Influence Of Demographic Factors On The Use Of Digital Library By The Post Graduate Students In Private Universities: A Case Study Of Babcock And Convenant University In Ogun State

DIYAOLU AKOREDE MUFUTAU, OKUNLAYA RIFQAH OLUFUNMILAYO AFOLAKE, IBRAHIM RASAKI OLUWADAMILARE

FEDERAL UNIVERSITY OF AGRICULTURE ABEOKUTA
P.M.B 2240, ABEOKUTA, OGUN STATE, NIGERIA.

Abstract

The advent of technology has influenced the way human activities are being conducted today. The education sector in Nigeria is probably the most influenced due to the rapid growth being witnessed in the sector. Information technology is facilitating virtual delivery of programs and conduct of research. This study using survey research approach is the description of the influence of demographic factor on the use of digital libraries by postgraduate students in private universities in Nigeria. Two of such universities located in Ogun state, Nigeria were selected for the study and copies of structured questionnaire were randomly distributed among respondents to gather data. The study found out that there is a significant difference in the level of income of students from both universities in relation to the use of digital resources. In conclusion, the study recommends that both young and old students should be encouraged and sensitized on the use of digital library and the resources it has.

Definition of terms

Demographics: comprises selected characteristics of a population (age and income distribution, marital status, gender, for instance) for purposes of social studies.

Digital Library: An organization, which might be virtual, that comprehensively collects, manages and preserves for the long term rich digital content, and offers to its user communities specialized functionality on that content, of measurable quality and according to codified policies.

Digital formats: Electronic formats suitable for digital library material includes: Text formats, such as RTF (Rich Text Format), Markup languages –HTML and XML, PDF (Portable document format) and Image formats –MPEG, JPEG etc.

Electronic resources: Carriers of information that are in different electronic formats (books, journal, magazines, audio-visual and other information and communication technology gadgets) that are required to be available and accessible for the benefit of users.

Use: It is the extent to which postgraduates students patronize and benefit from the available resources and services in libraries. In this study, use is meant to describe the extent to which the digital resources facilities and services are exploited or utilized by the postgraduate students of the private universities.

INTRODUCTION

Universities in Nigeria and the world over are engines of growth and development. They are increasingly recognized to have a broader role in the social, economic, technological and manpower development of a nation. In fact, the universities serve as the main source of supply of highly skilled manpower needed in the various sectors of the nation. The National Policy on Education (2004) acknowledges that university education shall make optimum contribution to national development by intensifying and diversifying its programme for the development of high level manpower within the context of the needs of the nation.

In line with the provision of the policy, Nigeria has established many universities for the production of the much needed manpower for her economic, political, environmental, technological and socio-cultural development. Nigerian universities, are charged with the functions of conservation of knowledge; pursuit, promotion and dissemination of
knowledge through teaching; advancement of knowledge through research pure, applied and development oriented; provision of intellectual leadership; development of human resources for meeting manpower needs; and promotion of social and economic modernization (Aguolu and Aguolu, 2002).

The establishment of private universities in Nigeria come into reality when the Federal Government, through promulgation of Act No. 9 of 1993, This act allow private individuals or organizations with adequate capabilities to establish universities in Nigeria, provided they meet certain criteria laid down by the Federal Government. This is in order to ensure that more admission opportunities were created than hitherto for the prospective young Nigerians who can afford it. To ensure uniqueness, the university would offer courses that would; support relevant and sustainable technology that is transferable and applicable especially in the area of biotechnology and ICT. Libraries are established in the university system to provide high quality information services in support of teaching and research for academic staff members as well as acquisition of knowledge of the students (Adio and Popoola, 2010). A digital library is a library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible by computers. The content may be stored locally, or accessed remotely. A more effective digital library would ensure the post-graduate students make full use of the digital library technology when doing their research as this would solve the problems faced by them in the traditional library. Among the demographic factors to be considered are age, gender, marital status and level of income.

This study however hopes to achieve the following objectives

1. To determine the significant influence of income level on the use of digital library by the post graduate students.
2. To ascertain the significance influence of gender on the use of digital library by the post graduate students.
3. To find out the significant influence of program of study on the use of digital library by the post graduate students of the private universities.

