Digital Literacy Skills Among Librarians In University Libraries In The 21st Century In Edo And Delta States, Nigeria

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Abstract: Libraries all over the world have been faced with the evolving technological advancement, globalization, and digitization of information. These have led to library automation, digital and virtual libraries. This paper discussed the contemporary digital literacy skills (DLS) among librarians in university libraries the 21st century in Edo and Delta States of Southern Nigeria. The study was guided by six objectives and research questions and one hypothesis. The design of the study is descriptive survey and the population consists of all librarians from university libraries in the aforementioned states in Nigeria. The instrument used to generate data is the questionnaire and the date generated was analyzed using simple percentages and frequency count for research questions and SPSS version 14.0. The findings show that electronic mailing, social networking, use of PDAs, mobile phones and internet surfing are the major DLS amongst librarians. It was also discovered that librarians acquired DLS through colleague's assistance, trial and error, IT programmes and formal education while librarian's level of use of DLS is low amongst other findings. Researcher recommends that management of university libraries should provide training for librarians so as to help update their knowledge in application of digital skills and digital skill competence should be giving more attention during recruitment of librarians amongst others.

Index Terms: Digital Literacy Skills, Librarians, University Libraries, 21st Century, Edo and Delta States, Nigeria

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1.0 INTRODUCTION

1.1 Background of the Study

Libraries all over the world have been faced with the evolving technological advancement, globalization, and digitization of information. These have led to library automation, digital and virtual libraries, virtual conference, web-cast, pod-cast, community and online learning, Web 2.0 and Library 2.0. Campbell (2006) stated that digital technology has pervaded every aspect of our civilization, it has set forth a revolution not only in how we store and transmit recorded knowledge, historical records, and a host of other kinds of communication but also in how we seek and gain access to these materials. Sharma (2009) confirmed that digital resources are increasingly available in Nigerian universities thereby making it possible for students and school staff to access and use current and relevant materials for studies, research, learning and job . Over the last decade, a significant transformation has been noticed in collection development policies and practices. Print medium is increasingly giving way to the electronic form of materials. Information dissemination among the university communities   has been tremendously enhanced With the introduction of digital technology facilities in the universities. Kyrillidou and Cook (2008) believes that libraries are the crucible of genius and they are fundamental to the intellectual experience and natural activity of the mind. Indeed, there are no great universities without great libraries

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according to him. Building on digital literacy is the concept of digital creativity which is the expression of creative skills in the digital medium. This can include programming, web sites and the generation and manipulation of digital images (Wikipedia, 2015). Technologies are changing and there is need for both professional and para-professional library staff to embrace them. Librarians need much more in this digital age to embrace digital literacy skills on their work than ever before. Digital literacy helps professionals of all works of life to develop skills that can add to their economic status and improve their overall job performance and standard of living. There is need for librarians to have digital literacy skills, so that they can use them to progress on their jobs and on their careers. With these skills, librarians will be more equipped for resource sharing, social networking, surfing the net, instant messaging and blogging and host of others digital oriented activities. These skills can also help them on their jobs to assist users get desired information and education.   Since these are skills that can be learnt, digital skills are skills that all information professionals should thrive to possess. Therefore the findings of the study will be relevant for making decisions by library management for employment processes, the training and development of librarians and equipping libraries with digital resources for adequate learning.

1.2 Statement of the Problem

Digital literacy can be a great tool for development. It has been observed that advances in the use of technology can improve economic opportunities for the poor, increase delivery of services to the underserved, improve management and benefit social change. World Bank Group strategies in ICT have focused on promoting reform, increasing access, supporting ICT human capacity, and supporting ICT applications. But access and use of the digital resources is still much lower in developing countries like Nigeria. The education standard of Nigeria is falling every day. More so, digital/computer levels have been noticed to be very low amongst university librarians. In the developed countries, universities are continuously updating their curriculum for digital literacy to keep up with accelerating technological developments. This often includes computers

