# Role of ICTs in Enhancing a Sustainable Educational Development in Selected Secondary Schools in Ilorin Metropolis

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**Abstract**
The study investigated the impact of the introduction of Information and Communication Technology (ICTs) has made on the Sustenance of Education in selected secondary schools in Ilorin metropolis. The study made use of primary data obtained through the administration of questionnaires on thirty (30) teachers and Ninety (90) students randomly selected across the six secondary schools within metropolis. The data obtained from the study were analysed using descriptive statistics and chi-square. The results reveal that Information and Communication Technology (ICT) has helped in the development of education in the study area. The findings also reveal that the students' respondents have developed a positive attitude towards the use of ICT for the acquisition of new skills. . The study therefore recommended that government should make computer and internet facilities available at all levels of our education system as this is expected to improve the performance of students in their academic pursuit.
**Keywords:** Sustainable Development, Information and Communication Technology.(ICT).

## Introduction

The importance of information and communication technology (ICT) in the development of any nation both socially, politically and educationally cannot be overemphasized. In recognition of the potentials of ICT, Zurich (2013) observed that Information and communication Technology (ICT) made our work more sustainable: saving energy and materials resources by creating more value from less physical input, increasing quality of life forever more people without compromising the future generation ability to meet their needs

It is also a known fact that the development of any nation is usually influenced by the degree and extent of the socio-economic improvement that are brought to bear through the introduction of science, technology and mathematics. According to Bayah and Farmation (2002), Cited in Uwabueze and Ozionko (2011) sustainable development leads to fulfilment of societal ideas considered relevant to the needs and aspirations of the society.

Information technology means a set of tools that helps you work with information and perform task related to information processing. Hang and keen in Nwogu (2007) thought the term ICT originated as information technology until recently when it was thought that communication should be an integral part of information technology because of its relevance and significance.

Based on United Nations, the World Commission on Environment and Development (Brundtland commission 1987). Sustainable development as a situation where current generations should meet their needs without compromising the ability of future generations to meet theirs, Also , Hughes and Johnston(2005) recognised that sustainable development is now as much about social equality for current generations as about efficient resource use-and conservation of natural resources for future use. Through information and communication, technology is associated with various challenges, it is no doubt play a significant role in sustainable development especially in rural community Ilorin.

The potentials and role of ICT as a tool for contributing to development is limitless and well established. It is the believe that ICT supports the neural system if complex society and can benefit various fields of development Abobakar (2010) cited in Sando, 2002 especially with the global trend of rapid growth of people accessing the internet. There are however various economics policies aimed at ensuring a sustainable economic development in Nigeria vis-a- vis the National Economic Empowerment and Development Strategies (NEEDS), the Structural Adjustment Programme (SAP) of 1986, etc.

The current era of communication liberalization and licencing of GSM operators enhance by ICT innovation contributed significantly to sustainable economic development if properly harness and this rest on the premise

that it could help to improve education standard and hence boost interpersonal relationship among others. (Nanighe, 2013)

The increasing rate of (ICT) development brings about radical changes in the way we work, think, learn and communicate (Vassilos, 2012). Uwabueze and Ozioko (2011) in Nwogu (2007) sees information and communication technology as a set of tools that helps you  work with information and perform takes related to information process.

Lloyd and Jan, (2011) cited in Ritchie and Brindley(2005) define ICT as the array of primarily digital technologies designed to collect, organise, store, process and communicate information within and outside to an organization for the purpose of disseminating information. It is therefore seen as those technologies like the simple telephone, internet, credit card facilities, etc.

Ayannuga(2009) defined ICT as the marriage that exit between computer system and communication which can be described as the use of computer based technology and internet to make information and communication services available to a greater number of users.

Jekayinola and Ojo(2010) cited in Obanya(2002) see ICT as a broad term  that has to do with the harnessing of process, the methods and the product of electronic and communication related technologies and other resources for enhancing the productivity, the spread and efficiency of a set programme activities geared towards the achievement of a clearly determine goals.

The paper examines the impact of ICT in enhancing a sustainable educational development with specific emphasis on its role in education, business development and the attitude of Nigeria towards the use of information and communication technology.

**Research Questions;**
  i.   Is there any significant relationship between ICT and sustainable educational development
  ii.  What is the attitudes of students towards the use of ICT?

 The paper is divided into five main parts. The first part is the introduction aspect of the work, the second part dealt with review of literature, the third part discusses the methodology employed in gathering data for the study, the next part presents the results and discussion and the last part present the conclusion and recommendations

**Literature review**

Many studies have documented either the role of information and communication technology on sustainable economic development or impact of information and communication technology on sustainable development in Nigeria.  One of the earliest studies by, Anyasi, et al (2012) examines the significance of information and communication technology for sustainable development. The author used both primary and secondary data to obtain relevant information from the respondents. Specially, structural questionnaire was employed to elicit information from the respondents. The findings reveal that information and communication technology is a necessary tool to achieve sustainable development in Nigeria..

