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COMPUTER SELF-EFFICACY, COMPUTER ATTITUDE AND INTERNET IDENTIFICATION AS DETERMINANTS OF INTERNET USE AMONG LIBRARIANS IN PUBLIC UNIVERSITIES IN WESTERN NIGERIA

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Abstract

The study examined the extent to which computer self-efficacy, computer attitude and Internet identification determined the use of Internet among librarians in public universities in Western Nigeria. The study adopted the descriptive research design of the ex-post facto type. The target population for the study were librarians in public universities in Western Nigeria. One hundred and seventeen librarians participated in the study. Computer self-efficacy inventory, Computer attitude inventory, Internet identification inventory and Internet use inventory were used to obtain data. Four hypotheses were tested at 0.05 level of significance. Data were analysed using descriptive statistics, Pearson product moment correlation and multiple regression. Combination of computer self-efficacy, computer attitude and Internet identification had significant positive relationship with Internet use ($R = 0.509$, $p < 0.05$) and contributed 25.9% of the variance in Internet use. Internet identification ($\beta = 0.464$, $t = 4.946$, $P < 0.05$) and computer self-efficacy ($\beta = 0.200$, $t = 2.370$, $P < 0.05$) were found to be significant predictors of Internet use. Internet use among librarians had significant positive relationship with Internet identification ($r = 0.455$, $P < 0.05$) and computer self-efficacy ($r = 0.309$, $P < 0.05$) but had no significant relationship with computer attitude ($r = 0.098$, $P > 0.05$). Computer self-efficacy, computer attitude and Internet identification significantly determined the use of Internet among librarians in public universities in Western Nigeria. It is therefore recommended that the administrators of

libraries in public universities take these factors into account when making organisational policies that would improve and sustain the use of Internet among librarians.

Key words: Computer self-efficacy, computer attitude, Internet identification, Internet use, librarians, universities, Nigeria

INTRODUCTION

Background to the Study

The Internet has become one of the most important tools for the acquisition and dissemination of information to the world in contemporary times. Long and Long (1997) defined the Internet as a worldwide network of millions of computers that has emerge as the enabling technology in our migration to a global village. Similarly, Frangos and Kiohos (2010) described the Internet as a widely recognised channel for information exchange, academic research, entertainment, communication and commerce. The Internet is very beneficial to people from all works of life especially those in the information and communication technology sector like journalists, documentalists, archivists, authors, computer scientists, information scientists, librarians to mention but a few.

The librarians as information specialists in the university libraries are saddled with the responsibility of acquisition, organisation, preservation and dissemination of information resources. They ensure that individuals have access to the information materials they need for their study or research. The librarians are also expected to be well versed in the use of modern information and communication technology gadgets like the computer, tablets, laptops, flash drives, mouse, joystick, projector, compact disk, digital cameras, smart phones, fax machines and be familiar with the Internet so that library patrons could be easily assisted whenever they need information from the Internet. However, this might be difficult to achieve considering the low level of Internet usage among librarians in public universities in Western Nigeria.

Studies have shown that the use of the Internet could be influenced by variables including, computer self-efficacy , computer attitude (Oyewusi, Sokoya, and Aramide, 2016) Internet anxiety and Internet identification (Joiner, Brosnan, Duffield, Gavin, and Maras, 2007) demographic factors like (gender, age, marital status) to mention but a few.

The concept of computer self - efficacy is based on self-efficacy literature propounded by Bandura (1977), who defined self- efficacy as the belief that one can successfully perform certain behaviour. He stated that there are four sources of self-efficacy to any individual.

These are namely;

1. Past accomplishments
2. Observation of others
3. Verbal persuasion and
4. Logical verification or emotional arousal.

In addition, Bandura (1989) argued that self-efficacy beliefs are important because they determine what we try to accomplish. He stated further that self-efficacy expresses what we believe we are capable of achieving in a given situation. According to him these beliefs in turn influence our perception, motivation and performance.

Compeau and Haggins (1995) defined computer self-efficacy “as a judgment of one’s capability to use a computer. It is not concerned with what one has done in the past but rather with the judgments of what could be done in the future. Moreover, it does not refer to simple component sub skills, like formatting diskettes or entering formulas in a spread sheets. Rather, it incorporates judgment of the ability to apply those skills to broader tasks. e.g. preparing written reports or analysing financial data.” They highlighted the dimension of computer self-efficacy to include magnitude of computer self-efficacy, strength of a computer self-efficacy judgment, and computer self– efficacy generalizability. They also noted that individuals with higher computer self – efficacy beliefs tend to see themselves as being able to use the computer technology, whereas those who have low computer self-efficacy beliefs tend to see themselves as being unable to use computer technology.

Prior studies have shown that computer self-efficacy has relationship with variables like computer ability and usage (Hasan, 2003), computer anxiety and computer anger (Downey &

NcMurtrey, 2007) individual's decision to use computer (Compeau et al. 1995) and with attitude towards computer and Internet (Akpan, 2018) .

Another variable that is germane to this study is computer attitude otherwise known as attitude towards computer. Smith, Cputi and Rawstone (2000) defined computer attitude “as a person's general evaluation or feeling of favourableness or unfavourableness toward computer technologies and specific computer-related activities.” According to them computer technologies include computer programs, computer games, computer training while specific computer related activities covers behaviours like using computer, taking computer related course and so on. An individual's attitude towards the computer has a great impact on his intention towards the computer or his intension to use or reuse the computer. Myers and Halpin (2002) opined that computer attitude reflects the disposition towards computers with respect to learning or using them. In other words, it is the pre-disposition of a person to respond positively or negatively towards the computer.

