The Perceived Benefits of Electronic/digital Reference Services in Nigerian University Libraries: a survey

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ABSTRACT

Are the benefits derived from ICT based reference and information service worth the financial and other commitments devoted to it? In an attempt to answer this, this study delved into finding out the perceived benefits; the rational for ICT based reference services in Nigerian university libraries. The main objectives were to find out the purposes for using ICT facilities in reference services delivery and the perceived benefits derived from using ICT resources in reference and information services. Being a survey, questionnaire was used to collect data from the librarians of twelve (12) universities; two (2) each sampled from the six geopolitical zones of Nigeria. Data was analyzed using frequencies, mean scores and standard deviations. ANOVA statistical analysis was used to test the hypothesis of no significance difference in the benefits derived from ICT based reference services using p-value of 0.05 to calculate the level of significance. Findings showed that librarians and library users made use of ICT facilities for different reference purposes especially to obtain information they need using the internet. Other reference needs for which patrons used the ICT facilities included: - access to current e-books and e - journals, user education and access to global information in other libraries. Provision of current awareness services (CAS) and selective dissemination of information services (SDI), on-line searching using workstations in the library, provision of on-line public access catalogue (OPAC) services, keeping statistics of users of the reference section and compilation of bibliographies. Further findings showed that the librarians and library users derive a lot of benefits from their use of ICT facilities in reference services. The results showed that easy retrieval and dissemination of information to patrons were ranked highest by the librarians amongst others.

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1. Introduction

The reference section of the university library gives face- to- face services and provides materials for the users and also helps in accomplishing the institution's objectives towards teaching learning and research. Traditionally, reference functions were carried out manually, but these methods are no longer sufficient due to such challenges as user expectations and high cost of print materials. Reference services have become more complex and are unable to provide the increasing variety and quantity of information needed by patrons with traditional methods.

However, Nkanu (2007) reported rapid growth of computerization exercise in libraries because of its immense benefits in breaking the barriers of time, distance and location which used to impede the provision of library services. These benefits of utilization of ICT for reference services were hindered in our libraries by the high cost of maintaining ICT facilities, epileptic power supply, and lack of trained ICT staff and the menace of virus in ICT systems (Uzoigwe, 2004). O'Connor (1998) saw the lukewarm attitude of Nigerian government and some university authorities to the electronic library as a basic problem. All these may hinder the effective functioning and utilization of ICT in reference services in the federal university libraries.

The ICT use these days in federal university libraries according to Gama (2008) is better than that of state-owned university libraries because the federal government sponsored the computerization of federal university libraries, although the Education Tax Fund also helped to computerize most of the state university libraries. Studies by Asamoah-Hassan (2002) showed that many of the universities in West Africa, including Nigeria, have ICT facilities in their libraries. A similar study conducted in Nigeria by Ajidahun (2004) on the status of ICT in university libraries indicated that there were ICT facilities in all the 21 university libraries studied. Ibegbulam (2000) and Anunobi (2005) conducted research on the use of ICT for reference services in federal university libraries in Nigeria while Asamoah-Hassan (2002) conducted a research on the state of information and communication technology (ICT) availability in West Africa. These studies revealed that ICT was much used for administration, serials, cataloguing and not much in reference services. Many university libraries from different geo-political zones in Nigeria show evidence of utilization of ICT facilities more than other zones. Studies by Anunobi (2005) support the above assertion that some zones have and utilize ICT facilities more than others. These studies did not dwell extensively on reference services.

There is an obvious need for a study like this to examine the actual ways through which electronic/ICT-based reference services are beneficial to their users thereby sensitizing those who have not been conversant with the gains of ICT innovations in reference services. These will include the managements of the universities (like most state and private universities) who have not deemed it necessary to upgrade their library and especially reference services electronically through ICT, the users and staff of such university libraries and also the management of other related libraries who may utilize the findings of the study in stepping up their own services to meet the expectations of their users. This is much required these days that the National Universities Commission (NUC) has made e-library and its facilities (ICT) a major requirement for the universities to pass accreditation towards offering their different academic programmes. Also, intending non-Nigerians or foreigners who may wish to come for one educational program or the other in these Nigerian universities

will through the findings of this study be well informed on what is on ground as far as library services generally and reference services (to provide for their research needs) are concerned.

