

Librarians Knowledge of Information and Communication Technology Hardware Usage in University Libraries in South-South and South- West, Nigeria

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Abstract

The purpose of this study is to investigate librarian's knowledge, towards information and communication technology hardware usage in university libraries in South- South and South- West, Nigeria. The population of the study consists of all librarians in University libraries in South-South and South-West, Nigeria at the time of this study. The census sampling techniques was used to study the population of 580 which represent the entire population of the study, the questionnaire was the instrument used, to elicit information from librarians in University libraries in the south-South and South-West, Nigeria, on librarians ICT hardware knowledge and usage. The data was collected and analyzed using sample percentage to analyze the demographic information of the respondents, statistical mean, standard deviation and Pearson Product Moment Correlation Coefficient (PPMCC) was used to answer research question and hypothesis. The study revealed that there is a significant relationship between librarian's knowledge and usage of ICT hardware in University libraries and concluded that, librarians in University libraries in the South-South and South-West, Nigeria have knowledge of ICT hardware usage.

Introduction

Globally libraries have undergone a significant change in the past two decades due to the application of information technology in automated cataloguing, circulation systems, online information retrieval, electronic document delivery and CD-Rom databases. Innovations such as expert systems, virtual reference services and personal web portals indicate greater changes since the start of the new millennium. There are significant changes occurring in librarianship, whereby digital and electronic libraries are being established to complement and in some cases to completely replace traditional libraries (Ramzan, 2004, Abbas, 1997).

Accordingly, Ramzan (2004) noted that successful implementation of information and other technologies is linked with enhancement of librarians' own knowledge and skills in the areas of information resource tools, access modes technology, management and their capabilities to integrate all these to provide effective and efficient library services. According to the *Complete English Language Companion* (2007) knowledge is what one knows, the body of facts accumulated over time or condition of knowing something with familiarity gained through experience of association. Knowledge can also be seen as a condition of being aware of something, the range of one's information or understanding and the circumstances or condition of apprehending truth or fact of reasoning. However, knowledge in this study will be defined in the context of what librarians know about Information and Communication Technology.

Ramzan (2004) stated that knowledge make librarians know about Information and Communication Technology (ICT), their level of freshness of ICT knowledge and how much they have published about Information and Communication Technology. In the light of this, Adeyinka (2009) posited that librarians have little knowledge of Information and Communication Technologies, what technologies to acquire, how to implement them, and what problems to solve. Furthermore, he noted that lack of knowledge of appropriate technologies and the skills to analyze and evaluate library automation projects and their implementation will probably have affected the use of such technologies in libraries particularly in the developing countries.

However, Aziz (2004) studied familiarity with basic components of computer, computer capabilities and computer use in the society and concluded that familiarity with programming languages and functions of computer is considered as teacher's level of knowledge of computers. However learning about computers and other Information and Communication Technology facilities is one of the major ways through which librarians acquire experience with new information technology. This is important because using computers and other ICT hardware require a certain amount of basic knowledge and skills (Aziz, 2004). Pelgrum and Plomp (2000) asserted that there is need to have basic generic knowledge of Information and Communication Technology. For example, knowledge of hardware components and software packages and understanding of some basic principles of how to operate software packages, computer equipment of different types, like how to switch on a machine, how to start a program how to store information are vital.

A number of studies, according to Al-Bader (1993) and Tipton (1991), have reported many variables that influence knowledge of computer. Some of the variables are age, gender, previous knowledge of computers, cognitive styles among others and concluded that attitude towards computer and computer anxiety also correlate

with knowledge of computers.

Pelgrum and Plomp (2000) listed the following variables, which can affect knowledge of computers to include:

- Opportunities to learn
- Personal computer or home computer
- Attitude towards computers
- Perception of the relevance of computers
- Gender
- Perceived benefit in using computers
- Exposure time to computer
- Facilities at the institutions

However, Al-Bader (1993) studied the extent gender, age, computer attitude, prior experience and computer ownership affect knowledge of Information and Communication Technology application. The result revealed that there was significant correlation between computer attitude, poor experience, computer ownership and librarians' knowledge. No significant difference was found between male and females. Baker (2004) examined the extent sex, age and attitude, literacy and an interest profile predict achievement in computer and Information and Communication Technology usage by librarians and reported that sex, age and attitude affect knowledge of computer and other Information and Communication Technology usage.

