LIBRARIANS' NETWORK LITERACY SKILLS AND USE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN UNIVERSITY LIBRARY OPERATIONS IN NIGER DELTA, NIGERIA

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Abstract

The study examined librarians' network literacy skills and use of ICTs in University Library operations in the Niger Delta region. The descriptive survey design was employed for the study. The population of the study was 346 librarians in the universities in Niger Delta region of Nigeria. The total enumeration sampling techniques was employed. The sample size was the same as the population. The instrument use for the data collection was the questionnaire. A total of 346 copies of the questionnaire were distributed to the respondents and 246 copies were successfully retrieved indicating a response rate of 71.10%. Data were analysed using percentages, means, standard deviations and Pearson Product Moment Correlation Coefficient. The study revealed that ICT tools that librarians used were the mobile phone, Internet, computers and printers, and that librarians in university libraries in Niger Delta did not frequently use ICT tools for library operations such as collection development readers' service etc. Librarians' ICT use skills were rated low. The study also found out that librarians in university libraries in the region possessed network literacy skills to a limited extent and that there is a significant relationship between network literacy skills of librarians and their ICT. Based on the findings from the study it was recommended that training on the use of ICT and emerging technologies which would boost librarians' network literacy skills should be encouraged and that librarians should endeavour to put more effort to training themselves in the use of ICT tool by making use of the available tools often and that positive attitude towards network literacy skills should be encouraged and ICT be incorporated into various library operations and services.

Introduction

Academic libraries as repositories of knowledge and information are shifting their roles form just custodians of traditional information resources to the providers of service oriented digital information resources. Haneefa (2001) stated that "the widespread use of computers, as well as information explosion has compelled libraries to adopt new means and methods for library operations such as the storage, retrieval and dissemination of information.

According to Nebeolise (2013), ICT has become an integral part of the modern libraries. Databases are replacing the huge amount of inventories. Resource sharing has become a necessary requirements and is easier through modern techniques. The previously required basic skills have also been of lesser primary requisites. Along with strong and in-depth knowledge of cataloguing and classification skills, nowadays, knowhow of databases, copy catalogue and reaching the sources available online have also taken an important place. Lengthy and complex subject headings have been replaced by keywords. ICT has also transformed the overall routine activities and complex subject headings have been replaced by keywords. It has also transformed the overall routines activities and behaviour of library and information science (LIS) professionals. At the time, there is no concept of an effective, efficient and impressive library service without the ICT aids. Ezeani and Ekere (2009) also established that librarians and information professionals presently operate within professional information that is characterized by change. Presently, network literacy has become imperative as the Internet is so vast with lots of resources and applications to help organize the wide array of information resources available. Hence, network literacy skill is needed by librarians to help navigate the wide range of resources that appear in varied formats. It is believed that where the librarians are skilled in network literacy, they could be able to use the Internet and other related network to attend to patrons' needs. It is also imperative for them to be able to use modern ICTs affiliated to the Internet so as for them to attain the "person-work-fit" for the 21st century library (Islam and Islam, 2007).

Benson and Raymond (2009) stated that network literacy go beyond technical skills and computer literacy. It has to do with the understanding of how people read, write and participate actively in the Internet environment. The Librarians' ability to make do with ICT resources and application depends on their skills in the use of such technologies. There is no doubt that network literacy skills of librarians is paramount if they are to cope with the challenge of working in the 21st century digital libraries. The librarians' ability to use modern ICT gadgets becomes very imperative so as to perform effectively in the library of today.

Objectives of the Study

The overall objective of the study was to find out the network literacy skills and use of ICTs by librarians in university library operations in the Niger Delta Universities. The specific objectives were to:

i. Determine ICT tools used by librarians in university libraries in Niger Delta.
ii. Find out the frequency of use of ICT tools by librarians.
iii. Investigate the library operations that librarians use ICT for.
iv. Ascertain how libarians assess their level of ICT use skil s
v. Determine the extent of network literacy skills possessed by the librarians.
vi. Find out the relationship between network literacy skills of librarians and their use of ICTs in university libraries in Niger Delta region.

Research Questions

The following research questions guided this s tudy :

1. What are the ICT tools used by librarians in university libaries in Niger Delta?
2. How frequently do the librarians use ICT tools
3. What library operations do librarians use ICT for?
4. How would the librarians assess their level of ICT use skills
5. What is the extent of network literacy skills possessed by the librarians?