The main purpose of the study was to
(1) Examine the purposes for which ICT facilities are utilized in reference services.
(2) Ascertain the perceived benefits on ICT utilization in reference services.

1.1 Hypothesis

Ho: There is no significant difference in the mean responses of library users of the federal university libraries in the six geo-political zones on benefits of utilization of ICT in reference services.

2. Literature Review

Reference and information services have always been the main component of library services and also accorded great importance in libraries worldwide. This is because it provides assistance to users in pursuit of their information needs. According to Adomi (2008) digital and traditional reference services share the same general principles of reference services and have a common goal of satisfying library users. They are however different in their modes of operation. In traditional reference services, indexes and abstracts are used for their search while traditional sources like encyclopedias and dictionaries are used to provide answers to queries. Digital reference services on the other hand use ICT facilities like the computers, internet, e-mail and CD-ROM as well as search engines to locate e-resources in electronic formats and provide same to patrons. In digital reference service, the patrons can be within or outside the library. Furthermore, in digital reference, the problems of lack of space and unavailability of books and journals are virtually eliminated.

3. ICT in Reference services

According to Ukodie (2004), it has been commonly accepted and proven that information and communication technology (ICT) is the engine of the 21st century and beyond. The emergence of the internet as the largest repository of information and knowledge also changed the role of library and librarians from intermediary to facilitator, using new tools for dissemination of information. Also, it brought shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and innovational web based services.

Ajayi (2000) further pointed out that the revolution taking place in the use of information and communication technologies have been the centre and driving force for the globalization process. Singh (2004) also opined that although traditional channels of communication will still remain important, the new information and communication technologies hold great potential for broadly dissem-

inating knowledge at low cost and for reducing knowledge gaps within countries and between industrial and developing countries. In a broader sense, access to the right information at the right time gives people greater control of their destinies. Mahon (1987) saw technology as, "a window on the world, extending the capacity of people to access information, enabling the sharing of resources and for most information workers, bringing them into contact with the language and technology of tele-communication".

Actually ICT has found its way into all aspects of human activities. It has also become useful in the provision of library and information services.

Faboyinde (2006) summarizes the whole concept this way:

> The emergence of ICT has greatly shrank the world into a global village that anyone or any organization, the library in particular, ignoring ICT is asking to be side-tracked and placed in the periphery in the international arena, get unredeemable out-dated and grossly limited in the acquisition as well as dissemination of information (p. 61).

According to Hawkins (2002), knowledge and information have become the most important currency for productivity, competitiveness and increased wealth and prosperity. Ikpahindi (1999) reported that with ICT, the shiver, nightmare and hours of fumbling through card catalogue and readers guide to periodical literature has been eliminated with the use of ICT. Aina (2004) also stressed on the immense benefits of digital/ICT-based reference services. On the whole therefore, Information and Communication Technology (ICT) has penetrated into every facet of human activity, turning the whole world into a global village. Utilization of ICT for reference services could be in a good number of ways -

3.1 Collaborative reference or consortia approach to provision of on-line reference services

Apart from the individual institutional efforts in providing virtual reference services to their catchment areas, a number of institutions are working together to provide co-operative reference services facilitated by digital media and the internet. In the United States, more than 50 libraries have already joined reference consortia. Many reasons are responsible for offering digital reference services in collaboration. One reason is having access to the knowledge that enables several librarians to broaden the range of subjects that can be covered and thus raises the level of quality.

Secondly, sharing the workload and shifts enables libraries to offer this service for longer periods. Costs of software and database are reduced due to negotiation powers of consortia. The most significant and probably best acknowledged consortia project is Question Point which is a joint venture of the Library of Congress and On-line Cataloging Library Centre (OCLC). The consortia are responsible for the training, staffing, legal issues and assessment of the digital reference. According to Singh (2004), several hundred libraries worldwide participate in "Question Point". Question Point offers a wide range of modules and functionalities. The question point is able to answer and administer questions per e-mail and chat. This service with the library profile module is used to co-ordinate the collaboration among the participating libraries.

