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INSTITUTIONAL FACTORS VARIABLE AS DETERMINANTS OF LECTURERS' UTILIZATION OF ELECTRONIC PUBLICATIONS IN LIBRARY SCHOOLS IN UNIVERSITIES IN NIGERIA

BY

ADA UCHENNA TONY OKEREKE

ABSTRACT

The study focused on the institutional factors variable as determinants of lecturers' utilization of electronic publications in library schools in universities in Nigeria. The study was guided by one research questions and one null hypotheses. Correlational design was adopted for the study, while rating scale titled 'Computer Utilization Variables and Lecturers Utilization of Electronic Publications' (CUVLUEP) was used to elicit data for the study. A sample of 378 library and information science lecturers from the 24 public universities in Nigeria were used for the study. The reliability of the instrument was determined through the Cronbach Alpha statistical method which gave a reliability coefficient of 0.79. Data collected were analysed by using descriptive and inferential statistics. Research question were answered using coefficient of determination (r^2) and Pearson "r. This statistics helped to establish the linear relationship between the variables of this study. Hypotheses were tested using t-test of significance of correlation Findings show that there is a moderate positive relationship between computer skills and lecturers' utilization of electronic publications for research as well as a high positive relationship among institutional factors It was therefore, recommended that since the utilization of electronic publications for research is highly influenced by the lecturers' level of computer skills, there is need for regular training of the lecturers especially those in university environment to enable them acquire computer literacy skills. It was also recommended that all the computer utilization variables should be considered very important to effective utilization of electronic publications as each factor can influence to some extent the level of computer utilization by lecturers.

KEYWORDS: Institutional Factors, Lecturers', Utilization, Electronic Publications

INTRODUCITON

Innovations in Information and Communication Technologies (ICTs) such as computers, Internet and scholarly electronic publications (e-journals) have made it almost unnecessary for lecturers and researchers to use card catalogues, printed abstracts and indexes, bibliographies, textbooks, printed journals and so on for research. Today, lecturers in university library schools all over the world can conduct research, teach and accomplish other academic tasks by using computers connected to the Internet to search and retrieve needed information

from electronic catalogues, e-journals and large databases of digitized scholarly information (Teferra, 2013). The transformation of scholarly publications from paper to electronic medium is the anticipated reward for the human capital and huge sums of financial resources expended on the development of information and communication technologies across the globe.

Consequent upon the change from paper to electronic format, library and information science lecturers are expected to develop new skills required to utilize information resources in electronic format. The relationship between research and scholarly electronic publications is symbiotic and interactive in nature because research outputs are communicated in the form of scholarly electronic publications while scholarly publications form one of the basic input resources for research activities. Scientific research is the mainstay of scientific communication. Scientific communication thrives on a rich environment of scientific research. Scientific communication cannot flourish in an environment that challenges its benefactor (scientific research) and the two are intricately intertwined (Marcum & George, 2013).

Scholarly publications are the primary means by which the outcome of academic work is shared. Journal articles, books, conference proceedings, and the likes have been the primary delivery vehicles for scholarly work. Electronic publication is simply referred to as information resources stored in electronic format using computer or computer-related facilities. This includes electronic book, electronic journals, online databases, electronic-conferences proceedings and CD-ROM databases. Khan (2009) defines electronic publications as resources stored electronically and which are accessible through electronic systems and networks. Electronic publications are now used to supplement printed information sources in the University libraries.

In view of the potential advantages and benefits of e-publications over the print in modern electronic information environment, accessibility and utilization of e-publications is fast becoming a norm in research in the universities around the world. Hence, “access to electronically stored information in computers has been increasing regularly” in the universities to aid academic staff in their research (Rubin, 2010: 11). Different types of electronic resources include: e-journals, e-books, online databases, e-theses/e-dissertations, electronic conference proceedings, electronic technical reports, electronic reference documents, CD-ROM databases (Appleton, 2016; Costa & Meadows, 2010; Dadzie, 2015; Lee, 2012; Parameshwar & Patil, 2009; Swain, 2010). Basically, e-resources that are accessible on the Internet are described as Internet resources.

Appleton (2016: 620) classified Internet resources into “freely available web-based resources” and “scholarly web-based resources such as electronic journals” (p. 43). The scholarly web-based publications such as online databases, e-theses/e-dissertations, electronic conference proceedings, electronic technical reports, electronic reference documents, electronic journals, electronic books and online databases are relatively invaluable e-resources that have brought great innovations in research process in universities (Swain, 2010).