Tipton (1991) studied the effect of ability, age, attitude and gender on the knowledge of Information and Communication Technology of students and reported that only I.Q. had significant relationship to students, regarding knowledge of Information and Communication Technology. Knowledge is a driving force in the use of Information and Communication Technology. Finlay and Finlay (1996) found that technical and procedural knowledge has a significant influence on attitude toward the internet, frequency of internet usage, and usage of different internet tools.

However, findings from a study by Williams (1998) on skills and knowledge of teachers of Information and Communication Technologies (TICTs), indicated that there is a significant correlation between levels of usage, skills, familiarity and knowledge of Information and Communication Technology and teachers attitudes. Findings by Powell and Dent-Micallef (1998) revealed that internet, e-mail and CD-ROM were the most commonly used information access technologies in Tennessee's School Library Media Centre in USA. Piele (1991) explored issues surrounding the changing role of library staff in the age of increased automation and concluded that the trend seemed to be for libraries to offer higher levels of assistance. But obstacles to this level of service according to Al-Salen (2002) included the need for highly trained staff because of increased use of information technology that will compel librarians' to be extremely competent in the use of Information and Communication Technology for library services.

Edwards and Walton (2000) noted that librarians felt frustrated about their lack of technical expertise. Library staff expressed great difficulty keeping up with the new technology continually being introduced. Mutula (2000) posited that Information and Communication Technology (ICT) professionals have not produced systems able to adequately perform complex library procedures, because they are not familiar with the procedures and very often do not involve librarians in the system development process. Against this background, Malincomed (1992) suggested that computer specialists learn about bibliographic applications. Edward and Walton (2000) studied change in academic libraries and found that conflict in libraries is becoming increasingly common, as a result of introducing computer services into libraries.

The most common obstacle to librarians' knowledge and implementation of ICT in university libraries, according to Muliamila (2000) was the absence of educated personnel. This could be a critical aspect for the development of ICT applications in university libraries. Omekwu (2006) posited that librarians who are not familiar with internet technologies in the knowledge era will become obsolete. Librarians are the link between information resources and user's needs. It is of great importance that the librarian is well acquainted with information technology and has a basic knowledge of computers (Eklof & Hellberge, 2009). Nsth, Bahl and Kumar (2007), reported a survey of librarians of Chandigarh city on the use of ICTs by librarians and level of knowledge. The study examined the extent of ICT adoption in Chandigarch city libraries as modern tools of providing library services to users. The study focused on respondent background, file management, word processing, spreadsheets, databases, presentation, E-mail and internet. However, the study reported low level of ICT knowledge among librarians and recommends library education with a balanced curriculum that include traditional and ICT knowledge and skills be encouraged.

Objective of the Study

The study seeks to explore the extent of librarian's knowledge of ICT hardware usage in university libraries in the South-South and South- West, Nigeria.

Methodology

The population for this study is 580. This number consisted of the total population of librarians in 41 universities at federal, state and private Universities located in 12 states of the South-South and South-West of Nigeria. The research adopted the census sampling techniques, because it allows for the study of the entire population, when the population is not too large and when there is a enough time to conduct the research. Data was collected through the use of the questionnaire.

3.8 Method of Data Analysis and Discussion of Results

Simple percentage was used to analyze the demographic information of the respondents. Statistical mean and standard deviation was used to answer research question. While Pearson Product Moment Correlation Coefficient was used for research question and hypothesis.

Table 1: Gender of the Respondents

Gender	Frequency	Percentage (%)
Male	281	54.9
Female	231	45.1
Total	512	100

The Table shows that there are more male Librarians 281(54.9%) than their female counterparts 231(45.1%). In the South- South and South- West of Nigeria the marginal difference of about 9.8% shows that the gender gap among librarians in Nigeria is not very pronounced.

Table 2: Age of the Respondents

Age	Frequency	Percentage (%)
28-35 years	196	38.3
36 and above years	316	61.7
Total	512	100.0

The Table shows that there are more librarians within the age brackets of 36 years and above- 316(61.7%). However, those within the age brackets of 28-35 years- 196(38.3%) are fewer.

