Provision of Digital Reference Resources and Services in Three Federal University Libraries in North-Central Nigeria

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Abstract
This research examined the provision of digital reference resources and services among federal university libraries in North Central Nigeria. It identified the digital reference resources and services provided by the libraries, the technological skills possessed by the librarians, the modality of providing digital reference resources and services, the benefits of digital reference resources and services, the challenges faced in the provision of digital reference resources and the strategies for providing digital reference resources and services were highlighted. A descriptive survey research design was used for the study. A total number of 71 professional librarians constitute the population of the entire librarians used. Three instruments were used for data collection in the study: observation checklist, structured questionnaire and interview. The data collected was analyzed and presented using simple mean, percentages, tables and frequency counts. The findings revealed that different kinds of digital reference resources and services were available and in use in the libraries. The librarians possess the technological skills for digital reference resources and services. There are different methods of service provision that is effective in the libraries. The benefits of training librarians for digital reference services include; translate reference questions to search engines, explore search engines result quickly, retrieving a saved document etc. The challenges faced are lack of fund, power failure, cost of subscription/packages among others. Finally, the following recommendations were made: frequent training programs should be organized, result oriented training programs to help librarians over come techno-phobia should be organized and better working conditions should be provided to facilitate the provision and utilization of digital reference resources and services in the libraries.

Keywords: Digital Reference Resources, Digital Reference Services, University Library,

1.1 Introduction

A university is an institution of higher education and research which grants academic degrees in various fields and subjects of learning. Universities are also known as institutions of higher learning. They support the nation in building able and reliable citizens. The main objective of the university is to provide high quality, comprehensive educational and training opportunities that are compatible with changing needs of the students and citizens of the country at large. Through its academic programs, the university prepares its students for the challenges ahead and empowers them to meet the task of a rapidly changing world. The universities work hand in hand with the libraries to achieve the objectives and goals of the institution.

Reference resources are those library resources that are not intended to be read cover to cover, but rather consulted to provide one with more concise information. Their design is generally dependent on the type of information and treatment provided. Reference resources such as dictionaries, encyclopaedias, almanacs, atlases etc. are research tools that help to provide answers to specific questions, such as brief facts, statistics and technical instruction. There are thousands of reference sources available that cover practically every subject. Although the term reference 'book' is frequently used, reference sources can be books, serials, on-line databases or the internet. These reference resources are used to provide users with the needed information and answers to their query.

Reference service is considered as the heart of the library services. It is a service rendered by the reference librarian which meets the information needs of the user with desired information. Ranganathan (1961) also defines reference service as a personal service to each reader in helping him find the documents answering his interest at the moment pin pointedly, exhaustively and expeditiously. In the traditional libraries, reference services is classified under the "direct and indirect" reference service. Direct reference service is a person-to-person relationship, usually one in which the librarian answer's a patron's question or provides instruction to guide the patron. Indirect reference consist of behind the scenes activities; preparation and development of catalogues, bibliographies and all other reference aids which help in providing access to the library's collection.

Digital reference resources may also be seen as information resources that are used in the library to provide access to the information available in the library. The provision of reference services in the library involves using these information resources also known as digital reference resources. Collaboration between the user and the librarian in a computer based medium is done with the information resources provided in the library. Digital reference resources been used in the library include e-books, dictionaries, encyclopaedias, full-text journals, audio-visual files, newspapers, online data bases, journals, theses and dissertations which are all utilized through a computer mediated communication which are known as information resources in the library. Digital reference resources are also information resources that the library provides access to in an electronic format.

Provision simply means to make something available for utilization. Provision for the purpose of this study is the ability of the university libraries to provide its users with the required medium through which they will be able to access and utilize the libraries online information resources through the medium of digital reference. Therefore, in other to make library materials available to patrons, the library must make sure that the resources are provided and made available.

It is based on this backdrop that the

study investigates the provision of digital reference resources and services in three federal university libraries in north-central Nigeria. It is hoped that the findings and recommendations of the study would be beneficial to the librarians and institutions in similar situation in this digital era.

1.2 Statement of the Problem

Digital reference resources and services have helped libraries and librarians to become more relevant and productive in delivery of library services in this digital age. Digital reference resources and services have also assisted the library users in making effective use of the library resources and in their comfort zone with little or no stress. The advent of digital reference resources and services to the library has proven to be very important in information search and in getting answers to query for library users. Easy access, use and extension of library services to clients outside the four walls of the library without time delay or stress can be said to be one of the great benefits of digital reference resources and services to the libraries and library users.