Schulenberg and Melton (2008) described attitude towards computer or computer attitude “as a concept that is more cognitive in scope as opposed to affective.” They defined computer attitude “ as positive or negative thoughts that people have about computers in terms of their utility and their social roles.” Several studies that addressed the relationship between computer attitude and Internet use have been conducted among various groups including dental students, (Jali, Singh, Babaji, Chaurasia, Somasundaram and Lau 2014), nursing students (Jamshidi Merhrdad and Jamshidi, 2012) and private secondary school students (Akpan, 2018) to mention but a few.

In addition, another factor that will be considered in this study is Internet identification also known as identification with the Internet. According to Joiner, Brosnan, Duffield, Gavin and Maras (2007) Internet identification refers “to the extent to which an individual's self - concept is bond with his or her perceived ability to use the Internet.” In other words, an

individual with a high degree of Internet identification is able to use the Internet effectively to maintain his or her self-worth.

Literature has shown that only a few studies have been conducted on the association between Internet identification and Internet use among students (Joiner et al. 2007), (Joiner, Gavin, Duffield, Brosnan, Crook, Durndell, Maras, Miller, Scott and Lovatt, 2005).

Statement of the Problem

Preliminary investigations into the use of Internet among librarians in public universities in Western Nigeria suggests a low level of Internet usage. Existing studies on Internet use among librarians in public universities were mainly focused on the level of Internet usage with less emphasis on factors that could influence its usage. It is in the light of this, that this study investigates whether computer self-efficacy, computer attitude and Internet identification have any significant influence on the use of Internet among librarians in public universities in Western Nigeria.

Objectives of the study

The objectives of the study are to:

1. determine the relationship between computer self-efficacy and Internet use among librarians in public universities in Western Nigeria.
2. examine the relationship between computer attitude and Internet use among librarians in public universities in Western Nigeria.
3. ascertain the relationship between Internet identification and Internet use among librarians in public universities in Western Nigeria.
4. analyse the joint influence of computer self-efficacy, computer attitude and Internet identification on Internet use among librarians in public universities in Western Nigeria.

Research Hypotheses

The research hypotheses of the study are

1. There is no significant relationship between computer self-efficacy and Internet use among librarians in public universities in Western Nigeria
2. There is no significant relationship between computer attitude and Internet use among librarians in public universities in Western Nigeria
3. There is no significant relationship between Internet identification and Internet use among librarians in public universities in Western Nigeria
4. Computer self-efficacy, computer attitude and Internet identification does not have a significant joint influence on Internet use among librarians in public universities in Western Nigeria.

Review of Related Literature

Studies on the Use of the Internet

Kalichman, Weinhardt, Benotsch, Difonzo, Luke and Austin (2002) studied the use of Internet among men and woman living with HIV-AIDS. The sample population was 96 men and 51 women. The result of the study indicated that persons with 12 or fewer years of education were significantly less likely to have used the Internet and were less likely to have been instructed in Internet use. A broad range of health related Internet activities was reported including searching for health. AIDS-specific information and using the Internet to communicate with providers. Among current Internet users, individuals who had an Internet connection in their home reported significantly more experiences using the Internet including Internet use for interpersonal communication and search functions. A digital divide therefore existed among people living with HIV/AIDS and the benefits of the Internet appear better achieved with home access.

Morris, Goodman and Branding (2006) studied computer and Internet use among the older population in the United Kingdom. The results of the study indicated a grey divide and digital divide with many older people missing out on the benefits that computer and the Internet can provide.

Bucy (2000) examined the use of Internet among respondents in Carolina and Indiana states in the United States of America. The results of the study revealed that income, education, age and family structure were important social determinants of on-line access and that Internet use was lowest among single mothers, members of the lower socio-economic groups and older respondents. The study also revealed that although an on-line population was beginning to diversify, yet the Internet could not claim a committed non-literate mass audience. It argued that the disparities in Internet use portended a looming information gap between those with access and those without.

Flanagin and Metzger (2001) investigated individuals' use of three Internet functions (information retrieval, information giving and conversation capabilities) in the context of the use of other communication media. The results indicated that Internet a multidimensional technology was used in a manner similar to other more traditional media. Specifically, conversation features of the Internet align with mediated interpersonal technologies (the telephone and electronic mail), whereas the Internet's information-retrieval and information giving features were used in ways similar to media channels (newspapers, television and books and magazines).

Hansen, Derry, Resnick and Richardson (2003) studied adolescent search for health information using the Internet. The study revealed that out of 68 observed searches 47 (69%) were successful in that adolescent found a correct and useful answer to their health questions. Quantitative analysis revealed that participants used a trial and error approach to formulate

search strings, scanned pages randomly instead of systematically and did not consider the source of the content when searching for health information.

Afzaal, Seyal, Noah and Mal (2010) examined the attitude of academics towards the use of Internet among 166 academics of four technical and vocational colleges. The results of the study revealed that 79% of academics were using the Internet. Computer experience, perceived usefulness and perceived ease of use were found to be fundamental determinants of attitude formation.

Porter (2006) conducted a study to identify the factors responsible for differences in the use of the Internet using the Technology Acceptance Model (TAM) among respondents in the United States of America. The results of the study revealed that age, education, income and race were associated differentially with beliefs about the Internet and that these beliefs influenced a consumer's attitude towards and use of the Internet. Furthermore, the study found that although access barriers have a significant effect in the model, perceptions regarding ease of use and usefulness had a stronger effect.