Hypothesis

The study was guided by one hypothesis, which is that: There is no significant relationship between network literacy skills of librarians and their use of ICT's in university libraries in Niger Delta.

The hypotesis was tested at 0.05 level of significance.

Literature Review

Information Communication Technology (ICT) has become part of everyday life both at home and in the workplace. It's the convergence of computers and communication technologies which makes processing, storage and retrieval faster, instant and effective. ICT are a set of technological tools and resources used to communicate and create, disseminate, store and manage information. ICTs also enhances services provision to library users, this can only be achieved when librarian are skilled in the use of ICT. Proficiency in the application of ICTs in the university libraries for effective services delivery is directly connected with the extent of skill librarians possess in this area. A strong sense of skilfulness has been known to enhance human accomplishment and personal well-being in several ways. Positive skills possession can propel librarians to perform efficiently in meeting the needs of the users (Pajares, 1997). When skill is too low, the outcome of the performance will be low as well (Schunk, 1994). Network literacy skillfulness has

impacted positively on librarians' achievement (Pinttrich and Garcia, 1991). Persons with high network literacy skills use more cognitive and meta-cognitive strategies and persist longer than those who do not (Pajares, 1997). Without ICT use and networking skills many library operations today will be hindered. Several benefits accrue to the use of information and communication technology in libraries. Today, not only the society, libraries have also changed from the traditional means of carrying out operations to computerized operations. Hence, the only option is to be equipped with ICT use and networking skills so as to take advantage of all computerized facilities and enhance library work. Ukachi (2010) explained further that, in addition to general traditional library educational qualifications and requirement, librarians in the electronic environment must also possess additional capabilities, experience, knowledge and skills. Such skills include expertise in the use of innovative emerging technologies to design and develop web-based applications programed and services and assist users to locate, access, store and transform electronic information resources, services and instructions across multiple applications, databases, networks, platforms and systems. Others are designing, developing, launching and maintaining digital content management and access and evaluate and skills to assess, understand, thank and adapt.

Methodology

The study adopted the descriptive survey design. The population of the study was 346 librarians (the entire population of librarians in the universities in the Niger Delta region). This population of the 18 government owned universities in the Niger Delta region of Nigeria. The researcher used all the 346 librarians. Thus, the total enumeration technique was adopted. This was because the population was not large. According to Olaitan and Nwoke (1998) when the research involved a population of very few subjects, the entire population can be used for the study. The instrument employed for the collection of data was the questionnaire. Percentages (%), statistical means, standard deviations and Pearson Product Correlation Coefficient were used in analysing the data collected.

Findings and Discussion

Questionnaire Response Rate

A total of 346 copies if the questionnaires were distributed to the respondents and 246 copies were successfully retrieved indication a response rate of 71.0%. the response rate is considered adequate for the study because in the opinion of Baxter and Babbie (2004), a response rate of 60% and above is considered adequate for analysis and reporting.

Answering of the Research Questions

Research Question 1: What are the ICT tools used by libarians in university libraries in the Niger Delta.

Table 1: ICT Tools Used by Librarians

S/N	ICT tools	Yes	%	No	%
1	Computers	148	60	98	40
2	Printers	144	58.5	102	41.4
3	CD-ROMs/DVD	137	55.6	109	44.3
4	E-mail	123	50	123	50
5	E-group	117	47.5	129	52.4
6	Databases	146	59.3	100	40.6
7	Fax machine	109	44.3	137	55.6
8	Networking	101	41	145	59
9	Online Public Access Catalogue	98	39.8	148	60.1
10	Internet	150	61	96	39
11	Intranet	82	33.3	164	66.6
12	Mobile phones	217	88.2	29	11.7
13	Video conferencing	99	402	147	59.7
14	Scanner	143	58.1	103	41.8
15	Ipads/Tablet	106	43	140	57

Table 1 shows that the ICT tools that librarians used were the mobile phone, 217 (88.2%), Internet, 150 (61%); computers 148 (60%), and printers, 144 (58.5%) responses. Among the least used ICT tools were Intranet, 82 (33.3%), Online Public Access Catalogue (OPAC); 98 (39.8%); and video conferencing, 99 (61%) responses.

Research Question 2: How frequent do the libraries use ICT tools.