Based on the benefits of digital reference resources and services to both the libraries and its clienteles, it is very important that there should be adequate provision in order to enhance utilization of digital reference resources and services provided by the university libraries. The state of the art in the federal university libraries is that most libraries in North central Nigeria, these days have done little in providing the digital reference resources and services in their libraries. The asynchronous mode of digital referencing is the area they have done little compared to the synchronous mode which is still a problem for these universities. The motive behind the researchers to carry on this study is based on previous studies and observations that many university libraries are losing their users due to inability to deliver

answers and resources to the users query in real time and due to the fact that most reference librarians are not computer literate, thereby leading to a great loss of library users and patronage. This automatically affects the utilization of the library resources.

With the coming of Digital reference resources and services, the university libraries can now achieve its main objective of helping students and staff of its institution to achieve academic excellence by helping them with easy access to information resources and also help them find answers to their query. Since Digital reference resources and services have become a significant movement in the world of traditional libraries, the university libraries will also change from the traditional reference services and resources to a digital reference services and resources.

Libraries seem to be losing its users to other information centres by the inability to provide digital reference resources and services to its clients. It is against this backdrop that the researchers have embarked on this study. This study is aimed at filling this gap in knowledge. The study concerned with examining the of provision and digital reference resources and services in the federal universities by librarians in North central Nigeria with focus on University of Agriculture, Makurdi (UAM), Federal University Lafia, (FUL) and University of Abuja, Gwagwalada (UA).

1.3 Objective of the Study

The broad objective of this study is to determine the provision of digital reference resources and services in three (3) federal university libraries in North-Central geographical zone of Nigeria. However, the specific objectives of the study are to:
1. Identify the digital reference resources provided in the federal university libraries in North-central, Nigeria.
2. Find out the digital reference services

provided in the federal university libraries in North-central, Nigeria.

3. Find out the modalities for provision of digital reference resources and services in the federal university libraries in North-central, Nigeria.

4. Ascertain the benefits of providing digital reference resources and services to the librarians in the federal university libraries in North-central, Nigeria.

5. Identify the challenges faced in the provision of digital reference resources and services by librarians in the federal university libraries in North-central, Nigeria.

6. Proffer strategies that could be used to provide digital reference resources and services for users in the federal university libraries in North-central, Nigeria.

1.4 Research Questions

This research guided by the following research questions:

1. What are the digital reference resources provided in the federal university libraries in North-central, Nigeria?

2. What are the digital reference services provided in the federal university libraries in North-central, Nigeria?

3. What are the modalities for the provision of digital reference resources and services in the federal university libraries in North-central, Nigeria?

4. What are the benefits of providing digital reference resources and services in the federal university libraries in North-central, Nigeria?

5. What are the challenges faced in the provision of digital reference resources and services by librarians in the federal university libraries in North-central, Nigeria?

6. What are the strategies that could be used to effectively provide digital reference

resources and services for librarians in the federal university libraries in North-central, Nigeria?

2.1 Review of Related Literature

University libraries are libraries that are established in order to aid university students and staff in their curriculum. University libraries support and encourage the objectives of the school, which is teaching, learning and research at high levels of education. According to Agboola (2005), university libraries are very important components of university institutions. This is because no academic excellence will be achieved without a good library to back up its teaching, research and other community service mandates. Collins et al (1987, 52) also defined university libraries as 'libraries of universities, colleges and other institution forming or associated with institution forming or associated with institutions of higher education".

The university library according to Yusuf and Iwu (2010) is the nerve centre or the hub around which scholarship revolves. It is an indispensable instrument for intellectual development, being a store house of information which users (students and lecturers) may turn to for accessing information. It could therefore be argued that the position of the university libraries in institutions of higher learning cannot be over emphasized.

2.2 Concept of Digital Reference Resources

Resources in the library according to Oyewusi and Oyeboade (2009) are collections of all text and bibliographic information sources; it also includes information technology such as those that support browsing, authoring and communication like computer and the internet. Reference resources are designed to be consulted rather than read through. Their design is generally

dependent on the type of information and treatment provided. There are thousands of reference sources available that cover practically every subject. Reference resources can be books, serials, on-line databases or the internet.