Bond (2003) examined student nurses Internet use at Bournemouth University England. The results of the study found that new student nurses had poor Internet skills and were not frequent users prior to starting the course. No link was found between the students' ages and their Internet use or skills. A clear link was however, found between ability and frequency of use, except in relationship to the students' ability to conduct an effective search. Almost half of the respondents agreed that they found far too much irrelevant information when searching for information on the Internet.

Studies on Internet Use Among Librarians

Mudawi (2005) conducted a study on the use of Internet and e-mail among Sudanese Librarians in six institutions in Sudan. The findings revealed that the major patterns of Internet use were chat sessions, checking e-mails and surfing professional sites. The results

also showed that majority of respondents did not use e-mail for library services. Furthermore, the study revealed that the low usage of Internet resources for library services was as a result of inadequate access and time for Internet activity rather than lack of skills. Finally, the study showed a positive correlation between the level of English language proficiency and the level of Internet usage.

Uwaifo (2013) investigated the use of Internet among librarians in university libraries in south-south zone of Nigeria. The results indicated that librarians used a few information resources on the Internet. Also, the study showed that the librarian's level of Internet skills was moderate and that several factors including inadequate funds, poor electricity, power supply and inadequate localised software militated against effective use of the Internet.

Singh (1998) examined the use of Internet among librarians for work-related purposes. The finding indicated that 90% of the librarians used the Internet for work related purposes. In addition, majority of the librarians were found to be recent users and had first learnt how to use the Internet from a friend or colleagues although they had also attended some formal training sessions. The results also showed that librarians felt that the Internet was an essential feature and had contributed a great deal in improving efficiency in their libraries, reinforcing the argument that the Internet is an important tool for librarians.

Muguwisi and Ocholla (2003) studied the trend in the use of Internet among academics and librarians at the universities of Zimbabwe and Zulu-land with specific reference to the use of resources for research and teaching. The results of the study indicated that librarians in both universities had a high computer and Internet skills and majority learnt Internet use through self- study. The results also revealed that e-mail and the web were services used mostly for work and personnel. While telnet, library OPACs and electronic journal were used mostly for work purposes. The results further showed that both libraries had access to sources of electronic information in both abstracts and full texts. Google and

Yahoo were the most popularly used search engines among librarians. The study revealed that the Internet had a significant impact on librarians and the way in which they carried out their duties and that the Internet had changed the way librarians handled different tasks. The study indicated that Internet use at the two universities were affected by inadequate Internet facilities and inadequate training given to librarians and academics users.

The Concept of Self-Efficacy

Bandura (1977, 1982) defined self-efficacy as one's judgement about being able to complete a task or realize a goal. According to Bandura, self-efficacy is predictive of one's performance of a task.

Robbins and Coutler (2005) described self-efficacy as an individual's belief that he or she is capable of performing a task. They stated that the higher the self-efficacy, the more confident one has in one's ability to succeed in a task. They also stated that in difficult situations, people with low self-efficacy are likely to reduce their efforts or give up all together, while those with high self-efficacy might respond to negative feedback with increased efforts and motivation.

Similarly, Luthan (2002) described self-efficacy as state line and is aimed at specific tasks. He explained that specific self-efficacy is a state and not a trait. He added that self-efficacy could be enhanced through training. Haynes (1994) described self-efficacy as a sense of personal mastery and that it is not the same as an overall sense of self-confidence.

Also, Meshane and VonGilnow (2000) defined self-efficacy as referring to a person's belief that he or she has the ability, motivation and situational contingencies to complete a task successfully. They stated also that people with high self-efficacy have a 'can do' attitude towards a specific task and more generally with other challenges in life. They were of the view that self-efficacy is also affected by initial experience when practicing the

environmental cues, follow a predictable pattern and that there are not unexpected surprises when practicing the behaviour.

Studies on computer self-efficacy

The concept of computer self-efficacy was derived from the self-efficacy literature. Compeau et. al (1995) defined computer self-efficacy “as an individual’s perception of his ability to use computers in the accomplishment of a task.”

Akpan (2018) investigated the relationship between students’ computer self- efficacy and their attitude towards computer and Internet in selected private secondary schools in Akwa Ibom State, Nigeria. The study adopted a survey research design. The study population comprised all the senior secondary school class two students in private secondary schools in Akwa-Ibom state. The sample population of 600 students were selected using the stratified random sampling technique. The instrument for data collection was the questionnaire. Findings revealed a significant positive correlation between students’ computer self-efficacy and attitude towards computer. The results also indicated a significant relationship between students’ computer self-efficacy and their attitude towards the Internet. It was concluded that students’ computer self-efficacy influenced their attitudes towards the computer and the Internet.

Oyewusi, et al (2016) investigated the extent to which computer self- efficacy and computer attitude correlate with Internet use among secondary school students in Lagos state. The research design was the descriptive survey of the ex-post-facto type. Three instruments were used for data collection. These were computer self-efficacy scale, Computer attitude scale and Internet use scale. Five hundred and sixty students participated in the study. Data were analysed using the descriptive statistics, Pearson product moment correlation and multiple regression. Results indicated that computer self-efficacy was significantly related with Internet use among secondary school students in Lagos state. This suggest that the

higher the computer self- efficacy of senior secondary school students the more they use the Internet. The study also found that computer attitude has significant relationship with Internet use of respondents. The computer self-efficacy and computer attitude of senior secondary school students significantly influenced their Internet use.

