Challenges and Prospects of ICT Facilities in Improving Access to the Open Distance Learning Programme of African Universities: Research Evidence From Nigeria

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Information and Communication Technology (ICT) has been playing a vital role in the Open and Distance Learning (ODL) programmes of universities in both developed and developing countries. This is evidence in the access opportunity the learning mode has been able to provide to millions of people all over the world. Thus, its operation has enhanced the provision of educational services on a large scale to a greater portion of potential learners who for obvious reasons are unable to attend the traditional face-to-face residential schooling system. ICT uses various tools and technologies to meet the needs of learners at any point in time. However, despite the potential prospects and benefits associated with the use of these ICT facilities in the ODL programme, several challenges still limit the full realisation of the expected benefits of ICT usage in the ODL programmes of most universities in Africa. The study investigated a total of 500 students who were purposively sampled from year-three to year-five across the three university centres which operates the ODL programme in Southwest Nigeria, namely, universities of Ibadan, Ife, and Lagos, out of which 483 distributed questionnaire instruments were retuned. The collected data were analyzed with descriptive statistics of percentages, mean, and standard deviation. The results show the most serious challenges facing access to ODL programme as: unstable and epileptic power supply (28.57%), high cost of purchase of ICT facilities (24.4%), poor Internet connectivity (21.95%), and poor mobile phone network signal (23.4%). Moreover, the analyzed data on the benefit derived from the use of ICT revealed a mean of 2.71. This implies that the respondents agreed that they derived benefits from the use of ICT facilities.

Keywords: Internet network, mobile phones, university demand, university access

Introduction

Nigeria is a very large country. Geographically, the country covers a land area of 923,768 square kilometres (second only to Tanzania), with an extremely huge population. The country is one of the largest and most populous in Africa and about eighth in the world (Isuku, 2013). The population of the country, according to the 2006 census, figures stood at 140,431,790. With an estimated average growth rate of 2.8%, the country population was estimated to reach 168 million in 2010 (National Bureau of Statistics [NBS], 2010). Current statistics puts the country' population at 186 million (NBS, 2016). Although some not very recent macro-economic data show that the country has been enjoying a progressive growth over the past few years, the high population growth puts the country under the pressure of how to meet the increasing demand for

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social-economics needs of the citizens. The prominent among these needs include the provision of educational opportunity to the increasing number of people who demand for university education.

Challenges of Access to University Education in Nigeria

As Sub-Saharan Africa makes the demographic transition needed to participate in the knowledge-based world economy, some of its greatest challenges include improving and expanding educational opportunity to its fast growing population. For instance, in recent years, Nigeria has been facing the challenge of providing university education access to its growing population. This is evident in the number of candidates seeking for university places every year in the country. The visible inability of governments to accommodate the rising demand necessitated the establishment of additional universities in the past few years. Despite this expansion, not all willing individuals are able to access the conventional full-time university system. The challenge of meeting the rising demand for university education in the country is shown in Table 1.

Table 1

University Education Demand and Supply Gap in Nigeria (2000-2014)

Years	Enrolment demand	Available space supplied	Admitted (%)
2000/2001	550,399	45,766	11.0
2001/2002	772,389	90,769	11.8
2002/2003	994,380	51,847	5.2
2003/2004	1,046,950	105,157	10.0
2004/2005	844,965	122,492	14.5
2005/2006	916,371	75,894	8.5
2006/2007	804,444	123,626	15.4
2007/2008	828,036	116,817	14.1
2008/2009	1,054,060	200,000	18.9
2009/2010	1,184381	148,000	12.5
2010/2011	1,375,652	360,000	26.2
2011/2012	1,493,604	400,000	26.8
2012/2013	1,503,889	500,000	33.3
2013/2014	1,670,833	520,000	31.1

Source: Isuku and Emunemu (2012); http://wenr_wes.org/2013/67/an overview-of-education_in_nigeria.