Table 2: Frequency of Use of ICT tools by Librarians

S/N	ICT tools	Mean	Standard Deviation
1.	Computer	2.52	0.75
2.	Printers	1.43	0.62
3.	CD-ROMs/DVD	1.54	0.74
4.	Email	1.19	0.51
5.	E-group	2.09	0.91
6	Databases	2.52	0.80
7.	Fax machine	2.52	0.75
8.	Networking	1.76	0.85
9.	Online Public Access Catalogue (OPAC)	1.60	0.77
10.	Internet	2.81	0.49
11.	Intranet	2.17	0.92
12.	Mobile phones	2.52	0.75
13.	Video conferencing	2.47	0.82
14.	Scanners	2.05	0.85
15.	Pen drive	2.17	0.92
	Average Mean/Standard Deviation	2.04	0.16

Criterion Mean = 3.00

The overall calculated mean is 2.04 and standard deviation of 0.16 is than the criterion mean of 3.00. Hence it can be said that librarians in university libraries in the Niger Delta did no frequently use ICT tools in the university libraries. A further look at the result, however, showed that they quite often used the Internet (mean=2.81; SD=0.49), databases and computers (mean=2.52; SD -0.75) respectively.

Research Question 3: What library operations do librarians use ICT for?
Table 3: Library Operations Librarians Use ICT for

S/N	Library Operations	Mean	Standard Deviation
1.	Cataloguing	1.60	0.84
2.	Circulation	1.64	0.77
3.	Serials	1.59	0.76
4.	Reference	1.27	0.65
5.	Collection development	1.15	0.44
6	Special collections	1.52	0.67
7.	Readers services	1.29	0.58
8.	Selective dissemination of information	1.50	0.70
9.	Document imaging	2.17	0.92
10.	Word/document processing	3.00	0.00
	Average Mean/Standard Deviation	1.68	0.26

Criterion Mean = 3.00

The result presented in Table 3 shows that the librarians in university libraries in the Niger Delta hardly used ICT for library operations. This is because of the average calculated mean of 1.68 and standard deviation of 0.26. It is however noticeable that the librarians used ICTs for word/document processing with a mean score of (Mean=3.00; SD=0.00).

Research Question 4: How would the librarians assess their level of ICT use skill?

Table 4: Librarians' Level of ICT Skills

S/N	Librarians' level of ICT skills	Mean	Standard Deviation
1.	Library software	1.57	0.78
2.	Trouble shooting and repairs	1.19	0.49
3.	CD-ROMs	1.54	0.74
4.	Web design	1.67	0.70
5.	Hardware/software installation	1.60	0.77
6	Use of databases	1.89	0.91
7.	Computers	2.17	0.92
8.	Networking	1.60	0.84
9.	ONLINE Public Access Catalogue (OPAC)	2.09	0.91
10.	Internet	2.17	0.92
	Average Mean/Standard Deviation	1.75	0.14

Criterion Mean = 3.00

With an average calculated mean of 1.75 and standard deviation of 0.14, the result implied that the librarians assessed indicated that ICT use skills were low. This is because the average mean of 1.75 is less than the criterion mean of 3.00. They however, possessed average ICT use skills in computers and internet (mean = 2.17; SD=0.92) respectively.

Research Question 5: What is the extent of network literacy skills possessed by the Libraries?

Table 5: Librarians' Extent of Network Literacy Skills

S/N	Librarians' Extent of Network Literacy Skills	Mean	Standard Deviation
1.	Identification of information needed for specific purpose	2.83	0.44
2.	Locating information need from network with efficient information retrieval methods, skills and tools	2.47	0.82
3.	Selecting and evaluating information gained from networked information on a given topic.	1.90	0.92
4.	Manipulating and organizing network information with other resources to enhance its value.	1.67	0.70
5.	Using analysing and presenting networked information for problem solving and life-long learning.	1.83	0.92
6	Internet surfing skills	2.78	0.59
7.	Use of browsers	2.70	0.61
8.	Use of Online Public Access Catalogues (OPAC)	1.72	0.82
9.	Sending and receiving emails	2.72	0.62
	Average Mean/Standard Deviation	2.33	0.16

Criterion Mean = 3.00

With an average calculated mean of 2.33 and standard deviation of 0.16, it showed that the librarians in university libraries in the Niger Delta possessed network literacy to a limited extent. This is because the average mean of 2.33 is less than the criterion mean of 3.00.

Testing of the Hypotheses
Hypothesis I
There is no significant relationship between network literacy skills of librarians and the use of ICTS in university libraries in Niger Delta.