Digital reference resources include those library resources that can be used by the library to meet the needs of the library user in an online medium. Information resources include materials such as books, journals, theses, dissertations, technical report and all related materials in print format and in any digital related electronic gadgets which stores and provides information within and outside the walls of the library. Awolola (2000) sees resources as both human and material devices which can be used for effective communication in a digital environment. Digital reference resources are those electronic resources that are used in the library to hold information and can be accessed to answer query of users or library patrons in an online medium. These resources are used by the reference librarian to answer queries of users and make it accessible to the patrons of the library. The types of digital reference resources that can be found in the library include; e-books, encyclopaedias, full-text journals, audio-visual files, newspapers, online data bases, journals, theses, dissertations etc.

2.3 Concept of Digital Reference Services

The term digital reference services can be defined as a provision of reference services that involves the reference librarian and the library user in a digitalised format. It has to do with both parties coming together to tackle a query brought by the client; librarians provide users also with referrals to other online and print sources of information. Chandwani (2009) defines digital reference service as the provision of reference services involving collaboration between library user and librarian, in a computer based medium. These

services can utilize various media, including e-mail, web forms, chat, video, web customer care centre software, voice over internet protocol (VoIP), etc. It can provide support for users who find online tools and resources unfamiliar, difficult to learn or insufficient to answer their information needs. According to Lankes (1998), digital reference service is an internet-based questions and answers services that connects users with individuals who possess specialized subject or skill expertise. The National Information Standards Organization (NISO) (2001) defines digital reference service, virtual reference service and online reference as using either synchronous reference technology like chat, or asynchronous tools such as e-mails to provide and assist in the retrieval and use of information.

The term 'Digital Reference Services' also refers to a network of expertise, human intermediation and resources placed at the disposal of users in an online environment. It employs automated tools whenever possible, allowing human experts to concentrate on hard questions (Silverstain, 2003). Digital Reference service according to Wasik (1999) is an internet-based question and answer service that connects users with experts in a variety of subject areas. In addition to answering questions, experts may also provide users with referrals to other online and print sources of information.

2.4 Concept of Provision

Provision simply means to make something available for utilization. Provision for the purpose of this study is the ability of the university libraries to provide its users with the required medium through which they will be able to access and utilize the libraries online information resources through the medium of digital reference. According to Aguolu and Aguolu (2002) availability of information sources means ensuring their

presence in libraries for immediate use. A computer connected to the internet, stable power supply and funds among others must be made available for proper digital reference service to be rendered.

According to Gwang (2011), provision of library and information services to users is a *sine qua non*. In the library therefore, provision entails the availability of library resources to library in various formats in other to meet each user's information needs through the use of digital reference service. Provision of digital reference service in the library entails installation of computers connected to the internet, stability of power supply, sufficient funding, and creating awareness to the patron communities on how to go about these services.

2.5 Challenges Faced in Provision of Digital Reference Resources and Services

Challenges are obstacles and also they are impediments which when overcome leads to opportunities.

1. According to Fabunmi, (2009) most academic universities in Nigeria are in deplorable conditions, this conditions manifest in these academic libraries having a few current books, journals and other reading resources; staff shortages, deterioration of facilities, inadequate equipment and even library buildings. Such situations are not conducive for learning. These are some common challenges faced in academic libraries in developing countries like Nigeria.

2. Another major challenge is WAN/LAN; to a large extent, the existence of a university Wide Area Network (WAN) and a Local Area Network (LAN) within the library determines the success of computerization of library services. This is a major challenge to many universities in Nigeria. There is no reliable LAN in most universities. Where this exists, it is achieved through surface cabling which exposes the cables to the effects of fire, storm, vandalization.

3. Computer Literacy/Education; many of the university libraries staff are not computer literates. This is a great setback in computerization and digitalization. Many of the staff are reluctant to jettison their old mindset which resists change. Many are conservative and traditional, and suffer phobia. Research results show that although the use of electronic information increases job satisfaction, confidence and effectiveness of librarians in their work, lack of technical expertise can be very frustrating to the librarians (Edward, et al, 1995).

4. Poor State of Power Generation; regular power generation remains a problem in Nigeria. Frequent power outages constitute a serious bottleneck to automation. The cost of running generative plants is prohibitive.

5. Poor Maintenance and Update Culture; there is a poor maintenance culture in Nigeria, academic Universities particularly. The size and complexity of the task have almost completely eroded maintenance in most academic universities. This erosion is manifested in the frequent computer and network breakdowns or failures.

6. Poor Funding of Library Services; poor funding is a major challenge to academic libraries in Nigeria. Academic libraries in Nigeria derive their funds from the government. Although the federal budget provision has moved from 5% of the approved recurrent budget for library development to 10%, the budget of many academic libraries continue to dwindle. A high rate of inflation, low and unpredictable national income, the effects of global economic depression and local

currency devaluation continue to water down whatever budgetary provision is made for academic libraries in Nigeria.