Krubu and Osawaru (2011) observed that there could be no doubting of the immense impact

of recent advances in electronic and computer technologies in the librarian's delivery of information services especially with the use of Internet. He also affirmed that Internet has become an invaluable tool for learning, teaching and research in academic institutions (including collaborative research) in Nigeria. Also, Oketunji (2001) observed that "technology has forever changed the way that libraries and reference section serve their patrons and all indications are that this change will continue". According to Alabi (2003), whenever technology intervenes in human activities, the essential feature is how to bridge time, cost and space as well as to maximize quality, efficiency and effectiveness. With ICT, the services of the reference librarian are no longer restricted by library opening hours as information resources are provided in printed and electronic versions which can be accessed any time and anywhere with a personal computer. Aina (2004) concurred that with the advent of information and communication technology (ICT), reference services have been made easier. In the same vein, Lantz (1978) much earlier looked at the cost aspect of manual and traditional reference services.

3.2 Current Trend in digital/electronic reference services in Nigeria

The delays in manual reference services have frustrated library users to the extent that many may have resolved not to come to the library again. There could be reduction in patronage if library users' interests are not met. As Onifade and Sowole (2011) put it, libraries are no 1longer passive and archival institutions but are effective service institutions. The responsibilities of libraries go beyond gathering and organizing books and journals to include an active role in disseminating information. One way this can be achieved is through effective reference service, which can be harnessed by the use of computers and ICT facilities.

A number of reference and information services are now available on the web that are provided by non-library and commercial organizations. Some of these services are free, while others require payment of fees. There are a number of organizations providing free access to on-line reference sources. These allow users to either select a specific source or conduct a search on a range, or all of the reference sources. Examples of such services include:

- Internet Public library: Ready Reference (http://www.ipl.org/div/subject/browse/ reoo.oo.oo)
- High Beam Reference Research (http://www.highbeam.com/library/index.asp)
- Reference Desk (http://www.referencedesk.org/)
- Xrefer (http://www.xrefer.com/)
- Refdesk.com (http://www.refdesk.com)

Most of these web-based reference services are available for free while some charge access fees. Google launched a question and answer (Q&A) service which acts as a form of reference service. In a nutshell, digital reference service, especially in developed countries, has come of age, although it is still evolving day-to-day and becoming more and more interesting.

Libraries in developed countries use a mix of the aforementioned types of digital reference tools to provide reference services. Consortia are also formed for the provision of reference services. In conclusion, a number of studies and research work by Chowdury and Maragariti (2004), Steven

(2006), and Omowunmi and Segun (2010) reveal that many libraries have developed into hybrids, accessing or developing digital collections alongside print-based collections and as such that reference services should be provided traditionally through face-to-face method or digitally as the case demands.

4. Theoretical Framework

Pomerontz et al. (2004) presented a theoretical model of virtual reference process that highlighted five key question handling functions: question acquisition, triage, answer formulation, tracking and resource creation. Hence Pomerontz's model of reference and information services advocates a shift towards a more interactive and collaborative reference process in which both the reference librarian and the reference user play the roles of information seeker, information receiver and information creator.

4.1 Pomerontz's general process model

The theoretical model that is more applicable to this study and indeed for academic libraries is Pomerontz General Process model of reference service (2004). The general process model of asynchronous digital reference is as follows:
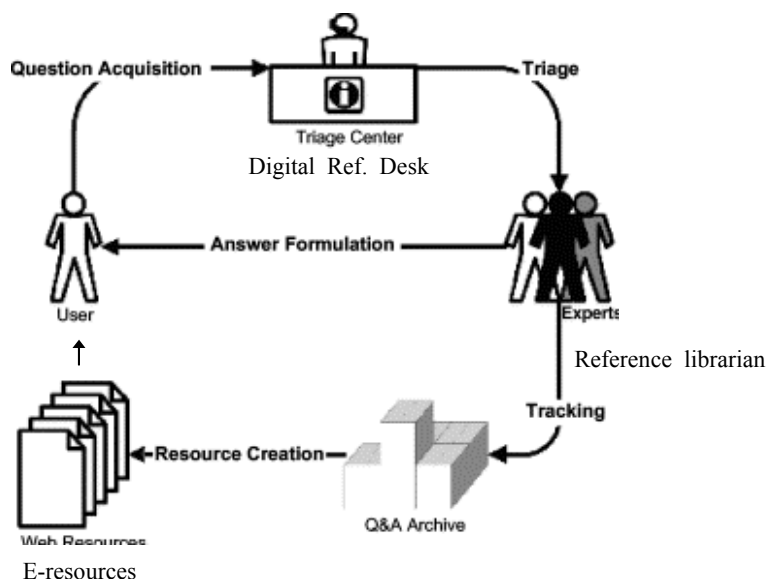

