Improving ICT Application to Library and Information Services in Special Libraries in Nigeria

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Abstract

Purpose*: This study assessed ways of improving ICT application in five selected special libraries in Abuja, Nigeria. It sought to analyze the functional ICT resources in the special libraries, examine the factors affecting ICT application in the special libraries and determine the strategies for effective ICT application in the special libraries operations.*

Methodology*: A descriptive survey design was used for the study with a population of 43 librarians and 300 library users. The entire librarian and 180 (60%) of the library users participated in the study. The instrument for data collection was observation checklist and structured questionnaires. In analyzing the data, descriptive statistics such as percentages, mean and frequency tables were used.*

Findings*: The findings revealed that a number of ICT facilities are not functional which ranges from library software, Machine Readable Catalogue (MARC), Online Public Access Catalogue (OPAC), internet facilities to network facilities. It equally showed that so many factors affect effective application of ICTs in special library operation. Such factors include; inadequate funding, software problems, management problems, unstable power supply, inadequate number of staff and high cost of maintenance f ICT facilities. It also revealed that increased funding of ICT facilities, provision of adequate infrastructural facilities, proper supervision on the use of ICT facility, training of staff on ICT facilities, employment of more qualified staff, provision of adequate ICT facilities and provision of adequate technical support amongst others are some of the measures that should be taken to enhance ICT application to library services.*

Implications*: The study concluded that services can be enhanced and many new services developed using suitable ICT facilities and recommended among other things increase in funding of these ICT facilities.*

Value/Originality*: This study would be useful to Librarians, Special library administrators and researchers as it will help them in formulating policies which will improve on their efficiency and lead to maximum satisfaction of their clientele.*

Key Words: *Special Libraries, Information and Communication Technology, ICT Application, Information services, Library service delivery, Nigeria*

Paper type: Empirical research

Introduction

Information and communication Technology (ICT) has demonstrated its impact on the library resources, systems, services and operations. It has provided one of the best innovations in the history of libraries, and it is changing the shape of libraries and the role of librarians at an unprecedented pace (Lewis, 2007). The essence of ICT is in its power to help individuals and societies achieve greater access to knowledge and ideas for the benefit of humanity (Ayo, 2001). Various writers Okore, (2005), Nwachukwu, (2005) and Madu, (2004) have identified the benefits of ICT in library operations to include; provision of speedy accurate and easy access to information; provision of remote access to users; provision of up-to-date information; permanent storage of information; saves time as well as generating fund and enhancement of research. The application of computers in special library services has enhanced the rate at which information and data are sourced from the library. This is because the computer retrieves information stored in them as fast as possible thereby enhancing the services provided by the special library. Similarly, the application of ICT has enhanced accessibility to information from all over the world. Through the internet, wide range information materials are made available

in different formats thereby increasing accessibility to information. This corresponds with the assertion of Rsamzan and Sigh (2009)

that ICT allows easy integration of various library activities, increases efficiency in acquisition, access to data, cataloguing, classification, information retrieval and dissemination. It eliminates uninteresting and repetitive work; helps avoid duplication of efforts; increases the range of services; provides marketing opportunities; facilitates cooperation and the formation of networks and resources sharing in libraries. Madu (2004) noted that with the application of ICT in special libraries, they can easily access the collection of other libraries in a network.

In addition, the application of ICT in special library operations also reduces the tedious and energy-sapping tasks associated with manual operations in the library. It enables special library staff to reduce repetition, drudgery and time consuming clerical activities such as typing, record-keeping and accounting. Madu (2004) observed that the result of applying ICT in special library operation is that the library staff will have more energy and time which can be used to attending to more library users and perform more professional duties. Also Johnson (1991) commented on the issue of saving time, they noted that with the use of ICT, time of the user will be saved thereby enhancing and increasing patronage of the special library services. Similarly, ICT facilities can be used in storing information and archival materials and the library. Nkanu (2007) identified ICT facilities used in storing and providing information services in these libraries to include computers, microfilm, microfiche, CDROM, database, video tapes and audio tapes. The use of these facilities for storage and provision of library and information service according to him gives libraries better image as information depot and medium through which information is stored.