Johnson, Ferguson and Lester (2001) conducted a study to compare computer related experiences, computer self- efficacy and computer knowledge between freshmen and senior agricultural students in a Land - grant university. The instrument for data collection was the questionnaire administered to 253 students that participated in the study. The results of the study revealed that senior agricultural students were more likely to have completed a computer course than freshmen. Senior students had a higher level of overall computer self- efficacy than freshmen. Seniors also scored higher on computer knowledge than freshmen. Recommendation for enhancing the computer education of students of agriculture were made as a result of the study.

Sam, Othman and Nordin (2005) investigated computer anxiety, computer self- efficacy, use of Internet and attitude towards the Internet among undergraduate students at the University of Malaysia, Sarawak. The study also examined differences in computer anxiety, computer self- efficacy, attitudes toward the Internet and use of the Internet among undergraduate students' with different demographic variables. The findings suggest that undergraduate students had moderate computer anxiety, medium attitudes toward the Internet and high computer self-efficacy. The study also suggests that undergraduate students used the Internet for educational purposes such as doing research, downloading electronic resources and e-mail communications.

However, the study showed that there were differences in undergraduate students' Internet usage levels based on discipline of study. Also higher levels of Internet usage did not necessarily translate into better computer self-efficacy among respondents. The discipline of

study was found to have determined the computer self-efficacy of respondents. Undergraduate students studying computer related discipline appeared to have a higher self-efficacy towards computer and the Internet. Findings also showed that undergraduates who used Internet more might not necessarily feel comfortable using them. Factors such as the types of application used, the purpose for using and individual satisfaction were found to have also influenced computer self-efficacy and computer anxiety. Although Internet usage levels did not have impact on computer self-efficacy, higher levels of Internet decreased the levels of computer anxiety among the undergraduate students. Undergraduate students with lower computer anxiety demonstrated more positive attitudes toward the Internet.

Bringula, Sarmiento and Basa (2017) conducted a study to find out the relationship between computer self-efficacy and web portal usage among faculty members in the University of the East. The instrument for data collection was the questionnaire. Results indicated that the respondents were relatively young; majority had masters' degree; most had been using the web portal four semesters and the large part were intermediate web portal users. They were highly skilled in using the computer and the Internet. E- learning services and online library resources were only used occasionally. Findings also revealed that age was positively correlated with online library resources usage. Perceived skill level in using the portal was found to be negatively related to online library resources usage. The highest educational attainment had a significant relationship with online library resources usage. Basic computer and Internet skills were significantly and positively related with e- learning services usage but not with online library resources usage.

Beas and Salanova (2006) examined the relationship between self- efficacy and psychological well-being and training among information and communication technology workers. The sample comprised 496 workers from different occupational sectors using information and communication technology in their jobs. Results revealed that there was a

significant negative relationship between self-efficacy and different psychological well-being indicators. It was also found that computer attitudes moderated the relationship between computer training and professional self-confidence. Low levels of self – efficacy was found to be positively and significantly associated to high levels of burnout and job related anxiety and depression. Computer training did not have significant effect on self-efficacy of respondents.

Hasan (2003) examined the impact of specific types of computer experiences on computer self-efficacy beliefs. The computer experiences included word processing, spread sheets, databases, operating system, graphics, computer games, telecommunication and programming languages. The sample population comprised 151 students of a public institution. The instrument for data collection was the questionnaire. The results indicated that experience with computer graphics application had a strong and significant effects on computer self-efficacy beliefs while experiences with spread sheets and data applications had weak effects.

Studies on Computer Attitude

Schulenberg and Melton (2008) described attitude towards computer also known computer attitude as a concept that is more cognitive in scope as opposed to affective. They defined computer attitude “as positive or negative thoughts that people have about the computer in terms of its utility and social roles.”

Yushau (2006) investigated the attitude of mathematics professors towards computers. It also investigated the effects of age and computer experience on computer attitude, usage, software familiarity and perceived pedagogical usefulness. Fifty five percent of respondents from the faculty of mathematical sciences, King Fahd University of Petroleum and minerals participated in the survey. The instrument for data collection was the questionnaire. The collected data were analysed using an analysis of variance (ANOVA). Results indicated that

mathematics professors had positive attitude towards computers and that they used the computer in their academic activities. Results also showed that computers played a positive role in the teaching and learning of mathematics. The study revealed that age and computer experience of respondents did not have any significant influence on their attitude towards computer knowledge and use.

Mizrachi and Shoham (2004) conducted a study into Israeli undergraduate students' attitudes towards computer. It also determined the relationship of computer use, gender, native language and year of undergraduate study with the computer attitudes of the students. In addition, the study was design to find out the relationship between computer anxiety and library anxiety. The questionnaire was the instrument used for data collection. The sample population for the study were 664 students. The results showed that age and gender did not have significant correlation with computer attitudes. The study also indicated negative relationship between computer use and computer attitudes among the students. However, a positive correlation was found between library anxiety and computer attitudes.

Abedalaziz, Lumpur, Jamaludding and Leng (2013) investigated postgraduate students' attitudes toward the Internet and computer use in Malaysia. A total of 289 postgraduate students participated in the study. Questionnaire was the instrument used for data collection. The result of the study revealed that:

- i. postgraduate students showed positive attitudes toward the computer and Internet usage;
- ii. there was no gender differences among postgraduate students' attitudes toward computer use;
- iii. no significant differences existed in postgraduate student attitudes toward Internet and computer usage by field of study and ethnicity;

- iv. there was a significant difference between postgraduate students' age and their perception toward computer and Internet.

