as copyrighted e-books and e-journals, site-licensed databases and websites that are too expensive for people to subscribe to individually by forming themselves into a consortium. Access to such rich electronic information resources which cannot be accessed by anyone from anywhere at anytime should be provided to library users for fee. Also fiscal and institutional commitment should be demonstrated by National Universities Commission (NUC) and all other stakeholders to speed up the execution of all ICT projects in university libraries. However, to ensure the emergence of local initiatives in implementation each university library should be allowed to adopt its own ICT master plan. Generally, the challenge of repositioning the university libraries in this information age is enormous but university library managers must not be deterred rather they should rise up and move with the times.

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Conclusion/Recommendation
 University libraries in Nigeria traditionally offer its services free. But the introduction of information and

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Editor-in-chief: Dr. E. C. Madu

E-mail: evamadu@yahoo.co.uk
Phone: 08055063324

Associate Editor: Dr. Charles Omekwu

Nigerian Institute of Advanced Legal Studies, University of Lagos Campus, Akoka, Lagos, Nigeria.
E-mail : omekwucharles@mail.com

Circulation Manager: Mr Chidi Onwubiko

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