7. Education and Training; most staff in academic libraries in Nigeria were trained in traditional librarianship. They are finding it difficult to cope with the requirements of the electronic age. Staff training and retraining have not been given a pride of place. These challenges have far-reaching effects on the implementation and sustenance of the automation of library services in academic universities in Nigeria.

8. Web technology skills are needed to maintain web servers that host locally digitized materials and other digital resources hosted remotely as well as maintaining proxy access to restricted resources. Ashcroft and Watts (2004) observed that Nigeria has an acute shortage of digital system librarians, information and web technology literate staff in libraries to install and manage technology networks. The erratic nature of electricity power supply in Nigeria is a major problem. Digital libraries cannot exist in this situation because web servers host locally digitized contents and proxy server that provide authentication and remote access to subscribed electronic resources need to be on twenty four hours a day.

9. Acquisition of New Skills; it is obvious that librarians need more than basic ICT skills to be able to cope with the challenges of globalisation in library. This has placed greater demand on their ability and the need to rise to this challenge. This brings to the fore the issue of subject background as a pre-requisite for a career in librarianship. Librarians need to be well grounded in some disciplines other than librarianship.

For developed countries, these issues poses little problem whatsoever as it can be overcome anytime. However, this is not the case with under developed countries like Nigeria with unfavourable exchange rates and high inflation rate.

3.1 Research Methods

The descriptive survey design was used for the study with a population of 71 librarians from the three university libraries. And because the population was not large, there was no need for sampling- all the 71 librarians in the three federal university libraries were used, for the study. The instrument for data collection was a combination of questionnaire, observation checklist and interview so as to obtain results that is valid and reliable. The draft of the three instruments, the questionnaire, the interview and the observation checklist were given to three experts in the Department of Library and Information Science, University of Nigeria, Nsukka, for face validation. Based on the correction and comments from the experts, amendments were made to include the correction on the final copies of the instruments that were used for the study. The questionnaire was administered with the help of research assistants under the space of nine to ten (9-10) days in the various universities and explanations were made to the respondents by the researcher to guide their responses.

After distributing the questionnaire, the researcher took time to carry out the observation to identify the digital reference resources used in the reference section of the library in the selected federal university libraries in North Central Nigeria. Based on the agreed time and date, the interview (structured) was conducted by the researcher to at least three professional librarians in the three selected federal university libraries. The data gathered with the questionnaire were

analyzed and presented using a frequency table, simple percentages and mean score.

4.1 Presentation and Analysis of Data
Research Question 1

What are the digital reference resources provided in the federal university libraries in North-Central Nigeria?

Table 1: Observ ation checklist result of digital reference resources provided in the federal university libraries in north-central, Nigeria

S/N	ITEM	UAM		FUL		UA		OVERALL	
		AU	NA	AU	NA	AU	NA	AU	NA
1	E-books	√	-	-	√	√	-	2	1
2	Dictionaries	√	-	√	-	√	-	3	-
3	Encyclopaedias	√	-	√	-	√	-	3	-
4	Full-text Journals	√	-	√	-	-	√	2	1
5	Audio-visual Files	—	√	√	-	-	√	1	2
6	Newspapers	√	-	√	-	√	-	3	-
7	Online data bases	√	-	-	√	√	-	2	1
8	Journals	√	-	√	-	-	√	2	1
9	Theses	√	-	√	-	√	-	3	-
10	Dissertations	-	√	√	-	-	√	1	2
	Total	**8**	**2**	**8**	**2**	**6**	**4**		

KEYS: AU (Available and in Use) , NA (Not Available)

Results in table 1 presents the data collected on the digital reference resources provided in UAM, FUL and UA libraries. The report shows that eight (8) items scored a total of two (2) and above in its Availability and Use rate. This implies that such resources are available and in use in the three libraries understudy. These include E-books, dictionaries, encyclopaedias, full-text journals, audio visual files, newspapers, journals, and theses. The remaining two (2) items scored between one (1) and below in its availability and in use rate. This also means that such resources are not available in the three libraries understudy. They are online data bases and dissertations.

Research Question 2

What are the digital reference services provided in the federal university libraries in North-Central Nigeria?

