

**Influence of ICT on Reference Services in Selected University Libraries in South-West Nigeria**

By

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**Abstract**

In university libraries in South-west Nigeria, the use of ICT at the reference section is becoming rampant especially at the reference section. However, research assessing the impact of ICT on reference collections and services in the Nigeria University's libraries context has been ignored. In the light of this, this study examines the impact of ICT on reference collections and services in selected university libraries in south-west Nigeria. A stratified random sampling technique was used to select 10 universities libraries out of the 21 university libraries in the South West Nigeria. Interview and questionnaire were used as data collection instrument. Collected data was analyzed using the percentage and frequency count. A total of 200 copies of questionnaire were administered. The respondents were given the questionnaire at the reference section of the selected University libraries. Four research questions were answered by the study. These are: i. What are the impacts of traditional reference collections and services on users of selected academic libraries? ii. What are the impacts of digital reference collections and services on users of selected academic libraries? And, iii. What are the challenges of ICT on reference collections and services in the selected academic libraries? The results revealed that a total number of six out of the ten Universities examined in this research have adopted ICT at their reference section and library users in the provision of reference services are satisfied with the services offered at the reference section than those that have not adopted ICT. The study also revealed that the adoption of ICT at the reference section of academic libraries in South-west Nigeria has some associated challenges. The challenges revealed by the study are: electricity problem, incomplete automation, reduced patronage (because of the availability of search engines), changing technology, high cost of ICT equipment as well as ICT illiteracy on the part of the library users. Despite the challenges faced by the staff and students in the adoption of ICT at the reference section of academic libraries, it was found that librarians/ library staff are foreseeing a bright future in ICT adoption for reference collection and services. The study recommends that more electronic resources should be provided at the reference section.

**Introduction**

The Library as an important and integral component of a higher institution has offered opportunity for students and staff to explore and expand their minds (Blau, 2004). It could be said that the library has become a focal place for enrichment, entertainment, education and empowerment through knowledge. In striving to serve its client, there is need for a library to clearly understand the continually changing needs of its constituency, from undergraduates, graduates, , academic staff and even school age children and local citizens (Blau, 2004). Despite the processing and propagation of library resources, a key trait of a university library is the services based around personal interaction between users and the library staff. Libraries should make sure that these services show proper levels of customer care and that the information given to the users is useful and at the right level (Loughborough University Library, 2005). The reference service in libraries has to do with interaction between the reference librarians and the clients in order to make the collections needed by the clients available on time. The key elements in reference are the collection, the librarians, and the library users (Ruteyan & Akporhonor, 2007). Mitchell (2008) has rightly said that today's reference librarians are actively engaged with the many

emerging new processes by which learning occurs. Further, reference librarians in academic and research libraries are actively engaged with the many emerging new processes not only by which learning occurs, but also by which research is done. To be successful, today's reference librarians need to not only understand but also embrace current and emerging technologies affecting reference functions and the information needs of library users.

The unprecedented pace of technological change in the development of digital information networks and electronic services in recent years has helped to expand the role of the academic library. Once only a storehouse of printed materials, it is now a technology-laden information network where students can conduct research in a mixed print and digital-resource environment, experience the use of advanced information technologies, and hone their computer skills. The provision of reference services has been, and still is, at the heart of all libraries in every sector be it academic, public or special. Until the internet changed forever the way we access information, it was the exclusive responsibility of the "Reference librarian" to provide information directly to the client (Weddell, 2008).

Evaluation of library reference services began in earnest in the late 1960s and early 1970s when budgetary situations required justification of the existence of all services in the library. A close examination of a reference service provides library administration and involves librarians with a clear understanding of how well the service is meeting its intended goals, objectives, and outcomes, how well the service is helping users fulfil their information needs, and whether the expended resources are producing the desired results (Pomerantz, Luo and McClure, 2006).

