
Effect of Technology on Librarians in Academic Libraries in Nigeria

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Abstract

The purpose of this study is to investigate the effect of technology on librarians working in academic libraries in Nigeria with particular reference to Delta State. The descriptive survey design was adopted. The twelve (12) tertiary institutions libraries in Delta State were used for the study. The purposive sampling technique was employed. The questionnaire was the main data collection instrument and standard deviation as well as descriptive statistics was used to analyze data. Findings revealed that respondents appreciate the use of technology in the workplace. Respondents affirmed that technology has added more responsibility to their jobs, but with increase speed of accomplishment and accuracy. Inadequate staff, inadequate training and lack of equipment created the highest level of stress in the workplace. Recommendations were given for managing and coping with techno stress.

Keywords: techno stress, librarians, technology, perceptions, Nigeria

Introduction

University libraries have been the major access points for information/knowledge by staff/students towards quality teaching, learning and research. The role of university libraries in this regard cannot be realized without the use of technology for library and information service delivery. Information Communication Technology (ICT) is a term used to describe the various technologies that are used in the processing of information including coding, creation, storage, retrieval, manipulation, dissemination and transmission (Zulu, 2011). Grace, Kenny and Qiang (2004) described ICT as tools that facilitate the production, transmission and processing of information. In a broader context, ICT encompasses array of networks, hardware and applications of communication and information creation, management, processing, storage and dissemination.

The use of technology for library and information service delivery has undergone various levels of development. An automated cataloguing, circulation and acquisition systems has led to better management of library operations and improved services. Today, ICT is providing libraries with powerful new tools to meet their patrons' information needs beyond their traditional printed materials. With internet connectivity, university libraries can reach beyond their walls to provide patrons with resources available in their libraries. Social media as typified in library 2.0 model are increasingly becoming part of libraries and they are tools for enhancing library services and

resources (Tiemo & Edewor, 2011). Many libraries are effectively using twitter to communicate services like opening times, new arrivals etc, while others have developed applications that enable users to search catalogs from within facebook (Baro & Asaba, 2010). There is no doubt that the application of ICTs have provided one of the best innovations in the history of libraries and it is changing the shape of libraries and role of librarians at an unprecedented shape (Lewis, 2007).

Librarians in academic libraries work in an ever changing technological environment. As noted by Al-Qallaf (2006) “today, librarians provide access to eclectic e-collections, create and maintain digital content, support e-learning, provide real time e-reference, negotiate contracts and licensing agreements and struggle with the economics of electronic information”. Thus, the explosive growth of ICT and use in libraries have had impact on librarians and raise serious questions on how they need to adapt to new tasks and activities in a globally interconnected world. It is thus paramount for university libraries to address associated issues related to the use of ICT in work processes, operations and services; such as librarians reaction to technological changes; their perceptions, beliefs and opinions regarding the implications of technology in libraries and the ability to cope with new technologies in a healthy manner.

It is against this background that this study attempts to investigate the effect of technology on librarians working in academic libraries with particular reference to Delta State, Nigeria. To know their perception on the impact of technology in the workplace (libraries) environment, with specific reference to performance, responsibility and perception about learning new technology as well as to know the sources of techno stress and how they rate such sources.

Research Objectives

The objective of this study is to investigate the effect of technology on librarians working in academic libraries in Nigeria with particular reference to Delta State, Nigeria. Specifically it is aimed at:

- Knowing librarians perceptions of technology in the workplace environment with reference to performance.
- Knowing librarians perceptions of technology in the workplace environment with respect to job responsibility.
- Knowing librarians perceptions of technology in academic libraries about learning new technologies, and
- To know the sources of techno stress and how they rate such sources.

Research Questions

The following research questions were formulated to guide the study.

- How do librarians working in academic libraries in Delta State perceive the impact of technology in relation to performance?
- How do librarians working in academic libraries in Delta State perceive the impact of technology in relation to job responsibility?
- How do librarians working in academic libraries in Delta State perceive the impact of technology in relation to learning activities?
- What are the sources of techno stress and how do librarians rate such sources?

Literature Review

Technology has greatly enhanced library and information service delivery. That technology has undergone various level of development is an understatement. Today, the library goal of providing information services and access to information resources is greatly improved by the use of information communication technology (ICT). With ICT library services are taking on new meanings and constructs. There exist different views, perceptions and opinions of librarians in relation to the use of technology. A search of the literature revealed different studies. Palmimi (1994) investigated the impact of computerization on staff in academic libraries in Wisconsin. Findings showed that 62% perceived that discontentment with job in libraries is computer related. This reflects in lack of computer systems, and slow network response, while 38% are of the opinion that dissatisfaction with job is people related as evidenced in misunderstanding and meddlesomeness amongst staff. Shaw (1986) assessed the Indiana State University library staff perceptions of automation's impact. Findings of her study indicate major changes in terms of involvement and assessment of automation's impact on staff attitudes, though reactions to automation in general remains positive.