Table 2: Digital reference services provided in the federal university libraries in North central, Nigeria

S/N	ITEM	UAM		FUL		UA		OVERALL	
		AU	NA	AU	NA	AU	NA	AU	NA
1	E-mail reference service	√	-	√	-	√	-	3	-
2	Reference via Web or Web Forms	-	√	-	√	-	√	-	3
3	Video Conferencing or Web Cam Services	-	√	-	√	-	√	-	3
4	Collaborative Digital Reference Services (CDRS)	√	-	√	-	-	√	2	1
5	Text Based Chat/Instant Messaging	√	-	√	-	√	-	3	-
6	Virtual Reference Desk	√	-	√	-	-	√	2	1
7	Digital Reference Robots	-	√	-	√	-	√	-	3
8	24/7 Reference	-	√	√	-	-	√	1	2
	Total	**4**	**4**	**5**	**3**	**2**	**6**	**11**	**13**

KEYS: AU (Available and in Use), NA (Not Available)

Results in table 2 presents the data collected on the digital reference services provided in UAM, FUL and UA libraries. The report shows that eight (4) items scored a total of two (2) and above in its AU rate. This implies that such services are available and in use in the three libraries under study. The digital reference services available and in use include E-mail, collaborative digital reference services (CDRS), text based chat/instant messaging, and virtual reference desk. The other four items scored between one (1) and below in its availability and in use rate. This also means that such services are not available in the three libraries

Research Question 3

What are the technological skills possessed by librarians for digital reference resources and services in the federal university libraries in North-Central Nigeria?

Table 3: Technological skills possessed by librarians for digital reference resources and services in the federal university libraries

S/N	Technological Skills Possessed for Digital Reference Resources and Services in the library	$\overline{X}$	SD	FUL $\overline{X}$	SD	UA $\overline{X}$	SD	Average $\overline{X}$	SD	Rank	Decision
1.	Typing skills	3.43	0.80	4.00	0.00	3.50	0.54	3.52	0.73	1st	HP
2.	General Internet Skills	3.40	0.73	4.00	0.00	3.13	0.99	3.45	0.75	2nd	HP
3.	Communication Skills	3.36	y0.73	4.00	0.00	3.25	0.71	3.43	0.70	3rd	HP
4.	Save and Save Documents	3.24	0.88	3.87	0.35	3.25	0.46	3.33	0.80	4th	HP
5.	Information Retrieval Skill	3.17	0.82	4.00	0.00	3.13	0.35	3.28	0.77	5th	HP
6.	Use of E-mail Skill	3.10	0.85	3.75	0.46	3.63	0.52	3.26	0.81	6th	HP
7.	Web Access Skills	3.29	0.74	3.63	0.52	2.63	0.92	3.24	0.78	7th	HP
8.	Skills in Use of Search Engines (goggle scholar, yahoo etc.	3.19	0.83	3.75	0.46	3.00	0.76	3.24	0.80	7th	HP
9.	Skills in Use of Online Dictionary and Thesaurus	3.21	0.75	3.63	0.74	3.00	0.76	3.24	0.76	7th	HP
10.	Word Processing Skills	3.07	0.78	3.75	0.46	2.75	0.46	3.12	0.75	8th	HP
	Grand Mean	**3.25**	**0.79**	**3.84**	**0.30**	**3.13**	**0.65**	**3.31**	**0.77**		

KEYS: *HP (Highly Possessed), MP (Moderately Possessed), Less Possessed), NP (Not Possessed)*

Data in table 3 shows that all the 10 items in table 5 had an overall mean of 3.12 and above. This includes typing skills (3.52), general internet skills (3.45), communication skills (3.43), save and save documents (3.33), information retrieval skills (3.28), use of e-mail skill (3.26), web access skills (3.24), skills in use of search engines (Google scholar, yahoo etc) (3.24), skills in use of online dictionary and thesaurus (3.24) and word processing skills (3.12)

Research Question 4
What are the modalities for the provision of digital reference resources and services in the federal university libraries in north-central Nigeria?

Table 4: Modalities for the provision of digital reference resources and services in the federal university libraries

S/N	Methods of Provision for Digital Reference Services	UAM $\overline{X}$	SD	FUL $\overline{X}$	SD	UA $\overline{X}$	SD	Average $\overline{X}$	SD	Rank	Decision
1.	E-mail	3.48	0.67	3.75	0.46	3.38	0.92	3.50	0.68	1st	HE
2.	Reference via Web or Web Forms	3.14	0.98	3.38	0.52	3.50	0.54	3.22	0.88	2nd	HE
3.	Text Based Chat/Instant Messaging	3.05	1.01	3.50	0.93	3.38	0.74	3.16	0.97	3rd	HE
4.	Video Conferencing or Web Cam Services	2.83	1.06	2.87	0.35	2.88	0.84	2.84	0.95	4th	ME
5.	Collaborative Digital Reference Services (CDRS)	2.81	1.09	3.12	0.64	2.63	0.52	2.83	0.98	5th	ME
	Grand Mean	3.06	0.96	3.32	0.58	3.15	0.71	3.11	0.89		