Academic libraries especially the university libraries in South-West Nigeria have been using ICT in the provision of reference services and in the management of their reference collection. This is a shift from the traditional method. The impact of ICT on reference collections and services cannot be overemphasized, but despite that, nothing has been documented on the impact of reference collections and services especially with reference to academic libraries in South-West Nigeria. In the light of this, this study examined the impact of ICT on reference collections and services in selected university libraries in South-West Nigeria. This study is considered significant in many respects. First, the findings will create new opportunities for the organization of library's reference services that will break through the time and space limitation of print materials. Secondly, the study will afford the library stakeholders opportunity of access to information they could not readily get before. Thirdly, the outcomes from the study will provide a panacea for solving the challenges faced by academic libraries in coping with the trends of ICT. The main objective of the study is to examine the impact of ICT on the reference collections and services offered at the university libraries in South-West Nigeria.

The specific objectives of the study are:

- i. Assess the impact of traditional reference collections and services on users and staff of selected academic libraries.
- ii. Examine the impact of digital reference collections and services on users and staff of selected academic libraries.
- iii. Find out the challenges of ICT on reference collection and services in selected academic libraries.

To achieve the above objectives, the following questions were raised and answered by the study.

- i. What are the impacts of traditional reference collections and services on users of selected academic libraries?
- ii. What are the impacts of digital reference collections and services on users of selected academic libraries?
- iii. What are the challenges of ICT on reference collections and services in the selected academic libraries?

#### **Literature Review**

Information and Communication Technology (ICT), is a composite term, which embodies three important concepts: 'information, communication and technology'. To understand ICT, one must understand all the three concepts. "Information" means processed data or, that which aids decision making. Information is abstract, and could also be visualized as a commodity, which could be bought or sold (Krubu and Osawuru, 2011). Communication refers to the transfer or exchange of information from person to person or from one place to another. When action produces a reaction whether positive or negative, communication has taken place. Other writers in the field of communication studies have defined communication as: a process: a transfer of information, ideas, thoughts and messages. It involves a sender, a receiver, a code and, a language that is understood by both the sender and the receiver. A process involving the passing of messages through the use of symbols which all parties in the communication encounter and understand. It involves the exchange of ideas, facts, opinions, attitudes and beliefs between people. It is not a one-way affair. There must be a sender to transmit the message, and receiver to make appropriate decisions on how the rest of the exchange should continue (James, 2004). Technology refers to the use of scientific knowledge to invent tools that assist human beings in their efforts to overcome environmental hazards and impediments to comfort. In this regard, technology refers to the things like the computer, telephone, cell phone, GSM handsets, television, radio, etc.

ICT covers any product that store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots, etc. ICT concerned with transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other. ICT and Information Technology (IT) are similar concepts that can be used interchangeably. IT implies

communication and therefore it becomes obvious that the two terms are synonymous. ICTs encompass a range of rapidly evolving technologies and they include telecommunication technologies (telephone, cable, satellite, TV and radio, computer-mediated conferencing, video conferencing) as well as digital technologies (computers, information networks (internet, World Wide Web, intranets and extranets) and software applications (Chisenga, 2006).

Information and Communication Technologies (ICTs) enhance service provision to library clientele. Librarians use ICT to perform functions like cataloguing and classification, serials management, collection management, budgeting, circulation management, referencing, indexing and abstracting in order to improve information services to library users. Academic libraries are those libraries mainly found in tertiary institutions, they are established to support teaching, learning and research processes (Oyedun, 2007). Academic libraries were the first to provide digital reference services in the early 1980s (Gross, McClure & Lankes, 2001). One of the first services to go online was the Electronic Access to Reference Services (EARS) launched by the University of Maryland Health Services Library, Baltimore in 1984 (Wasik, 2004). Since that time, the number of academic and public libraries offering e-mail reference service continues to grow making e-mail the most common vehicle for providing digital reference services. However, experience has shown that there are several limitations inherent in trying to provide service this way. According to Bopp and Smith (2001), the major drawback of accepting reference queries by e-mail or Web page is the asynchronous nature of the interaction: library staff cannot interview the user in real time. As Abels (1996) has pointed out when e-mail is used to communicate and interchange questions and answers for clarification, it's usually result to substantial delays in providing the answer.

By the early 1990s, Ask A Librarian services were common. By the mid 1990s, at least 75% of 122 ARL (Association of Research Libraries) member and 45% of academic libraries offered digital reference service via electronic mail or a web form (Goetsch, Sowers, and Todd, 1999; Janes, Carter, & Memmott, 1999). Digital reference services become important and effective resources for meeting information needs of thousands of users, and the number of the user requests to these services has continued to increase.