STATEMENT OF THE PROBLEM

The new trend in the use of technology is the adoption of digital libraries for research activities. Information and communication technologies have revolutionised the concept of libraries. Libraries are gradually getting digitised with comprehensive and free scholarly resources than the one that some websites could provide. Students who need to do research will benefit from an effective digital library as it will provide a combination of digitally delivered content with learning support and services. Despite the choices, opportunities and enhanced flexibility the digital library provides, it is observed that the post graduate students do not avail of themselves the opportunities made available by digital libraries. It is to this end that this study sets out to investigate the factors inhibiting the use of digital libraries

RESEARCH HYPOTHESES

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

\[ H_01: \] There is no significant influence of income level on the use of digital library by the post graduate students.

\[ H_02: \] There is no significant influence of gender on the use of digital resources by the affected post graduate students.

\[ H_03: \] There is no significant influence of program of study on the use of digital library by the postgraduate students of the private universities.

LITERATURE REVIEW

The use of digital resources has contributed to reshaping information retrieval process and access to information by the postgraduate students. In the past, information was transferred from librarians to the user, but presently, most of the communication and transfer of information is between the users and the computers and this is due to the existence of digital library and its management. Students who need to do research would benefit from a more effective digital library as it would provides a combination of digitally delivered content with learning support and services. The digital library provides more choices, enhances flexibility and will often provide the learner with instant feedback. It allows students to select learning materials and is convenient to access at any time and at any place (Lee, 2005).

Tella et al (2007) argue that the students’ ability to find and retrieve information effectively is a transferable
skilled in the future life as well as enabling the positive and successful use of the electronic resources
whilst at school. They noted that in this digital era any student at the higher level who intends to better achieve
should have the ability to explore the digital environment. Students are increasingly expected to use electronic
information resources whilst at the university. To make use of the growing range of electronic resources,
students must acquire and practice the skills necessary to exploit them (Okello-Obura and Magara 2008). Skill
learning is essential in a technology-driven environment but can be enhanced tremendously through the use of
innovative learning strategies. Okello-Obura and Magara also suggested that the skills required to access the
maximum potential of electronic resources are much greater than those required for searching printed sources.
These skills include knowledge of the structure of the database and the instructions which must be input into
the computer by the searcher – as well as an understanding of the ways in which the instructions are linked to
one another.

Bimber (2000) on reaction of postgraduate students at Fuzhou University, Fujian, People's Republic of China
argued that the gender gap in the Internet is larger where more intensive Web use is concerned. Women are
substantially less likely to be frequent users, equally likely to be infrequent users, and more likely to be
intermediate users and that females are less intensive internet users than males. Bimber (2000) attributes this
finding to a combination of gendered technology embodying male values, content that favours men, sex
differences in cognition and/or communication, and socioeconomic differences. Ono and Zovodny (2003) also
found women to be less frequent and less intense users of the Internet. Concern about gender inequality has
now shifted from access to intensity.

The most pronounced gender difference in Web use is found in the online applications used by males and
female University of Whitelands College in London. Male college students are more likely than their female
counterparts to use the Internet for recreational purposes (e.g., playing games online, visiting adult-only sites,
gambling, accessing news groups and discussion forums, staying abreast of news developments, and seeking
information for personal use), while females are more likely to use the Internet to talk to family and friends
(Goodson, McCormick, and Evans, 2001; Odell, Korgen, Schumacher, & Delucchi, 2000; Scealy, Phillips, &
Stevenson, 2002). These findings appear to reinforce the widespread assumption that men prefer to use the
Web for information gathering and entertainment and women prefer to use the Internet for communication
(Shaw & Gant, 2002).

Islam et al. (2011) conducts a research on demographic influence concerned with inclusion of digital library on
e-learning in the Faculty of Information Management at Universiti Teknologi Mara, Malaysia, according to the
research, demographic factors such as level of education and gender are major factors in understanding and
appreciating e-learning. It is presumed that students with high levels and strong educational back grounds have
a broader knowledge on the use of technology and its advantages on gaining scholastic achievement. They are
exposed to the latest innovation that technology offers. They are expected to be more computer literate which
makes it easy for them to explore the Internet. Also, students with higher level of education tend to update their
knowledge and information that can easily be gained thorough e-learning. For example, rather than go to the
library to research about a new topic, they just make use of the online library. Hence, e-learning for them is
effective.