Fig. 1. Adapted from General Process Reference Model

This model consists of five steps:
(1) Question acquisition is a means of taking a patron's questions from E-mail, Web forms, chat, or embedded applications.
(2) Triage is the assignment and routing of a question to a digital reference service, or to a

reference or subject expert within a service. This step may be automated or conducted via human decision support. Triage also includes the filtering of repeated questions or out-of-scope questions.

(3) Answer formulation includes factors for creating good answers such as age and cultural appropriateness. Answers are also sent to the user at this point.

(4) Tracking is the quantitative and qualitative monitoring of repeat questions for trends. Tracking allows the identification of hot topics and may indicate where gaps exist in the collection.

(5) Resource creation concerns the use of tracking data to build or expand collections and better meet users' information needs.

The general process model is presumed to be applicable to all asynchronous digital reference services, though different services employ variations of the processes at each step. Some services may even skip steps; for example, not all services may archive questions or answers to create resources. Additionally, some steps may be repeated, especially if this model is seen to span more than one service, for example, a triage centre at one digital reference service may receive a question and route it to a different service, which may then route it to an expert.

With proper installation of ICT facilities, universities can adopt this model to receive questions from patrons using e-mail communication system and library portals in university website. Specific library staff can function as subject specialists (reference librarians), thereby being able to filter repeated questions and in the process create a triage environment. Furthermore, subject specialists can take into consideration the demographic and socio-economic attributes of users in order to formulate appropriate answers to users' questions. Librarians can use electronic systems to track on-line resources consulted and the frequency of that consultation in order to identify hot topics that maybe critical to the information needs of users of digital reference needs. Tracking data will enable digital reference librarians to build an excellent collection that will meet their information needs in a more expansive manner.

This implies provision of all the information and materials needed by library users. Application of this theory advocates the use of ICT facilities in the library which is a major prerequisite for the attainment of maximum reference assistance to the library users. The various sources of information and information materials can be accessed using ICT which should be at the disposal of the patrons. This theory aims at maximum satisfaction of library users and also a sense of accomplishment and job satisfaction for the reference librarians.

5. Materials and Methods

Descriptive survey design was adopted for the study. The population of the study comprised all librarians in all the federal universities in Nigeria as well as the postgraduate students (users) of the university libraries as at the time of the study. According to the National Universities Commission (NUC) 2009, there were twenty-seven federal universities in Nigeria. The population size of librarians in the federal universities was 465. The universities were grouped in geo-political zones - South-south,

South-west, South-East, North-Central North-West and North-East. Two universities each were selected from each of the six geopolitical zones for the study. The total number of librarians in the twelve university libraries was 285 librarians which was the sample size.

Questionnaire (with Likert scale) was used to collect data from the respondents while oral interview was used to elicit more information where necessary. Data was analyzed using frequencies, mean scores and standard deviations. ANOVA statistical analysis was used to test the hypotheses using p-value of 0.05 to calculate the level of significance.

6. Statistical analysis

Data was analyzed using frequencies, mean scores and standard deviations. Both users and professional librarians supplied data for the study.

6.1 Research Question One

For what purposes are ICT facilities utilized in reference services in the federal university libraries?
For this research question, data was collected from the librarians working in the university libraries (the respondents). The data collected were analyzed using frequency counts, mean scores and standard deviation to determine the purposes for which the ICT facilities were used in reference services. A summary of the analysis of data was presented in Table 1.

