

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) A CONTRIBUTOR TO DEVELOPMENT AND ACCESS TO EDUCATION

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Abstract: Education is a means of poverty eradication, skill acquisition and nation development at large, as such it is a necessity for nation's growth and peace sustainability. This paper explores contribution of Information and Communication Technology (ICT) to access education in Nigeria. Admission to Nigerian higher Institutions is a big challenge due to applicants ratio compared to the available resources that resulted in high volume of idleness or admission denial among the youths in Nigeria. Data was collected for the year 2012/13, 2013/14 and 2016/17 Nigerian Unified Tertiary Matriculation Examination (UTME) candidates' performance and admitted undergraduate students registered for the year 2012/13, 2013/14 and 2016/17 academic session at National Open University of Nigeria (NOUN), analyzed graph was plotted. It shows that in 2012/13, 2013/14 and 2016/17 academic session, each of the Nigerian Universities admitted minimum of 8197, 3375 and 2841 amounting to 6%, 3% and 2% respectively, of UTME candidates for the year, while NOUN admitted 64414, 89611 and 35054 number of Students amounting to 4.5%, 9% and 2.5% respectively. These indicate significant effect of NOUN, an Information Technology (IT) based Institution in allowing student to have access to education, thereby contributing to national economic growth and development.

Keywords: Candidate, Open and Distance Learning (ODL), University, Nigerian Unified Tertiary Matriculation Examination (UTME), Admission and National Open University of Nigeria (NOUN)

Introduction

Education is a general acceptable word, originated from the Latin word "Educatum", meaning "to lead out" or "to bring ideas out of the mind". However, education is a process or an activity, which leads ideas or emotions out of the mind. It is a process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to another. Education gives to the young, the necessary things needed, in order to developed into members of society. Moreover, education is a means of poverty eradication, skill acquisition and nation development at large. Education is therefore, a necessity for nation's growth and peace sustainability. ICT stands for "Information and Communication Technologies." It referred to as technologies that provide access to information through telecommunications. ICT is a force that had changed ways of live. It is similar to Information Technology (IT), but focuses primarily on communication technologies, ICT is the infrastructure and components that facilitate modern computing. This includes the Internet, wireless networks, cell phones, computers, broadcasting technologies (radio and television) and other communication media. Information and Communication Technologies consist of the

hardware (Internet, wireless networks, cell phones, computers, broadcasting technologies), software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services (Sukanta, 2012). Education is the key element in the process of change, growth and development of knowledge-based economies and nation growth. Despite this, there are high number of populace that did not attend higher institution, for higher qualifications in Nigeria, as a result of high rate of unsatisfied demand for university education in Nigeria (Olatumile, 2013). Percentage range of 5.2% and 15.3% of the total number of candidates seeking admission into Nigerian Universities finally get admitted, meaning that a range of 84.7% and 94.8% of candidates seeking admissions into Nigerian universities never get admitted each year into Nigerian universities (Okeke, 2009 cited in Olatumile, 2013). Nevertheless, transformation in society to attain the needed growth and development that can only be achieve through education, require a new approach that bring about the application of ICT in Education. In recent years, there had been a groundswell of interest, in how computers and the Internet can best be harnessed to improve the

efficiency and effectiveness of education, at all levels both formal and non-formal settings. However, this paper aim at examine the contribution of Information and Communication Technology (ICT) to educational access in Nigeria and national development as an alternation means to acquire sound and quality Education in Nigeria.