Jones (1989) surveyed perceptions and opinions of academic staff at three university libraries in the United States. The questionnaire was her main instrument of data collection. Specific areas addressed were personal reactions to new technologies, staff training and management issues. The results revealed that majority of the participants had a positive perception toward technology. Other respondents in her study also indicated some level of stress occasioned by technology which is often referred to as techno stress.

Techno stress is not a new concept. Over the years several writers had defined techno stress in different ways. According to Weil and Rosen (1997), techno stress is any negative impact on attitudes, thoughts, behavior or body physiology that is caused by technology. This could happen as a result of prolonged use. In Davis-Mills (1998) opinion, techno stress is a condition resulting from having to adapt to the introduction and operation of new technology, particularly when the equipment or support is inadequate. A popular and concise definition of techno stress was given by Brod (1984) as "a modern disease of adaptation caused by an inability to cope with new technologies in a healthy manner" Techno stress is viewed as a problem of adaptation to technology. Hence the inability to adapt to changes associated with the introduction of technology could be a source of techno stress. However Brod's classification of techno stress as

a disease is a subject of disagreement among many scholars. Techno stress is a disorder that may occur as a result of technology use in the workplace. There are quite a number of existing empirical literatures on techno stress in academic libraries.

Kupersmith (2005) investigated techno stress among library staff. The questionnaire was the data collection instrument used. Findings revealed that 65% of the respondents suffered some level of techno stress in the last five years, while 27% reported not to have had any serious level of techno stress. Kupersmith (2005) reported major causes of techno stress to include: information overload, networking problems, computer hardware, and ergonomics. Ennis (2005) highlighted the following as causes of techno stress in libraries: pace of technological change, lack of proper training of the librarians and users, increased workload, lack of standardization of hardware and software as well as changing role of librarians. Similarly, Ofua and Tiemo (2011) investigated the effect and measures of techno stress among librarians in University libraries in Nigeria. The authors found that techno stress is a major phenomenon among academic libraries surveyed and suggested regular staff training on technology and the development of positive attitude as measures to the avoidance of techno stress. Isiakpona and Oyeronke (2011) carried out a study to determine the sources of techno stress amongst library staff in the Covenant University library, Nigeria. It was found that techno stress hampers librarians' duties on a daily basis. Sitting positions, slow internet network among others were found to be causes of techno stress.

This study therefore is in respond to the need to investigate the effect of technology on librarians working in academic libraries in Delta State. It is an attempt to further contribute to the existing literature on techno stress. The study will further help to determine the perceptions, beliefs and opinions of librarians regarding the introduction of technology in academic libraries. Findings from this study will help library management in planning and developing strategies for managing and supporting operations in a techno-environment.

Research Methods

This study adopted the survey research design. The population of the study comprises of librarians in academic institutions in Delta state. The twelve tertiary institutions in Delta State were targeted. Each of the institutions were allocated 10 questionnaires with the exception of Delta State School of Marine Technology, Burutu and Novena University, Ogume that were allocated four respectively. This is as a result of the low number of professional staff in these institutions. 128 questionnaires were distributed by the researcher in all, during August – October, 2014 to the participating libraries. The questionnaire was in two parts. The first part solicited opinions on the perception of librarians towards technology in the work environment. The second part consisted of a 7- item scale that listed sources of techno stress. Respondents were requested to rate the level of each item on a four point scale where 0 = Not at all, 1= Low, 2 = Moderate and 3 = High. The scale yielded a 0.898 Cronbach alpha coefficient to support its reliability.

Out of the 128 questionnaires distributed, 97 responded with a return rate of 51%. Collected data were analyzed using descriptive statistics and standard deviation.

Findings and Discussion

Table 1 shows demographic information of respondents

Table 1: Demographic profile of Respondents

Variable	Frequency	Percentage
Gender		
Male	32	33.0
Female	61	62.9
Undecided	4	4.1
Age		
21 – 24	3	3.1
25 – 34	25	25.8
35 – 44	46	47.4
45 – 54	18	18.6
55 and above	5	5.2
Qualification		
B.LS	66	68.0
M.SC/MLS	19	19.6
Ph.D	12	12.5
Division of Work		
Technical service	18	18.6
Readers service	33	34.0
e-Library	7	7.2
Collection development	9	9.3
Administration	8	8.2

Table 1 shows a demographic profile of librarians working in academic libraries in Delta state, Nigeria. 61 were females (62.9%), 32 were males (33.0%) and 4 undecided (4.1%). Almost half (n=46, 47.4%) of the respondents were between the ages of 35 – 44, most of the librarians (n = 33, 34.0%) worked in readers services division. The majority of the respondents (n = 66, 68.0%) held a bachelor’s degree, only 19(19.6%) had a master’s degree and 12 (12.4%) had a doctorate degree.

