

Impact Assessment of Information and Communication Technology on Post Graduate Students' Access to Information in Ahmadu Bello University Zaria, Nigeria.

¹Sule Hassan,

²Igunnu Abosedo Ayobola (Ph.D),

³Rukaiya. S. Ahmed,

Department of Educational Foundations and Curriculum
Ahmadu Bello University, Zaria

&

⁴Khadijat Yusuf

Department of Languages, Kaduna Polytechnic

¹ Sulehassan97@yahoo.com

08172642403

² drigunnuabosedo@gmail.com

08037206217

³ rukaiyasaad@gmail.com

⁴ Khadijatannyusuf1@gmail.com

08065924452

Abstract

*This research was on Impact Assessment of Information and Communication Technology on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria, Nigeria. To achieve the purpose of this study, two objectives were formulated in line with the research questions and hypotheses. The design used for this study was descriptive survey. The population of the study comprises 76 PG Coordinators and 37037 Post-Graduate Students. Making total of 37113. While a total of 442 respondents were used for the study sample that is, 63 PG Coordinators and 379 Post Graduate Students. The instrument used for data collection was **research made** instrument titled: "Impact Assessment of Information and Communication Technology on Post-Graduate Students Access to Information Questionnaire" (IAICTPSAIQ). The instrument was validated and used with a reliability coefficient of $r = 0.81$. Descriptive analysis was used to analyze and interpret the data collected while (t -test) was used to test the hypotheses at 0.05 alpha level of significance. It was found that, e-library and wireless services has impact on Post-Graduate Students access to information on their research study in Ahmadu Bello University, Zaria. The study concluded that e-library and wireless service have significant impact on lecturers/students and their access to information in ABU, Zaria. It recommends that, the management of the institution should recognize the impact and applicability of ICT tools to guarantee effectively administrator the learning process of the students.*

Key Words: *Impact, Assessment, Information and Communication Technology, Post Graduate Students*

Introduction

Information and Communication Technology (ICT) refers to technologies that provide access to information through communications. But primarily focuses on communication technologies. This includes the internet, wireless network, cell phones & other communications medium. In the past few decades Information and Communication Technologies have provided to society with vast array of a new communication capabilities (Okeke, 2013). People can communicate in real time with others in different countries using technologies such as instant messaging, voice over video conferencing, social networking websites like face book allow users from all over the world to remain in contact and communicate on a regular basis.

Modern Information Communication and Technologies have created a global village in which people communicate with others across the world as if they were living next door. For this reason ICT is often studied in the context of how modern communication technologies affected society (Crown, 2010). ICT is often perceived as a catalyst for change, change in teaching styles, change in learning approaches and in access to information (Watson, 2005). It refers to technologies that provide access to information through telecommunications. Use of ICT has changed our conventional ways of learning and proposes the need to rethink education in terms of a more current context (White, 2010). ICT capability is fundamental to participation and engagement in modern information society. It can be used to find, develop, analyze and present information, as well as to model situations and solve problems.

ICT enables rapid access to ideas and experiences from a wide range of people, communities and cultures, and allows pupils to collaborate and exchange information on a wide scale (Crown, 2010). Education is the first and best key area for ICT applications. ICTs can help by providing alternative possibilities for education (Casal, 2007). The purpose of ICT in education is generally to familiarize students with the use and workings of computers, and related social and ethical issues. ICT has also enabled learning through multiple intelligence as it has introduced learning through simulation games; this enables active learning through all senses (Gateway 2010). Use of different Information and Communication Technology has become inevitable for students in learning. By using modern information communication technologies, students can retrieve their required information within a short time. They can access and disseminate electronic information like e-books, e-

journals and can improve their learning by using different modern ICTs in form of wireless networks, internet, search engines, databases, websites and web 2.0 technologies. Therefore, there are adequate ICT services in both classes and offices that enhance effective teaching and learning in Ahmadu Bello University, Zaria, Kaduna State.