KEYS: *HE (Highly Effective), ME (Moderately Effective), LE (Less Effective), NE (Not Effective)*

Data in table 4 shows that all the 5 items in table 6 had an overall mean of 2.83 and above. This includes E-mail (3.50), Reference via Web (3.22), Text Based Chat/Instant Messaging (3.16), Video Conferencing or Web Cam Services (2.84) and Collaborative Digital Reference Services (CDRS) (2.83).

Research Question 5

What are the benefits of digital reference resources and services in the federal university libraries in north-central Nigeria?

Table 5: Benefits of digital reference resources and services in the federal university libraries

S/N	Benefits of digital reference resources and services in the federal university libraries	UAM $\overline{X}$	SD	FUL $\overline{X}$	SD	UA $\overline{X}$	SD	Average $\overline{X}$	SD	Rank	Decision
1.	Effectively search web directories such as yahoo	3.67	0.57	3.75	0.46	3.63	0.52	3.67	0.54	1st	SA
2	Install and Use goggle toolbars	3.50	0.55	3.75	1.04	3.63	0.52	3.55	0.63	2nd	SA
3	Retrieving a Saved Document	3.60	0.54	3.50	0.54	3.25	0.71	3.53	0.57	3rd	SA
4.	Translate reference question into search engine query	3.48	0.59	3.87	0.35	3.38	0.52	3.52	0.57	4th	SA
5.	Identify common file formats (html, txt, PDF)	3.48	0.59	3.63	0.52	3.25	0.46	3.47	0.57	5th	A
6.	Print pages or copy selected text in PDF documents	3.43	0.55	3.63	0.52	3.38	0.52	3.45	0.54	6th	A
7.	Explore search engines results quickly	3.36	0.73	3.87	0.35	3.38	0.74	3.43	0.70	7th	A

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S/N	Item								Rank	Decision
8.	Save a file from web page to desk top	3.40	0.73	3.63	0.52	3.25	0.46	3.41	0.68	8th	A
9.	Distinguish between effective/ineffective keywords to use in search	3.38	0.73	3.63	0.52	3.12	0.64	3.38	0.70	9th	A
10.	Locate Lyrics and Sound Files	3.29	0.84	3.25	0.71	3.38	0.74	3.29	0.80	10th	A
	Grand Mean	3.46	0.64	3.65	0.55	3.37	0.58	3.47	0.63		

KEYS: *SA (Strongly Agreed), A (Agreed), D (Disagreed), SD (Strongly Disagreed)*

The data presented in table 5 reveals that all the 10 items had an overall mean of 3.29 and above. They were to effectively search web directories such as yahoo (3.67), Install and Use Google toolbars (3.55), retrieving a saved document (3.53), translate reference question into search engine query (3.52), identify common file formats (html, txt, pdf) (3.47), print pages or copy selected text in PDF documents (3.45), explore search engines results quickly (3.43), save a file from web page to desk top (3.41), distinguish between effective/ineffective keywords to use in search (3.38) and locate lyrics and sound files (3.29) These mean scores are considered as high extent.

Research Question 6

What are the challenges faced in the provision and utilization of digital reference resources and services by librarians in the federal university libraries in North-central Nigeria?

Table 6: Challenges faced in the provision of digital reference resources and services by librarians in the federal university libraries

S/N	Challenges faced in the Provision Digital Reference Resources and Services in the Library	UAM		FUL		UA		Average		Rank	Decision
		$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD		
1.	Lack of fund	3.50	0.92	4.00	0.00	3.50	0.54	3.57	0.82	1st	SA
2.	Poor internet supply	3.40	0.70	4.00	0.00	3.12	0.64	3.45	0.68	2nd	A
3.	Power failure	3.45	0.80	3.87	0.35	2.75	0.89	3.41	0.82	3rd	A
4.	Cost of subscription/packages	3.12	0.89	4.00	0.00	2.88	0.84	3.21	0.87	4th	A
5.	Frequent advancement in ICT	3.17	0.88	3.38	0.74	2.63	0.92	3.12	0.96	5th	A
6.	Negative attitude of librarians towards training	2.95	0.88	3.25	0.71	3.12	0.64	3.02	0.83	6th	A
7.	Loss of qualified personnel in African libraries to developed countries	2.86	1.07	3.75	0.46	2.88	0.84	2.98	1.02	7th	A
8.	Low comfort level of librarians with ICT	2.86	1.00	3.25	0.46	2.75	0.84	2.90	1.02	8th	A
	Grand Mean	3.16	0.91	3.69	0.39	2.95	0.81	3.21	0.88		