From the available data in Table 1, it is clear that there is a serious problem of access to university education in the country. For instance, only 5.2% of the applicants who sought for the full-time university admission were admitted in the 2002/2003 academic year. The highest admission level of candidates was in 2012/2013 session where 33.3% of the over 1.6 million applicants were able to gain admission to the conventional face-to-face university system in the country. The nominal increase in percentage was a direct response to the increased number of universities in the country at the period which includes the growth in private universities.

The universalisation of education and its worldwide recognition as a continuous or lifelong learning, coupled with the concern about educational access and equity (Komba, 2009; Sangai, 2004), as well as the rising demand for university education in the country, necessitate the use of alternative mode of providing access through various educational service delivery approach to enable all citizens to benefit from public education. Moreover, expansion and diversification in higher education, driven by the demand for an upwardly

mobile population and the need for a globalised economy, are important factors underlying the rising demand for university education in Nigeria (Okebukola, 2006, as cited in Moti, 2010). However, meeting this increasing demand for access necessitates the need for alternative means of achieving the goal of providing the needed access to all eligible individual who are willing to have university education. Although, distance learning at the higher education level in Africa has a long history in South Africa dated back to 1873 at the University of the Cape of Good Hope (now UNISA) (Murphy, Anzalone, Bosch, & Moulton, 2002). However, Nigeria history of Open and Distance Learning (ODL) first began in 1983 with the launching of the National Open University of Nigeria (NOUN) in Lagos, but was suspended by the then military government in 1985. The programme became functional in 2001 at the advent of democratic rule in the country (Jimoh, 2013).

Literature Review

Information and Communication Technology (ICT) has become one of the most important platforms for achieving improved access to education and educational service delivery in most of education system. In recent years, many African countries have recognised the importance of ICT in education and hence have remained an issue of concern in the education system. According to Murphy et al. (2002), Africa's success in today's information-based world economy will require an accelerated demographic transition to a flexible, educated, and healthy workforce. Perhaps, this must have been the driving force why most African countries have embarked on an accelerated effort at increasing the number of higher educational institutions in their respective countries. R. Wells and S. Wells (2007, as cited in Lagmia, 2005) confirmed that "nowhere is this digital divide more apparent or more discussed than Sub-Saharan Africa". Thus, policy makers in Africa and elsewhere have put forth technical, technical competences, information literacy, etc. as possible solution to many of the problems confronting the educational system. Indeed it is argued that ICT solution could help to solve many of the challenges facing the education system. Some of these problems include those of access, quality, and management among other numerous challenges. As a response to the growing need to improve access to higher education and human capital development, universities in Africa and around the world have been providing access to higher education through the ODL mode with ICT as the means of service delivery.

ODL requires ICT infrastructure to effectively provide the needed learning opportunity to students who are not in the conventional schooling system in their various institutions. Since there is restricted opportunity to all eligible and prospecting students to attend the conventional face-to-face system (Isuku, 2007; Isuku & Emunemu, 2012), the ODL support system is developed and implemented by using ICT facilities to provide learning and knowledge sharing as done in the conventional system of schooling. Through this mode, many people are able to make full use of ICT facilities by the application of a wide range of media source, such as print, audio-visual, CD-ROM, computers, and the Internet (Komba, 2009). Jamtsho and Bullen (2007, as cited in Skagen et al., 2006) resonate that in today's information driven society, it has become very important to empower students to be self-directed knowledge on the information super highway.

However, in Nigeria, the problem of access to, availability of, and knowledge in the use of these ICT facilities, seems to constitute serious challenges to the goal of achieving increased university education access for greater number of the population. For instance, Internet services and other basic facilities, such as printing machines, fax, telephones, and other ICT driven material, are hardly sufficient where they are available for effective teaching and learning. Most students do not even have access to personal computers that should help to provide asynchronous modes of communication which would benefit students most probably due to the high

poverty level in the country. Although these problems are nevertheless not peculiar to Nigeria and other developing countries (Gyatsho, Daker, Galey, & Jamtsho, 2005), the limited level of availability of these ICT teaching and learning support facilities constitute one of the most serious challenges in the ODL in the country. It is probable that the mirage of ICT challenges confronting the ODL mode in the country may have resulted in the comparatively low access to ODL programme of university education in Nigeria. Table 2 shows the ODL programme access status in comparison with other countries.