Table 6: Pearson Correlation Coefficient Analysis of the Relationships between Network Literacy Skills and Use of ICTs

Variable	N	Mean	SD	Df	Pearson Coeff. (r)	Sign. 2- tcal (f)	Decision t-cal (f)	Remark
Librarians network	246	2.5100	.31194	242	.226	0.16	Reject	Significant
Literacy skills	2.46	2.3413	.31304					

The table reveals that r (242) =0.226, P=0.016<0.05, the correlation is significant at the +0.05 level of significance. Thus, the hypothesis is rejected. There is no significant relationship between literacy skills of librarians and their use of ICTs in University Libraries in Niger Delta.

Discussion of Findings
Finding obtained from the analysis of data are discussed below:

ICT Tools Used by Librarians
The ICT tools that were mostly used by librarians were mobile phone, Internet, computers and printers. This result is in line with that of Dhanavanadan, Esmail and Mani (2008), in which respondents used ICT tools, particularly the Internet and mobile phones. The findings of this study agreed with that of Idowu and Mabawonku (1999) that all the libraries surveyed had access to computer facilities but at varying degrees.

However, this result is not in line with the result presented by Saleem, Tabusum and Batcha (2013) that the major ICT tools used by respondents are e-group, e-mail, fax, internet, intranet, mobile phone, video conference.

Frequency of ICT Tools Used by Librarians

Result from the study revealed that librarians in university libraries in the Niger Delta did not frequently use ICT tools in the university libraries. The result corresponded with that of Bringula, Bonifacio, Natanauan, Manuel and Panganiban (2012) that the Philippines showed a limited used of internet and computer in terms of average hours spent per visit, frequency of visit within a week and visiting time a day. On the other hand, this finding does not support the study of Okiki (2012) which said that most users used computers on daily bases.

Library Operations and Librarian's Use of ICT

The result revealed that the librarians in University Libraries in the Niger Delta hardly use ICTs for library operations. This findings corroborated the result by Farmason (1999) that libraries have felt the impact of ICT in libraries, some libaries still do not make use of them. The reason for this could be attributed to constant power outage and the expensive nature to maintaining ICT infrastructure.

ICT Use Skills of Librarians

The result implied that the librarians' ICT use skills was low. The finding of this study corroborates the result presented by Obuh (2009), that there is a low level of skilfulness in the use of ICT among respondents studied. The finding of this study did not agree with the findings of Krubu and Osawaru (2011) which said that majority of the respondents have good computer skills.

Librarians' Extent of Network Literacy Skills

The result form the study revealed that the librarians in University Libraries in the Niger Delta possessed network literacy skills to a limited extent. This finding is in line with Kay (1993) who reported that respondents rated themselves as having low knowledge and very low skills in programming and networking. The result of this study is not in line with the finding of Kurbanoglu (2003) that librarians rated themselves high regarding network literacy and computers.

Relationship between Network Literacy Skills and Use of ICT

The result showed that there is a significant relationship between network Literacy Skills of Librarians and their use of ICTs in University Libraries in Niger Delta. This finding agreed with that of HSU and Chiu (2004) which said that efficacy in network literacy had positive effects on computer usage, attitudes and intentions. On the contrary, the study did not agree with the finding of Ong and Lai (2004) that reported a negative, non-significant relationship between the two constructs.

Conclusion

ICT is a significant development that provides tools for managing the avalanche of information generated by modern society. The study has revealed that the ICT tools librarians in Niger Delta used were mobile phones, Internet, computers and printers and that librarians' did not frequently use ICT tools for library operations. The study further established that the librarians did not use ICTs for library operations such as collection development, readers, services, the librarians assessed that their ICT use skills were low and that they possessed network literacy skills to a limited extent while, there is a significant relationship between network literacy skills of librarians and their use of ICTs in University libraries in the Niger Delta. The reason for the low use of the ICT tools for library operations, may be due to the constant outage and the low ICT use skill possessed by librarians

Recommendations

The following recommendations were made based on the findings of the study.

i.   The management of the libraries should put in more effort in the acquisition of ICT tools in their university libraries.

ii.   The management of academic libraries should organize in house training and workshops on the use of ICTs and emerging technologies, which will eventually boost their network literacy skills.

iii.   Librarians on their part should endeavour to put more effort to training themselves in the use of ICT tools by making use of the available tools more often.

iv.   Librarians should endeavour to attend workshops and conferences where they can learn more on the adoption and use of ICTs for library operations.

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