ICT provides opportunities to access an abundance of information, teachers and student can interact online, 24 hours a week (Sirje & Silvi, 2004). It expand access to education, and learning can occur anytime, anywhere and course materials can likewise be source for online at any point in time. Based on ICT, learning and teaching no longer depend exclusively on printed materials. Multiple resources are abundant on the Internet for both teachers and students (Jo, 2013). ICTs is referring to technologies that are used for collecting, storing, editing, producing, processing, classifying, managing, creating, and distributing (communicating) information in various forms (Meenakshi, 2013). Initially, computers were used to teach computer programming, but the development of the microprocessor in the early 1970s, saw the need for introduction of affordable

microcomputers into schools at a rapid rate. Computers and applications of technology became more pervasive in society, which led to a concern about the need for computing skills in everyday life. ICT revolution and use of internet had brought about changes across the physical and operational changes across the setup generally. According to UNESCO (2011) in Ashish, Jane, Sergio, Douglas, Kate and Atul (n.d) ICT “can contribute to achieving universal education worldwide, through the delivery of education and training of teachers, improved professional skills, better conditions for lifelong learning, and the potential to reach people that are outside the formal education process.” education has a role to play in preparing individuals to form a useful part of society. It is a source of society development that brings about reduction in unemployment, inequality and poverty for a given nation, through which ICT plays an ever important role in achieving broad socio-economic goals in education, that has vital role in building the society.

Education determines standard of society. Quality education helps to empower the nation in all aspects by providing new thoughts and ways of implementing various technologies which provides quality

education as the basic needs of society. Technology is the most effective way to increase the student's knowledge (Swati, 2010). Despite the important contribution of education to national development and peace sustainability, it was reported that out of the huge number of candidates applying for admission every year in Nigeria, only about 5.2% to 15.3% get admitted every year. Meaning that, about 84.7% to 94.8% of the total numbers of candidates seeking admissions yearly never get admitted into Nigerian tertiary institutions (Aluede, Idogho and Imonikhe, 2012). This could be as a result of available institution's carrying capacity, infrastructural/facilities challenges, inadequate public financing, economic constraints, labour market failure, low absorption capacity of the economy, curriculum challenges, curriculum delivery, corruption and so on. According to Okebukola (2008) in Aluede, Idogho and Imonikhe (2012), enrolment rates are the measures of educational access. Education is imparting and acquiring of knowledge through teaching and learning, especially at schools or similar institutions. Peace is the absence of organized collective violence between major human groups, particularly nations, classes, racial and ethnic groups. Access to education is the ability to have

opportunity to pursue a career in institution of learning. Education brings about development and this leads to peace, and its sustainability. Development promotes peace which is a result of education, increased access to education will lead to national economic growth and peace sustainability. Education is a powerful instrument of social, political, and economic progress, without which neither an individual nor a society can attain professional growth (Yusuf, Afolabi, and Loto, 2013).

Open and Distance Learning (ODL) based Institution in Nigeria (National Open University of Nigeria (NOUN)) has contributed to national development, peace and its sustainability by increasing access to tertiary education in Nigeria. According to Boutros Ghali in ThisDay (11 September, 2014), there is no peace without development and there is no development without peace. It is unlikely that peace can be maintained in a long term without sustainable development. Similarly, it is unlikely that sustainable development can take place in a climate dominated by war, crises and the preparations for war. Nevertheless, education, development and peace works *pari passé*. Nigeria has taken giant steps to introduce Information and

Communication Technology (ICT), to her educational programmes and this has contributed greatly to Nigeria's educational system as a learner support for Open and Distance pedagogy of learning for societal development, sustainability of peace and skill acquisition. According to Aluede, Idogho and Imonikhe (2012), education has been described as an important tool in any human society, which makes man to develop faster than other creatures. Education is the bedrock of all human sectors: political, medical, agricultural, security, and so on. This makes the general saying true that: "no Nation can rise above the quality of education her citizens receive". Cheryl and Eve (2009) stated that ICT provide a range of opportunities to share educational materials and processes, and thus brought about technological pedagogy of learning in Nigeria (NOUN). According to Gabriel (n.d.) National policy on education in 1981 described education as the most important instrument of change in our society, it further stated that "Any fundamental change in the intellectual and social outlook of any society has to be preceded by an educational revolution".