Pertinent to the highlighted benefits of scholarly electronic publications is the establishment of reliable scholarly electronic publications infrastructure -ICT and Internet connectivity that will enable library science lecturers have uninterrupted access to up-to-date facts, ideas, data, and information sources that are created both internationally and nationally. With the development of reliable scholarly electronic communication facilities in Nigerian universities, library and information science lecturers conducting research will be stimulated to use the facilities to advance knowledge creation, communication, utilization, and dissemination and by so doing improve Nigeria’s and Africa’s contribution to the content of world knowledge (Newby, 2007).

However, there are challenges to utilization of scholarly electronic publications. Hence, Gill and Dalgarno (2008) observed that “despite significant political will and spending by governments on technical equipment and training, levels of ICT integration in library schools for learning and teaching are often low.” In Nigeria, studies conducted by Ureigho, Oroke and Ekruyota (2006) found that “access to and use of Internet resources is low in Nigeria.” Supporting the assertion above Newby (2007) posits that “Authors in countries, such as Botswana, South Africa, and to some extent, Tanzania and Kenya appear to use internet facilities as research tools, thereby writing academic publications more than authors from Nigeria, Ghana, Zambia, Uganda, Mozambique and Swaziland”.

The central purpose of libraries is to provide a service: access to information, and modern information and communication technologies, especially computers. Information networks and software applications are making it possible for libraries to provide a variety of library and information services to their clients.

Electronic publications are vital in the conduct of research by lecturers in university library schools. They are available in Nigerian universities courtesy of government, universities, non-governmental organizations (NGO), external agencies /donors, and private individuals/organizations. However, there is low

use of scholarly electronic publications by library and information science lecturers in universities in Nigeria compared to their counterparts in Britain, United States, and even in Botswana and South Africa (Olalude, 2007). In the light of the above analyses, this study investigated institutional factors variable as determinants of lecturers' utilization of electronic publications in library schools in universities in Nigeria

Institutional factors may influence utilization of scholarly electronic publications. These are a range of conditions such as workplace, workload, proximity to library and ICT laboratory, cost of access, use policy, academic culture, and other conditions and facilities in a university environment that may influence lecturers' utilization of scholarly electronic publications. Rogers (2013) identifies among other factors, organizational characteristics as principal factors influencing diffusion of an innovation. In a study, Peansupap and Walker (2015) also demonstrated that workplace environment characteristics such as commitment, open discussion, and immediate learning environment also affect ICT adoption, diffusion, and utilization. Consequently, institutional factors prevailing in a particular university's environment influence lecturers' utilization of scholar electronic publications for research.

Fundamentally, major institutional and environmental factors that may influence the use of computer for electronic resources in education according to Ololube (2016) include, among others, the lack of access to basic ICT facilities, low internet connectivity and lack of computers, and inadequacy in the use of internet resources. This is corroborated by Nertha (2017) that emphasizes cost of connectivity accessibility to reliable electricity, lack of training in computer use, lack of trained personnel to service equipment and unavailability of infrastructure as major factors that can stand in the way for successful utilization of electronic publications in most African countries.

Statement of the Problem

The developments in information and communication technologies (ICT) such as computers and electronic publications have now changed the way university lecturers conduct research. Over the last few years, enormous progress has been made in ensuring that lecturers in university library schools in Nigeria can access the expanding volume of scholarly publications produced in electronic format. Support has been provided in acquisition of relevant hardware and software and setting up the necessary networked infrastructure. Negotiation with publishers has resulted in scholarly electronic publications being made available free or at heavily discounted prices through programmes like AGORA, HINARI,

EBSCOHOST, JSTOR, and PERI. These initiatives in Nigeria's university system are a recent development and are changing the culture of research, knowledge production, and dissemination. The development seems to pose serious challenges to lecturers' utilization of electronic publications in Nigerian universities. Hence, experts such as Akintunde (2006) and Olalude (2007) had observed that the use of electronic publications by library science lecturers is low in Nigerian universities.

Purpose of the Study

The main objective of the study was to examine computer utilization variables as determinants of lecturers' utilization of electronic publications in library schools in universities in Nigeria. The specific objectives are to:

- 1) Ascertain the coefficient of relationship between institutional factors and library science lecturers' utilization of electronic publications.

Research Questions

- 1) What is the coefficient of relationship between institutional factors and library science lecturers' utilization of electronic publications?

Hypotheses

- 1) Ho1: There is no significant coefficient of relationship between institutional factors and utilization of electronic publications by library science lecturers in Nigerian universities.