Garland and Noyes (2004) examined relationship between computer experience and computer attitudes among undergraduate students from two United Kingdom Universities. The sample population for the study was 250. The instrument for collecting data was the questionnaire. The results showed a significant relationship between computer experience and computer attitudes among undergraduate students.

Fancovicova and Prokop (2008) studied the students' attitudes toward computer use in Slovakia. The study examined whether attitudes toward computers could be affected by the accessibility of computers at schools and difference between the use of computers at schools and home environment. Data was collected through the use of the questionnaires. A total of 214 secondary schools (105 boys and 109 girls) drawn from different Slovak secondary schools participated in the study. The results indicated that; attitudes toward ICT were positive and gender differences was weak. School had effect on the behavioural dimension of attitudes but it was not caused by the accessibility of computers; large numbers of students to a computer or per computer greatly reduced students use of computers at schools; lack of Internet connection at home caused greater supplementation of Internet related activities in schools relative to home. Gender and age related differences in ICT participation were greatly influenced when comparing the home and school environment.

Kutluca (2011) investigated the status of prospective pre-school teachers' computer usage and their attitudes towards computers. The sample population consisted of 126 prospective pre-school teachers selected from a faculty of education in Turkey. The instrument for data collection was the questionnaire. The results of the study revealed that majority of the pre-school teachers used computers efficiently. That pre-school teachers had a high level of positive attitude towards the computer. It was also found that prospective

teachers that use computer frequently had more positive attitude towards the computers than those who did not. The result showed insignificant difference between male and female pre-service teachers in their attitude towards the computer. It was also reported that prospective pre-school teachers use of computer programs, word processing, e-mail, multimedia and presentation was high. However, they did not use web design and database programs.

Ejiaku (2015) examined the factors that could influence students' attitude in the acceptance and use of computers in tertiary institutions in emerging economies such as Nigeria, using the theory of planned behaviour model. A sample population of 212 students participated in the study. The instruments for data collection were the questionnaire and interview. The results of the study revealed that students have positive attitude towards the use of computer though at different levels or degrees; that students were strongly influenced by others who thought they should use computers, that students agreed that they possessed the ability or knowledge resources to use the computers and that students intended to use their computers in the next three months. The findings also revealed that attitude was significantly and positively correlated with the intent of students to use computers. Subjective norm was found to have significant and positive correlation with the intent to use the computers and perceived behavioural control had positive correlation with the intent of students to use the computers.

Usta (2011) studied the effects of web-based education on students' attitudes towards computer and Internet in comparison with traditional educational practice. The instrument employed for data collection was the questionnaire. The results of the study revealed that traditional educational practice did not affect attitudes of students towards the Internet and computer. The study also found that there was no significant difference between attitude scores of students toward both the Internet and computer for web- based education practice

compared to traditional practice. So compared to traditional education, web-based education did not affect student attitudes toward both the Internet and computer.

Jamshidi, Mehrdad and Jamshidi (2012) conducted a study into nursing students' attitudes and knowledge about the computers and the Internet. The design of the study was descriptive and cross sectional. The instrument for data collection was the questionnaire that was administered to a sample population of 300 nursing students that were randomly selected from different levels in Islamic Azad university Hamedan, Iran. The study revealed that computer possession and utilization among nursing students was low and that the respondents' attitude toward the computer was negative.

Studies on Internet Identification

Joiner, Gavin, Brosnan, Gregory, Guller, Maras and Moon (2012) conducted a study into the relationship between gender, Internet experience, Internet identification and Internet anxiety on Internet use among students. Five hundred and one students participated in the study. The findings revealed that male students used the Internet more than their female counterpart and that they used the Internet more for games and entertainment than female students. The study also showed that female students used the Internet more for communication than their male counterpart. That they used the social network sites more than males. In addition, the study found that Internet identification and Internet anxiety were related to Internet use.

Joiner et.al (2007) investigated the relationship between Internet identification, Internet anxiety and Internet use among students from two universities in the UK and one university in Australia. The sample population were 446 undergraduate students. The instrument for data collection was the questionnaire. The findings revealed a positive relationship between Internet identification and Internet anxiety and a negative relationship

between Internet anxiety and Internet use. The study also revealed that students were not anxious about using the Internet.

As regards Internet identification, the study revealed that there was a significant positive relationship between Internet identification and Internet use. The study revealed a significant negative relationship between Internet anxiety and Internet identification. That students with high Internet identification experienced less anxiety in using the Internet than those with low Internet identification.

Hsiao, Zhu and Chen (2017) conducted a study to find out the relationship between Internet anxiety and Internet identification. It also aimed at investigating role of Internet self-efficacy in the relationship between Internet anxiety and Internet identification among grade twelve students in an industrial vocational high school in Taipei, Taiwan. The research design was survey research method. A sample population of 212 grade twelve students in an industrial vocation high school in Taipei, Taiwan participated in the study. The instrument for data collection was the questionnaire.

The results of the study indicated that Internet anxiety has a negative effect on Internet identification of students mediated through Internet self-efficacy. Also Internet self-efficacy moderated the relationship between Internet anxiety and Internet identification.

Furthermore Internet anxiety was found to be positively related to Internet identification for those with low Internet self- efficacy. In conclusion, it was suggested that educators and parents should proactively identify students that are low in Internet self- efficacy and encourage them to gain more knowledge and training about Internet usage to boost their Internet self- efficacy.