Table 3: Educational Qualification of the Respondents

Educational Qualification	Frequency	Percentage (%)
BA/B.Sc/HND	243	47.5
M.Sc/Ph.D	269	52.5
Total	512	100.0

The Table shows that there are more librarians that possessed an M.Sc./Ph.D- 269(52.5%) than those with BA/B.Sc/HND- 243(47.5%)

RESEARCH QUESTION 1

Table 4: Mean Responses of the Extent of librarians' knowledge of ICT hardware

Descriptive Statistics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Extent of the Librarians Knowledge of ICT Hardware	512	3.20	.037	.841
Valid N (listwise)	512			

Acceptance Point = 3.00

Table 4 shows that librarians have very high knowledge of ICT hardware. With a mean statistic of 3.20 which is well above acceptance point of 3.00, it therefore means that librarians in university libraries in the South-South and South-West Region of Nigeria have very high knowledge of ICT hardware. This result agrees with the study by Williams (1998) on skills and knowledge of teacher librarian's knowledge on Information and Communication Technology hardware usage, which indicated that there is a significant correlation between levels of use, skills, familiarity and knowledge of Information and Communication Technology hardware. Findings by Powell and Dent-Micallef (1998) revealed that internet, e-mail and CD-ROM were the most commonly used information access technologies in Tennessee's School Library Media Centre in USA. Piele (1991) explored issues surrounding the changing role of library staff in the age of increased automation and concluded that the trend seemed to be for libraries to offer higher levels of assistance. But obstacles to this level of service according to Al-Salen (2002) included the need for highly trained staff because of increased use of information and communication technology hardware that will compel librarians' to be extremely competent in

the use of Information and Communication Technology hardware for library services.

Nsth, Bahl and Kumar (2007), report a survey of librarians of Chandigarh city on the use of ICTs by librarians and level of knowledge. The study examined the extent of ICT adoption in Chandigarch city libraries as modern tools of providing library services to users. The study focused on respondent background, file management, word processing, spreadsheets, databases, presentation, E-mail and internet. However, the study reported low level of ICT knowledge among librarians and recommends library education with a balanced curriculum including traditional and ICT knowledge and skills. Edwards and Walton (2000) noted that librarians felt frustrated about their lack of technical expertise, this result is at variance with the current study which reported a high level of ICT hardware knowledge among librarians.

Hypothesis 1:

To ascertain whether there is any significant relationship between librarians’ knowledge and use of ICT hardware in University libraries in the South-South and South-West Region, the scores of extent of the librarian knowledge of ICT hardware were cross tabulated with the level of ICT hardware usage by the librarians and the result is shown in Table 4.10.

Table 5: Correlation result between Librarians knowledge of ICT hardware and the level of ICT Hardware usage by the librarians

		Correlations	
		Extent of the Librarians Knowledge of ICT Hardware	Level of ICT Hardware Usage by the Librarians
Extent of the Librarians Knowledge of ICT Hardware	Pearson Correlation	1	.638**
	Sig. (2-tailed)		.000
	N	512	512
Level of ICT Hardware Usage by the Librarians	Pearson Correlation	.638**	1
	Sig. (2-tailed)	.000	
	N	512	512

** . Correlation is significant at the 0.01 level (2-tailed).

From Table 5, above, since the significant value is 0.00 (which is less than 0.05), it can be concluded that there is a significant correlation between the extent of librarians knowledge of ICT hardware and the level of ICT hardware usage among the librarians in the South-South and South-West Region of Nigeria. This implies that the extent of librarians’ knowledge of ICT hardware influences the use of the ICT hardware. The null hypothesis is therefore rejected implying that there is a significant relationship between librarians’ knowledge and use of ICT hardware in university libraries in South-South and South-West Region. This implies that the extent of librarian knowledge of ICT hardware influences the usage of ICT hardware. The result of the study revealed that librarians in university libraries have high knowledge of ICT hardware. This is because most library routine services are done through the use of information and communication technology hardware. This result is at variance with the study by Nath, Bahl and Kuma (2007) who reported a survey of libraries of Chandigarh City on the use of ICTs by librarians and their level of knowledge of ICT hardware. The study examined the extent of ICT adoption in Chandigarh city libraries as modern tools of providing library services to users. However, the study reported low level of ICT knowledge among librarians.

Similarly, Edwards and Walton (2000) in their research found that librarians felt frustrated about their lack of technical expertise. And noted that librarians expressed great difficulty in keeping up with the new technology, as against the result from this study where librarians show high level of ICT hardware knowledge. The result from the study is also at variance with Adeyinka (2009), who found out that librarians have little knowledge of ICT hardware.

However, from the result of the study it is obvious that the current deployment of ICT hardware in the library is responsible for high knowledge of ICT hardware in university libraries. This is in agreement with Ramzan (2004) and Abbas (1997) who found in their study that success implementation of information and other technologies is linked with enhancement of librarians own knowledge and skills in the areas of information resource tools, access modes technology, management and their capabilities to integrate all these to provide effective and efficient library services.