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and a wide range of digital gadgets in the librarians which are proficiently handles and managed by librarians for proper service delivery for users. The use of educational softwares, digital gadgets and resources to teach curriculum, library and course materials are now being made available to students, library users and librarians most especially. In Nigeria the revised is the case. The influx of information, globalization and the use of digital technology has made the world a global village where access and use of digital technology has become common place. There is lack of utilization of digital literacy skills in our libraries, many librarians in Nigeria seem to lack skills on how to operate the computer, access the email or interact through the internet. Many librarians also seem not to possess the skills to use the computer to access information and automate their libraries. Librarians world over are faced with so many challenges on their jobs in the acquisition of both print and non print information resources, organization, retrieval and dissemination to all patrons and potential users of these information resources for their accessibility and utilization. Librarians however are not finding it very easy to manage the influx of information. Ogunsola (2004) asserted that it must be realized that many Nigerian libraries, especially in the universities, face various problems in their attempts to computerize their library operations. These have constituted a challenge in the provision, maintenance and management of information resources in many academic libraries all over the nations. Therefore, in view of this scenario, the present study was necessitated.

1.4 Objectives of the Study

The overall aim of this study is to find out if librarians possess and use certain digital literacy skills in university libraries in Delta and Edo States and how these skills influence their jobs as professionals.

The specific objectives of this study are to:
- Identity the types of digital literacy skills (DLS) librarians possess in Edo and Delta states of Southern of Nigeria
- Find out how librarians acquired their DLS
- Determine the level of use DLS
- How does DLS possessed by librarians help in service delivery
- Level of proficiency with DLS
- Find out constraints to the use of DLS

1.5 Research Questions

The following research questions were raised for the study;
1. What are the types of DLS possessed by librarians in University libraries in the Edo and Delta states of Southern of Nigeria?
2. How did librarians acquired their DLS?
3. What of the level of use of DLS?
4. What influence does the use of DLS have on service delivery among librarians?
5. What is their level of proficiency of DLS among librarians?
6. What are the constraints of the use of DLS among librarians?

Research Hypothesis

Two hypotheses were formulated for the study and to be tested at a 0.05 level of significance include the following;
Ho1: There is no significant influence of digital literacy skill

acquisition on librarian service delivery in the university libraries.

2.0 LITERATURE

2.1 Concept of Digital Literacy

Bawden (2008) defined digital literacy is the set of attitudes, understanding and skills to handle and communicate information and knowledge effectively, in a variety of media and formats. Bell and Shank (2008) quoted in their work that *Digital literacy is the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information. It is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. It is also a person's ability to perform tasks effectively in a digital environment. Digital literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments.* Digital Literacy means the ability to use technology competently, interpret and understand digital content and assess its credibility, create, research, and communicate with appropriate tools. Digital Literacy programs are an essential element of media education and involve basic learning tools and a curriculum in critical thinking and creativity (*www.commonsensemedia.org/digitalliteracy.htm*). According to Wikipedia (2015), digital literacy is the knowledge, skills, and behaviours used in a broad range of digital devices such as smartphones, tablets, laptops and desktop PCs, all of which are seen as network rather than computing devices. Digital literacy initially focused on digital skills and stand-alone computers, but the focus has moved from stand-alone to network devices. Digital literacy skill is a more contemporary term but is limited to practical abilities in using digital devices (such as laptops and smartphones). Digital literacy is the marrying of the two terms digital and literacy; however, it is much more than a combination of the two terms. (Warschwer & Tina 2010). Digital literacy is the ability to effectively and critically navigate, evaluate and create information using a range of digital technologies. It requires one "to recognize and use that power, to manipulate and transform digital media, to distribute pervasively, and to easily adapt them to new forms" (Jenkins, 2009). Persons who are digitally literate person possess a wide range of digital skills which includes knowledge of the basic principles of computing devices, skills in using computer networks, having ability to engage in online communities and social networks with adherence to behavioural protocols, be able to find, capture and evaluate information, an understanding of the societal issues raised by digital technologies and possess critical thinking skills (Gui & Argentin, 2011). Finn (2004) takes a rather narrower, utilitarian view, stating that digital literacy is a means for ascertaining the computer skills competency of an individual to function in the workplace.