Bhowon and Cheshta (2006) investigated gender differences in Internet identification and Internet anxiety. A sample of 231 students from four different schools in Mauritius participated in the study. A structured interview was used to collect data. The results showed

that a significant negative relationship was found between Internet identification and Internet anxiety. However, a significant positive relationship was found between Internet identification and Internet use among students. In addition the study revealed a significant gender differences were found with male students showing a stronger identification with the Internet than female.

Joiner et.al (2005) studied the effects of gender, Internet anxiety and Internet identification on the use of the Internet among students. Students' experience with the Internet and their levels of Internet anxiety and Internet identification were also surveyed. The sample population was 608 undergraduate students (490 females and 118 males). The instrument for data collection was the questionnaire. The results of the study indicated that there were gender differences in students' use of the Internet. Males were proportionally more likely to have their own web page than were females. That males used the Internet more than females and that they were more likely to use game websites and other specialist websites and also to download material from the Internet. However, it was found that females did not use the Internet for communication more than males. The study also revealed a significant positive relationship between Internet identification and the use of the Internet but a significant negative relationship between Internet anxiety and the use of the Internet. A significant negative correlation between gender and the use of the Internet among students was also revealed. The study revealed that all the three predictors (gender, Internet anxiety and Internet identification) jointly accounted for 40% of the variance in Internet use, with Internet identification accounting for 26%, Internet anxiety accounting for 11% and gender accounting for 3%.

Methodology

Research Design

The study adopted the descriptive research design of the ex-post facto type because the independent variables were not manipulated because they have already occurred. The independent variables in this study include computer self-efficacy, computer attitude and Internet identification, while the dependent variable is Internet use.

The Study Population

The study population comprised all the librarians in the employed in 14 public universities in Western Nigeria

Sampling technique and Sampling size

Single stage random sampling technique was used to select 11 out of 14 public universities (federal and state owned universities). From these 11 universities, a total population of 158 librarians who participated in the study was obtained. Of these 117 respondents filled and returned their questionnaires which were used for analysis. See Table 1

Table 1: Population of Respondents in the Sampled Public Universities

	Names of universities	Population of Respondents	No of Questionnaires Administered	No of Questionnaires Returned
1.	Obafemi Awolowo University, Ile-Ife.	22	22	16
2	University of Ibadan, Ibadan.	21	21	14
3	University of Lagos, Lagos.	19	19	11
4	Federal University of Agriculture, Abeokuta.	14	14	14
5	Federal University of Technology, Akure.	8	8	7
6	Ambrose Alli University, Ekpoma.	10	10	9
7	Ekiti State University, Ado – Ekiti.	10	10	10
8	Delta State University, Abraka,	24	24	10
9	Adekunle Ajasin University, Akungba.	5	5	5
10	Lagos State University, Ojo.	15	15	14
11	Osun State University, Osogbo,	10	10	7
	Total	158	158	117

Research Instrument

Four instruments were used for data collection. These are

- a. Computer self-efficacy scale,
- b. Computer attitude scale,
- c. Internet identification scale and
- d. Internet utilisation scale.

A brief description of each inventory is hereby presented:

a. The computer self-efficacy scale: This inventory was used to measure the self-efficacy of respondents in the use of the computer. The computer self-efficacy scale developed by Compeau and Higgins (1995) was adopted for the study. The scale consisted of 10 items measured on a 10 point Likert scale labelled from 1 = not confident to 10 = very confident. The reliability co-efficient of the scale was found to be 0.95. Individual with high computer

self-efficacy should have a higher confidence in their capacity to perform task than those with low computer self-efficacy.

b. Computer attitude scale: This inventory was used to measure the attitude of the respondents towards the use of the computer. The computer attitude scale developed by Hsu, Wang and (2009) was adopted for the study. The scale comprised 5 items measured on a 7 point Likert scale labelled strongly disagreed = 1, moderately disagree = 2, slightly disagree = 3, Neither Agree or Disagree = 4, Slightly Agree = 5, Moderately Agree = 6 , Strongly Agree = 7. The Cronbach - alpha reliability was 0.89.

c. Internet identification scale: This was used to measure the respondent's identification with the Internet. The scale was developed by Joiner et al. (2007). The scale comprised 10 items measured on a 5 point Likert scale labelled strongly disagree =1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5.

d. The Internet use scale: This was used to measure the rate or frequency of Internet use among respondents. The scale was developed by Joiner et al. (2007). The scale comprises 15 items measured on a 5 point Likert scale labelled Never = 1, Rarely = 2, Sometimes =3, Often = 4, Very often =5.

The demographic characteristic section requested respondents to provide information on their gender, marital status, age, years of service, educational qualification and so on.

Validity and Reliability of the Instrument

The content validity of each of scale in the questionnaire has been conducted by the original authors. The reliability co-efficient of the Computer self-efficacy scale developed by Compeau et al (1995) was found to be 0.95. The reliability co-efficient of Computer attitude scale developed by Hsu, Wang and Chiu (2009) was 0.89, Internet identification scale developed by Joiner et al.(2007) was 0.76 and the Internet use scale developed by Joiner et.al was found to be 0.77 using the Cronbach - alpha method

To determine the reliability status of the questionnaire used for this study, it was pretested to 30 librarians who were not part of the sample population. The questionnaire was found to have a reliability co-efficient for Computer self-efficacy inventory = 0.87, Computer attitude scale = 0.85, Internet identification scale = 0.76 and for Internet use scale = 0.77 using the Cronbach- alpha method.