Conclusion and Recommendations

Based on the findings from the study, it was established that Librarians in university libraries in the South-South and south-West Regions of Nigeria have knowledge and usage of ICT hardware in university libraries, and recommended that administrators of university libraries (university librarians) in the South-South and South-

West Nigeria should as a matter of necessity encourage librarians in university libraries to increase their knowledge of ICT hardware usage even though they show high level of ICT hardware knowledge. There should be an avenue to create a relationship between the knowledge of ICT hardware and usage in other to render quality library services that will meet the requirement of the 21st Century library practice.

References

- Abbas, J. (1997). Library profession and the Internet: implications and scenarios for change. *Katharine Sharp Review*. Retrieved April, 20, 2011 from <http://edfu.Lis.uiuc.edu/review/5/abbas.html>
- Adeyinka, T. (2009). Attitudinal correlates of selected Nigerian librarians towards the use of ICT. *International Journal of Information Science and Management*, 7(1) 1-7.
- Al - Bader, M. (1993). Predictors of success in self-instruction courses on microcomputer application software. *Dissertation Abstracts International*, 5408A.2991.abstract. From Ohio link File: Dissertation Abstracts International Item: AA19005361
- Al - Saleh, Y. N. (2002). Information needs of graduate students form Electronic Resources at Umm Al-Qura University in Saudi Arabia. Unpublished Master'sDissertation. Umm Al- Qura University, Saudi Arabia.
- Aziz, S. (2004). A Study of I.C. S Students, knowledge Anxiety and Attitude towards computer, university of Punjab. Unpublished PhD Thesis, University of Punjab, India.
- Baker, D. (2004). *The Strategic Management Technology: A guild for library and information services*. Oxford: Chancels Publishing.
- Edward, C. & Walton, G. (2000). Change and conflict in academic library. *Educational Computing Research* 21, (1) 1-8.
- Finlay, K. & Finlay, T. (1996). The relative roles of knowledge and innovativeness in determining librarians' attitudes towards use of internet: A Structural equation modeling approach. *Library Quarterly*, 66 (1) 59-83.
- Mutula, S.M. (2000). Changing trends in library automation. *African Journal of Library, Archives and Information Science*, 10(1), 23-33.
- Ramzan, M. (2004). Does level of knowledge impact librarians attitude toward information technology (IT) applications. *New Delhi: 2nd International CALIBER*. Retrieved April 4, 2011 from: inlibnet.ac.in/dexml/bilstream/handle/1944/..04cali-5pdf.
- Tipton, M. (1991). The effects of ability, age, attitudes and gender on students' achievements in the junior high computer literacy class. *Dissertation Abstracts International*, 30L, 04A.
- Williams, D. (1998). *Teachers' ICT skills and knowledge need: Final report to SOEID*. The School of Information and Media, Faculty of Management, Robert Gordon University, Abardeen. Retrieved 20th May, 2010 from www.scotland.gov.uk/library/ICT/append.title.htm
- Williams, D. (1998). *Teachers' ICT skills and knowledge need: Final report to SOEID*. The School of Information and Media, Faculty of Management, Robert Gordon University, Abardeen. Retrieved 20th May, 2010 from www.scotland.gov.uk/library/ICT/append.title.htm
- Muliamila, R. T (2000). Information technology application in East African government-owned university libraries. *Library Review*, 49 (2).
- Malincomed, M. S (1992). Librarians and technology change: Opportunities, classification and management responsibilities. *Hibori*, 2.
- Omekwu, C. O (2006). Managing information technology critical roles for libraries in developing countries. *The Electronic Library*, 124 (6) 349-863.
- Eklof, S. & Hellberge, T. (2009). Strengthening the relationship between librarians and library users: A study of librarianship services and resources at the library of National university of Wawand. *Unpublished PhD Thesis*. National University of Wawand.
- Nath, A., Bahl ,G. & Kumar ,P. (2007). Information and communication technology knowledge and skills of librarians in the Chandigarh city libraries. *International caliber – 2009: Information and Knowledge Management in a networked World*. 713 – 726. Chandigarh: Inlibnet Centre .
- Powell, T.C. & Dent-Micallef, A. (1998). Information technology as competitive advantage: The role of hum, business and technology resources. *Strategic Management Journal*, 18 (5), 375-405.
- Piele, L.J. (1991). Reference services and staff training for patron-use software. *Library Trends*, 97-119.

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