A more recent study by Abobakar (no date) on the direct impact of ICT and the steps the ICT industry and science took to reduce the future impact of ICT. The paper concluded that ICT has significantly leverage to reduce carbon footprint in other industries and by far over compensate the own first point. The study also suggest that the impact of ICT on other fields can lead to emission reduction five time the size of ICT own fort point

In a related study, Major (2013) examined the roles of ICT in enhancing the quality assurance procedures in Nigerian universities. In his study,  literature review method was adopted. The study concluded that ICT facilities if properly put into use have the tendency to enhance university quality assurance procedures. The study also found that ICT devices such as computer and electronic and internet technologies ensure the basic quality assurance procedure a line with the prescribed Minimum Academic Standard (MAS).

In addition, Sukanta (2002) examine the role of ICT in higher education for the 21$^{st}$ century. The study looks into the possible areas where ICT has affected positively vis-a vis the higher education, research and teaching. The study revered that ICT that lends itself to more student-centred learning settings.

 In contrast, Ogunwale et al (2010) conducted a study to find out the degree of perception, acquisition and utilization of wonders of ICT in Irewolede LGA in Ikire Osun Sate. Simple random sampling procedure was used to select fifty teachers as sample for the study. The authors also employed questionnaire as a data-gathering instrument. The finding from the study reveals that ICT were grossly inadequate in all the secondary schools selected.

Yusuf (2007) sees information and communication technology as an electronic technology used for accessing, processing, gathering, and manipulating, presentation and communicating information.

Similarly, Sukanta (2012) described ICT as the varied collection of technological gear and resources that used for the purpose of communication. They are also made use to generate, distribute, collect and administer information.

Education is regarded as the most important area that needs adequate attention most especially for the empowerment of women in the society and the introduction of ICT as an educational tool in the promotion of both men and women educational advancement has immense potentials. The application of ICT as a tool for

effective enhancement of learning, teaching and education management covers the entire spectrum of education from early childhood development, primary, secondary, tertiary, basic education. etc. (Sukanta, 2012)

UshaS(2009) identified three major areas in which ICT is considered significantly in improving the educational system in general. These are; ICT Education, ICT supported Education and ICT Enabled Education. It is a general believe that ICT help in the creation of human resources, hence regarded as the primary backbone of the teaching – learning process such as online courses through the web.

Integrating ICT in teaching and learning both in science and other related field have helped in the improvement of learner. ICT is seen as an essentials aspect of teaching that afford new and transformative model of development that extend the nature and reach of teacher-learning wherever it takes place(Leach, 2005).

The introduction of ICT has helped to promote fundamental changes in teaching and learning methods thereby helping to overcome the barriers of time and place as technology introduces new choices and opportunities for students and teachers through endless research and learning on the internet (Osakwe, 2012).

Also, Kwace(2007), argued that ICT has the potentials of accelerating, enrich and deepen skills; to motive and engage students in learning to help relate school experience to work practices which enable them to create economic viability for tomorrow's workers, contribute to radical changes in school, to strengthen teaching and provide opportunities for connection between school and the world.

The use of ICT is capable of fulfilling a number of business needs such as strategic, operational or marketing needs, or a combination of all of them. Lucchetti and Sterlacchini(2004) reports that ICT has helped greatly in the development of small and medium scale enterprises(SMEs) hence categorise them into the following grouping: general users, production-integration and market oriented groups. The general users groups are those group that dealt with basic technologies such as telephone, e-mail, internet that are used for day- to- day administrative purposes. The production-integrating group is where ICT is used for dual purpose both for the production of goods and functionality of business. The market-oriented group on the other hand is a situation where the use of ICT promotes market and easy communication both within the organisation and outside the world.

The evolution of ICT has helped in the transformation of global economy and creates new business linkages and opportunities that cross business sectors, cultures and distances. Also, the e-business have provided opportunities for tourism by offering a fully developed web portal as comprehensive Destination Management System (DMS) that include booking and transaction facilities which promote the opportunity to increase sales and revenue (Paul,2010)

In addition to this, Olaleye and Oni (2010), cited in Yusuf (2005) maintained that Information and Communication Technology (ICT) serve as a useful avenue for the students to enhance their potentials and tap available opportunities in the area of e-mail, mailing and chart messages.

## Data and Methodology

This study was conducted within the four Local Governments that comprises Ilorin metropolis. To achieve the objective of the study, structure questionnaire was used to elicit information from the respondents selected through purposive sampling technique. The questionnaire was divided into two sections. Section 1 sought for information on bio-data of the respondents such as age, sex, level of education, gender, marital status and ethnic group. The second section contained questions relating to respondents perception on the role of ICT in enhancing their academic performance and the challenges confronting them in the use of Information and Communication Technology (ICT). One hundred and fifty (150) students SS II students from the science class were selected as sample for the study. The researchers personally administer the questionnaires to offer necessary guidance to the respondents in any area of difficult during the process of questionnaire administration. Data generated were analysed using simple percentage.