By the end of the 1990s, 99% of 70 academic libraries offered e-mail reference and 29% offered real time reference service (Tenopir, 2001). The year 2000 brought the advent of live reference in academic libraries with the use of chat or commercial call centre software to communicate with users in real time.

'Information services in libraries take a variety of forms including direct personal assistance, directories, signs, exchange of information culled from a reference source, reader's advisory service, dissemination of information in anticipation of user needs or interests, and access to electronic information' (RUSA Reference Guidelines, p.1) Reference services traditionally have been offered by a person at a designated desk within the library building, over the telephone, and through correspondence. The reference librarian handles all types of queries, from directional questions to in-depth research. The role of the reference librarian is primarily to answer patron questions and secondarily to provide readers advisory services.

An important part of a reference service according to Chowdhury and Chowdhury (2003) is the reference interview, which involves a personal discussion between a user and reference librarian. Through the interview the reference librarian tries to understand the specific information need(s) of the user as well as collects background information about him or her particularly on the individual's subject knowledge and the reason for searching for the information. With reference interview, the reference librarian is able to filter the retrieved information in order to select the most appropriate source(s) for the user. While reference services are largely reactive, the assistance or service is provided when asked for by the users. Libraries have also played a key role in providing information services that anticipate user needs. Such proactive services include various forms of current awareness and selective dissemination of information services.

Jane and McMillan (2003) noted that there is evidence, both anecdotal and recorded, that increasing numbers of people are turning to the Internet as their preferred source of information, and this is being reflected in library reference desk. Coffman (2001) acknowledged that digital resources have brought about some radical changes within the library's organizational structure and in the ways

libraries provide information and services. She concluded that libraries as a place will continue and their central role in the 21st century will not be diminished because of digital resources. Instead, she expects the 21st century library users will have more information available to them and will be better served. The explosion of information communication technology (ICT) since the beginning of the 20th century has been rendering manual-based library system in academic, research, special and public libraries less relevant. According to (Ostrow, 1998) the advent of the Internet, digitization, and the ability to access library and research materials from remote locations have also created dramatic changes by the end of the twentieth century. Ramzan (2004) asserted that developments like expert systems, wireless networks, virtual collections, interactive Web interfaces, virtual reference services, and personal Web portals bring about greater changes since the start of the new millennium. The researcher added that there are significant and fast changes occurring in librarianship, where digital and electronic libraries are being established to complement, and in some cases to completely replace, the traditional libraries.

Osawaru and Krubu (2010) opines that Information and Communication Technology (ICT) has brought unprecedented changes and transformation to academic library and information services, conventional LIS such as OPAC, users services, reference services, bibliographic services, current awareness services, document delivery, interlibrary loan, audio visual services and customer relations can be provided more efficiently and effectively using ICT, as they offer convenient time, place, cost effectiveness, faster and most-up-to-date dissemination and end users involvement in the library and information services process. The impact of ICT on information characterised services by changes in format, contents and method of production and contents and method of production and delivery of information products. Emergence of internet as the largest repository of information and knowledge has changed the role of library and information science professionals from intermediary to facilitator, new tools for dissemination of information and shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and web based innovations.

There are some empirical findings related to the impact of ICT on reference collections and services.

For instance Sanni (2015) examined the application of ICT in management of information resources and services in Kaduna state tertiary institutions' libraries. The study revealed that application of ICT has impacted most library operations including reference services. The paper highlights the prospects and problems of I.C.T in Kaduna state tertiary institutions' libraries. Recommendations for functional I.C.T. in Kaduna state tertiary institutions' libraries were given. Waghmare and Salve (2014) reported in their study that adoption of ICT in libraries has resulted into various improvements in the rendering references services including ask a library, electronic/remote access to reference librarians, 24/7 references and so on. Muokebe and Ogbomo (2014) examined briefly how library and information services have undergone various stages of transformation from inception. Other factors that hastened the development of library and information services were discussed and how changes in technology have influenced changes in library and information services in Nigeria. The impact of ICT in Nigerian libraries was discussed. Measures needed to improve the use of ICT in Nigerian libraries were also discussed Initiatives and programs aimed at strengthening the effectiveness and set backs of ICT in the Nigerian libraries were also highlighted.