Implementation of ICT policy started in April 2001 after its approval by Federal

Executive Council and establishing the National Information Technology Development Agency. Distance education is the most renowned descriptor used when referencing distance learning. It often describes the effort of providing access to learning for those who are geographically distanced (Joi, Camille and Krista, 2011). Hedge and Hayward (2004) defined Open and Distance Learning (ODL) as an innovative approach for delivering electronically mediated, well-designed, learner-centered and interactive learning environments to anyone, anyplace, anytime by utilizing the internet and digital technologies in conjunction with instructional design and principles. Centre for Distance Learning and Continuing Education (CDLCE) University of Abuja, was established to provide opportunity for university education, to a wide spectrum of working and business people within and outside the University's immediate environment (University of Abuja, 2008). According to Phipps and Merisotis (1999), the design of different types of learning environments can depend on the learning objective, target audience, access (physical, virtual and or both) and type of content. It is important to know how the learning environment is used, and the influence of the

tools and techniques that distinguish the differences in learning outcomes as the technology evolves (Joi et al., 2011). The current examples of a dedicated distance education institution in Nigeria are the National Teachers' Institute (NTI). The NTI falls outside of the university system. Another example is the establishment of National Open University of Nigeria which is a key component of a renowned commitment by government to develop distance education programmes at the tertiary level of education (World Bank, 2001) in Nigeria. They are able to achieve and discharge their duties with the help of ICT as the basis for Nigeria educational development. The introduction of ICT to Nigeria's educational system brings about the following dynamic changes and development to the Nigerian educational system and Nigerian society as a whole.

Materials and Methods

Data was collected on the 2012/13, 2013/14 and 2016/17 Nigerian Unified Tertiary Matriculation Examination (UTME) performance (Vanguard Nigerian, 2012 and 2014, Nigerian Students, 2017 and Nigerian Bulletin 2014). And list of admitted undergraduate students registered for 2012/13, 2013/14 and 2016/17 academic

session at (NOUN DMIS Abuja, 2017). Graph was plotted on these three academic sessions based on the total number of candidates who participated in the UTME, the total number of candidates who Scored 170 and above, and then equally distributed across the 128 Nigerian Universities and total number of students admitted and registered at NOUN.

Statistical analysis

The graph of the collected 2012/13, 2013/14 and 2016/17 UTME results data was plotted against 2012/13, 2013/14 and 2016/17 registered NOUN students and analysed. Percentages of the collected data was calculate on registered candidates for the UTME, number pass who scored 170 points and above, and the entire registered NOUN students for the examined academic seasons, properly analysed and used to present the result of the experiment.

Result

Table1 shows the Statistical distribution of Nigeria's 2012/13, 2013/14 and 2016/17 UTME results, where the total number of students who scored 170 and above is 1049218, 431923 and 1049218 out of 1417975,1029900 and 1412814 that have respectively sat for the examination in the

2012/13, 2013/14 and 2016/17 academic seasons. That is the total number of students that were admitted by all (128) Nigerian universities was 1049218 in 2012/13, 431923 in 2013/14 and 1049218 in 2016/17 academic seasons meaning that the remaining 368757, 597977 and 363596 were not admitted in the respective academic seasons. This information was then compared against **Table 2** that shows the

Table 1: This is the statistical distribution of Nigeria Unified Tertiary Matriculation Examination (UTME) result released, that

number of undergraduate students admitted and registered into various Faculties of National Open University of Nigeria (NOUN) for 2012/13, 2013/14 and 2016/17 academic sessions. These two tables (Tables 1 and 2) were compared in order to figure out the significant level of NOUN's contribution to the nation's annual tertiary institution admission.

show the various groups of candidate performance across the examined academic seasons.