Table 2: Perception of the impact of technology on work performance

Table 2 shows the perceptions of respondents on work performance

Statement	Frequency	Percentage
Makes work easier	88	90.8
Makes work harder	1	1.0
No much change	8	8.2
Speed of work increases	83	85.5
Speed of work decreases	6	6.2
The same speed	8	8.2
Accuracy in work	88	90.8
Less accuracy	1	1.0
Undecided	8	8.2

Table 2 reflects respondents' perceptions of technology in the workplace with respect to performance. The table reveals that respondents' perceived technology had made their work easier with increase in speed and accuracy. There is overall positive reactions to a set of statements about the ease, speed and accuracy of job tasks. In other words they appreciate technology and that technology improves their job performance. This is in consonance with Poole and Denny (2001).

Table 3: Perceptions of the impact of technology on job responsibility

Choices	Frequency	Percentage
Added more responsibility	56	57.7
Diminished the responsibility	18	18.6
No effect on the amount of responsibility	23	23.7

Table 3 reveals respondents perceptions of the impact of technology on job responsibility. Most respondents 56(57.7%) perceived that technology had added more responsibility to their jobs, 18(18.6%) believed that technology diminished their workload and 23 (23.7%) felt that technology had no effect on the amount of responsibility on their job.

Table 4: Perception about learning new technologies

Statement	Frequency	Percentage
Looking forward to learning	72	74.2
Uneasy to learn	18	18.6
Irritated about new technology	5	5.1
Hesitant to learn	2	2.1

Table 4 shows perception of respondents about learning new technologies. The table reveals that 72 (74.2%) looked forward to learning new technologies and 18(18.6%) felt uneasy to learn with 5 (5.1%) being irritated about learning new things. On the whole, overall responses about learning new technologies were very positive. Learning is an important element of technological change.

Table 5: Sources of Techno stress

	Sources	n(SD)	Frequency	Percentage	Rank
1	Complicated work environment	1.63(1.153)	67	80.7	7
2	Inadequate staff	1.82(0.983)	75	90.4	2
3	Dearth of technical staff	1.86(0.933)	72	86.8	1
4	Inadequate training	1.75(1.152)	73	88.0	4
5	Lack of equipment (computers, scanners, printers)	1.77(1.034)	73	88.0	3
6	Slow network/bandwidth	1.69(1.084)	70	84.3	5
7	Growing user demands	1.65(0.951)	67	80.7	6

Table 5 lists the sources of techno stress. Respondents were provided with 7 sources and asked to rate the level of stress for each item based on a four point scale where 0 = Not at all, 1 = Low, 2 = Moderate and 3 = High. The number of sources to which a subject responded to ranged from 1 to 7. An average of 5 items caused some types of stress for each respondent.

The table lists the frequencies of the sources checked. The most frequently checked items that respondents rated as causing them the most stress were “inadequate staff” (n = 75, 90.4%) “Inadequate training” (n = 73, 88.0%) and “Lack of equipment” (n = 73, 88.0%). Mean scores were also generated for each item as indicated in tables 5. As illustrated in the table, dearth of technical staff caused the highest level of stress in the work environment, closely followed by inadequate staff and lack of equipment.

Conclusion and Recommendations

This study is an affirmation that librarians in academic libraries in Nigeria appreciate the use of technology in workplace. There is a general positive feedback that technologies make their work easier, with increase speed of accomplishment and accuracy. This is in consonance with Ennis (2005). However, Librarians believed that technology had added more responsibility to their jobs. There is great enthusiasm amongst librarians with technology as they looked forward to learning new technologies.

Inadequate staff, inadequate training and lack of equipment emerged as items causing librarian’s stress in the workplace. As affirmed by the study, insufficient professional library staff in the workplace is a major source of stress. This will in no doubt affect overall work output. Dearth of technical staff is a cause higher stress levels. The availability of qualified librarians (system specialist and trouble shooters) is crucial to effective library and information service delivery in

academic libraries in recent times. Lack of equipment such as computers, scanners, printers, barcode readers etc is a major cause of stress; when these equipments are absent, efficient services are hampered thereby causing frustration and disenchantment among the workforce. Notwithstanding these inadequacies, technology has brought about great efficiency in library and information service delivery. The following recommendation will go a long way in improving library services with the use of technology.

1. Recruitment and retention of technical support staff in academic libraries. The availability of technical staff helps to maximize systems accessibility and efficiency
2. Provision of relevant equipment for library and information service delivery. Inadequate workstation and printers to meet patron needs causes discontentment for the users, thereby creating tension for librarians. Academic libraries must take practical measures to constantly provide and upgrade equipment and software.
3. Library management should design and implement strategies for training and retraining of librarians in order to keep them abreast with relevant skills and abilities necessary for effective and efficient library and information service delivery in Nigeria.

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List of Participating Institutions

Federal University of Petroleum Resources, Effurun
Delta State University, Abraka
Novena University, Ogume
Western Delta University, Oghara
Petroleum Training Institute, Effurun
College of Education, Warri
College of Education, Agbor
College of Physical and Health Education, Mosogar
Delta State Polytechnic, Ozoro
Delta State Polytechnic, Ogwashi-uku
Delta State Polytechnic, Oghara
Delta State College of Marine Technology, Burutu

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