Olawale and Ozairu (2013) examined the importance of ICT in librarianship as a profession, and the evolving new roles, skills, and challenges, while making vital recommendations. The study reported that ICT is playing a great role in libraries especially on reference services where it is now possible for the library users to sit down in the corner of their rooms and enjoy the entire library services electronically. Kaman (2013) studied the use of information communication technologies (ICTs) in academic libraries. The study revealed that use of ICTs in libraries has become great advantage for its users as they open up opportunities for interoperability and information exchange. Users can access wide variety of information resources such as text, sound, images etc according to their needs under one umbrella. Furthermore, the study reported that application of ICTs provides considerable impact on the way in which libraries relate to their user communities and become an essential part of evolving information society. Ukachi (2011) focused on the application of Information Communication Technologies (ICTs) and Effective Reference Services in academic libraries in Nigeria. It emphasized that the roles of reference Libraries have thus evolved in response to new societal and technological developments. Reference libraries now use these technologies to

search for information, to communicate and satisfy patron's reference and information needs. The work established the extent to which ICT facilities are applied to reference services in Nigerian libraries. It also identified problems like irregular power supply, limited duration of use, inadequate number of facilities etc as inhibitors to efficient utilization of ICT facilities. Possible solutions such as provision of sufficient facilities and extension of duration of use, etc, were equally recommended. Similarly, Krubu and Osawaru (2011) conducted a study on the Impact of Information and Communication Technology (ICT) in Nigerian University Libraries using interview as method of data collection. The results reveal that the challenges of ICT in Nigerian academic libraries include epileptic power supply, technical know-how, and lack of search skills, inadequate funding and infancy level of automation in libraries. This in turn, affects the reference section of the academic library

Novotny and Rimland (2007) discussed a service quality study conducted in the Pennsylvania State University Libraries. The Wisconsin–Ohio Reference Evaluation Program survey was selected as a valid, standardized instrument. They presented their results, highlighting the impact on reference training. According to them a second survey a year later demonstrated that focusing on behavioural aspects of reference can improve service quality ratings. Providing quality reference service is not easy, and any approach needs constant evaluation. Close attention to user needs can guide the reference staff about future changes. For example, Fitzpatrick, Moore and Lang (2008) predicted the future directions of reference service based on the findings of a study such as programmatic information literacy instruction, integration of library resources into the curriculum, and librarians spending more time in academic buildings outside of the library in high-activity locations.

Rafi (2006) conducted an appraisal of reference services offered by Quaid-e-Azam Reference Library. The research discovered that majority of users were satisfied with reference services but there is a need to update the printed reference sources. They furnished various recommendations for further improvement. Similarly, Saddique (2006) surveyed the reference services offered by the IRC (previously known as Reference Section) of the University of Punjab, Lahore. These researcher investigated the user's perception about IRC and found that during last few years IRC services have improved but there is a need

for more training of staff and the users as well. The author suggested an extensive information literacy program should be developed for users.

The reviews above have demonstrated that there is paucity of the literature on the impact of ICT on reference collections. Additionally, most studies that are somehow related were conducted outside Nigeria especially Asia and Europe. Examining the impact of ICT on reference collections and services in Nigeria academic libraries will make literature and data available that reflect the Nigeria academic libraries context. This could also serve as reference point to future relevant studies in Africa as a whole.

### **Methodology**

This study adopted a survey research design. The principle of this research design is to seek the opinion of individuals on a particular problem. The target population for this study is the users and staff of academic libraries in thirteen (13) selected university libraries in the South West Nigeria. The cluster random sampling technique was used to select the sample for this study. The Universities were grouped into the following: Federal Universities, State Universities and Private Universities, while sample was selected from the following clusters using random sampling technique. . In all, a total of three universities were selected from the federal University libraries, four were selected from the state university libraries while three were selected from private university libraries. Questionnaire and interview were used as data collection instruments. The choice of these instruments was to be able to gather in-depth information from the respondents on the subject matter of the study. The questionnaire was administered to the students in the university libraries. The interview was administered to the staff of the reference section in the selected libraries. The interview was structured; questions asked were already prepared by the researcher before the interview date. The questionnaire and the interview guide used were trial tested to determine their validity and reliability for use in the study. To ascertain these, the questionnaire and the interview guide were given to expert in reference collection and services and ICT research. The feedback from the experts reveals the instruments as having both the face and content validity. The test re-tests reliability method of two weeks interval was embarked upon to determine the reliability of the questionnaire. The responses collected were subjected to a Cronbach Alpha and the reliability co-efficient yielded an  $r =$