Table 1. Mean responses of librarians on the purposes for which ICT facilities were utilized in reference services

N = 242

S/N	Item Description The purposes for which ICT facilities are utilized in reference services	$\overline{x}$	SD	Decision. Agree or Disagree	Ranks
	Assisting patrons to obtain information they need using the internet	3.21	0.89	Agree	1st
	Provision of current awareness services	3.18	0.88	Agree	2nd
	Provision of current e-books and e-journals for users	3.09	0.94	Agree	3rd
	Providing selective dissemination of information (SDI) services	3.07	0.93	Agree	4th
	On-line searching using workstations in the library	3.04	0.97	Agree	5th
	Co-operative online resources sharing and inter library loan with other libraries	3.03	0.92	Agree	6th
	Provision of on-line public access catalogue (OPAC) services	3.02	0.97	Agree	7th
	User education including instruction to users using ICT systems	2.99	0.94	Agree	8th
	Keeping statistics of users of the reference section	2.98	0.96	Agree	9th
	Compilation of e-reference collections for ready reference services	2.97	0.96	Agree	10th
	Compilation of bibliographies	2.94	0.99	Agree	11th
	Compilation of electronic documents like e-Theses and Dissertations (ETD)	2.91	0.92	Agree	13th
	Making information in CD-ROM and other electronic databases available to patrons	2.91	0.95	Agree	12th
	Provision of e-mail and chat services to users	2.83	0.97	Agree	14th
	GRAND MEAN AND STANDARD DEVIATION	3.01	0.94		

It was evident from Table 1 above that the highest use of ICT in reference services by librarians was in assisting patrons to obtain information they needed from the internet which had a mean score of 3.21. This was followed by the provision of current awareness services which had a mean score of 3.18. Other purposes for the use of ICT in reference services by librarians included: provision of current e-books and e-journals for users with a mean score of 3.09, providing selective dissemination of information services (SDI) with a mean rating of 3.07, on-line searching using workstations in the library with a mean rating of 3.04, co-operative online resource sharing and inter-library loans with a mean rating of 3.03 and provision of online public access catalogue (OPAC) services with a mean rating of 3.02. The mean scores for the other purposes were from 2.83 to 2.98 while the responses to all the items had their mean ratings above the minimum positive score of 2.50. Furthermore, the response to all the items had a grand mean and standard deviation of 3.01 and 0.94 respectively which indicated that the ICT facilities were being used for reference purposes.

Here, necessary data was collected from the users of these University libraries. The data was analyzed using mean scores and standard deviation as presented in the table below.

Table 2. Mean Responses of Library Users on the Purposes of Utilizing ICT Facilities in the Reference Section of their Libraries

N = 1218

S/N	Item Description For what purposes do you use the ICT facilities in your reference section for?	$\overline{\times}$	SD	Decision- A-agree D-disagree	Ranks
1	To access and download information materials	2.64	1.12	A	1st
2	To help me in my internet search to locate the information resources I need for my assignments and projects	2.62	1.11	A	2nd
3	I use it to access current e-books and e-journals	2.58	1.11	A	3rd
4	I use it for accessing user education and instructional services of the library	2.57	1.09	A	4th
5	To help me to contact the Newsgroup and Usenet for specific information I need	2.56	1.09	A	5th
6	To provide me access to global information resources in other libraries	2.56	1.12	A	5th
7	I use ICT facilities for my e-mail services	2.55	1.11	A	7th
8	I use the ICT facilities for chat services	2.48	1.11	D	8th
	Grand Mean and Standard Deviation	2.57	1.10		

In Table 2, the results presented also indicated that library users agreed that they used ICT facilities for their reference needs. The highest use of the facilities was in accessing and downloading information materials followed by search of information from the internet with mean ratings of 2.64 and 2.62 respectively. Other reference needs for which they used the ICT facilities included: access to current e-books and e-journals with mean rating of 2.58, user education with mean score of 2.57, access to global information in other libraries with mean rating of 2.56, contacting news groups for information with mean rating of 2.56 and use of ICT for e-mail services with mean rating of 2.55.