**Presentation of Data**

**Table 1.1**. Profile of respondents in the study area

| Variables | Respondents Opinion | Frequency | Percentage |
|---|---|---|---|
| Age structure | 15-25 | 30 | 20 |
| | 26-35 | 50 | 33.3 |
| | 36-45 | 35 | 23.3 |
| | 46-55 | 25 | 16.7 |
| | 55 and above | 10 | 6.7 |
| Respondents Status | Married | 50 | 33.3 |
| | Single | 100 | 66.7 |
| Level of Education | Primary | 20 | 13.3 |
| | Secondary | 35 | 23.3 |
| | Tertiary | 80 | 53.3 |
| | No formal schooling | 15 | 10 |
| Gender attribute | Male | 128 | 85.3 |
| | Female | 22 | 14.7 |
| Ethnic group | Yoruba | 90 | 60 |
| | Hausa | 35 | 23.3 |
| | Fulani | 25 | 16.7 |

**Source**: Field survey, Nov 2013.

Table 1.1 reveals the general characteristic of the respondents in terms of their age, marital status, and level of education, gender attribute and ethnic group. The table shows that majority of the respondents about (76.6%) are youths while the remaining 35 (23.3%) are in their late forties. This is confirmed by the response of the respondents on their marital status where about 66.7% of the respondents corresponding to 100 are single and the remaining 33.3% (50) are married. Another major characteristic of the respondent is the level of education which shows that about 80 of them (53.3%) acquired tertiary education in the form of first degree, OND, HND, NCE. 20 of the respondents (slightly 100%) possessed primary certificate another group 35 respondents (23.3%) obtained O' level certificate. Only 10% of the respondents claimed that they do not have any formal education.

**Table 1.2**. ICT has a significant impact on sustainable development in Nigeria

| S/No | Items | SA+A | % | SD+D | % | Total |
|---|---|---|---|---|---|---|
| 1 | ICT has helped on the development of education | 125+20 | 145(96.7) | 4+1 | 5(3.3) | 150 |
| 2 | The introduction of ICT promote interpersonal relationship | 130+10 | 140(93.3) | 8+2 | 10 (6.6) | 150 |
| 3 | ICT helped to promote business | 95+30 | 125(83.3) | 10+15 | 25(16.7) | 150 |
| 4 | ICT has reduced traffic congestion and journey times | 120+25 | 145(96.6) | 3+2 | 5 (3.3 ) | 150 |
| 5 | ICT enhances access to information | 116+30 | 146(97.3) | 3+1 | 4 (2.7 ) | 150 |

**Author's computation, 2013**

Table 1.2 reveals that majority of the respondents are of the opinion that the introduction of information and communication as help to bring about sustainable development in the study area. Based on the information from table 1.2, a significant average percentage (74.1%) sees ICT as having the potentials to improve the standard of education, enhance business opportunities and promote interpersonal relation and enhances access to information

**Research Question 2**

**Table 1.3** Students do not face any challenges in the use of ICT

| Response | Responses | Percentage |
|---|---|---|
| Positive | 125 | 83.3% |
| Negative | 20 | 13.3% |
| None | 5 | 3.3% |

Author's Computation, 2013.

**Table** 1.3 revels that 125 (83.3%) of the respondents have a positive attitudes towards the use of information and communication technology in promoting sustainable economy development, 20 (13.3%) shows a negative altitude, while the remaining 5 (3.3%) show an indifferent in the use of ICT for promoting a sustainable development.

**Discussion of findings,**

The results obtained from the field provide a useful guide on the objective of the study. The data obtained revealed that indeed information and communication technology is a true instrument for promoting sustainable education development in the study area as it has helped to improve the level of education and assist in

interpersonal relationship and enhances access to information. The findings from this study is in line with similar findings by Anyasi (2012) who observed the powerful role of ICT in sustainable economic development. Also justifying this findings, Major (2013) examines the role of ICT in enhancing quality assurance procedures in Nigeria universities and reported that ICT devices like computer and internet is a useful tools in ensuring basic quality assurance procedure if properly implemented.

 In addition, the data obtained from the field reveals that there is an increasing awareness about the populace on the importance of information and communication technology in promoting sustainable economic development.

## Conclusion and recommendations

The study examined the impact of the introduction of ICT on sustainable development of Nigeria economy. The findings of the study and available literature have shown that Information and communication technology (ICT) has become an invaluable tool in modern society and for the sustenance of economic development. The introduction of ICT into the education system has helped to eliminate constraints and thereby enable application of scientific knowledge to meet the societal aspirations and goals.

The study therefore concluded that information and communication technology (ICT) is a veritable tool for promoting a sustainable education development in Nigeria and this is in line with similar study by Anyasi (2012). It is believed that if properly harness and put into proper usage, a reasonable level of development would be achieved through ICT.

Based on the conclusion drawn from the findings, the following recommendations were made;

- People should be sensitize on the importance of information and communication technology in business, access to and sharing information

- Government should also create an enabling environment for ICT to strive

-There should also be public-private partnership in information and communication technology for efficiency and effective utilization of both the hardware and software.

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