The phrase special libraries encompasses an enormous range of library types which do not fit comfortably into other categories of libraries such as public library or academic library. According to International Organization for Standardization (2000) special libraries are those libraries maintained by an association, government, parliament, research institutions, museums, business firms, industrial enterprise, chamber of commerce or organized groups with a greater part of their collection being in a specific subject or field. Also Cloonan, (2003) defined special library as a collection of information covering a specific field which may be administered by special staff and for service of a limited clientele.

The role of the special library is very closely related to its institutional activities, and is therefore mainly focused on making knowledge and expertise available to further the institution's goals.

The service delivery of these libraries is based on the following (Poll 2007:4):

- A collection that is tailored to suit the needs of the clientele
- Collections and services that consider current needs more than possible future needs
- The speed and accuracy of reference services
- Proactive delivery of relevant information to users
- Customized user services (personal profiles, alerting services, selective dissemination of information)
- Efficient background services
- Cost-efficiency of services

Collections within these institutions aim to serve the specific information needs of the organizations that they serve in order to increase the productivity and efficiency of the parent organization. This customization is achieved by reducing the time employees spend on data searching, and by providing information that can facilitate improved decision-making.

The primary function of special libraries is to provide facilities and up-to-date information services for research and development of the parent organization. But due to the failure of the existing traditional manual methods to cope efficiently with the increasing volume in the library. ICT has been found to be of tremendous importance in improving the services provided by special libraries as it ensures speed, efficiency, accurate record keeping and provision of up-to-date information, access and improved service. Hence the need for the study which is designed to identify ways of improving ICT application in five selected special libraries in Abuja, Nigeria.

Objective of the Study

The broad aim of the study is to examine ways of improving ICT application in special libraries services in Nigeria. The specific objectives are to:

1. Determine the ICT resources that are functional in the special libraries
2. Analyze the factors affecting ICT application to special libraries operation
3. Proffer probable solutions to the encountered problems

Scope and Delimitation

The scope of the study encompasses improving ICT application in special library services in Nigeria and delimitated to five selected special libraries in Abuja, Nigeria which include Central Bank of Nigeria Library (CBN), Nigerian National Petroleum corporation Library (NNPC), Raw Material and Research Development Council Library (RMRDC), National Institute for Pharmaceutical Research Development Library (NIPRD), and National Mathematical Centre Library (NMC), and includes only the staff and registered users of the special libraries under study.

Methodology

A descriptive survey design was used for the study with a population of 43 librarians and 300 library users. All the librarians and 180 (60%) of the users participated in the study. The instrument for data collection was structured questionnaire and observation checklist. Percentages mean and frequency distribution tables were used in analyzing the data. Based on the mean of 2.50, the decision was that any item with a mean of 2.50 and above would be accepted while the item that is less would be rejected.

Analysis of Data

Table 1: Distribution and return rate of the questionnaire

	CBN	NNPC	RMRDC	NIPRD	NMC	% RETURNED
Staff	10	20	4	2	2	85
Users	36	50	40	36	18	100

The return rate for staff got 95%, this is because four (4) members of staff in NNPC and one (1) in RMRDC were on annual leave. The return rate for the users got 100%. From the table a total number of two hundred and eighteen (218) questionnaires were returned and correctly filled. Percentage score of 50% was used as a bench mark.

Table 2: ICT resources that are functional in the special libraries

S/N S/No.	ICT Items	NAMES OF LIBRARY									
		CBN LIB		NMC LIB		NNPC LIB		NIPRD LIB		RMRDC LIB	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1	Connected computers	√			√	√				√	
2	Stand-alone computers	√		√				√		√	
3	Telephone	√		√		√		√		√	
4	Telefasemile equipment										
5	Network facilities	√			√	√				√	
6	Online database		√		√		√			√	
7	Machine readable catalogue		√			√				√	
8	Photocopies	√		√		√		√		√	
9	Printers	√		√		√		√		√	
10	Scanners	√				√				√	
11	Internet facilities	√			√	√					√
12	E-mail	√			√	√				√	
13	CD ROM Technology	√		√		√		√		√	
14	Online public access catalogue										
15	DVD ROM	√		√		√		√		√	
16	Projectors										
17	Library based software		√		√		√				√
18	Local area network (LAN)					√					
19	Wide area network (WAN)	√			√	√				√	