REVIEW OF LITERATURE

The literature review focused on factors that influence lecturers' utilization of scholarly electronic publications in universities in Nigeria. Consequently, the review of related literature was organized in the following order

Electronic Publications

Electronic publication is simply referred to as information resources stored in electronic format using computer or computer-related facilities. This includes electronic book, electronic journals, online databases, electronic-conferences proceedings and removable storage devices. Khan (2009) defines electronic publications as resources stored electronically and which are accessible through electronic systems and networks. Electronic publications are now used to supplement printed information sources in the University libraries.

Electronic forms of publication abound and are on the increase. Tenopir and King (2011) note that "nearly two-thirds of all scientific journals are available both electronically and in print and there are more than 1,000 electronic-only peer-reviewed journals". Electronic publications are vital in the conduct of

research. They are available in universities in Nigeria courtesy of government, universities, non-governmental organization (NGO), external agencies/donors, and private individual/organization.

Libraries now provide access to a variety of electronic publications such as e-book and journals to patrons. Electronic book and journals relatively provide efficient access to information and, thus they are easy to distribute to library patrons than traditional print. In a financial stringent environment of higher education system, electronic journals and books have become a medium which is cheaper than traditional printed journals (Ellis & Oldman, 2015). According to Rowley (2006) electronic journals take two different forms: journals that are published in print form, available in digital form and electronic journals which do not necessarily need a publisher, and which can be managed by an editor and the scholarly community. Both types may have a significant impact on scholarly communication and in a way knowledge is created and disseminated.

The most effective way to provide access to electronic publication (e-books/e-journals) in University libraries is through subscription to online databases which can be accessed through the internet. Online databases are a collection of electronic information sources (e-journals/e-books) by publishers from various fields and disciplines (Afolabi, 2007). Some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors. Some of these include NARI, AGORA. Others require subscription fee such as emerald database and blackwelsynergy among others. Access to these databases provides researchers and students with thousands of scholarly articles in their fields of specialization or research (Fatoki, 2014).

Research Needs of Library Science Lecturers in Universities

The main functions of a university as an institution of higher learning are: teaching learning research and community service. Hence, Arubaye (2013) citing the National Policy on Education states that “the objectives of territory educational institutional in Nigeria are teaching, research and development, and generation and dissemination of knowledge”. The research function is central to the other functions of institutions of higher learning. To achieve these functions, academics/scholars in university in library schools perform three main responsibilities: educate the next generation of professionals, managers and leaders: make formal knowledge available to society at large, thereby stimulating the development of new products and services, necessitating discussion on public issues, and improving understanding of our culture: and develop new knowledge (Getz, 2007).

Scholars focus more on research activity because it impacts not only on quality of teaching and learning but also improves community service and expands the frontier of knowledge in all fields of study. In addition, scholars focus on research because its dissemination in scholarly journals earns them advancement, appointment, promotion and tenure (Colin & Berge, 2004; Cronin & Overfelt, 2005; Arubaye, 2013 and Adebayo, 2015). Laying further credence to the research interest of library science lecturers, Bostock (2011) notes that there is generally no payment for publications of academic journals but the paid benefits that follow such publications can be enormous as appointments, promotions, and research grant funding. In other words electronic journal is a very powerful gatekeeper of entry into economic academia. Therefore, the scholar (library science lecturer) is first and foremost a researcher (and) research is the evidence of scholar productivity (Adebayo, 2005:11).

The notion of research entails the following: free inquiry, painstaking search for the truth no matter where it leads, un-filtered intellectual engagement aimed at expanding the frontier of knowledge, unbiased recording and interpretation of events with a view to unveiling new facts or trends and knowledge mining of systems in the universe (Falase, 2015). Furthermore, Falase notes that research occupies a strategic position as it is more important in wealth creation than the mere possession of raw materials because the key to sustainable socio-economic development comprises knowledge creation, processing, packaging and dissemination. Research according to Landua, Ramson, Schwartz, Davidson, Seaton, and Tebbit (2009) is a “careful search”: “systematic investigation towards increasing the sum of knowledge.” Research is conducted in order to create awareness and to contribute to the body of knowledge in the particular field of study. It seeks to understand given situations like natural or social phenomena through observation or experimentation and to explain them for the benefit of mankind.