KEYS: *SA (Strongly Agreed), A (Agreed), D (Disagreed), SD (Strongly Disagreed)*

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The data in table 6 reveals that all 8 items had an overall mean of 2.90 and above. Thus, lack of fund (3.57), poor internet supply (3.45), power failure (3.41), cost of subscription/packages (3.21), frequent advancement in ICT (3.12), negative attitude of librarians towards training (3.02), loss of qualified person in African libraries to developed countries (2.98) and low comfort level of librarians with ICT (2.90).

Research Question 7

What are the strategies for provision and utilization of digital reference resources and services for librarians in the federal university libraries in North-central Nigeria?

Table 7: Strategies for provision and utilization of digital reference resources and services for librarians in the federal university libraries

S/N	Strategies that could be used to enhance the Challenges in Provision and Utilization of Digital Reference Resources and Services in the Library	UAM		FUL		UA		Average		Rank	Decision
		$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD		
1.	Frequent training programs should be organized	3.71	0.46	3.87	0.35	3.87	0.35	3.76	0.43	1st	VA
2.	Librarians should take training as motivational tool for maximum performance through the use of orientation programs	3.76	0.43	3.75	0.43	3.63	0.52	3.74	0.44	2nd	VA
3.	Steady power supply/internet supply	3.71	0.46	4.00	0.00	3.50	0.54	3.72	0.45	3rd	VA
4.	Result oriented training programs to help librarians overcome techno phobia should be organized	3.76	0.43	3.63	0.52	3.38	0.52	3.69	0.47	4th	VA
5.	Funds should be made available	3.79	0.52	3.75	0.71	2.75	1.17	3.64	0.74	5th	VA
6.	Self upgrade from the librarians	3.62	0.49	3.63	0.52	3.50	0.54	3.60	0.49	6th	VA
7.	Attractive salaries and better working conditions should be considered	3.62	0.58	3.87	0.35	3.25	1.04	3.60	0.65	6th	VA
8.	Increase of bandwidth to increase speed of server	3.43	0.59	3.87	0.35	3.63	0.52	3.52	0.57	7th	VA
	Grand Mean	3.68	0.50	3.80	0.41	3.44	0.65	3.66	0.53		

KEYS: *VA (Very Appropriate), A (Appropriate), FA (Fairly Appropriat e), NA (Not Appropriate)*

The data presented in table 7 reveals that all the 8 items had an overall mean of 3.52 and above. They were, frequent training programs should be organised (3.76), librarians should take training as a motivational tool for maximum performance through the use of orientation programs (3.74), steady power supply/internet supply (3.72), result oriented training programs to help librarians overcome techno phobia should be organized (3.69), funds should be made available (3.64) self upgrade from the librarians (3.60), attractive salaries and better working conditions should be considered (3.60) increase of bandwidth to increase speed of server (3.52).

In addition, the interviewee in UAM, FUL and UA Libraries were of the view that most of the digital reference resources and services are available but not in use frequently due to some challenges. They also accepted that some of the digital reference resources and services available in their libraries are effective, but due to the challenges of power supply, lack of funds, poor maintenance culture and cost of subscription/packages are among the factors affecting the effective provision and utilization of digital reference resources and services in the library. They suggested that the following strategies should be put in place to effectively utilize the library digital reference resources and services in the library; availability of funds, steady power supply and frequent training of staffs.

5.1 Summary of Major Finding

Based on the analyzed data from the respondents of the study, the research has shown that:

1. The digital reference resources provided in UAM, FUL and UA libraries are E-books, dictionaries, encyclopaedias, full-text journals, audio visual files, newspapers, journals, and theses while online data bases and dissertations are not available.

2. The digital reference services provided in UAM, FUL and UA libraries include E-mail, collaborative digital reference services (CDRS), text based chat/instant messaging, and virtual reference desk while the digital reference services not available include reference via web or web forms, video referencing or web cam services, digital reference robots and 24/7 reference.