Okiki (2011) examined the factors that influence the use of electronic information sources among postgraduate
students. The study covered six Universities in the South West, Nigeria namely; University of Ibadan,
University of Lagos, Olabisi Onabanjo University, Ogun State; Federal University of Technology, Akure;
University of Agriculture Abeokuta and Lagos State University. The results show that males seem to enjoy
browsing on the internet for enjoyment while female tend to only use it for work related purpose. Ford et al
(2001) also found that females tended to experience more difficulty finding information online, to feel
competent and comfortable using the internet, to use the internet less frequently than males and to make use of
a less varied set of internet application, though found a similar result in studying faculty members; while males
tended to have computing skills than females, age and year of obtaining highest educational qualifications were
also important factors in establishing computers skills. Tenopir (2003) on use and users of electronic library
resources: An overview and analysis of recent research studies using the University of Tennessee, Knoxville as
a case study posits that there is some evidence that younger users are more enthusiastic adopters of digital
resources than are older users. Younger users rely on electronic resources more heavily and rate themselves
more expert in using them than do older users. Age is a variable which have been found to correlate with computers and use of electronic resources, according to Okiki (2011) Younger generations are brought up with computers. It also found that there were significant age differences on the computer task, as measured by older adults making few correct decisions and taking longer time to make their decisions than younger adult.

According to Islam (2011), the level of education, program of study, age and gender were found to be significant in the effectiveness of digital library on e-learning. However race and marital status were found to have no significant effect on the effectiveness of e-learning system. Therefore it is indicated that respondents with higher level of education may have accepted using e-learning tools, which includes online resources such as library portal as a learning program and therefore contribute to the effectiveness of the e-learning system.

Many education organizations today practices the electronically learning method known as the e-learning that used the CD ROM, Internet, video conferencing, satellite transmissions, e-books, e-journals, OPAC, library portal etc. as tools to deliver knowledge across to the learners. Internet is still the most frequent used method as it covers a wider area and this is being used in both the public and private education system. The Internet and education world combination had a great influence among the students in schools, colleges and universities. The working adults in the corporate world are never being left out in the learning circle. The Internet had become the driveway for all learners to drive through to access the information that interest them and with the on-line discussion groups and multimedia help, it create an advantage over learning for them that learning never came to an end. Information is now available at the finger tips on all people’s category so long they have the required set up.

Recent literature on technology presents a complicated picture of the relationship between gender and Web use. While most scholars agree that the gender gap in Internet use has narrowed significantly in the college age group as well as the general population, some gender differences have been found in attitudes toward technology, intensity of Internet use, online applications preferred, and experience in cyberspace. (Obuah, 2009).

However the most pronounced gender difference in web use is found in the online applications whereby male college students are more likely to be found than their female counterparts. Male students tends to use the Internet for recreational purposes (e.g., playing games online, visiting adult-only sites, gambling, accessing news groups and discussion forums, staying abreast of news developments, and seeking information for personal use), while females are more likely to use the Internet to talk to family and friends. (Scealy et al, 2002).

These findings appear to reinforce the widespread assumption that men prefer to use the web for information gathering and entertainment and women prefer to use the Internet for communication (Shaw & Gant, 2002).

Age is a variable which have been found to correlate with computers and use of electronic resources, according to Okiki (2011) younger generations are brought up with computers. It also found that there were significant age differences on the computer task, younger adults make quick decisions with the aid of computers compared to the older adults that make few correct decisions taking longer time than younger adult. Mungania (2003), in his description of the e-learning users, asserted that middle-aged people account for the great part of the educational approach’s audience with 80% of the polled respondents belonging to the lower that 45 years age bracket. An implication of student status in e-learning is that full-time students who spend more time acquainting with the system naturally have the edge over its part-time students. Other relevant variables include the student’s learning profile, such as his study styles and habits.

Based on the results of the study, “Effect of demographic factors on e-learning effectiveness in a higher learning Institution in Malaysia, Islam (2011) concluded that the level of education, program of study, age and gender were found to be significant in the effectiveness of e-learning. However race and marital status were found to have no significant effect on the effectiveness of e-learning system. Therefore it is indicated that respondents with higher level of education may have accepted using e-learning tools, which includes online resources such as library portal as a learning program and therefore contribute to the effectiveness of the e-learning system.