0.89. The copies of the questionnaire were administered at the reference section of the selected libraries. A total of 20 copies of the questionnaire were administered in each of the selected university libraries. All administered questionnaire were returned. The interviews were conducted with the reference librarian and some library staff at the selected libraries. The interview questions included

the frequency of clients visit to the reference section of the library, the prospects of adoption of ICT in the provision of reference services among others. For the analysis of data, raw figures were converted to percentages and tabulated. The responses were analyzed according to their relevance to the research questions.

### Results

The results obtained on the analysis of data are presented as follows.

26-30	34	17.0
31-35	5	2.5
Total	200	100.0

Table 1: Demographics Distribution

Demographics	Frequency	%
<b>UNIVERSITY</b>		
Achievers' university	20	10.0
Bells University of Technology (BUT)	20	10.0
Covenant university	20	10.0
Ekiti State University	20	10.0
Federal University of Technology Akure (FUTA)	20	10.0
Ladoke Akintola University of Technology (LAUTECH)	20	10.0
Lagos State University (LASU)	20	10.0
Obafemi Awolowo University (OAU)	20	10.0
Ondo State University Akungba	20	10.0
University of Ibadan	20	10.0
<b>Total</b>	200	100.0
<b>Level</b>		
100	45	22.5
200	39	19.5
300	46	23.0
400	44	22.0
500	6	3.0
Post Graduate	20	10.0
<b>Total</b>	200	100.0
<b>Gender</b>		
Male	117	58.5
Female	83	41.5
<b>Total</b>	200	100.0
<b>Age</b>		
15-20	70	35.0
21-25	91	45.5

The Table shows the Universities used for this study. It comprises ten Universities in South-west Nigeria. An equal number of responses were retrieved from the various Universities. Achievers' University has 10%, followed by Bells University of Technology (BUT) 10%. The other Universities are Covenant University 10%, Ekiti State University (EKSU) 10%, Federal University of Technology, Akure (FUTA) 10%, Ladoke Akintola University of Technology (LAUTECH) 10%, Lagos State University (LASU) 10%, Obafemi Awolowo University (OAU) 10%, Ondo state University Akungba 10% and the University of Ibadan (UI) 10%. These Universities comprise of 3 Private Universities, 4 State Universities and 3 Federal Universities.

The results in the table also reveal that respondents in their 300level (year 3) were the majority with 23%, followed by respondents in 100 level (year 1) with 22.5%. This is followed by respondents in 400level (year 4) with 22% and respondents in 200 level (year 2) with 19%. The postgraduate respondents constitute 10% while the respondents in their 500level were the least with 3%. The postgraduate were included in this study because undergraduates are not allowed at the University of Ibadan library, except on the recommendation of a lecturer. The respondents in their 500 level were the least because five-year programme are relatively few in Universities compared to four-year courses.

The table also shows the distribution of the respondents by gender. The result shows that 58.5% of the respondents are male while 41.5% of the respondents are female. This implies that more males use the reference section of the library than females. The table shows further the age distribution of the respondents. The result indicates that respondents whose ages range from 21-25 have the highest

percentage participation with 45%. This is followed by respondents whose ages range from 15-20 years old with 35% while respondents aged 26-30 and 31-35 have 17% and 2.5% respectively.

Respondents were asked to indicate how effective the traditional reference collections and services compare to the contemporary ICT reference collection and services. The result is presented in table 2.

The table above shows the effectiveness of traditional reference collections and services based on users' perception. The table reveals the satisfaction of users with the materials at the reference sections of the libraries. The result shows that 56.5% of the users of the collections at the reference section get adequate materials while 43.5% do not get adequate materials at the reference section of the libraries.