The process involved in conducting a research, will among others typically include the following: adequate design and conceptual framework: adequate knowledge of work carried out by other workers on the same topic: competence in the execution: data collection may involve bench work: use of questionnaires (instruments) clinical test, etc: analysis of data follows and this may require computer modeling, use of commercial available software package, statistical analysis, etc and interpretation of the result (Olayinka, Agbaje, Alonge, Ekpenyong, Gbadegesin, Isiugo-Abanihe, Oriaku, Raji-Oyelade & Taiwo (2004). Complementing the above research process is documentation, also referred to as

production of report or writing research report (Olayinka 2006 and Tuckman, 2009). The report helps to disseminate knowledge, creates awareness and use of idea and ensures preservation of knowledge for further research.

Institutional Factors and Lecturers' Utilization of Electronic Publications

Utilization of scholarly electronic publication is a process that takes place within specific institutional context or communities of practice. Davies (2006:377) posits that the institutional context of any new information system is a vital determinant of system success. Good and enabling academic environments are important for library science lecturers who prefer to work in functional rather than dysfunctional organization (Auranen, 2007). Rogers (2013) in a study identified personal characteristics, innovation characteristics and organizational characteristics as principal factors influencing diffusion of innovation. Astebro (2015) studied the use of electronic mails systems (EMS) in four main departments of a large Swedish academic institutions and found that social and management factors influenced the rate of EMS diffusion and use of electronic publications for research.

The decision to deploy ICT (electronic journals) in educational institutional is that of management while staff and students are encouraged by management to use ICT. Corroborating the above fact Peansupap and Walker (2015:197) state, that "Organization adopts IT innovation and then encouraged and facilitates its use to expected users". In effect, researchers' response to use electronic scholarly publications is predicted by management decision or policy on it. Therefore, managers of universities should provide a conducive and enabling work place environment for researchers to explore and use electronic information to increase productivity. Zolingen, Streumer and Stoker (2011) observed, "Leadership responsibilities building trust and creating a cohesive environment could support and encourage information sharing." (p. 112).

Fundamentally, major institutional and environmental factors that may influence the use of computer for electronic resources in education according to Ololube (2016) include, among others, the lack of access to basic ICT facilities, low internet connectivity and lack of computers, and inadequacy in the use of internet resources. This is corroborated by Nertha (2017) that emphasizes cost of connectivity accessibility to reliable electricity, lack of training in computer use, lack of trained personnel to service equipment and unavailability of infrastructure as major factors that can stand in the way for successful utilization of electronic publications in most African countries. According to Lishan (2014) one major

challenge of the computer is obstruction of widespread access by poor telecommunications-the result of veiled interests in state monopolies of obsolete networks with prohibitive price structures. He further emphasized the cost of computer and internet access which is beyond the reach of most institutions and individuals.

The high cost is exacerbated by lack of a policy that fosters competition, foreign direct investment and private sector participation. Perhaps the biggest obstacle according to Adeogun (2012) is technical, the limited service bandwidth which affects the ease and spread of access. Kelceoghu (2016) emphasised inadequate institutional support and inadequate technology support as major institutional factors that affect the use of the internet. This technology support can be viewed from the perspectives of technical support for technical problems and instructional (pedagogical) support for instruction.

The institutional factors have considerable effects on lecturers' utilization of computer for research. Lal (2013) categorized the main institutional determinants of access and use into three categories namely connectivity infrastructure, costs and physical infrastructure of the internet. He further highlighted that in Nigeria, cost ranks as the highest institutional constraints to the use of the computer, and closely followed by physical infrastructure and the connectivity infrastructure. Unlike in Nigeria, Kelceoglu (2016) in his study on factor affecting computer use in Kenya revealed connectivity infrastructure as the most limiting factor, followed closely by costs. In other word, cost, and physical infrastructure were considered major institutional factors determining the use or non-use of the computer for research. Baguchi and Udo (2017), in their study, emphasized that there are many institutional level factors determining the adoption and use of the internet in developing countries. This in turn determines to some extent the level of utilization of electronic publications for research by lecturers. Among such factors are infrastructure, lack of institutional policy on ICT resources development, technology supply problems, scarcity of human resources, education problems, and economic factors.

The focus on the use of computer, as opposed to the need to apply it to the situation of research, has dominated many studies, and it may be that this has led to the common belief that the use of computer in schools is a technology-driven activity, when in fact the process is about change management and how the organization supports the use of the technology as a change enabler (Tearle 2013). Computer use and its perception in universities are about the institutions, people, process and policies, not the infrastructure in use. Institutional factors are

identified as other key factors that influence internet usage. Lee, Lin, and Pai (2015) emphasised a positive correlation between factors brought about by competition pressure on one hand, and organisational performance on the other hand. Standing and Vasudavan (2011) found that institutional context is a significant factor in Internet technology. Also, Grover (2013) proposes that institutional, organizational policy, support, and system related factors are the ones that determine the adoption and use of the computer in organisations and institutions while Nguyen (2015) proposes that institutional factors are the ones that determine the adoption of the computer for research.