METHODOLOGY
The survey approach was adopted for this study using simple random sampling technique. The estimated population for this study is Six Hundred and Twenty Nine (629) respondents drawn among Masters and PhD students of the Babcock University, Ilisan-Remo and Covenant University, Ota both in Ogun State. Copies of
the questionnaire were sent out to all the concerned private universities. The services of a research assistant also engaged to administer the questionnaire, one-on-one, to the students and their response collected immediately. This method was preferred so as to achieve a high response rate. A total of six hundred (629) were randomly distributed, Three Hundred and Fifteen (315) was retrieved but only two hundred and sixty (260) analysed because the working class of the total respondents were targeted. The questionnaire was analysed using one-way ANOVA for age, income level, and marital status, while normal distribution is used for gender, so as to determine whether these factors have influence on the use of digital library.

ANALYSIS OF DATA

This chapter presents the data analysis, findings and discussion on findings. It provides detailed answers to the three (3) hypotheses formulated for the purpose of this research.

QUESTIONNAIRE’S RATE OF RETURNS.

<table>
<thead>
<tr>
<th>University</th>
<th>Total administered</th>
<th>Total returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babcock</td>
<td>180</td>
<td>145</td>
</tr>
<tr>
<td>Covenant</td>
<td>135</td>
<td>115</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>260</td>
</tr>
</tbody>
</table>

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

<table>
<thead>
<tr>
<th>College / Faculty</th>
<th>Frequency</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>23.5</td>
<td>61</td>
</tr>
<tr>
<td>Arts</td>
<td>55.0</td>
<td>143</td>
</tr>
<tr>
<td>Social science</td>
<td>23.5</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program of study</th>
<th>Frequency</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGD</td>
<td>2.3</td>
<td>6</td>
</tr>
<tr>
<td>Masters</td>
<td>19.6</td>
<td>51</td>
</tr>
<tr>
<td>PhD</td>
<td>80.4</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>56.5</td>
<td>147</td>
</tr>
<tr>
<td>Female</td>
<td>43.5</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Frequency</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30</td>
<td>105</td>
<td>40.4</td>
</tr>
<tr>
<td>31-40</td>
<td>86</td>
<td>33.1</td>
</tr>
<tr>
<td>41-50</td>
<td>47</td>
<td>18.0</td>
</tr>
<tr>
<td>51 &amp; above</td>
<td>8.5</td>
<td>22</td>
</tr>
<tr>
<td>40.4</td>
<td>73.5</td>
<td>100</td>
</tr>
</tbody>
</table>
According to the above table majority of the respondents are between the age group of 21-30, for instance 57 (39.3%), in Babcock, while 48 (41.7%) are in Covenant universities. This group is followed by second most youthful group which is 31-40. The group recorded 44 (30.3%) in Babcock and 42 (36.5%) in Covenant university. However, age 51 and above recorded the least population in both universities i.e 15 (10%) and 7 (6.1%) respectfully. Implication of this is that younger people are quite in their prime age of learning. It was also revealed that male population were more than that of the female in both schools, for instance, proportion of male to female is 76 (52.4%) to 69 (47.6%) in Babcock university and 71 (61.7%) of male to 44 (38.3%) of female in Covenant university. It was also revealed that majority of the respondents in both schools were in Masters’ program i.e 106 (73.1%) in Babcock and 97 (84.3%) in Covenant. Also, very few postgraduate students are married. Similarly only two category of marital status exist in both universities, that is single and married, this might be probably due to our cultural orientation and religious inclinations that jointly against divorce and separation in the institution of marriage.

**TEST OF HYPOTHESIS**

**HYPOTHESIS 1**

**SIGNIFICANCE OF INCOME LEVEL ON DIGITAL LIBRARY**

<table>
<thead>
<tr>
<th>Variation</th>
<th>Degree of freedom</th>
<th>Sum of square</th>
<th>Mean square</th>
<th>F ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between samples</td>
<td>4</td>
<td>7579</td>
<td>1894.75</td>
<td>11.68</td>
</tr>
<tr>
<td>Within samples</td>
<td>5</td>
<td>811</td>
<td>162.20</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>8390</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

f Calculated = 11.68  
f Tabulated = 5.19  

**Decision:** If f calculated is greater than f tabulated reject the null hypothesis (H₀) otherwise except

**Conclusion:** Since f calculated is greater than f tabulated i.e 11.68 > 5.19, it will be concluded that there is significant difference between the level of income of the students from both universities in relation to the usage of digital resources.