Table 2

Access to University Education via the ODL Programmes in Some Selected Countries

S/N	Institution	Country	Year founded	Ownership type	Enrolment
1	Alama Iqbal Open University	Pakistan	1974	Public	1.8 m
2	Indiria Ghandi National Open University	India	1985	Public	1.4 m
3	Anadolu University	Turkey	1982	Public	884,081
4	University of South Africa	Pretoria South Africa	1873	Public	250,000
5	University of Wisconsin	USA	1848	Public	162,933
6	University of London	UK	1836	Public	159,000
7	University of Cairo	Egypt	1933	Public	155,000
8	*National Open University of Nigeria (NOUN)	Nigeria	2001	Public	60,000*

Notes. Excerpts from Adekanbi (2008, pp. 31-34), Wikipedia (2007), and Jimoh (2013). * This figure was based on 2002 available data.

The very high demand for university education in the country and in most developing countries is a major justification for increasing access to university education through the ODL system. Although there are different arguments about the level of growth of ICT and educational progress in Nigeria, the need to improve on the current situation cannot be over emphasized. This is because of the many observed challenges that have the capacity to restrict the future development of ODL education system in the country. According to Anene, Imam, and Oduma (2014), many problems confront ICT and educational development in Nigeria, some of which include: poor technical infrastructure, financial restrictions, lack of computer literacy, problem of Internet connectivity, energy related problem, and limited expertise among other numerous challenges. As equally put forward by Olutola and Olatoye (2015), the increasing challenges of ICT to university education in Nigeria are numerous. These challenges affect both students and academic facilitators. Many students for instance do not have adequate knowledge of the use of computer as many of them could hardly afford it. Inadequate electricity supply has equally hinder easy access to these ICT facilities. In many instances, the dearth of electricity supply to power these ICT-driven facilities has contributed to restricted opportunity to the open distance education. In the same vein, most academic instructors lack the technical-know how to facilitate these modern ICT facilities for teaching and learning. This assertion corroborates with that of Jimoh (2013) who resonates that instructional delivery in ODL programme was greatly affected by some facilitators' lack of knowledge and skill in designing and delivery courses in electronic format which Jimoh (2013) attributed to the non-ICT compliant status of most facilitators. Moreover, there is the problem of poor funding of education, the resultant effect being the lack of or insufficient provision of the needed ODL facilities to support the delivery of knowledge to the recipients. Most people in the country are living below the poverty line. Many of the students and prospecting ODL students in the country can hardly afford laptop (inter-alia) and other learning facilitating devices that

would enhance learning through the ODL platform. For instance, less than 1% of Sub-Saharan Africa owns a computer (Chinn & Fairlie, 2004, as cited in R. Wells & S. Wells, 2007). This development imposes serious challenge to the goal of achieving the envisaged level of educational advancement in the country in particular and the region in general.

Nevertheless, despite the various challenges facing the Nigeria ODL programme, the country's drive towards increased access to university education is enhanced through the ODL programme. Access to Internet service in the country increased as a percentage of the population to about 37% in 2014, with the total number of Internet users in the country reaching 67,101,452, thereby, becoming the 8th leading country in the world with the highest Internet penetration. Thus, there is a greater opportunity for students and facilitators to acquire the requisite university skill via this expanded medium in the country, and hence, increase access to university education. Additionally, some of the benefits of ODL programme include improvement in the technical-how of students and facilitators. As a result of constant interactions with ICT facilities, recipients of ODL programme are more likely to become more knowledgeable and skilful in the use of ICT tools which in today's world forms the driving force of economic and technological progress. The use of ICT facilities enhances access to a wider range of opportunity to learners and facilitators by improving their social and horizon. This medium of learning provides cheaper and more flexible means of accessing university education for the recipients as they could combine their secular work or business while still attending school. This is one of the very important advantages of the ODL programme. Moreover, this mode of education creates opportunity for the working student to progress economically and socially in their chosen career. The ODL programme helps to add and increase the stock of human resource that is needed to increase the productive capacity of the country and hence increase the Gross Domestic Product of the country.