From table 2 above, the findings arranged according to alphabetical order of the libraries revealed that out of the nineteen (19) IVT listed, four (4) items are not functional in CBN Library, eight (8) items in NMC, three (3) in NNPC library and four (4) in RMRDC library. All the ICT facilities available in NIPRD library are functional. The non-functionality of ICT facilities in these libraries indicates that there is a lack of maintenance culture among library administrators in the libraries under study. The table also indicates that library oriented software is not functional under study.

Table 3: staff responses on problems that hinder the ICT application

Item statement	Strongly agree	Agree	Disagree	Strongly disagree	N	Fx	Mean	Rating
Inadequate funding	38				38	152	4.0	A
Lack f infrastructural facilities	10	16	3	9	38	103	2.71	A
Incompetent personnel		12	9	17	38	71	1.86	R
Unstable power supply	11	15	5	7	38	106	2.78	A
Management problem	10	13	14	1	38	106	2.78	A
High cost of maintenance	11	18	9		38	116	3.0	A
Software problems	38				38	152	4.0	A
Frequent changes in technology	3	17	12	6	38	93	2.44	A
Inadequate technical support	8	44	84	44	180	376	2.08	R
Inadequate number of staff	11	15	12		38	13	2.97	A

Table 3 depicts a picture of the problems faced in the population of ICT in library operations in the special libraries. The table revealed that inadequate funding (4.0) and software problems (4.0) are the major problems faced in the application of ICT in library operations. It also shows that inadequate number of staff (2.97) management problems (2.84) unstable power supply (2.78) and lack of infrastructure (2.71) are among the problems faced in the application of ICT in library operations. The table also revealed that incompetent personnel (1.86), inadequate technical support (2.08) and frequent changes in technology (2.44) do not constitute a problem to the special libraries.

Table 4: User's responses on problems that hinder ICT applications

Item statement	Strongly agree	Agree	Disagree	Strongly disagree	N	Fx	Mean	Rating
Inadequate funding	48	68	44	20	180	504	2.0	A
Lack of infrastructural facilities	80	57	3	43	180	534	2.96	A
Incompetent personnel	16	60	58	46	180	406	2.25	R
Unstable power supply	8	44	84	44	180	376	2.25	A
Frequent changes in technology	9	53	75	43	180	388	2.15	R
Inadequate technical support	6	64	55	55	180	381	2.11	R
Software problems	160	20			180	700	3.88	A
Staff indifference	8	44	84	44	180	376	2.08	R

Table 4 shows that software problem with a mean score of (3.88), lack of infrastructural facilities (2.96), inadequate funding (2.80) are the problems that hinder ICT application to library operations in the special libraries while incompetent staff with a mean score of (2.25), frequent changes in technology (2.15), inadequate technical support (2.11) and staff indifference (2.08) do not pose a problem in the application of ICT in the special libraries.

Table 5 above indicates that all the items listed as strategies with increased funding on ICT items with mean score of (4.0), proper supervision on the use of ICT facility (4.0), and more qualified staff are needed in the library (3.21) are necessary for effective implementation of ICT in the special libraries.

Table 6 shows that all the items listed as strategies for enhancing ICT application to library services are necessary for effective implementation of ICT in the special libraries.