E-learning: Although most commonly associated with higher education and corporate training, e-learning encompasses learning at all levels, both formal and non-formal, that uses an information network—the Internet, an intranet (LAN) or extranet (WAN)—whether wholly or in part, for course delivery, interaction, evaluation and/or facilitation. Others prefer the term online learning. Web-based learning is a subset of e-learning and refers to learning using an Internet mainly using a browser (such as Chrome or Firefox or Internet Explorer). It can also be viewed as learning through the use of electronic devices. With advent of e-learning in Ahmadu Bello University, Zaria, students and lecturer with non academic staffs can communicate in real time with others in different countries using technologies such as instant messaging, voice over video conferencing, social networking websites like face book allow users from all over the world to remain in contact and communicate on a regular basis.

Wireless service: In networking terminology, wireless is the term used to describe any computer network where there is no physical wired connection between sender and receiver, but rather the network is connected by radio waves and/or microwaves to maintain communications. The word wireless in English oxford dictionary defined it as "having no wires". Wireless networking utilizes specific equipment such as NICs, APs and routers in place of wires (copper or optical fiber) for connectivity (Grown, 2010). Inadequate maintenance of some of these equipments has been a problem of wireless services in Ahmadu Bello University, Zaria.

Importance of Information and Communication Technology: Information and Communication Technologies have recently gained peoples interest in teaching and learning process in any higher institution in Nigeria. It is a significant research tools for many scholars around the globe. Their nature has highly changed the face of education over the last few decades. For most Nigerian Universities, the use of ICT in education and training has become a priority in recent years. However, very few have achieved progress. Indeed, a small percentage of schools in Nigeria achieved high levels of effective use of ICT to support and

change the teaching and learning process in many subject areas. Others are still in the early phase of Information and Communication Technologies adoption.

Many teachers use ICT to support traditional learning methods, for example, information retrieval in which students are ‘passive learners of knowledge instead of ‘active producers able to take part in the learning process. In a document entitled teaching and learning with ICT, Galea (2002) explains how ICT can promote teaching and learning. According to the author, there are two main reasons behind increasing the use of ICT in education in Africa. Firstly, ICT can change the lessons’ pace: stated that children in modern society need to develop sufficient potentials and skills that enable them to take full advantage from the new opportunities that ICT offer. Secondly, there are groundswells of interest of academic researchers in Africa on how technological tools can enhance the quality of teaching and learning in schools, and so help learners to achieve better outcomes. Furthermore, it has been proved that new technologies have lots of benefits on the students (Lawsent & Vincent, 2013).

Statement of the Problem

Access to information is a key for academic performance of post-graduate students in any institution, with advent of ICTs, student additional source for getting information along with the e-library and wireless service in Ahmadu Bello University, Zaria. This research explores the assessment of Information and Communication Technology on Post-Graduate Students’ access to information in Ahmadu Bello University, Zaria (2013-2016). Students are facing some challenges such as access problems to information in the e-library, absolute wireless line and unable to interact with international communities. Inadequate provision of all the problems mention has given rise to the allegation of falling standard of education not only in Ahmadu Bello University, Zaria, but to others higher institutions of learning in Nigeria. In the Information Communication Technological world, knowing the PG Coordinators and Postgraduate Students’ changing attitude towards ICT information on e-library and wireless services is very essential. In this context the study is needed in the present scenario.

Objectives of the study: The objectives of this study are to:

1. Examine the impact of e-library on Post-Graduate Students access to information in Ahmadu Bello University, Zaria.

2. Determine the impact of wireless services on Post-Graduate Students access to information in Ahmadu Bello University Zaria, Nigeria

Research Questions

This study therefore seeks to answer the following research questions:

1. Is there impact of e-library on Post-Graduate Students access to information in Ahmadu Bello University, Zaria?
2. Is there impact of wireless service on Post Graduate Students access to information in Ahmadu Bello University, Zaria?

Null Hypotheses

The following null hypotheses were formulated to guide the study:

- H0₁:** There is no significant difference in the opinions of respondents on the impact of e-library on Post-Graduate Students access to information in Ahmadu Bello University, Zaria.
- H0₂:** There is no significant difference in the opinions of respondents on the impact of Wireless Services on Post-Graduate Students access to information in Ahmadu Bello University Zaria, Nigeria.