In other words, adequate policy support and institutional readiness to provide the entire necessary infrastructure to support the Internet facility determine the extent of availability, accessibility, and use of computer in an institution. Choe (2013) also empirically showed a positive relationship between perceived institutional factors and internet and computer adoption and usage. Kwom and Zmud (2009) defined institutional factors among the five contextual factors that include community characteristics, organisational characteristics, technology characteristics, and task characteristics. It should be noted that there are macro-environmental factors common to all institutions, such as change in political climate and product market competition which may influence technology adoption which cannot be easily accounted for in the micro-analysis of institutional level (Lee, Lin & Pai, 2015).

Institutional factors may influence utilization of scholarly electronic publications. These are the range of conditions such as workplace, workload, proximity to library and ICT laboratory, cost of access, use policy, academic culture, and other conditions and facilities in a university environment that may influence lecturers' utilization of scholarly electronic publications. Rogers (2013) identified, among other factors, organizational characteristics as principal factors influencing diffusion of an innovation. In a study, Peansupap and Walker (2005) also demonstrated that workplace environment characteristics such as commitment, open discussion, and immediate learning environment also affect ICT adoption, diffusion, and utilization. Consequently, institutional factors prevailing in a particular university's environment influence lecturers' utilization of scholar electronic publications for research.

Effective coordination of resources such as information technology and other communication media, will allow lecturers in library schools greater access to information. Other studies, such as those of Davies (2006); Abel Libescher and Denman (2006); Desouza, Awazu and Wan (2006); Peansupap and Walker

(2006) and Auranen (2007) have also shown that institutional factors affect ICT adoption, diffusion and utilization by lecturers in library schools. Some of the institutional factors affecting utilization of scholarly electronic publications are: institutional commitment, immediate workplace environment, academic culture such as reward, training, institution's ICT use policy, academic workload, access and location of electronic resources, cost, and ICT infrastructure such as electricity.

The provision and utilisation of scholarly electronic publications in library require input resources like technology infrastructure and personnel. Rosenberg (2015:7) in a study of digital libraries in Africa notes that an adequate ICT infrastructure with a sufficient number of network and Internet connected workstations is essential if a library is to offer access to e-resources and develop e-services. Information and communication technology required for hosting and use of scholarly electronic publications in an academic library include computers, servers, scanners, printers, software and network connectivity. Therefore, ICT facilities are essentials to enable use of electronic resources. The quantity and quality of ICT infrastructure available in a library should be a thing of concern to library manager. To this end, Byrne (2013:4) notes that without enough computers, it is impossible to get sufficient access time. Without adequate memory, speed and storage, it is impossible to open, download or use electronic scholarly information.

Contrary to the provision of adequate computers to improve use of electronic information resources, Rosenberg (2015:7) in her study on digital library in Africa found that eighty-five percent of the libraries in the survey provide one computer for every 100 and 36% provide one computer for every 500 students. This situation is deplorable and may influence use of scholarly electronic publications. Another institutional ICT infrastructure is qualified ICT personnel to maintain and manage ICT facilities. Emmanuel and Sife (2008:3) observed that it is imperative that there are qualified technical personnel for managing and maintaining ICT facilities and networks that the library system runs. However, many libraries have inadequate qualified ICT personnel. Most traditional librarians have low ICT skills and sometimes have technology phobia. Some libraries have managed to recruit and train their own ICT experts from outside.

Bandwidth is yet an ICT challenge facing universities in Nigeria in the provision and use of libraries e-resources. Bandwidth refers to the amount of information that can be carried in a given time period (usually a second) over a

wired or wireless communication link, expressed as bits per second (PLATO, as cited by Emmanuel & Sife 2008). The higher the bandwidth, the more data can be transferred in bits per second. Whenever there are few data transferred in bits per second i.e. low bandwidth, users get frustrated as it takes long time to retrieve information from the Internet. Low bandwidth is a problem common to many universities in Africa. Effects of low bandwidth are felt more in the library because of the need to down-load heavy information resources.