2.2 The Need for Digital Literacy for Libraries in the 21st Century

This dynamic new world requires new comprehension and communication skills, as well as new codes of conduct, to ensure that these powerful media and technologies are used responsibly and ethically. Much of the interaction in this digital world happens at a distance, which can diminish the rules of cause and effect, action and consequence. Additionally, much

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of digital life takes place under the cloak of anonymity, making it easier to participate in unethical and even illegal behaviours. According to Oyewusi and Oyeboade (2009), the primary purpose of university libraries is to support teaching, learning, and research in ways consistent with, and supportive of, the institution's mission and goals. In addition, library resources and services should be sufficient in quality, depth, diversity, and currency to support the institution's curriculum. As a result of this, university library is often considered the most important resource centre of the parent institution. Adequate library resources and services at the appropriate level for degrees offered should be made available to support the intellectual, cultural, and technical development of students enrolled in Nigerian universities.

2.3 Use of Digital literacy and the 21st Century society

The 21st century is an era marked by much technological advancement from cradle to adulthood. These developments have affected the whole essence of an individual's life. Digital devices ranging from cell phones to MP3 players to digital cameras, and computers, they are changing our everyday lives are used by a wide range of people worldwide. For example, they are also used in banking, mass media, publishing, communicating and they bring about quality in music, photography, marketing, film making and educational institutions of learning. Martin (2006) said that the world of the 21st century is digitally infused: an e-world, a world permeated by the effects and products of electronic technology in various endeavours. Digital literacy requires certain skill sets that are interdisciplinary in nature. Information, media, and technology; learning and innovation skills; and life and career skills as the three skills sets that individuals need to master in order to be digitally literate or the 21st-century skills. Digital literacy helps people communicate and keep up with societal trends. Literacy in social network services and Web 2.0 sites helps people stay in contact with others, pass timely information and even sell goods and services. This is mostly popular among younger generations, though sites like LinkedIn have made it valuable to older professionals. Digital literacy can also prevent people from believing hoaxes that are spread online or are the result of photo manipulation. E-mail frauds and phishing often take advantage of the digitally illiterate, costing victims money and making them vulnerable to identity theft (Wikipedia, 2015). Eshet-Alkalai (2012) contends that there five types of literacies is encompassed within the umbrella of digital literacy.

1. Photo-visual literacy is the ability to read and deduce information from visuals.
2. Reproduction literacy is the ability to use digital technology to create a new piece of work or combine existing pieces of work together to make it your own.
3. Branching literacy is the ability to successfully navigate in the non-linear medium of digital space.
4. Information literacy is the ability to search, locate, assess and critically evaluate information found on the web.
5. Socio-emotional literacy refers to the social and emotional aspects of being present online, whether it may be through socializing, and collaborating, or simply consuming content.

2.4 Digital Resources and its Use in University Libraries

Digital resources are those information resources that can only be accessed by the use of computers and other ICT devices. These materials may require the use of a peripheral device directly connected to a computer, for example, CD-ROM drive or a connection to computer network, for example, the Internet. There are different types of digital/electronic resources such as Compact Disc Read Only Memory (CD-ROM), Internet, Online Public Access Catalogues (OPAC), electronic books, electronic journals and electronic index. The use of digital resources has given rise to new modes of organising the educational environment in tertiary institutions most especially in the libraries. Dadzie (2005) opined that digital resources are convenient to use since users are able to access information from the library, Internet café, offices and private residence at any time of the day or night. The lack of library use by some students has made awareness on the available digital library resources low Frequency of library use by students is another factor influencing the use of digital resources and this has similar implications for librarians.