Method of Data Collection and Analysis

Data were collected from the respondents using the four instruments namely; Computer self-efficacy scale, Computer attitude scale, Internet identification scale and Internet use scale. Collected data were analysed using descriptive and inferential statistics. The hypotheses were tested at 0.05 level of significance. The statistical package for the social sciences (SPSS) was used to analyse the data.

Presentation of Findings

Demographic characteristics of Respondents

The 117 respondents who participated in the study comprised 61(52.1%) males and 56 (47.9%) females. As regards their marital status, 11(9.4%) were single, 104(88.9%) were married, while 2(1.7%) were widowed. Their educational qualification shows that 15(12.8%) had the Bachelor's degree, 95 (81.2%) possessed the master degree, while 7(6.0%) had the PhD degree in Library and Information Studies. Their ages ranged between 22 years and 66 years with a mean age = 42.40, SD = 7.150.

With respect to their job status, 23(19.7%) of the respondents were Assistant librarians, 33(28.2%) were Librarians II, 32(27.4%) were Librarians I, 14 (12.0%) were Senior Librarians, 13 (11.1%) were Principal Librarians and 2 (1.7%) were Deputy University Librarians. Their working experience ranged between 1 and 32 years with a mean age of 10.33 years and a standard deviation (S.D) = 8.00

Testing of Research Hypothesis

Research hypothesis 1: This hypothesis states that there is no significant relationship between computer self- efficacy and Internet use among librarians in public universities in western Nigeria. The hypothesis was tested by subjecting data to Pearson product moment correlation analysis. The results are presented in Table 2

Table 2: Correlation between Computer Self-efficacy and Internet use Among Librarians

	No	Mean	Std D	r	P
Computer self-efficacy	117	43.71	8.637	· 309	· 001
Internet use	117	41.74	7.579		

Correlation is significant at $P < 0.05$

The data in Table 2 shows that the correlation between computer self-efficacy and Internet use among librarians is · 309 which is significant at 0.05 level ($r = \cdot 309, P < 0.05$). This indicates a significant positive relationship between computer self-efficacy and Internet use among librarians. Therefore the stated null hypothesis 1 is rejected.

Research Hypothesis 2: This hypothesis states that there is no significant relationship between computer attitude and Internet use among librarians in public universities in western Nigeria. Pearson product moment correlation analysis was used to test the hypothesis. The results are presented in Table 3.

Table 3: Correlation between Computer attitude and Internet use Among Librarians

Variables	No	Mean	Std D	r	P
Computer Attitude	117	30.79	6.154	· 098	· 293
Internet use	117	41.74	7.579		

Correlation is not significant at $p > 0.05$

From Table 3 the correlation between computer attitude and Internet use among librarians is $\cdot 098$ which is not significant at 0.05 level ($r = \cdot 098, P > 0.05$). This means the relationship between computer attitude and Internet use among librarians is not significant. Hence, the stated null 2 hypothesis is accepted.

Research Hypothesis 3: This hypothesis states that there is no significant relationship between Internet identification and Internet use among librarians in public universities in western Nigeria.

The hypothesis was tested using Pearson product moment correlation analysis. The data is presented in Table 4.

Table 4: Correlation between Internet Identification and Internet use Among Librarians

	No	Mean	Std D	R	P
Internet Identification	117	37.59	5.646	$\cdot 455$	$\cdot 000$
Internet use	117	41.74	7.579		

Correlation is significant at $P < 0.05$

The data in Table 4 shows that the correlation between Internet identification and Internet use among librarians is $\cdot 455$ which is significant at 0.05 level ($r = \cdot 455, p < 0.05$). This implies a significant relationship between Internet identification and Internet use among librarians. Therefore the null hypothesis 3 is rejected.

Research Hypothesis 4: This hypothesis states that computer self-efficacy, computer attitude, Internet identification does not have a significant joint influence on Internet use among librarians in public universities in western Nigeria.

Multiple regressions analysis was used to test the stated hypothesis. Computer self-efficacy, computer attitude and Internet identification were entered as independent variables, while

Internet use was considered as the dependent variable. The results are presented in Tables 5 and 6

Table 5: Summary of Multiple Regression Analysis of Relationship Between Independent variables (Computer self-efficacy, Computer attitude and Internet identification) and Internet use Among Librarians

Model	R	R Square (R ²)	Adjusted R square (R ²)	Standard Error of the Estimate
1	· 509	· 259	· 239	6.611

Table 6: Analysis of Variance Showing the Relationship Between Computer self-efficacy, Computer attitude, Internet identification and Internet use Among Librarians

Model		Sum of squares	df	Mean	F	P
1	Regression	1723.584	3	574.528	13.144	· 000
	Residual	4939.202	113	43.710		
	Total	6662.786	116			

Predictors (Constant): Computer self-efficacy, Computer attitude and Internet identification

Dependent variable: Internet use

The data in Table 5 show that the three independent variables (computer self-efficacy, computer attitude and Internet identification) jointly yielded a multiple correlation coefficient (R) = · 509 and a co-efficient of determination (R²) = · 259 or 25.9%. The co-efficient of determination (R²) shows that the three independent variables jointly accounted for · 259 or 25.9% of the variance in Internet use among librarians in universities in Western Nigeria. The remaining unexplained 74.1% could be attributed to other variables that were not considered in this study.