Still on institutional factor is power supply. ICT facilities rely on electricity for their functioning. Frequent power cut is a persistent problem in Nigeria. This affects among other things management and utilisation of ICT facilities and information services. To solve this challenge backup generator are required. However, Emmanuel and Sife (2008:5) observed that the backup generator has however, not solved the problem as no funds are being allocated to fueling and running the generator. Without the basic infrastructure of reliable electricity supply to power other ICT infrastructure, access to and use of scholarly electronic publication may be very difficult if not impossible. The Utilisation of SEP in an academic institution needs a sharing and learning workplace environment. The relative position and connection between actors embedded in a specific social structure affects the knowledge transfer between them (Desouza, Awazu & Wan 2006). Everyone within an organization possesses tacit job performance knowledge. Learning and sharing knowledge about e-journal usage among researchers is important. Rogers (2005) argues that learning is a key factor in innovation development. He suggested that training and development should be shifted to an experiential style of learning. Grantham and Nichols (2013:202) state that organizational learning occurs when people in an organization collaborate to share their different visions, knowledge, experiences and skills. Organizational learning is a key ICT use factor when ICT application development is frequently subject to change. Tacit knowledge, grown from users' experience is a valuable organizational asset (Nonaka, 2015).

Ideally, sharing tacit ICT knowledge built from user experience can improve ICT use within the institution and suggest how to use ICT more effectively (Gribson & Smilor 2011). Carlopio (2008) explained that co-workers, friends, family, peer etc might best influence personal change. Collegial help and mentoring is one way that knowledge sharing can most effectively occur because experienced users can give strong support by assisting novices to use ICT applications through knowledge transfer. Therefore, collegial help strongly influences change and use of ICT in organization (Senge , 2009). Compeau and

Higgins (2015) argued that peer and collegial support is vital. This can be activated through groups of colleagues, some highly experts in what has been referred to as a community of practice (Galliavn, 2000).

Time manifests in many ways to influence access to and use of scholarly electronic publications by researchers. The length of time lecturers have allocated to search SEP, the time of the day search takes place, interval(s) between searching, the time lecturers anticipate for search and the time a competing task will take place all affect researchers access to electronic information (Slone, 2007:508). Researchers in Africa have limited time to access scholarly electronic publications in pursuance of the research mission of their institutions. Teferra (2013:88) in a study found that among the numerous challenges confronting higher education in the continent is limited access time to electronic communication media. Furthermore, the author noted that overcrowding and over-enrollment epitomize most African universities... as many of the scientists' surveyed report the increasing high teaching load associated with the unprecedented growth and expansion in enrollment has diminished the time left for research and communication... Some of them reflected on the heavy teaching load they carry. A Botswanese chemist wrote; don't have enough time for research. The teaching load as well is too much! Another Botswanese geophysicist in concurrence wrote, that no time to work on publication since a heavy teaching load. An environmental biologist simply wrote it is difficult to combine publishing field research and teaching. A Nigerian computer scientist wrote too much teaching administrative work hampers publication productivity. An Ethiopian taxonomist wrote, that as everybody is tied up with teaching little attention is given to promote scientific communication. (Teferra (2013:88).

This could be interpreted to mean that heavy work load such as teaching, lecturing, marking of examination scripts and others administrative responsibilities and high students' demand on lecturers' time may have contributed to limited time left for them to access scholarly electronic publications for research purpose. Hancock, Lane, Ray and Glennon (2012) in a study found that respondents viewed administrative, committee, and teaching duties as the primary impediments to research productivity. The length of time a researcher has allocated to search and download SEP affect's access. Once download time is longer than the allowed time, it means that more time will be required to continue and to complete the search. Apart from increasing cost in institutions where researchers pay for access time, longer download time discouraged researchers from having access to SEP. Liew, Foo and Chennupati

(2000) in a study of graduate students and users use and perception of electronic journals found out that downloading time and speed of retrieval is one of the issues and concerns users had regarding e-journals.

An important institutional factor that may predict lecturers' utilisation of SEP is training/learning. Information technology (IT) requires users to learn how to operate new IT tools to become computer fluent/ competent (Peansupap & Walker, 2015) and to understand how best to use and adopt IT/ICT applications. Training occurs through formal or informal ways. Formal learning takes place when organizations formally provide resources, persons that facilitate delivery of IT knowledge into and within organization for example training and technical help desk IT support. Informal learning occurs during social interaction. Nelson and Cheney (2007) found that training influences user's ability and acceptance of information system because they take time to learn and use only a few information system capabilities. Also their lack of skill and training was found to be an important barrier to business accessing the Internet (Peansupap & Walker, 2015). For training to be functional to both employees and employers, Nelson (2011) argues that 'because there is a limit for everyone to learn all aspects of business knowledge, training should provide specific skills that are related to users' need and work processes' (p.21).

