

Influence of Demographic Factors on Satisfactory Use of Electronic Libraries in Northern Nigeria Universities

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Abstract

Purpose: The advent of ICT has come to change the role of libraries in terms of provision of information resources and services. This study examines the influence of users' demographic characteristics on satisfaction with the use of e-libraries in Northern Nigeria universities.

Design/methodology/approach: The survey research design was adopted. Eight universities were purposively selected. The study population was 7,028 users, of which 1,406 were randomly sampled. Data collected were analyzed using descriptive and inferential statistics. Four hypotheses were tested using independent t-test and Spearman's rank-order correlation coefficient.

Key finding(s): The study found no significant gender difference in satisfaction with e-libraries; status difference in the satisfaction with e-library; as well as a negative correlation between age and user-satisfaction, and negative correlation between the users' level of study and satisfaction with e-library.

Research limitation(s): This study is limited to purposively selected eight Nigerian universities with student sample only.

Practical implication(s): Though gender, age and status explained user satisfaction with e-libraries, the level of study which was statistically significant appeared to be more significantly related to user satisfaction with e-libraries when all variables were in the model. There is a need for separate orientation programs using females who are specialist in computer and information literacy as trainers.

Contribution to knowledge: It recommended a clear policy to guide the development and integration of e-libraries in the university system.

Paper type: Research.

Keywords: E-library; Universities; Demographics; Nigeria.

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Introduction

The emergence of Information and Communication Technology (ICT), no doubt, is gaining momentum in Nigerian universities. Once students embrace its use, teaching, learning and research activities in the universities become easier (Olusegun & Adesoji, 2017). According to Etim (2006), the rapid pace of development in the field of IT and the emergence of networked information services had prompted a comprehensive review of the library and information science profession. As stated by Mohamed (2007), the use of ICT had become increasingly important in libraries. Thus, there is a clear departure from manual ways of delivering information services and providing information resources in the university libraries nowadays, which university libraries in Nigeria are also embracing.

Accordingly, considerable investments are expended to develop e-libraries in Nigerian universities, leading to the issue of the extent of use and users' satisfaction with these resources. Electronic library (e-library) represents a collection of networked digital information resources and associated technical and managerial infrastructure, most of which offer open access, with a few on subscriptions (Daniel, 2012). Similarly, The Kentuckiana Digital Library (2005) described it as an organized collection of selected digital resources created to support scholarship, research and teaching.

However, studies by Oluwaseye and Abraham (2013), Ojo and Akande (2005), Egberongbe (2011) and Sharma (2009) revealed that practical uses of e-libraries and their resources were not up to the worth in comparison with the investments on these e-resources. It was against this backdrop that the study investigated the influence of demographic characteristics (gender, age, status and level of study) on users' satisfaction with e-libraries in the universities in Northern Nigeria.

Literature Review

A number of studies have been conducted relating to the relationships between demographic variables and technology adoption and acceptance. Of particular interest was that of Olatokun (2009) that there existed a measure of variance in individuals' access and use of ICT due to socio-demographic factors. Factors such as gender, age, income and skills may serve as determinants of their access and use of e-resources. Affirming this assertion, Bimber (2000) in a study of postgraduate students at Fuzhou University, Fujian, People's Republic of China, indicated that the gender gap in Internet accessibility was larger where more intensive web users were concerned. Women are

substantially less likely to be frequent and intense users than their male counterparts. The finding was attributed to a combination of gendered technology embodying male values, content that favored men and socioeconomic differences. Similarly, Ono and Zavodny (2003) also found women to be less frequent and less intense users of the Internet.

Diyaolu, Olufunmilayo, and Ibrahim (2012) investigated the influence of demographic factors on the use of digital library by the postgraduate students in private universities, using Babcock and Covenant universities in Ogun State. From a survey research approach, it was found that there was a significant difference in the level of study of students from both universities in relation to the use of digital resources. Scealy, Phillips and Stevenson (2002) investigated the use of online applications by male and female students at the University of Whiteland College in London, using survey research method. The study found that male students were more likely to use them than their female counterparts for recreational purposes (playing games online, visiting adult-only sites, gambling, accessing news groups, and discussion forums, staying abreast of new developments, and seeking information for personal use), while females were more likely to use them to interact with their families and friends.