Table 1: 2012/13, 2013/14 and 2016/17 UTME Result

Categories of candidates	2012/13 Academic Session	2013/14 Academic Session	2016/17 Academic Session
250 and above scores	73,147	47	73,147
Between 200 and 249 scores	601,151	109,797	601,151
Between 170 and 199 scores	374,920	322,079	374,920
Below 170 scores		522,004	336,330
Invalid scores	5,161	36,164	
Withheld scores	27,266	2,494	27,266
Absent		37,315	
Total candidates scores 170 and Above	1,049,218	431,923	1,049,218
Total Failed	368,757	597,977	363,596
Total candidates	1,417,975	1,029,900	1,412,814

Candidates who scored 170 and above

Source: Vanguard Nigerian 2012 and 2014, Nigerian Students, 2017 and Nigerian Bulletin, 2014

Table 2: contained the total number of undergraduate students registered at National Open University of Nigeria, across

the various Faculties of the Institution, for the examined academic sessions.

Table 2: 2012/13, 2013/14 and 2016/17 Registered Students at NOUN

S/n	Faculties	Number of Students Registered		
		2012/13 Academic Session	2013/14 Academic Session	2016/17 Academic Session
1	Faculty of Agricultural Science	726	1,043	154
2	Faculty of Arts	1,168	1,543	650
3	Faculty of Education	4,455	6,191	2,693
4	Faculty of Health Science	1,398	1,525	4,720
5	Faculty of Law	5,332	5,575	6
6	Faculty of Management	20,200	25,612	8,950
7	Faculty of Sciences	14,528	20,571	7,255
8	Faculty of Social Science	16,607	27,551	10,626
	Total	64,414	89,611	35,054

source: NOUNDMIS, 2017

Table 3 is the total number of candidates that registered for the UTME and scored 170 and above against NOUN admitted and

registered undergraduate students for the examined academic sessions.

Table 3: 2012/13, 2013/14 and 2016/17 UTME candidates scored 170 and above against 2012/13, 2013/14 and 2016/17 NOUN admitted and registered undergraduate students

Categories of student	Number of Student		
	2012/13 Academic Session	2013/14 Academic Session	2016/17 Academic Session
Total Number of Candidates who Participated in UTME	1,417,975	1,029,900	1,412,814
Total Number of Candidates who Score 170 and above	1,049,218	431,923	363,596
170 and above Scores Equally distributed across Nigeria 128 Universities	8,197	3,375	2,841
Total number of students admitted and registered at NOUN	64,414	89,611	35,054

Table 4 shows the percentage (%) of candidates who pass the UTME against NOUN admitted and registered

undergraduate students for the examined academic sessions.

Table 4: UTME Passed Candidates Distributed Across the Nigeria 128 Universities Against NOUN Admitted and Registered 2012/13, 2013/14 and 2016/17 Students

Categories of student	Number of Student		
	2012/13 Academic Session	2013/14 Academic Session	2016/17 Academic Session
Total Number of Candidates who Participated in UTME	1,417,975	1,029,900	1,412,814
Percentage (%) of Candidates who Score 170 and above	74%	42%	26%
Percentage (%) of Candidates Score 170 above and Equally distributed across Nigeria 128 Universities	0.6%	0.3%	0.2%
Percentage (%) of students admitted and registered at NOUN	4.5%	9%	2.5%

Figure 1 presents total number of candidates that registered and pass the UTME against the admitted and registered undergraduate

students at NOUN for the examined academic sessions.