User behavior also affects the training needs of users classified as pragmatists (O' Brien, 2010). So it is important to assess user's training requirements to reduce the knowledge gap between what they already know and what they need to know to best perform their job through undertaking a personalized user needs analysis. The assessment of training not only assists the organization on understanding the knowledge gap but it also improves effectiveness of training (Carlopio, 2008). For example, training assessment helps trainers to prepare both the context and level of training to ensure compatibility with user's need. Learners of computer skills require time to actively participate during the training programme because they generally do not have time to learn being busy with or distracted by their work duties (Senge, 2012). This lack of time restricts the effectiveness of implementing a change initiative (Senge, 2009). People are reluctant to commit their time to learning and training if they have no time to practice and reflect.

To improve utilisation of IT/ICT applications, learners should be provided with enough time to develop their skills and familiarize themselves with any new computer application (Akins & Griffin, 2009). Also, Ashcroft and Watts (2014) noted that it is vital for those in management positions to recognize the imperative

of continuing professional development (CPD) and ensure that staff are proactive in maintaining up-to-date levels of expertise (in ICT). Also, Steinmueller (2011) suggested that many ICT users are self-taught, and are capable of developing an understanding of ICT through the experience of utilizing them. If this is the case then countries that are unable to provide extensive access to ICT are inevitably marginalized as they are less likely to produce capable self-taught persons. Corroborating, Steinmueller's suggestion Ashroft and Watts (2004) in a study on ICT skills for information professionals in Nigeria, found that staff are however, encouraged to undertake training on their own. The authors concluded that greater take up of free trials of e-resources would allow for experimentation and self-teaching of ICT skills.

The analyses above had established that training is fundamental in the process of utilisation of SEP by lecturers. To this end educational institutions should organize computer training for their lecturers and students. While the lecturers and students on their part should participate actively. Hence, Corl (2006) observed that although institutions must do their part by providing adequate equipment and training opportunities students (lecturers) must do their part by participating in computer-skills training. Training to provide skills in accessing, manipulating and evaluating scholarly electronic information sources and devices is necessary for both students and lecturers success in higher education and the job environment. Educational institutions can employ a number of methods to train their students and staff to be computer literate. Integrating computer literacy with existing courses and expanding general education requirements ensure that students will become familiar with computer technology

Methodology

The research design that was adopted for this study is linear correlational design.

The target population for this study comprised 378 lecturers in the 24 public university library schools in Nigeria. A

census study technique was adopted to cover all three hundred and seventy eight (378) library science lecturers in the 24 public university library schools in Nigeria. A census study is a method wherein each and every item in the universe is selected for the data collection. The small size of the population of this study is why census study is considered appropriate. The research instrument used to collect data for the study is the rating scale. The instrument is tagged Computer

Utilization Variables and Lecturers Utilization of Electronic Publication (CUVLUEP)

Reliability of the Instrument

The reliability of the instrument was determined by a trial test conducted at Madonna University, Okija and Renaissance University, Ojiagu-Abini, Enugu. These two institutions were chosen because they are private university institutions that offer library science as a course. In this regard, 32 respondents from the two institutions were used for the reliability test. The scores obtained were computed statistically using the Cronbach Alpha. The reliability coefficient obtained for each cluster is as follows: Cluster A (0.73); Cluster B (0.78); Cluster C (0.74); Cluster D (0.83); Cluster E (0.89). The summary of the clusters is (0.79), indicating that the instrument are reliable. (See Appendix D, p.156).

Method of Data Analyses

Research questions 1-4 were answered using coefficient of determination (r^2) and Pearson “r”, while research question 5 was answered using multiple linear regression and multiple coefficient of determination (r^2). These statistics helped to establish the linear relationship between the variables of this study. Hypotheses 1-4 were tested using t-test of significance of correlation while hypothesis 5 was tested using One Way ANOVA F-test from regression at $P < 0.05$ level of significance.

Decision Rule: The decision rule were of 0.00-0.20=very low relationship, 0.21-0.40=low relationship, 0.41-0.60=moderate relationship, 0.61-0.80=high relationship and 0.81-1.00=very high relationship were used for the interpretation. The acceptance or rejection of null hypotheses was based on the calculated p-value or the t/F-cal and t/F-tab analysis. That is, when the t/F-calculated is greater than the t/F-tabulated, the null hypothesis was rejected but if otherwise, the null hypothesis was accepted.