Similarly, Okiki and Asiru (2011) examined the factors influencing the use of electronic information sources among postgraduate students in universities in the South-west, Nigeria. The study found that the male used them more than their female counterpart while the Master students were in the majority in their use of e-resources than other categories of postgraduate students. On the influence of age on the e-library usage, Bar-Ilan, Peritz, and Wolman (2003) found that younger members of the teaching and research staff in Israeli universities were the most active users of e-journals. Similarly, Tenopir (2003), in an overview and analysis of recent research studies using the University of Tennessee, Knoxville, as a case study, posited that there was evidence that younger users were most enthusiastic adopters of digital resources than their older counterparts. This was also evident in the empirical studies of Idowu and Adagunodo (2004), which revealed that younger users rely on them more heavily and rate themselves more experts than older users. Most users of digital resources, according to Diyaolu, Okunlaya and Ibrahim (2015) were students at their prime age.

Okiki and Asiru (2011) posited that age correlated with computer and the use of online library resources. The younger generations brought up with computers are bound to be more familiar with the devices more than adults who had no such privileges while growing up. Emiri (2015)

in the study of influence of demographic factors and the use of OPAC of undergraduates in selected university libraries in Southern Nigeria, found age to have a strong relationship with the use of e-resources. The study found that there were significant age differences on the computer task, as measured by older adults, making few correct decisions and taking a longer time to make their decisions than younger adults.

Waldman (2003) believed that age was one variable that correlates with comfort with computers and use of e-resources. Similarly, Quadri (2013) examined the influence of demographic factors on the use of online library resources by undergraduate students and found that there was a significant correlation between age of the undergraduates in both universities and the use of online library resources. It also ascertained that there was a weak correlation between the respondents' religion and use of online library resources.

Owolabi (2013) examined the educational levels of users as factors in using e-libraries. Those with higher education were known to possess a high level of acceptable attitude and disposition in their work culture. In terms of technology usage, which most often could require a medium and sometimes high level of reasoning, only those who were educated could cope with the inherent complexity of the new technology innovation (Ajuwon & Rhine, 2008). This probably justified the findings of Islam (2011) that students with high level and strong educational backgrounds had a broader knowledge of the use of technology and its advantages in gaining scholastic achievement.

Similarly, members of the academic staff were more likely to use e-resources than their non-academic counterparts. Tella, Orim, Ibrahim, and Memudu (2018) found that the majority of the academic staff used e-resources for research, curriculum development and self-educational development. This is probably because they were exposed to the latest innovation that technology offers; they were expected to be more computer literate, making it easy for them to explore the Internet.

Olatokun (2009) and Quadri (2013) found that level of education had the strongest influence on the capability to use a personal computer and computer with Internet services by different categories of people, including students with the respondents having less education, thus being more disadvantaged in using the facilities.

Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance in this study:

1. H_{01} : There is no significant difference in gender of e-library users in Northern Nigerian universities in term of user-satisfaction.
2. H_{02} : There is no significant difference in status of e-library users in Northern Nigerian universities in term of user-satisfaction.
3. H_{03} : There is no significant relationship between the age of e-library users and satisfaction with e-libraries in Northern Nigerian universities.
4. H_{04} : There is no significant relationship between the users' level of study and satisfaction with e-libraries in universities in northern Nigeria.

Methodology

The survey research design was adopted for this study. Eight universities (seven public, one private) were purposively selected, regardless of geopolitical zones and ownership; comprising four from North-central, two each from North-west and North-east. Although there were 45 universities (federal, state, and private) in Northern Nigeria, only eight had functional e-libraries at the time of the study.

The study population consisted of 7,028 registered e-library users from these university libraries. From this, a sample of 1,406 was drawn using the simple random sampling technique. A questionnaire was the instrument used for the data collection. The data collected was analyzed using descriptive and inferential statistics such as frequencies and percentages for the demographic characteristics, while both the independent t-test and the Spearman rank-order correlation coefficient were used to test the hypotheses.

Results

As presented in Table 1, a total of 1,406 copies of the questionnaire were administered to the respondents out of which 1,166 duly completed and returned. From this number, 951 copies were found usable for the analysis, giving a response rate of 67.6%.