Table 5: Staff responses on the strategies for improving ICT application

Item statement	Strongly agree	Agree	Disagree	Strongly disagree	N	Fx	Mean	Rating
Increased funding on ICT items	38				38	152	4.0	A
Provision of infrastructural facilities (Electricity)	10	16	3	9	38	103	2.71	A
More qualified staff are needed in the library	17	12	9	17	38	122	3.21	A
Training of staff on ICT facilities	11	15	5	7	38	106	2.78	A
Provision of adequate technical staff	10	13	14	1	38	108	2.84	A
Provision of adequate ICT facility	11	18	9		38	116	3.0	A
Proper supervision of ICT	38				38	152	4.0	A

Table 6: User's responses on strategies for enhancing ICT application

Item statement	Strongly agree	Agree	Disagree	Strongly disagree	N	Fx	Mean	Rating
Increased funding on ICT items	60	73	41	6	180	547	3.03	A
More qualified staff are need in the library	60	60	39	21	180	498	2.76	A
Training of staff ob IT facilities	53	69	38	20	180	515	2.86	A
Provision infrastructural facilities (Electricity)	42	106	32		180	550	3.05	A
Provision of adequate technical support	64	78	35	3	180	563	3.12	A

Findings

The study found that many of the ICT resources in special libraries under study are not functional. The following ICT facilities were not functional in some of these libraries at the time of this study: library software, Machine Readable Catalogue (MARC), Online Public Access Catalogue (OPAC), internet facilities and network facilities. It is worthy to note that library software is not functional in all the special libraries under study. This confirms the assertion made by Igwesi, Nwachukwu and Chimah (2010) that it is imperative to carefully choose a library oriented, good quality software package in order to ensure effective performance. Also Rowley (1998) pointed out that the latent but major problem for continuous breakdown of systems may be caused by lack of maintenance, hence the technical expertise of the software developer to salvage any serious down time situation and to upgrade the systems from time to time should be put into consideration before choosing and procuring any software package. Above all Nwachukwu (2005) advocates that for the libraries in developing countries like Nigeria to effectively benefit from contributions of IT's in libraries, cautious efforts should be made to avoid abuse and problems associated with careless implementation of ICT's in libraries.

Despite the fact that ICT has been found to be an essential tool in information services delivery, some problems are discovered from the study to be an impediment to effective ICT application to library services. The result of this study showed that inadequate funding, software problems and high cost of maintenance f ICT facilities. This agrees with Omekwu (2004) who pointed out that initial investment in system study design implementation procurement of hardware and software could be very expensive. He added that even after full implementation of ICT, areas for further investment include system maintenance or replacement. The findings further revealed that lack of infrastructural facility; management problems, unstable power supply and inadequate number of staff also form part of the problem. Many writers Nnadozie (2007), Oketunji (2001) and Gbaje (2007) at various times in separate studies had also agreed that these problems hinder the effective implementation of ICT facilities in library operations and services.

Notwithstanding the problems identified in the application of ICT facilities, this study

recognizes that increased funding of ICT facilities, provision of adequate infrastructural facilities (Electricity) and proper supervision on the use of ICT facility are some of the measures that should be taken to enhance ICT application to library services. The study also revealed that training of staff on ICT facilities, employment of more qualified staff, provision of adequate ICT facilities and provision of adequate technical support amongst other measures. Okore (2003) had earlier suggested that there is need to intensify effort at building a reservoir of ICT manpower in libraries as well as ICT infrastructure to cope with the challenges on the part of library administrators. Similar, Abolaji (2005) noted that there is need for training of staff on ICT to enable them cope with the challenges of ICT application. Nwalo (2005), Edoka (2000), Omekwu (2004) and Okore (2003) have all suggested in affirmation of the findings that for effective application of ICT to library services there should be amongst others; adequate funding, provision of adequate infrastructural facilities, proper training of staff on ICT use, provision of adequate technical services to ensure proper maintenance and provision of adequate ICT facility.

Conclusion

The future of library and information services is bound closely with the development of ICT, as many of its activities and services can be enhanced and many new services developed using suitable ICT in an appropriate way. This study on ICT application to library services in selected special libraries in Abuja, Nigeria has revealed that. To curb the aforementioned identified problems, the study suggested the following remedies as measures:

- Increased funding on ICT facilities,
- Provision of adequate infrastructural facilities;
- Proper supervision on the use of ICT facility,
- Training of staff on ICT use,
- Employment of more qualified staff and
- Provision of adequate technical support.

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