Respondents were asked to indicate in one or two sentences how reference collections and services have impacted them as library users. The result is presented in table 3.

**Table 2: Effectiveness of traditional reference collections and services**

ITEMS	YES	NO
I get adequate materials on the shelf at the reference section	113 (56.3%)	87 (43.5%)
Reference librarians answer my questions satisfactorily	102 (51.0%)	98 (49.0%)
A reference service without the use of ICT is satisfactory	41 (20.5%)	159 (79.5%)

**Table 3: Impact of traditional reference collections and services on users**

Items	Frequency	%
Provision of additional and immediate information for urgent needs	106	53.0
Timely provision of needed information and saving of time	34	17.0
Unrestricted access to information and materials	21	10.5
None of the above	39	19.5
Total	200	100.0

The table above shows how reference collections and services have impacted the users. The result shows that 53% of the respondents have been able to get additional and immediate information for urgent needs. On the other hand, 19.5% of the respondents are of the opinion that it has not impacted them in any way. Moreover, 17% of the respondents are of the opinion that traditional reference collections and services saves time while 10.5% of the respondents are of the opinion that traditional reference collections and services provide access which is not restricted by power supply.

**List of the available ICT Facilities the Participating Institutions**

UNIVERSITY	Internet	OPAC	CD-ROM	Photocopying Machine/Printer	Fax Machine
Achievers' university	✓	X	X	✓	✓
Bells University of Technology (BUT)	✓	✓	✓	✓	✓
Covenant University	✓	✓	✓	✓	✓
Ekiti State University	X	X	X	X	X
Federal University of Technology Akure (FUTA)	X	X	X	X	X
Ladoke Akintola University of Technology (LAUTECH)	✓	✓	✓	✓	✓
Lagos State University (LASU)	✓	✓	✓	✓	X
Obafemi Awolowo University (OAU)	✓	✓	✓	✓	✓
Ondo State University Akungba	✓	X	X	✓	X
University of Ibadan	✓	✓	✓	✓	✓

**Impact of ICT on Reference Services**

Impact of ICT on Reference Services	YES	NO
Introduction of ICT at the reference section has improved the services	194 (97.0%)	6 (3.0%)
Use of electronic resources at the reference section will make me visit regularly	180 (90.0%)	20 (10.0%)
Digital reference collection is adequate for my information needs	178 (89.0%)	22 (11.0%)

**Table 5: General Impact of the digital reference collections and services**

Responses	Frequency	Percentage
Provision of access to more current materials	64	32.0
More effective and efficient reference services are provided by the reference librarians	88	44.0
Fast/timely access to information and materials	41	20.5
Stress free	7	3.5
Total	200	100.0

**Table 7: Challenges of ICT at the reference section**

S/N	Responses	Frequency	Percentage
1	Strict library protocol	43	21.5
2	Access to computers	50	25.0
3	Computer virus	11	5.5
4	Inadequate ICT facilities	24	12.0
5	Computer illiteracy	11	5.5
6	Poor network coverage	30	15.0
7	Power failure	31	15.5
8	Total	200	100.0



The table above shows the impact of ICT at the reference section. The result reveals that 97% of the respondents are of the opinion that the introduction of ICT at the reference section has improved the services rendered while 3% are of a contrary opinion. The table also reveals that the use of electronic resources at the reference section now make users visit regularly the reference section of the libraries. It also reveals that digital reference collections are adequate for the information needs of the users.

Respondents were asked to indicate the impact of digital reference collections and services on them as library users. The result is presented in table 5. The table above reveals the general impact of digital reference collections and services on users. The results show that 44% of the respondents indicated that effective and efficient reference services are now provided by the reference librarian and 32% of the respondents are of the opinion that they now have access to more current materials while 20% are of the view that they now have fast/timely access to information and it saves time. Similarly, 3.5% are of the opinion that getting reference materials at the reference section is now stress free. Respondents were asked to indicate the challenges the experience with the use ICT to discharge reference services at the reference section of their library. The result is presented in table 7. The table shows the challenges faced by the library users at the reference section of the library. Challenges faced by the library users at these universities are strict library protocol (21.5%), access to computers (25%), computer virus (5.5%), inadequate ICT facilities (12%), computer literacy (5.5%), poor network coverage (15%), and incessant power failure (15.5%).