Research Methodology

This study adopted survey method of descriptive research design. The study population made up of Post graduate (PG) Coordinators and Post-Graduate Students in Ahmadu Bello University, Zaria. There were 76 PG Coordinators and 37037 Post-Graduate Students in 12 Faculties that is, Administration 3813, Agriculture 1391, Arts 2259, Education 4635, Engineering 2841, Environmental Design 2134, Law 1318, Medicine 1053, Pharmaceutical Science 2964, Science 10610, Social Science 2641 and Veterinary Medicine 1378. Making the total of 37113. Simple random sampling technique was used for the purpose of the study. But to ensure adequate representation of the respondents, the cluster sampling technique was derived from the strata from which 10 faculties were used for the sample study. A purposive method was also adopted by krejcie and Morgan (1980) to determine the sample size in the case of PG Coordinators and Post-Graduate Students who pointed out that for a population of

37113 the sample size of 442 suffices, to this end total of (442) respondents were used as sample for the study; (i.e. 63 PG Coordinators and 379 Post Graduate Students). The instrument used for data collection was a research made instrument titled: “Impact Assessment of Information and Communication Technology on Post-Graduate Students Access to Information Questionnaire” (IAICTPSAIQ). The instrument was validated by my lecturers and used with a reliability coefficient of $r = 0.81$. Non parametric statistics tool was used to analyze and interpret the data collected with mean and standard deviation while (t-test) was used to test the hypotheses at 0.05 alpha level of significance.

Research Question 1: shows details on respondents’ opinions on impact of e-library on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria?

Table 1: Impact of E-Library on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria

S/N	Item statement	Respondents	Mean	SD
1	There is adequate provision of computers for students in the library in ABU, Zaria	PG Coordinators	4.20	1.549
		PG Students	4.20	1.477
2	There is adequate provision of internet facilities for students in the school	PG Coordinators	3.99	.8760
		PG Students	4.12	1.887
3	Wireless network is provided for Post-Graduate students to access information in the library	PG Coordinators	3.56	1.73
		PG Students	4.223	1.590
4	There is always power electricity in Post-Graduate E-library	PG Coordinators	4.702	1.772
		PG Students	3.67	1.83
5	There is adequate seat in Post-Graduate E-library	PG Coordinators	4.40	1.649
		PG Students	4.150	1.447
6	There is adequate provision of printers in Post-Graduate E-library	PG Coordinators	3.96	1.760
		PG Students	4.62	1.587
7	There is adequate provision of photocopy machine in Post-Graduate E- Library	PG Coordinators	4.55	1.75
		PG Students	4.553	1.59
8	Post-Graduate students has access to previous project in E-library	PG Coordinators	4.79	1.792
		PG Students	3.69	1.85
9	There are competent staffs in Post Graduate e-library	PG Coordinators	4.49	1.749
		PG Students	4.110	1.347
10	Post Graduate e-library is conducive for learning	PG Coordinators	3.96	1.760
		PG Students	4.64	1.687

Decision Mean = 3.00

Table1 reveals the opinions of the respondents on impact of e-library on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria. in item 1, the respondents

were all agreed that, there is adequate provision of computers for students in the library in ABU, Zaria, it was also agreed that there is adequate provision of internet facilities for students in the school, Wireless network is provided for Post-Graduate students to access information in the library, there is always power electricity in Post-Graduate E-library, it was also agreed by the respondents that there is adequate seat in Post-Graduate E-library, there is adequate provision of printers in Post-Graduate E-library. There are competent staffs in Post Graduate e-library. While responses of the respondents were all agreed that, Post Graduate e-library is conducive for learning in Ahmadu Bello University, Zaria. In summary it can be said that, there are still many more to do in respective of e-library centre in others department in Ahmadu Bello University, Zaria.

Research Question 2: shows details on respondents' opinions on impact of wireless service on Post-Graduate Students access information in Ahmadu Bello University Zaria, Nigeria?

Table 2: Impact of Wireless Services on Post-Graduate Students Access to Information in Ahmadu Bello University Zaria, Nigeria