Demographic characteristics of the respondents

Table 2 presents the demographic distribution of the respondents. Out of 951 respondents, 334 (35.1%) were females, while 617 (64.9%) were male. The male respondents were found to be more than their female counterparts. This suggests a clear inequitable gender balance of the respondents across the universities.

Table 1: Distribution of Questionnaire and Return Rate

Sr#	Universities*	Distributed	Returned	Used for analysis
1	ABU	400	306 (76)	263(65.7)
2	AUN, Yola	67	61 (91)	58 (86.6)
3	FU, Lafia	60	55 (91.7)	53 (88)
4	GSU, Gombe	130	119 (91.5)	98 (75.4)
5	NSU, Keffi	102	98 (96.1)	77 (75.4)
6	UMYU	81	76 (93.8)	67 (82.7)
7	UNIJos	366	288 (78.7)	205 (56)
8	UNIlorin	200	163 (81.5)	130 (65)
	Total	1, 406	1,166 (82.9%)	951(67.6%)

*See appendix for full names of universities.

Table 2: Demographic Distribution of Respondents

Gender	Frequency	Percentage
Female	334	35.1%
Male	617	64.9%
Age		
51 years and above	11	1.1%
41-50 years	113	11.9%
31-40 years	284	29.9%
30 years and below	543	57.1%
Status		
Staff	206	21.7%
Students	745	78.3%
Level		
PhD	28	2.9%
Masters	67	7.0%
600 Level	17	1.8%
500 Level	68	7.2%
400 Level	254	26.7%
300 Level	234	24.6%
200 Level	178	18.7%
100 Level	105	11.0%
Total (each)	951	100%

The respondents within the age bracket of 30 years and below constitute the highest number, 543 (57.1%) of e-library users in universities in Northern Nigeria. This was followed by the respondents

within the age bracket of 31-40 years constituting 248 (29.9%). Only 113 respondents (11.9%) and 11 respondents (1.1%), fell between the age bracket of 41-50 and 51 years, respectively.

The students constituted the highest users of e-libraries 745 (78.3%), while the staff constituted the lowest users of e-libraries 206 (21.7%), in these universities.

The 400 level students constituted the highest 254 (26.7%) respondents, followed by 300 level students with 234 (24.6%). Respondents in 100 and 200 levels respectively constituted 105 (11%) and 178 (18.7%). The lowest frequencies were masters 67 (7%) and PhD 28 (2.9%) respondents across the universities.

Result of the hypotheses testing

This presents the results of the four null hypotheses that were formulated and tested at 0.05 level of significance. The Statistical Packages for the Social Sciences (SPSS), version 20 was used for the analysis. The results are as presented below.

Ho₁. There is no significant difference in the gender of e-library users in Northern Nigerian universities in term of user-satisfaction.

Group statistics indicated that the e-library in these universities was slightly more engaging in male (n = 614, Mean = 11.94, SD = 3.29) than the female users (n = 337, Mean = 11.70, SD = 3.02). An independent samples t-test indicated that there was no significant gender difference in the satisfaction with e-libraries (t = 1.104, sig = .270). Therefore, the null hypothesis is accepted.

Ho₂. There is no significant difference in the status of e-library users in universities in Northern Nigeria in term of user-satisfaction

Group statistics indicated that the e-library was more engaging to students (n = 648, Mean = 12.1, SD = 3.32) than staff (n = 303, Mean = 11.34, SD = 2.9) in the universities in Northern Nigeria. An independent samples t-test indicated that there was a significant status difference in the satisfaction with e-libraries (t = -3.373, sig = .001). Therefore, the null hypothesis is rejected.

Ho₃. There is no significant relationship between the age of e-library users and satisfaction with e-libraries in the universities in northern Nigeria.

The Spearman's rank-order correlation indicated a negative significant relationship between age and satisfaction with e-libraries ($n = 951$, $r_s = -.154$, $\text{sig} = .000$). Therefore, the null hypothesis is rejected.

Ho₄. There is no significant relationship between the users' level of study and satisfaction with e-libraries in the universities in Northern Nigeria.

The Spearman's rank-order correlation indicated a negative significant relationship between the user's level of study and satisfaction with e-libraries ($n = 951$, $r_s = -.097$, $\text{sig} = .003$). Therefore, the null hypothesis is rejected.