The grand mean and standard deviation of the responses by library users of 2.57 and 1.10 respectively supported their use of ICT facilities for their various reference needs.

The results presented showed that the librarians and users agreed that they used ICT facilities in the reference section for their various needs listed above except for chat services which had a mean score of 2.48.

In the same vein, the reference librarians interviewed affirmed that they used ICT facilities for the following reference operations: assisting patrons to obtain information they needed using the internet, keeping statistics of users, information dissemination, current awareness services, provision of current e-books and e-journals.

There was no significant difference in the responses by the librarians of the various universities studied in all the geo-political zones on the purposes for utilization of ICT in reference services. The range of mean for the 14 items in Table 1 was only 0.38. This meant that there was no significant difference in the responses of the librarians of the various universities in the zones studied on the purposes for utilizing ICT in reference services.

Besides the SD for all the items were small and the Grand SD for librarians and users were 0.94 and 1.10 respectively which meant that majority of the responses were tightly clustered around the mean. In other words, greater number of respondents (librarians and users) in all the universities studied agreed to the items stated.

6.2 Research Question Two: What are the perceived benefits of the use of ICT facilities on reference services in the university libraries under study?

To provide an answer to the above question, the responses collected from the librarians and users were analyzed using mean and standard deviation. The agreed categories of mean scores were used to determine the extent of benefit of the use of ICT in reference services. A summary of the analyzed data was presented in Table 3.

Table 3. Mean Responses of Librarians on the Perceived Benefits of the Use of ICT Facilities on Reference Services in the University Libraries under Study

N = 242

S/N	Item Description To what extent has the utilization of ICT positively affected reference services?	$\overline{\times}$	SD	Decision- A-agree D-Disagree	Rank
1.	Easy retrieval and dissemination of information	3.33	0.92	A	1st
2.	Creates faster access to information	3.28	0.93	A	2nd
3.	Provision of a variety of materials in digital forms	3.16	0.95	A	3rd
4.	Breaks barriers of geographical distance for users	3.15	0.97	A	4th
5.	Providing timely current awareness services (CAS)	3.12	0.96	A	5th
6.	Provision of access tools e.g online catalogues, subject gateways and portals	3.11	0.97	A	6th
7.	Providing access to global library and information resources	3.09	0.98	A	7th
8.	Easy provisions of electronic resources - e-books and e-journals needed by patrons	3.08	1.00	A	8th
9.	Makes conduct of complex literature searches easier	3.05	0.93	A	9th
10.	Ability of the reference librarians to serve a number of patrons simultaneously	3.04	0.98	A	10th

S/N	Item Description To what extent has the utilization of ICT positively affected reference services?	$\overline{\times}$	SD	Decision- A-agree D-Disagree	Rank
11.	Increases resource sharing among libraries	3.03	0.97	A	10th
12.	Provision of e-reference collections for ready reference services	3.02	0.94	A	11th
13.	Improved efficiency of reference services provided by your library in terms of providing most of the needs of your patrons	3.02	0.95	A	11th
14.	Makes inter-library loans and exchange services faster	2.99	0.93	A	13th
15.	Making information available in CD-ROM to patrons	2.95	1.00	A	14th
16.	Functional co-operative resource sharing network provided by your library	2.94	0.94	A	15th
	Grand Mean and Standard Deviation	3.08	0.95		

It was evident from Table 3 that reference librarians' use of ICT facilities for reference services has positive benefits in the following services: easy retrieval and dissemination of information to patrons with mean rating of 3.33 which ranked highest, faster access to information with a mean rating of 3.28 and provision of a variety of materials in digital forms- with a mean rating of 3.16 and functional co-operative resource sharing with a mean score of 2.94

The results presented in Table 3 also showed that all the items had a mean score of 2.50 and above which indicated benefit to a high extent. The grand mean and standard deviation of 3.08 and 0.95 respectively of all the items also support the benefit to a high extent.

Data was also collected from the users of these university libraries to find out the benefits they got from the use of ICT facilities/resources in providing for their reference needs.