S/N	Item statement	Respondents	Mean	SD
1	Due to wireless services Post-Graduate students have access to information in the hostel	PG Coordinators	4.85	1.79
		PG Students	4.758	1.89
2	Due to wireless services Post-Graduate students graduate early	PG Coordinators	3.59	1.79
		PG Students	3.59	1.88
3	Due to wireless services Post-Graduate students have access to information in the lecture hall	PG Coordinators	4.40	1.749
		PG Students	4.110	1.347
4	Due to wireless services Post-Graduate students interact with their lecturers easily	PG Coordinators	3.96	1.760
		PG Students	4.64	1.687
5	Due to wireless services lecturers have access to information in the office	PG Coordinators	4.20	1.549
		PG Students	4.20	1.477
6	Due to wireless services Post-Graduate students have access to information in the worship centre	PG Coordinators	3.99	.8760
		PG Students	4.12	1.887
7	Due to wireless services Post-Graduate students have access to information in the school cafeteria	PG Coordinators	3.56	1.73
		PG Students	4.223	1.590
8	Due to wireless services Post-Graduate students have access to information in the school clinic	PG Coordinators	4.702	1.772
		PG Students	3.67	1.83
9	Due to wireless services Post-Graduate students have access to information in the common room	PG Coordinators	4.40	1.649
		PG Students	4.150	1.447

10	Due to wireless services Post-Graduate students have access to information within the school environment	PG Coordinators	3.96	1.760
		PG Students	4.62	1.587

Decision Mean = 3.00

Table 2 reveals the opinions of the respondents on impact of Wireless Services on Post-Graduate Students access to information in Ahmadu Bello University Zaria, Nigeria. in item 1, the respondents all agreed that, due to wireless services Post-Graduate students have access to information in the hostel in ABU, Zaria, it was also agreed in item 2 that due to wireless services Post-Graduate students graduate early, Wireless network is provided for Post-Graduate students to access information in the library, it was agreed in item 3 that, due to wireless services Post-Graduate students have access to information in the lecture hall, it was also agreed by the respondents that due to wireless services lecturers have access to information in the office, due to wireless services Post-Graduate students have access to information in the worship centre. Due to wireless services Post-Graduate students have access to information in the school clinic. While responses of the respondents were all agreed that, due to wireless services Post-Graduate students have access to information within the school environment in Ahmadu Bello University, Zaria.

Hypothesis 1: There is no significant difference in the opinions of Post Graduate Coordinators and Post Graduate Students on the Impact of E-library on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria.

The test instrument administered on Post Graduate Coordinators and Post Graduate students was used to obtain data for the study while t-test was used in testing the hypothesis. The Summary of data collected and analyzed in respect to hypothesis one is presented in Table 3.

Table 3: Independent Sample t-test on the Impact of E-library on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria

Variable	N	Mean	SD	df	α	t-cal	t-crit	Sig.	Decision
PG Coordinators	63	68.680	137.361	441	0.05	-1.798	1.96	.074	Retained
PG Students	379	135.529	17076.062						

Table 3 revealed the mean of 68.680 and standard deviation of 137.361 for PG Coordinators while PG Students have the mean of 135.529 with standard deviation of 17076.062. The t-cal is -1.798 is less than t-crit 1.96, while the p-value is .074 ($P > 0.005$). Therefore, the null-hypothesis was retained because there was no significant difference in the opinions of PG Coordinators and PG Students on the Impact of e-library on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria.

Hypotheses 2: There is no significant difference in the opinions of respondents of Wireless Services on Post-Graduate Students Access to Information in Ahmadu Bello University Zaria, Nigeria. The test instrument administered on Post Graduate Coordinators and Post Graduate students was used to obtain data for the study while t-test was used in testing the hypothesis. The Summary of data collected and analyzed in respect to hypothesis two is presented in Table 4

Table 4: Independent Sample t-test on the Impact of Wireless Services on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria

Variable	N	Mean	SD	Df	α	t-cal	t-crit	Sig.	Decision
PG Coordinators	63	16.561	33.122	441	0.05	-1.517	1.08	.024	Retained
PG Students	379	127.076	16011.638						

Table 4 revealed the mean of 68.680 and standard deviation of 137.361 for PG Coordinators while PG Students have the mean of 135.529 with standard deviation of

17076.062. The t-cal is -1.517 is less than t-crit 1.08, while the p-value is .024 ($P > 0.005$). Therefore, the null-hypothesis was retained because there was no significant difference in the opinions of PG Coordinators and PG Students on the Impact of wireless service on Post-Graduate Students Access to Information in Ahmadu Bello University, Zaria.