Discussion of the Findings

The study found that there was no significant difference in the gender of e-library users and their satisfaction with them. This was also the findings of Olusegun and Adesoji (2017) and Diyaolu, Okunlaya and Ibrahim (2015) whose study revealed that gender had no significant influence on digital resource usage. However, male users expressed more satisfaction with e-libraries than their female counterparts. This finding contradicted that of Enochsson's (2005) that boys had greater interest in technology than girls. Similarly, studies by Rana (2009) and Bailin and Grafstein (2005) showed a high Internet usage in male than in female, who often did not dedicate much time to technological experimentation as compared to their male counterparts. This was attributed to gender role in attending to domestic issues in the family (Owolabi, 2013).

The study found that there was no significant difference in the status of users and satisfaction with e-libraries in these universities. Thus, students expressed more satisfaction with e-libraries than their staff counterparts. This might be due to the fact that student-users were more compelled by their academic pursuits and were more in population than their staff counterparts. This study affirmed that of Sivathaasan, Murugathas and Chandrasekar (2014) that there was statistically significant mean difference between readers' type such as staff and students in terms of attitude of usage of electronic information resources at the University of Jaffna, Sri Lanka.

There was negative significant correlation between the age and the satisfaction of users of e-libraries. Younger respondents, however, were found to be more comfortable with e-libraries than the older respondents when age variations were in the model. This corroborated that of Owolabi (2013) that the younger age group appears more technology

enthusiast than their older counterparts, who are most often too busy to experiment with new technology innovations. It also corroborated that of Olatokun (2009) which found the youths more capable of using most of the ICT facilities especially in the aspect of surfing the Internet. One account for this could be the fact that the electronic information system was a recent trend, and as such, only the younger segment of the population would have had the benefit of early exposure to them than the older generation.

A negative significant correlation existed between the level of study and satisfaction with e-library; thus contradicting those of Olatokun (2009), Islam (2011) and Quadri (2013) that level of study of users was highly correlated and significantly influential in the use of online library resources. Similarly, Emiri (2015) found that 300-400 level students used online resources more than other levels in the selected universities. The use of e-library, as the study revealed, increases as the users get to the next level. This showed that there were variances in the degree to which sources of information were used by users at different levels of their study.

Therefore, users at a higher level of study used e-libraries because they were more acquainted with it; having spent much longer years in the university. Students of three and four hundred levels used more in e-resources than students of other levels. The undergraduate students who had progressed beyond first year were more likely to mention some other quality criteria such as currency of information, the reliability of the source and the authority of the source, but time saving was important for them as well.

Recommendations

Based on the findings and discussion, the study recommended that:

1. The university authorities should have a clear e-library development policy, taking into consideration the demography of members of the university communities, which will guide the present library practices to ensure a constant delivery of state-of-the-art information services in the library system.
2. Management of university libraries should create conducive environments for access and the use of e-libraries; irrespective of the users' age, level of study, status and gender.
3. Since the findings reveal that the e-library is slightly more used by the male than female counterparts, the university libraries should consider separate orientation programmes. The trainers should be

mostly females, who are specialists in the areas of computer and information literacy.

Conclusion

The study concluded that, though the four demographic variables were significant to the satisfaction of users with the e-libraries in these universities, however, the relative prediction of user-satisfaction differs. Thus, gender, age and status of users were explanatory variables of user-satisfaction with e-libraries. The level of study, which though, was found to be statistically of negative significance appeared to be a little relevant to user satisfaction with e-libraries when all variables were in the model. This indicated that the level of study of users was more significant to satisfaction with e-libraries in these universities than gender, age or status.

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Appendix 1: University Abbreviations

ABU	Ahmadu Bello University, Zaria, Kaduna State
AUN	American University of Nigeria, Yola, Adamawa State
FU	Federal University, Lafia, Nasarawa State
GSU	Gombe State University, Gombe State
NSU	Nasarawa State University, Keffi, Nasarawa State
UMYU	Umaru Musa Yar'adua University, Katsina, Katsina State
UniJos	University of Jos, Jos, Plateau State
Unilorin	University of Ilorin, Ilorin, Kwara State