Table 4. Mean responses of library users on the benefits they derive from the use of ICT facilities for their reference needs

N = 1218

S/N	Item Description What Benefits do you derive from the use of ICT facilities for your reference needs?	$\overline{\times}$	SD	Decision- A-agree D-disagree	Rank
1.	Quick access to information resources I need	2.61	1.11	A	1st
2.	My ability to consult the reference section without coming to the library with my Personal Computer (PC)	2.57	1.10	A	2nd
3.	Easy access to electronic materials, like e-books and e-journals I need	2.57	1.10	A	2nd
4.	Resource sharing was made easy and faster	2.57	1.11	A	2nd
5.	Success in the provision of answers to most of my queries by librarians	2.56	1.10	A	5th
6.	Access to consistent electronic file contents	2.56	1.10	A	5th
7.	Prompt answering of queries by librarians	2.56	1.11	A	5th
8.	Easy transaction of interlibrary loans	2.49	1.11	D	8th
	Grand Mean and Standard Deviation	2.56	1.10		

The results presented in Table 4 indicated that library users derived high benefits from the use

of ICT for their reference needs. This was attested in the benefits they derived from the use of ICT for their reference needs including: quick access to information resources, easy access to e-books and e-journals, consultation of reference materials with their personal computers and easy resource sharing with mean ratings of 2.61, 2.57, 2.57 and 2.57 respectively.

The responses of library users agreed with those of the librarians except that users reported that they derived minimal benefits from their use of ICT for easy transaction of inter-library loans. This was evident in their responses to that item which had a mean rating of 2.49. This was within the lowest category of mean scores of 1 to 1.49. The reference librarians interviewed claimed that ICT facilities had revolutionized reference services for good. They opined that it had made their work faster and easier and had also enabled them to attend to many patrons at the same time. They also affirmed that ICT helped them in speedy retrieval of information, introduction to more robust databases, access to international resources and open access to international resources and in open access to online resources.

There is no significant difference in the mean responses of library users in the six geo-political zones on the benefits they derive from their utilization of ICT facilities for their reference needs.

To test the above hypothesis, the ANOVA statistical analysis was used. The results of the analysis are presented in Table 5 below.

Table 5. Result of ANOVA test of significant difference in the mean responses of library users in the six geo-political zones on the benefits they derived from their utilization of ICT facilities for their reference needs

	North West	North East	North Central	South West	South South	South East	F-value	P-value	Decision
Mean	2.57	2.56	2.56	2.57	2.57	2.57	0.010	1.000	Accept
Std	1.11	1.11	1.11	1.11	1.11	1.11			

Results in Table 5 showed that calculated p-value (1.000) was greater than 0.05. Therefore, the hypothesis stating that there was no significant difference in the mean responses of library users in the six geo-political zones on the benefit they derived from the use of ICT for their reference needs was accepted. The conclusion that was drawn was that the library users did not vary significantly on the benefits they derive from their utilization of ICT facilities for their reference needs.

7. Discussion

7.1 Purposes of ICT utilization for reference services

The findings of this study showed that (librarians and library users made use of ICT facilities for different reference purposes. The study revealed that the highest use of ICT in reference services by librarians was in assisting patrons to obtain information they need using the internet. This was followed by the provision of current awareness services. Other purposes for the use of ICT in

reference services by librarians included: provision of current e-books and e-journals, provision of selective dissemination of information services (SDI), online searching using workstations in the library, co-operative online resource sharing and inter-library loans and provision of online public access catalogue (OPAC). Furthermore, the responses to all the items showed proper utilization of ICT facilities for reference purposes.

On the responses of users, the findings revealed that the highest use of the facilities by users was in searching, accessing and downloading information materials from the internet. Other reference needs for which patrons used the ICT facilities included: - access to current e-books and e - journals, user education and access to global information in other libraries. The similarities in the use of ICT facilities by librarians and users for specific services include: access to current e-books and e-journals, e-mail, chat, user education and access information materials from the internet.