Furthermore, the data in Table 6 show that the analysis of variance of multiple regression yielded an F- value = 13. 144 which is significant at $P < 0.05$ level of significance. This implies that computer self-efficacy, computer attitude and Internet identification jointly have significant influence on Internet use among librarians in universities in western Nigeria. Therefore the stated null hypothesis 4 is rejected.

To determine the relative contribution of each independent variables (computer self-efficacy, computer attitude and Internet identification) to predict Internet use among librarians, the three independent variables were entered into a multiple regression analysis with Internet use as dependent variable. The results are presented in Table 7.

Table 7: Relative Contribution of Computer self-efficacy, Computer attitude and Internet identification to predict Internet use Among Librarians

Independent variables	Unstandardised		Standardised co-efficient		P
	B	Std.Error	Beta	t	
(Constant)	16.103	4.789		3.363	· 001
Computer self- efficacy	· 176	· 074	· 200	2.370	- 019
Computer attitude	- · 177	· 112	- · 144	-1.582	· 117
Internet identification	· 623	· 126	· 464	4.946	· 000

Significant at $P < 0.05$

Independent Variables: Computer self-efficacy, computer attitude and Internet identification

Dependent Variable: Internet use

As regards the relative contribution, the data in Table 7 show that of the three independent variables: computer self-efficacy, computer attitude and Internet identification only two that

is Internet identification ($\beta = \cdot 464$, $t = 4.946$, $p < 0.05$) and computer self-efficacy ($\beta = \cdot 200$, $t = 2.370$, $p < 0.05$) significantly predict the use of Internet among librarians.

In addition, the data shows that Internet identification made the highest contribution to predict the Internet use among respondents ($\beta = \cdot 464$ or 46.4%). Followed by computer self-efficacy ($\beta = \cdot 200$ or 20.0%) and computer attitude ($\beta = \cdot 144$ or 14.4%) respectively.

Discussion of Findings

This section discusses the major findings of this study with respect to each of the stated hypothesis.

The study revealed that there was a significant positive relationship between computer self-efficacy and Internet use among librarians in universities in Western Nigeria. In other words, the higher the computer self-efficacy beliefs of librarians, the more they used the Internet and vice-versa. This finding is line with the finding of Oyewusi, et al. (2016) who reported significant positive relationship between computer self – efficacy and Internet use among senior secondary school students in Lagos state.

Another major finding of this study shows that there was no significant relationship between computer attitude and Internet use among librarians in public universities in Western Nigeria. That is the attitude of librarians towards the computer did not have any influence on their use of the Internet. However, this finding is at variance with that of Oyewusi et al. (2016) who reported that computer attitude has significant positive influence on Internet use among senior secondary school students in Lagos state.

The study revealed a significant positive relationship between Internet identification and Internet use among librarians. That is the more the librarians identified with the Internet, the more they used it and vice-versa. This is in agreement with the finding of Joiner et.al (2005) who reported a significant positive relationship between Internet identification and Internet use among the respondents of their study.

In addition, the results of the study indicated that a combination of computer self-efficacy, computer attitude, Internet identification had significant positive relationship with the Internet use ($R = 0.509$, $P < 0.05$) and contributed 25.9 % of the variance in Internet use among librarians in public universities in Western Nigeria.

Also the results showed that computer self-efficacy, computer attitude and Internet identification jointly determined the Internet use among librarians public universities in western Nigeria. ($F = 13.144$, $df = 3; 113$, $P < 0.05$). The implication is that librarians will likely increase their use of the Internet, when issues impairing their computer self-efficacy, computer attitude, and Internet identification are properly addressed by the management of university libraries. This finding is novel because previous studies on Internet use among librarians did not consider the joint influence of the computer self-efficacy, computer attitude and Internet identification on Internet use among librarians in public universities in Western Nigeria.

That is not all, the study revealed that of the three independent variables; that is computer self-efficacy, computer attitude and Internet identification, only Internet, identification ($\beta = 0.464$, $t = 4.946$, $p < 0.05$) and computer self-efficacy ($\beta = 0.200$, $t = 2.370$, $p < 0.05$) were significant predictors of Internet use among librarians in public universities in Western Nigeria. However, Internet identification made the highest significant contribution to predict the Internet use among librarians in public universities Western Nigeria. ($\beta = 0.464$ or 46.4 %)

Conclusion:

The study shows that the use of the Internet among librarians had significant relationship with computer self – efficacy and Internet identification but was not significantly related to computer attitude of librarians. Furthermore, the results indicates that Internet

identification contributed more to influence the use of Internet among librarians than other independent variables in this study including computer self-efficacy and computer attitude.

The study also reveals that computer self-efficacy, computer attitude and Internet identification jointly determined the use of the Internet among librarians in public universities in western Nigeria

Recommendations

Based on the findings of this study, the following recommendations are made for the improvement of Internet use among librarians:

1. Librarians should undergo regular training in the use of computer so that they could develop and maintain a very high level of computer self-efficacy beliefs. This will motivate them to use the Internet more than ever before for their jobs and personal purposes.
2. Librarians should be encouraged to develop a positive attitude towards use of computer as this will promote the use of the Internet. One of the ways of doing this is for them to embark on continuous training on the job.
3. Librarians should identify more with the Internet as this would increase their usage of the Internet.
4. Administrators of university libraries should take into the consideration the computer self-efficacy, computer attitude and Internet identification when they are formulating organisational policies that would improve and sustain the use of Internet among librarians.

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