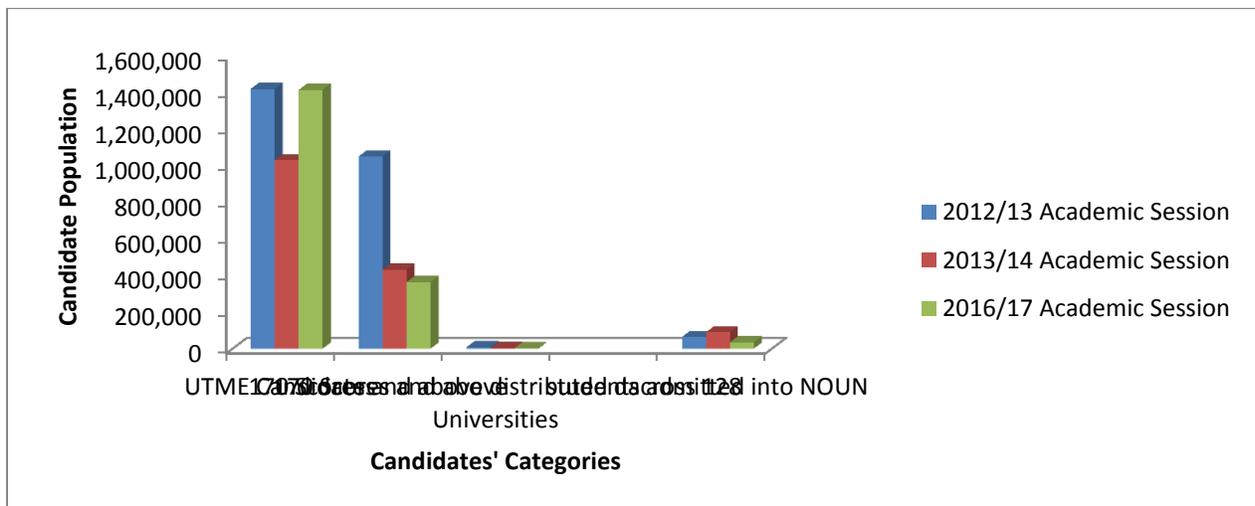


Figure 1: 2012/13, 2013/14 and 2016/17 UTME Passed Candidates Against the Admitted and Registered 2012/13, 2013/14 and 2016/17 NOUN Academic Sessions Students

Discussion

Figure 1 is the graphical representation of table 3, the candidates' population on the y-axis against candidates distributions on the x-axis, bars on particular distribution represent different years, such as 2012/13, 2013/14 and 2016/17. And bars of the same colour on different distributions represent the same year. The chart shows significantly that the number of student who were admitted into NOUN 2012/13, 2013/14 and 2016/17 academic sessions were more, compared to students who scored 170 points and above in the 2012/13, 2013/14 and 2016/17 academic sessions, to be shared/distributed across the 128 Nigeria Universities. It show that, UTME annual candidate application number does not determine UTME pass or fail rate, likewise the pass or fail rate of UTME candidates does not determine NOUN annual admitted rate. However NOUN freely admitted 12% of the entire candidates that pass UTME annually and equally distributed across the entire 28 conventional institution in Nigeria. NOUN admitted significant numbers of students annually compared to other conventional institutions. This will go a long way to significantly reduce the 84.7% and 94.8% of candidates seeking admissions into Nigerian universities, that never get

admitted each year into Nigerian universities (Okeke, 2009 cited in Olatumile, 2013). Nevertheless, NOUN, an application of ODL pedagogy of learning enhances access to good quality education in Nigerian and has immensely contributed positively to Nigeria's educational opportunities, youth engagement, general admission and lifelong learning opportunity for numbers of Nigerian youths who would have been denied admission into Nigeria tertiary Institutions.

Conclusion

The research shows that in the 2012/13, 2013/14 and 2016/17 academic session each of the Nigerian Universities admitted minimum of 8197, 3375 and 2841 that amounts to 6%, 3% and 2% respectively, of the total number of candidates who registered for UTME for those years. While NOUN admitted 64414, 89611 and 35054 number of students that amounts to 4.5%, 9% and 2.5% respectively, of total numbers of candidates who registered for UTME for those years. meaning that NOUN annually admitted high numbers of student, it admitted more that what the Nigeria entire conventional Institutions admitted for 2013/14 and 2016/17 academic session. However, NOUN as an ICT based

Institution had contributed to development

and access to education in Nigeria..

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