RESULTS

Coefficient of relationship between institutional factors and lecturers’ utilization of electronic publications

[**RQ₂**: What is the coefficient of relationship between institutional factors and lecturers’ utilization of electronic publications? and **H₀₂**: There is no significant coefficient of relationship between institutional factors and utilization of electronic publications by library science lecturers in Nigerian universities.

Table 2a:

Sample size (n), correlation coefficient index (r), coefficient of determination (r^2)

lecturers' utilization of electronic publications * institutional factors			
n	R	r²	Remarks
352	0.60	0.36	High Positive Relationship

Table 2b:

Sample size (n), correlation coefficient index (r), coefficient of determination (r²), alpha level (α), degree of freedom (df) and t-test of significance of correlation between variables

lecturers' utilization of electronic publications * institutional factors							
n	r	r²	α	df	t_{cal}	t_{tab}	Remarks/Decision
352	0.60	0.36	0.05	350	14.168	1.96	High + Relationship: Reject H₀

Table 2a shows the coefficient of relationship between institutional factors and lecturers' utilization of electronic publications. The result revealed that the sample size used for the analysis is 352, and the coefficient of relationship is 0.60. This coefficient explains a high positive relationship between institutional factors and lecturers' utilization of electronic publications. The coefficient of determination is 0.36 indicates that 36% of the variation in lecturers' utilization of electronic publications can be explained or be determined by their institutional factors.

Further analysis (inferential analysis) in table 2b, presented the degree of freedom as 350. Furthermore, the t-calculated value of 14.168 is greater than the t-tabulated value of 1.96. This led to the rejection of the null hypothesis and accepting the alternative hypothesis, thus concluding that the relationship between institutional factors and lecturers' utilization of electronic publications is significant.

DISCUSSION OF FINDINGS AND SUMMARY OF STUDY

In this chapter, the researcher presents the discussion and interpretation of the results obtained from data analysis under the following headings: discussion of findings, educational implications of the study, limitations of the study, recommendations, suggestions for further studies and summary of the entire study.

Discussion of Findings

The interpretation of results is guided by the research questions and hypotheses used for the study and organized under the following headings:

Institutional Factors and Lecturers' Utilization of Electronic Publications

Good and enabling academic environments are important for lecturers who engage themselves in regular research. In this study, the responses of lecturers in Nigerian library schools on how the institutional factors can affect lecturers' utilization of scholarly electronic publications for research were rated. From the findings, it is evident that the provision of adequate computers, printers and other facilities to use e-journals in the library and the training of lecturers on how to use e-journals in the library by the academic institutions are the major determinants of LIS lecturers' utilization of electronic publication for research. Also considered as institutional factors which determine the level of lecturers' utilization of electronic publications for research include, internet access, academic library environment, increased workload like teaching, project supervision, electricity supply on campus, library closing time, institutions ICT use policy among others. This is evident in the result of the coefficient of relationship which is 0.60, thus explaining a high positive relationship between institutional factors and lecturers' utilization of electronic publications for research. .In addition, the null hypothesis of non-significant relationship between institutional factors and lecturers' utilization of electronic publications was also rejected

This finding is in consonance with the study by Peansupap and Walker (2015) who state that organization adopts IT innovation and then encourages and

facilitates its use to expected users. According to him, the researchers' response to use electronic scholarly publications is predicted by management decision or policy on it. Corroborating the above fact, Astebro (2015), in his study of the use electronic mails systems in four main departments of a large Swedish academic institution found that social and management factors influenced the rate of electronic mails systems diffusion and use of electronic publications for research. Also Davies (2009) posits that the institutional context of any new information system is a determinant of system success. This implies that the managers of universities should provide a conducive and enabling work environment for researchers to explore and use electronic information to increase their research productivity.

Recommendations

- 1) The result of the findings indicated that the utilization of electronic publications for research is highly influenced by the lecturers' level of computer skills. Therefore, there is need for regular training of the lecturers especially those in the university to enable them acquire computer literacy skills.
- 2) University managements should at all times, provide a conducive and enabling environment for researchers to explore and use electronic information to increase their research productivity.

- 3) Electronic publications such as e-journals in PDF format, e-journals in HTML, e-resources contents should be made applicable to the lecturers' research interest to enhance their utilization of electronic publications for research.
- 4) Computer access channels with good features such as ease of use of the system and with clear and easy terminologies to encourage the lecturers to use the information system for research.
- 5) All the computer utilization variables should be considered very important to effective utilization of electronic publications as each factor can influence to some extent the level of computer utilization by lecturers.

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