3. It is very clear that the librarians possess the much needed skills for digital reference resources and services. The skill possessed includes typing skills, general internet skills, and communication skills, save and save documents, information retrieval skills, use of e-mail skill, web access skills, skills in use of search engines (Google scholar, yahoo etc), skills in use of online dictionary and thesaurus and word processing skills.

4. It is evident that all the items listed are the modalities for the provision of digital reference resources and services in the federal university libraries in North Central Nigeria. They include E-mail, Reference via Web, Text Based Chat/ Instant Messaging, Video Conferencing or Web Cam Services and Collaborative Digital Reference Services (CDRS).

5. It is evident that some services are provided in the three libraries understudy. They include E-mail, reference via web or web forms, text based chat/instant messaging, while some are not provided, they include; video referencing or web cam services and collaborative digital reference services (CDRS).

6. The benefits of digital reference resources and services to the librarians in the three libraries are very much evident. They are search web directories such as yahoo, Install and Use Google toolbars, retrieving

a saved document, translate reference question into search engine query, identify common file formats (html, txt, pdf), print pages or copy selected text in PDF documents, explore search engines results quickly, save a file from web page to desk top, distinguish between effective/ineffective keywords to use in search and locate lyrics and sound files.

7. The respondents strongly agree that lack of fund, poor internet supply, power failure, cost of subscription/packages, frequent advancement in ICT, negative attitude of librarians towards training, loss of qualified person in African libraries to developed countries and low comfort level of librarians with ICT are the challenges faced in the provision and utilization of digital reference resources and services by librarians in the federal university libraries in North Central Nigeria.

8. Frequent training programs should be organised, librarians should take training as a motivational tool for maximum performance through the use of orientation programs, steady power supply/internet supply, result oriented training programs to help librarians overcome techno phobia should be organized, funds should be made available, self upgrade from the librarians, attractive salaries and better working conditions should be considered and an increase of bandwidth to increase speed of server are the strategies for enhancing the challenges in provision and utilization of digital reference resources and services for librarians in the federal university libraries in North Central of Nigeria.

Recommendations

As a result of the findings, the following recommendations are made:

1. The university library management should make fund available for digital reference purposes in the libraries through avenues like Tertiary Education Trust Fund (TETFund) and Petroleum Trust Development Fund (PTDF). This will enable the university libraries to be able to acquire the resources needed for the facilitation of digital reference resources and services.

2. University libraries should understudy the processes and methods adopted for digital reference resources and services by other libraries, especially university libraries in developed countries in order to implement what they have done to succeed. They should take note of the challenges faced by these libraries. This will enable the university libraries to know what to avoid in the course of the process.

3. Librarians, especially reference librarians should be exposed to skill acquisition platforms such as seminars, workshops and symposia in order to acquire the necessary competencies required for digital reference resources and services.

4. Library schools should improve and modernize their curriculum by adding the e-environment courses that will impart digital skills to the future librarians thereby giving them a foundational platform for the mastery of these skills even from the school.

5. Librarians should personally utilise a large number of self-improvement training facilities online. This will go a long way in helping them master and acquire these skills themselves without much protocol and assistance.

Conclusion

Digital reference resources and services are crucial to information processing and retrieval in the present day libraries

especially in an academic environment. Digital reference resources and services is a current trend in libraries. From the results of the findings of this study, one can conclude that for the effectiveness of provision and utilization of digital reference resources and services required for university library projects are enormous and wide ranging. The task and skills needed are quite different from the traditional method possessed by most reference librarians of today. For librarians to remain at the cutting edge of the profession especially those of them from the federal university libraries in the North Central zone of Nigeria, the provision and utilization of digital reference resources and services becomes very pertinent. These can only be made possible through provision and utilization of digital reference resources and services. The findings of the study revealed that for the federal university libraries in North Central to fully implement any digital reference resources and services, their librarians must be well trained to acquire the varied digital skills that are needed to operate a digital reference resources and service. It is also encouraging to discover from the findings that librarians from the university libraries studied have some basic knowledge of computer in word processing /typing skills. They are also familiar in the use of e-mail as well as acquainted in the use of search engines for browsing of information resources. These skills, though basic are a good platform that will enhance the acquisition of the special skills. The study also revealed that these university libraries have different but similar methods of utilizing their digital reference resources.

It was established that provision and utilization of digital reference resources and services in university libraries is very beneficial and should be encouraged. However some impediments to the effective utilization of digital reference resources and services were exposed. Finally, some strategies that will be used for the provision and utilization of digital reference resources and services were identified and recommendations were also made by the researcher.

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