**HYPOTHESIS 2**

**SIGNIFICANCE OF GENDER ON USE OF DIGITAL LIBRARY**

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Degree of freedom</th>
<th>Sum of squares</th>
<th>Mean of squares</th>
<th>F – Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to gender</td>
<td>1</td>
<td>280</td>
<td>280</td>
<td>1.68</td>
</tr>
<tr>
<td>Due to universities</td>
<td>2</td>
<td>334</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>614</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
F calculated = 1.58  
F tabulated = 18.5
Since the z score for male is greater than that of female, it shows that male are more present in both universities then male participate more in the research than female. Since only one of the 2 participants is positive, then we conclude that gender is not significant to the use of digital library by the postgraduate students of both universities.

**HYPOTHESIS 3**

**SIGNIFICANCE OF PROGRAM OF STUDY USE OF DIGITAL LIBRARY (RESULT)**

<table>
<thead>
<tr>
<th>Due to variation</th>
<th>Degree of freedom</th>
<th>Sum of squares</th>
<th>Mean of squares</th>
<th>F – Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to Program</td>
<td>2</td>
<td>10656.33</td>
<td>5328.165</td>
<td>93.48</td>
</tr>
<tr>
<td>Due to Universities</td>
<td>2</td>
<td>171</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>10827.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n = 6    k = 3
Decision: If Fcal > Ftab, then reject H$_{0}$, or otherwise accept H$_{0}$.
Fcalculated = 93.48  
Ftabulated = $F_{α (n-k), (k-1)}, F_{5%, 3, 2}$ = 9.55
Since Fcal > Ftab i.e. 93.48 > 9.55, then the null hypothesis is rejected and conclude that there is significant influence of program of study on students from both universities on digital use of library.

**DISCUSSION OF FINDINGS**

This study investigates the influence of demographic factors on the use of digital libraries by postgraduate students in private universities using Babcock and Covenant university in Ogun state as a case study. Three research hypotheses were formulated. A total three hundred and fifteen questionnaires were distributed using percentage and anova respectively. Majority of the respondents are between ages of twenty-one (21) and thirty (30). This implies that the respondents are in their prime age of learning. The study reveals that the majority of the respondents population are male and most of them have income more than sixty-thousand naira(N60,000) monthly.

In the process of carrying out this study, three research hypotheses were formulated and tested. The first one was formulated and tested on if there is a significant difference or interaction between student’s level of income and usage of digital resources. It was found out that there is a significant difference between the level of income of students from both universities in relation to the use of digital resources. This finding supports the assertion of the Organization for Economic Co-operations and Developments (OECD) 2001 who asserts that education and income are positively related to higher levels of internet use. Crews and Finberg 2002 also asserts that house hold making earning higher income are more likely to have internet and access to to digital libraries more than homes that earn lower income.

The second hypotheses was formulated and tested for the significance of gender on the use of library. The result shows that there is no significant effect or influence of gender on digital library use in both universities. This finding contradicts the result of Okiki (2011) ‘Factors influencing the use of electronic library among postgraduate students found out that males enjoy browsing on the internet for enjoyment while female tend to use it only for work related purposes. Ford et al (2001) also found out that females tend to experience difficulty finding information online.

The third hypothesis tested for the significant influence program on student’s digital library use, the result shows that program of study has a significant influence. This study corroborates the finding of Islam (2009) in his study of the effect of demographic factors on e-learning in higher institutions in Malaysia, he found out that program of study and age are a major factor that influence the use of digital library by post graduate students.

**CONCLUSION AND RECOMMENDATION**

From the above findings, a number of conclusions can be drawn. It is clear that most users of digital resources are
students at their prime age. The study shows that there is a significant difference between the levels of income in relation to the degree of using digital resources especially via the internet. It also reveals that gender has no significant influence on digital resources usage meanwhile there is a significant influence of program of study on student use of digital resources.

Consequent upon the above conclusion, the following recommendations are hereby made:

1. Both young and old students should be encouraged and sensitized on the benefits available in the use of digital library and the resources it has to further encourage their use.
2. The cost and access to the use of digital resources and internet should be made affordable so that anybody can be privileged to use the internet and digital resources.
3. All students taking different programs should be educated on all the digital resources available for their programs and they should as well be orientated on how to easily access them.
4. User education should be intensified so that students can understand the importance of using the library and the digital resources available in such libraries.

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