2.5 Problems Affecting the Use of Digital Resources in Nigerian University Libraries

The use of library's digital resources by librarians and library users is hindered by non accessibility of digital resources. This contradicts the easy accessibility of the internet search engines like google, yahoo and others where a single keyword search could result in thousands of hits, no matter the topic. In the library, students have to choose a particular database and be more selective in the search words they use (Waldman, 2003). The study of Watts and Ibegbulem (2006) on the barriers of the use of electronic resources available at the medical library of the College of Medicine, University of Nigeria, Nsukka revealed that lack of an adequate ICT infrastructure and affordable online access, absence of in-depth digital skills and information searching skills among library staff and users are barriers to the use of electronic resources. Similarly Adomi (2005) and Oduwole & Sowole (2006) identified problems in the adoption and usage of didtal resources in Nigeria to include lack of adequate digital skills among staff and users, low basic information literacy levels in the population and prohibitive cost in developing countries to gain access to the internet which was in accordance with the study of Salaam & Adegbore (2010). According to Dadzie (2007), digital resources are invaluable research tools that complement the print based resources in a traditional library setting with advantages include access to information that might be restricted to the user due to geographical location or finance and access to more current information. However, research has demonstrated that the differences in the level of digital literacy and the use of digital resources depend mainly on age and education level, while the influence of gender is decreasing (van Dijk and van Deursen, 2009). Among young people, in particular, digital literacy is high in its operational dimension (e.g. rapidly move through hypertext, familiarity with different kinds of online resources) while the skills to critically evaluate content found online show a deficit (Gui and Argentin, 2011).

3.0 METHODOLOGY

The descriptive survey design was adopted for the study. The population of the study comprises of all librarians of the university libraries in Edo and Delta states, Southern Nigeria.

The entire population was used as sample because the population is small. This was done because the researcher used the entire population as a sample since it is small. Therefore the entire population was drawn as sample. Eight (8) universities have been established in the two (2) sampled states with a total of seventy-seven (77) librarians (Table 1) and census sampling technique was adopted for the study. The questionnaire was the research instrument used for data collection and after the questionnaires were filled, they were retrieved immediately from respondents. A total of seventy-four (74) out of the 77 was duly filled and found usable representing 96% response rate. Data collected was analysised using simple percentages and frequency counts for the answer research questions and the Statistics Package for Social Sciences (SPSS) version 14.0 for test hypotheses.

Table 1: Population/Sample for the Study

S/No.	Institution	State of Establishment	Number of Librarians
1	Benson Idahosa University, Benin	Edo	11
2	Igbenedion University, Okada	Edo	7
3	University of Benin, Benin	Edo	16
4	Ambrose Ali University, Ekpoma	Edo	9
5	Novenna University, Ogume	Delta	6
6	Delta State University, Abraka	Delta	18
7	Federal University of Petroleum Resources, Effurun	Delta	6
8	Western Delta University, Oghara	Delta	4
	Total		77

Source: University Librarian's Office

4.0 RESULTS AND DISCUSSION

Table 2: Distribution of librarians by gender

Gender	Frequency	Percentage (%)
Male	36	49
Female	38	51
Total	74	100

Table 2 showed that majority of the librarians are females with a population of 38 (51%) and males were 36 (49%).
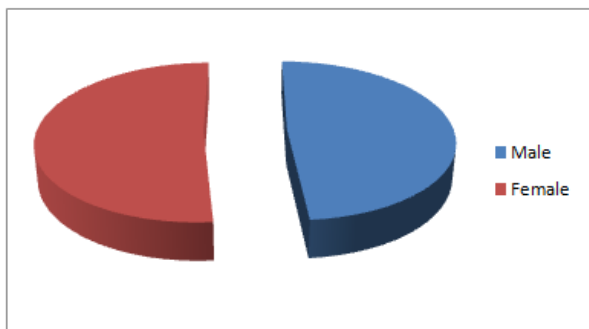

Figure 1: Graphical representation of Gender of librarians

Research One: *What are the types of DLS possessed by librarians in University libraries in the Edo and Delta states of Southern of Nigeria?*

Table 3: DLS among librarians

DLS	Frequency	Percentage (%)
Electronic mailing	65	88
Electronic conferencing	9	12
mobile phones	56	76
Personal Digital Assistant (PDAs)	48	65
Computer accessories navigation	33	45
Internet surfing	53	72
Computer operations	49	66
Social networking	42	57
Multimedia Projecting	5	7
Electronic bulletin Board	10	13