#### **Discussion of Findings**

The result on the first research question on this study indicate that traditional reference service is very effective in view of the fact that users are satisfied with the available collections. The users of traditional reference services indicated they usually get adequate materials as at when needed. The result shows that more than average respondents have been able to get additional and immediate information for urgent needs while some of the respondents are of the opinion that traditional reference collections and services saves time while some others are of the opinion that traditional reference collections and services provide access which is not restricted by power supply. Similarly, the interview response reveals that reference librarians and members of staff at the reference section are comfortable with

rendering reference service with the use of traditional reference collections because it serves as a reliable backup for the digital collections. The result implies that traditional reference service has influence on the users. This hereby provides answer to the first research question in this study.

The result of this study reveals that the adoption of ICT has improved the quality of reference services rendered to the clients. This provides answer to the second research question on this study. The finding is in line with the response by Rana's (2009) opinion that ICT holds the key to the success of modernizing information services. This result is in line with the result of the study conducted by Rehman et al., 2011 where it was revealed that users have good perception and satisfaction with the services at the digital reference section of the Universities in Punjab. This was shown with the respondents' agreement with the statement that reference collection is adequate for their information needs. Similarly, the interview report also reveals that library users at the Universities that have adopted ICT in the provision of reference services are more satisfied with the services offered at the reference sections than those who have not adopted ICT. This corroborates the result where the respondents (students) indicated that digital reference collection is adequate for their information needs.

The adoption of ICT at the reference section of academic libraries in South-west Nigeria has its own challenges. The challenges mentioned by the respondents are electricity problem, incomplete automation, few clients (because of the availability of search engines), changing technology, and high cost of ICT gadgets as well as ICT illiteracy on the part of the library users. This result provides answer to the third research question in this study. The challenges reported in this study corroborate some of the challenges identified by the students. Waiganjo (2006) corroborates this by stating that academic libraries in Kenya suffer poor funding, poor communication system and lack of ICT qualified librarians. The case is not different in Uganda. Rosenberg (2005) similarly identified the challenges facing the use of ICT for reference services to include lack of library software standardization. All these lend a good credence to present findings in this study.

#### **Conclusion**

We are living in the information age, where information explosion and customer care are one of

the major challenges. In this context, it is inevitable for academic library to provide richer information to their customers for fulfilling their information needs. This reality is very well felt in the developed world and in those countries where reference and information services have seen revolutionary changes to meet the new challenges of information age. This study examined the impact of ICT on reference collections and services in selected University libraries in the South-West Nigeria. The result has indicated that ICT has positive impact on reference collections and services in academic libraries in south-west Nigeria. The result reveal that electricity failure, high cost of ICT equipment and incomplete automation are some of the challenges of ICT in academic libraries in the South-West Nigeria.

### Recommendations

Based on the findings in this study, the following recommendations are made. Academic libraries should adopt the use of ICT tools at its reference section. This is because; it has been demonstrated to be effective and efficient in facilitating reference services at the reference desk of academic libraries in the South West Nigeria. More electronic resources and ICT equipment should be provided. This will ease the inadequate access revealed as one of the challenges indicated in this study. Moreover, stringent protocols should be avoided. Instead, the libraries are implored to come up with ideas that will encourage the users to improve the use of the reference section and reference collections. Library users should be trained on how to use the ICT tools in the library, particularly, those at the reference section.

### Limitations and Suggestions for future research

Although conscious efforts have been made to ensure that the data was valid and findings are reliable, nevertheless there could be some errors. The short coming among others in the design and the execution of this study lies on the scarcity of resources in the form of financial constraints, time constraint and materials needed for the study. They were not easy to come by. Despite the fact that the study covered a wide area (South West Nigeria), the sample of 200 respondents is still considered very small in a study such as this. In the light of this, future researchers are advised to include more sample in future relevant studies. An in-depth pure qualitative study is also recommended using interview to determine the perception of academic librarians on the impact of ICT on reference services and collections in academic libraries in Nigeria.

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