Summary of Major Findings

The following are the major findings of the study:

1. The study shows that, e-library has impact on Post-Graduate Students access to information on their research study in Ahmadu Bello University, Zaria.
2. The study reveals that, Wireless Services has impact on Post-Graduate Students access to information in Ahmadu Bello University Zaria, Nigeria.

Discussions of the findings

The findings of this study showed no significant difference in the opinions of the respondents. It was found that, there is adequate provision of computers for students in the library in ABU, Zaria, there is also adequate provision of internet facilities for students in the school, Wireless network is provided for Post-Graduate students to access information in the library, there is always power electricity in Post-Graduate E-library, it was also agreed by the respondents that there is adequate seat in Post-Graduate E-library, there is adequate provision of printers in Post-Graduate e-library. This is line with Lawwanson and Gede (2011) opined that e-library is utmost importance that will enable students have access to information concerning their research studies properly. Therefore, these e-libraries must not only be provided, they must also be equipped and maintained. The opinions of the respondents on impact of Wireless Services on Post-Graduate Students access to information in Ahmadu Bello University Zaria, Nigeria. The respondents were all agreed that, due to wireless services Post-Graduate students have access to information in the hostel in ABU, Zaria, it was also found that due to wireless services Post-Graduate students graduate early, Wireless network is provided for Post-Graduate students to access information in the library. Bukar, (2013) opined that availability of wireless service guaranteed students in tertiary institution to enhance effective research and learning. Due to wireless services Post-Graduate students have access to information in the lecture hall, it was also agreed by the respondents that due to wireless services lecturers have access to information in the office, due to wireless services

Post-Graduate students have access to information in the school clinic in Ahmadu Bello University Zaria, Nigeria.

Conclusion

From the findings it will be concluded that, e-library has significant impact in the lecturers/students on their access to information in Ahmadu Bello University, Zaria, Nigeria.

Wireless service has significant impact in the lecturers/students on their access to information in Ahmadu Bello University, Zaria, Nigeria.

Recommendations

Sequel to the revelations and implications of this discourse, the following recommendations become imperative:

1. E-library facilities need to be upgraded and equipped to meet up with modern demand of ICT research in Ahmadu Bello University, Zaria, Nigeria.
2. It was also recommends that, the management of the institutions should recognize the impact and applicability of ICT tools to guarantee effectively administrator the learning process of the students.
3. There are many critical issues surrounding e-learning in tertiary education that need to be addressed in order to fulfill e-learning objectives. These include: widening access to educational opportunities; enhancing the quality of learning; and reducing the cost of tertiary education.
4. As this article has shown, e-learning and wireless services has grown at a rapid pace and has enhanced the overall learning and teaching experience in developed countries with less use demonstrated in developing countries, like Nigeria, due to high cost of power generation and access to ICT facilities.
5. Availability of quality education at their door steps should result in increased opportunities to learning which should translate to increased earning power.

References

- Bukar, I. P. (2010). Access and use of Information and Communications Technology (ICT) for Administrative purposes by principals of Government Secondary Schools in Nigeria. *The researcher* 2 (1): 43:50
- Casal, T. O. (2007). Impact of Information and Communications Technology (ICT) on the effective management of universities in south-west Nigeria <http://www.scihub.org/AJSMS>. On 23 March 2016

- Galea, E.I (2002). Higher Education and National Security. Forum for the future of higher education, Cambridge, mass. <http://www.mongabay.com/reference/new-profiles/344.html>. on 12 April, 2016
- Gateway, D.S. (2010). Teacher Preparation for National Educational Reforms: A Keynote address. *Bichi Journal of Education*, PP. 22 (5), 221-226.
- Grown, E.T. (2010). Impact of Information and Communication Technology (ICT) on Teacher Education in Ikere, *Journal of Education*, Ikere-Ekiti, vol. 5, pp. 169-175.
- Lawsent, I., & Vincent, I. (2013). Impact of e-Learning on Tertiary Education (on line) Accessed 18 June, 2008 at <http://www.info.gov.za/speeches/index.html>.
- Krejcie, R.W.N. & Morgan, B. Darvic W (1980). "Determine Sample size for Research activities" Educational and Technical Measurement.
- Lawwanson, C. & Gede, O. (2011). Availability and Utilization of Audio-visual Materials for the Teaching of English Language in some Nursery/Primary Schools in Ibadan," *Journal of Educational Studies* 1(1), 122-127.