N=74

The DLS found among librarian was shown in Table 3. 65(88%) electronic mailing, 9(12%) electronic conferencing, 56(76%) mobile phones usage, 48(65%) PDAs, 33(45%) computer accessories navigation, 53(72%) internet surfing, 49(66%) computer operations, 43(57%) social networking, 5(7%) media projecting and 10(13%) electronic bulletin board. The vast majority of skills were found to be electronic mailing, mobile phone usage, PDAs usage, internet surfing and social networking. A graphical representation is shown below.
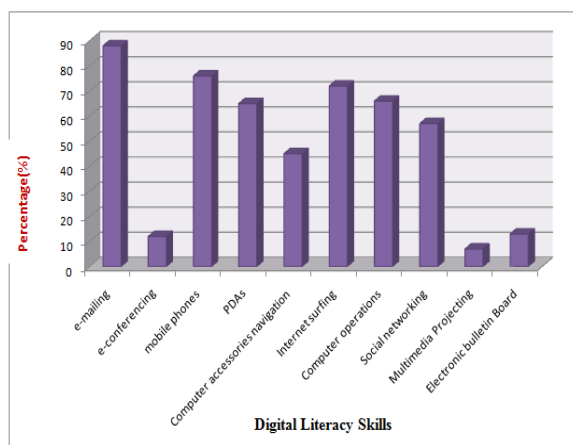

Figure 2: Graphical representation of DLS among librarians

e 4: Digital library skills/services in libraries

Table 4: Digital library skills/services in libraries

Digital skills/Services	Frequency	Percentage (%)
Online cataloguing/WAN	6	8
Digital reference services	33	44
Internet services	66	89
Navigating OPAC/LAN	43	58
Database management	9	12
Word Processing	14	18
Programming	3	4
Video conferencing	5	7
Computer security	7	9
Scholarly communications	74	100
Mobile environment	44	59
Social networking(facebook, twitter, blogs etc)	32	43

N=74

Table 4 showed that the services that librarians use their DLS for. Scholarly communications 74(100%) ranked highest followed by internet services 66(89%) while programming 3(4%) ranked lowest. This implies librarians indulge more on scholarly communications. The purpose of this may not be

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unconnected with the fact that librarians in academic libraries are academics and the ''publish or perish syndrome'' could be the reason for this observation.

Research Question 2: How did librarians acquired their DLS?

The result in Table 5 shows that the librarians in sampled universities acquired digital literacy skills through trial and error was 42 (57%), colleague's support 60(81%), self-study using user guide 35(47%), training offered by management 23(31%), formal education 51(69%), attending seminars and workshop 44(59%) and IT programmes 64 (87%). Hence, it could be inferred that librarians acquire digital literacy skill mostly through colleague's support, IT programmes and formal education.

Table 5: Acquisition of DLS

Acquisition technique	Frequency	Percentage (%)
By trial and error	42	57
Colleague's support	60	81
Self-study using user's guide	35	47
Training offered by library management	23	31
Formal education	51	69
Attending workshops/seminars	44	59
IT programmes	64	87

N=74

Research Question 3: What of the level of use of DLS?

Table 6 showed that the level of use of DLS to be 5(7%) very frequent, 9(12%) frequent, 26(35%) moderate, 24(32%) low and 10(14%) very low with no non-use of DLS. The results show that the level of use of DLS is moderate and low.

Table 6: Level of Use of DLS

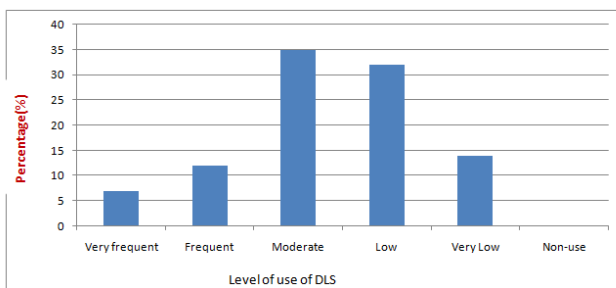| Level of Use	Frequency	Percentage (%)
Very frequent	5	7
Frequent	9	12
Moderate	26	35
Low	24	32
Very Low	10	14
Non-use	-	0
Total	74	100

Figure 3: Graphical representation of level of use of DLS

Research Question 4: What influence does the use of DLS have on service delivery among librarians?