Methodology

This study examined the challenges and benefits of the use of ICT in the ODL programmes in accessing university education in Africa, with Nigeria as the case study. The focus was based on the seeming challenges faced by students and the likely benefits that are derivable from accessing utilisation of the various ICT facilities in the delivery of educational service to the growing number of individual seeking access to university education in the country yearly. A total of 500 students were purposively sampled from year-three to year-five across the three university centres which operates the ODL programme in Southwest Nigeria, namely, universities of Ibadan, Ife, and Lagos centres, out of which 483 distributed questionnaire instruments were retuned. The collected data were analysed with descriptive statistics of percentages, mean, and standard deviation.

Results

Challenges experienced by ODL students in accessing and utilizing ICT facilities in sampled universities in Southwest Nigeria?

Research Question (RQ) 2: What are the perceived benefits derivable from ICT utilization among distance learners in the sampled universities in Southwest Nigeria?

The responses from minimum (1) to maximum (4) were 1 = "Strongly disagree", 2 = "Disagree", 3 = "Agree", and 4 = "Strongly agree". The analysed data showed an average mean of 2.71 (approximately 3) which indicates that the respondents derived sufficient benefits from the use of ICT facilities in the sampled

universities. The use of ICT provides easy access to relevant course materials for academic work, research, and other aspects (*mean* = 2.83); facilitates easy registration of my courses (*mean* = 2.82); saves time as they do not have to travel from one place to another for information (*mean* = 2.81) (see Tables 3 & 4).

Table 3

Extent of Challenges Experienced by ODL Students

Challenges	System missing	% of total	Mild	% of total	Serious	% of total	Very serious	% of total	Total	Remarks
High cost of purchase of ICT facility	219	45.34	36	7.453	118	24.4	110	22.77	483	
High cost of Internet service	232	48.03	46	9.524	100	20.7	105	21.74	483	
Access to computers with Internet facilities	249	51.55	53	10.97	89	18.4	92	19.05	483	
High cost of maintenance	268	55.49	47	9.731	80	16.6	88	18.22	483	
Inadequate skill in the use of ICT facilities	271	56.11	60	12.42	84	17.4	68	14.08	483	
Poor Internet connectivity	235	48.65	65	13.46	77	15.9	106	21.95	483	
Poor mobile phone network signal	221	45.76	63	13.04	86	17.8	113	23.40	483	
Unstable and epileptic power supply	204	42.24	43	8.903	98	20.3	138	28.57	483	
Lack of technical support for ICT facilities	233	48.24	51	10.56	105	21.7	94	19.46	483	
Inferior or low quality ICT facilities	271	56.11	41	8.489	87	18.0	84	17.39	483	
Frequent loss or theft of ICT items	289	59.83	46	9.524	62	12.8	86	17.81	483	
Other, please specify	357	73.91	25	5.176	22	4.55	79	16.36	483	

Table 4

Benefits of Utilizing ICT Facilities in Distance Learning Programme

Descriptive statistics

Benefits	N	Minimum	Maximum	Mean	Std. deviation
Provide access to results in time	483	1	4	2.69	1.540
Aid answering and submission of exam questions with ease	483	1	4	2.69	1.451
Facilitate easy interaction with my colleagues	483	1	4	2.63	1.427
Facilitate my interaction with course tutors/facilitators	483	1	4	2.59	1.425
Provide easy access to relevant course materials for academic work, research, and other aspects	483	1	4	2.83	1.419
Improve my knowledge and skill on ICT	483	1	4	2.79	1.448
Facilitate easy registration of my courses	483	1	4	2.82	1.486
Save time as I do not have to travel from one place to another for information	483	1	4	2.81	1.474
Cost effective as I do not have to spend on transportation	483	1	4	2.65	1.465
Widen my horizon (broad knowledge of subject matter)	483	1	4	2.60	1.527
Valid N (list wise)	483			2.71	1.470