The different ways through which ICT facilities are used for various services are here under stated: librarians use ICT facilities for various services including provision of current awareness services (CAS) and selective dissemination of information services (SDI), on-line searching using workstations in the library, provision of on-line public access catalogue (OPAC) services, keeping statistics of users of the reference section and compilation of bibliographies. The library users on the other hand, use ICT facilities for the following services for their assignments and projects, access to global information resources in other libraries and helped them to contact subject specialists for their specific information needs.

The findings of this study show that more librarians and patrons are becoming aware of a wide range of services that could be provided by the reference sections of university libraries using ICT facilities. Ikpahindi (1999) agree on the findings of this study on purposes of utilization where he stated that ICT facilities have made research and learning very easy. He reported that with ICT the shiver, nightmare and hours of fumbling through card catalogue and readers guide to periodical literature has been eliminated with the use of ICT.

7.2 Benefits of ICT use in reference services

The findings of this study showed that the librarians and library users derive a lot of benefits from their use of ICT facilities in reference services. The results showed that easy retrieval and dissemination of information to patrons were ranked highest by the librarians. This may be attributed to the fact that patrons want their information needs to be met immediately .The other benefits derived from the use of ICT for reference services that were ranked high included: faster access to information, provision of variety of materials in digital forms, breaking barriers of geographical distance for users, providing timely current awareness services (CAS), providing access to tools such as online catalogues, subject gateways and portals, providing access to global library and information resources, easy provision of electronic resources - e-books and e-journals and making conduct of complex literature searches easier.

The results of the study indicated that library users derived much benefit from the use of ICT for their reference needs. This is attested in the benefits they derived from the use of ICT for their reference needs including; quick access to information resources, easy access to e-books and

e-journals, consultation of reference materials using their personal computers which ranked highest. The responses of library users agreed with those of librarians to somse extent except that users reported that they derive minimal benefits from their use of ICT for inter-library loans. This goes to support the reluctant efforts of Nigerian libraries in the collaboration and consortium linkages as reported by Anaeme (2005). Aina (2004) also stressed on the immense benefits derived from electronic reference services.

Summarily, the findings of Lantz (1978) on speed and cost in using manual searches and computerized searches also agreed with the findings of this study. In his findings, manual reference searches takes longer time and costs more than computerized reference searches. In his findings, the cost of retrieval of computerized reference was ₤28.55 and the time spent on that was 1.6 hours. The findings also observed that the manual retrieval of the same reference operations costs ₤37.10 and 9.0 hours was spent on the same. This goes to concur with the views of Ikpahindi (1999), Oketunji (2001), Alabi (2003) and Aina (2004) which emphasized on the immense positive benefits of using ICT facilities for library operations which has made reference services much faster and easier for both librarians and patrons.

8. Conclusion

The ICT facilities were fairly utilized in the reference sections of the libraries for various purposes, including assisting patrons to obtain information they needed using the internet and provision of e-books and e-journals with the provision of chat services being minimally used. Sourcing of information from the internet was seen to be the main purpose for which ICT was used in reference services. The use of ICT in reference services in the federal university libraries highly benefitted the reference librarians through enhanced service delivery to library patrons, including easy retrieval and dissemination of information and quick access to information.

Generally, the result of this analysis show many benefits of ICT facilities utilization by librarians in reference services as against traditional/manual reference services. The findings of this study on the benefits of using ICT for reference services supports the view of Ikpahindi (1999) who reported that patrons no longer experience nightmare with hours of fumbling through card catalogue and readers guide to periodical literature. Today's students are spared the challenges of finding information the hard way due to the emergence of ICT in reference operations.

In view of the foregoing, the question which the Nigerian university managements should provide an answer to is how adequate are the required ICT facilities needed for library services delivery generally and reference service prompt delivery in particular considering the current trend in this age of information. It is therefore recommended that the different universities should not only target scaling through accreditation exercises by making their libraries boom in ICT at the period of the visit and neglecting their maintenance immediately after the accreditation. Provision and maintenance of such facilities should be made top priority when planning the universities and libraries' budgets.

In the same vein, adequate training and re-training of the librarians and support staff needed

to utilize these facilities should be addressed more than the way it is presently so as to be innovative and be able to follow the trend in advancements in this regard.

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