Table 7: Influence of DLS on service delivery

Influence	Frequency	Percentage (%)
Highly Positive	28	38
Positive	26	35
Insignificant	10	14
Negative	6	8
Highly negative	4	5
Total	74	100

Table 7 showed that the influence of DLS on service delivery is highly positive with 28(38%), 26(35%) positive, 10(14%) insignificant, 6(8%) negative and 4(5%) highly negative. Majority of respondents believed that the influence of DLS is good for service delivery.
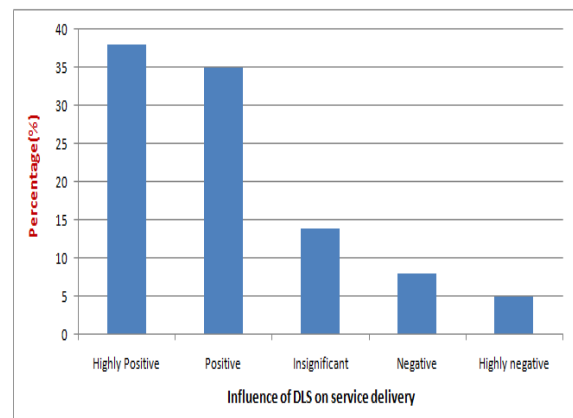

Figure 4: Graphical representation of Influence of DLS on service delivery

Research Question 5: What is their level of proficiency of DLS among Librarians?

Table 8: Level of proficiency of DLS

Proficiency	Frequency	Percentage (%)
Very High	6	8
High	9	12
Moderate	17	23
Low	33	45
Very low	9	12
Non-proficient	-	-
Total	74	100

Proficiency levels of DLS was shown in table 8 as 6(8%) very high, 9(12%) high, 17(23%) moderate, 33(45%) low, 9(12%) very low and no non-proficient librarians.
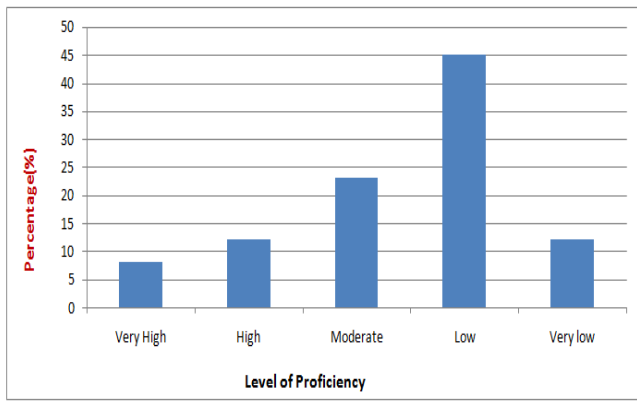
Figure 5: Graphical representation of level of proficiency

Research Question 6: What are the constraints of the use of DLS among librarians?

Table 9: Constraints of the use of DLS

Constraints	Frequency	Percentage (%)
Lack of DLS	-	-
Attitude of staff	12	16
Age	5	7
Financial Incapability	23	31
Technophobia	31	42
Cost of digital skill training	21	28
Lack of digital facilities	67	91
Inaccessibility of facilities	47	64
Not conducive environment	20	27
Internet network/availability	45	61
Electricity supply	53	72
Family-related	48	65
Lack of funding	58	78