Discussion

This study investigated the challenges and prospects of ICT facilities in the improvement of access to the ODL programme in African universities with Nigeria as the case study. ODL programme is now being used as an important platform for improving access to university education worldwide. In an effort to ensure effective and successful delivery of educational service to the increasing number of clients who seek university education, ICT tools have been seen as the most potent means of reaching the numerous beneficiaries of this mode of education. However, despite the expected benefits in the use of ICT as a means of providing university education through the ODL programme, its growth in most developing countries like Nigeria seems to be faced with certain challenges that could limit these benefits associated with it.

The results of the study showed that students encounter various challenges in the course of accessing and utilising ICT facilities in the ODL programme in the sampled universities. Responses as indicated in the findings showed that there was a serious challenge in accessing most of the facilities for the programme. About 22% of the students remarked that there was lack of technical support which could enable them to improve their ICT skills, while 24% emphasised high cost of purchase as a major challenge faced by the students in accessing and utilising ICT facilities in the ODL programme. This is however understandable, as most of these students actually struggle to pay their school fees in view of the generic poverty level in the country. In most cases, some of these students engage in menial jobs, while most of them are underemployed. Most of the students make frantic efforts to acquire university degree, because the certificate is believed to be a means of getting out of the poverty circle particularly among developing countries.

The challenges that ODL students regarded as serious in the access and utilization of ICT facilities include lack of technical support for ICT facilities (21.7%) and high cost of purchase of ICT facility (24.4%). Furthermore, high cost of Internet services (21.74%), poor Internet connectivity (21.95%), poor mobile phone network signal (23.4%), and unstable and epileptic power supply (28.57%) were regarded as very serious challenges in their access and utilization of ICT facilities. These challenges are capable of imposing serious restrictions to educational access attainment in the country and could also widen the already existing gap between the educationally advanced countries and the less developed ones. In most of these developing countries, such as Nigeria, the problems of inadequacy and sometimes none availability of the facilities is a cause to worry about if the country is to compete with other countries in the contemporary knowledge driven global world.

Conclusion

The acquisition of university education in today's knowledge-driven global society provides one of the strongest means by which countries could achieve an increased social and economic wellbeing for its citizens. The development of a country's human capital base through increased access to university education creates the necessary condition for her to overcome its numerous problems (Isuku & Emunemu, 2012). Thus, increasing access to university education through the ODL programme in Nigeria and other African countries is important if the goal of achieving educational progress is to be attained.

ICT has been making enormous contribution to the global society in many ways. Most of these contributions are heavily evident in the education sector particularly at the university level and other levels of higher education. For instance, through ICT, many people now have access to university education, while at the same time, engaged in their secular jobs through the ODL mode. Thus, the much desired access to university

education by the teeming prospecting students could now be made possible through the use of ICT facilities.

However, despite the immense benefits derived from the use of these ICT facilities, the challenges facing students in the ODL programme as shown in the result of this study can overwhelm the benefits if appropriate policies are not formulated. This will be necessary to improve the availability of these ICT facilities in the ODL programme of universities and consequently improve access to the ever increasing demand for university education in the country. Inadequacy of ICT infrastructure, for both students and teachers in the ODL programme can hamper the realisation of the desired long-term growth in access to university education in the country. There is the need therefore for governments and non-governmental organisations as well as the private sectors to invest in ICT infrastructure in universities in other to bridge the gap in access through the ODL mode. By this way, the country can raise its stock of human capital and compete in the knowledge-driven global world.

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