N=74

Constraints of the use of DLS highlighted in table 9 showed that 12(16%) was related to attitude of staff, 5(7%) age, 23(31%) financial incapability, 31(42%) technophobia, 21(28%) cost of digital skill training, 67(91%) lack of digital resources, 47(64%) inaccessibility of facilities, 20(27%) no conducive environment, 45(61%) internet network, 53(72%) electricity supply, 48(65%) family related and 58(78%) lack of funding. The results showed that the major constraints include lack of funding, electricity supply, internet network and availability, inaccessibility to facilities and lack of digital facilities.
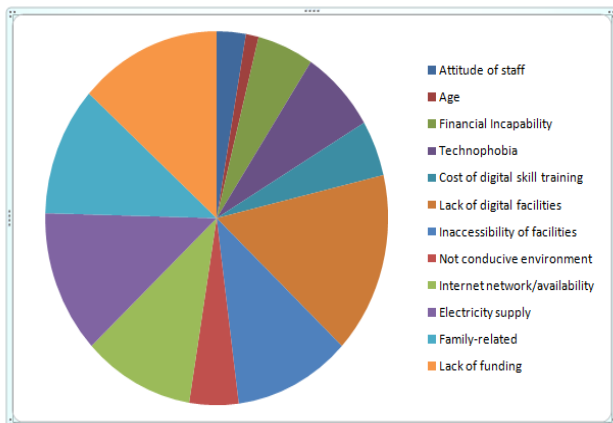

Figure 6: Graphical representation of constraints to DLS use

Hypotheses testing

Hypothesis 1: There is no significant influence of digital literacy skill acquisition on librarian service delivery in the university libraries

Decision Rule: if the critical value is greater than the calculated value, then accept null hypothesis and vice versa.

Table 10: Influence of DLS on service delivery

Variable	N	Mean	Std. Dev	P	Df	X^2Crit	X^2Calc.
Skill Acquisition	74	28.0	15.19	0.05	15	24.996	55.08
Service Delivery	74	8.75	4.01				

Remark: From the analysis, the critical value of chi-square was 21.03 while the calculated value was 55.08. Therefore, the null hypothesis is rejected and alternate accepted. The acquisition of DLS was correlated with service delivery of librarians and it revealed that there is a significant influence between skill acquisition and service delivery (X^2Calc.=55.08, Df=15, P<0.05). This implied that the acquisition of DLS enhances service delivery by librarians.

5.0 FINDINGS
The following findings were made
1. Electronic mailing, social networking, use of PDAs and mobile phones and internet surfing are the major DLS amongst librarians,
2. Librarians acquired DLS through colleague's assistance, trial and error, IT programmes and formal education,
3. The level of use of DLS is low,
4. The use DLS influence service delivery positively,
5. The level of proficiency is however moderate for some and others low,
6. The major constraints to the use of DLS are electricity supply, internet network, lack of training and funding by management.

6.0 RECOMMENDATIONS
The following recommendations were made from the findings
1. Management of university libraries should provide training for librarians so as to help update their knowledge in application of digital skills
2. Digital skill competence should be giving more attention during recruitment of librarians
3. Nigerian government should speed up on-going improvement of power supply
4. Management should make available human and technical resources that are up to date in university libraries so as to encourage librarians to use the resources
5. Library management should continue to mount pressure on organizational management to invest more in digital libraries services/skill development
6. There is need also for university libraries management to define clear policies and strategies in relation to information communication technology for library service.

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7.0 CONCLUSION

The acquisition digital literacy skills by librarians have been discovered to enhance individual service delivery and career progression. For librarians to fulfil their primary aim of meeting the information needs of users and the institutions, the librarians must be empowered with all necessary digital literacy skills to accomplish their mission. Librarians of this present age have very low knowledge of DLS in the sampled states with a little level of use and proficiency in the skills. Skills have been acquired through informal means like through colleagues, trial and error and sometimes through assistance from friends. Librarians are asset to libraries, therefore training and development of DLS will enhance productivity. The level of expertise of the librarians will determine to a large extent how effectively they are able to perform their jobs and carry out routine jobs in the library. When libraries are automated and functioning, the librarians are also very satisfied with how they perform their jobs and they are also well motivated and progress on their career. However, the challenges with the utilization of these skills must be checked and corrected.

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