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### **INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) IN EDUCATION IN NIGERIA: A WAY FORWARD**

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#### **ABSTRACT:**

*This paper examines effective ways to improve ICT standards in the educational system of Nigeria. There is need to use Information and Communication Technology (ICT) in education as we enter the era of globalization where the free flow of information via satellite and the internet hold sway in global information in dissemination of knowledge. In this paper qualitative research methodology was used and Documented materials such as reports, journals and Questionnaires were employed to identify some factors militating against the proper use of ICT to enhance the standards of the Nigeria education system. From the results obtained, it was obvious that ICT can play a crucial role in enhancing the education system of Nigeria as well as take it to the next level. Recommendations were also made that will help in improving the use of ICT in Nigeria education system.*



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### **1.1 INTRODUCTION:**

Information and Communication Technology has been defined as a broad based technology (Including its methods, management and application) that supports the creation, storage, manipulation and communication of information (French, 1996).

The revolutionary potentials of ICT lie in their capacities to instantaneously connect vast networks of individuals and organizations across great geographic distances at very little cost. There is no doubt that Information and Communication Technology has found its niche in every sphere of Nigeria's Educational System.

Nigeria as a developing country is currently experiencing rapid transformation in the various sectors of her economy, including the Education Sector. Rapid growth is being experienced with the participation of both public and private organizations in the Information and Communication Technology (ICT) sector.

This has continued to pave way for ICT as a tool for finding, learning, exploring, analyzing, exchanging and presenting information responsibly and without discrimination. UNDP (2007) reported that ICT is presently a veritable tool for quick access to ideas and experiences from a wide range of people, communities and cultures and also offers solid support for improved and enhanced service delivery.

Selected parameters for measuring the overall contributions of ICT to the university educational system in Nigeria are taken based on their support for quick access to information, improved response time, increased usefulness, greater reliability, availability and so on (Wescott et al 2007, Dinusha et al 2007, SUACC 2002 & Okele 1986).



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Such support could be in areas such as lecture delivery, private studies, information dissemination, program (conferences and seminars) planning and execution, communication at different levels as well as crises prevention and management. With this array of interest areas, ICT has become a versatile tool for running a smooth and efficient university system.

Positive attitudes towards financing good ICT projects for the universities by major stakeholders such as government, parents and the private sectors is inevitably of paramount importance (AYIN 2006).

### **2.1 ICT IN EDUCATION**

Most of the discussions and initiatives on ICT in Education tend to focus on the use of ICT for teaching and learning only (The Commonwealth of Learning, 2006; Becta, 2004; Akale, 2003). This emphasis on instructional applications of ICT in education has an antecedent. From the earliest times, educational interest in technology has always centered on the instructional application of such technology to improve teaching and learning. The case of the computer provides a perfect illustration of this point. Long before the emergence of ICT, educational interest in the computer centered on its instructional applications as exemplified by computer-assisted instruction (CAI), computer-aided testing (CAT). (Nwabueze,2011).

It is perhaps easy to understand why the emphasis at the basic and secondary education levels should exclude research application of ICT. The primary responsibility of the teachers at these levels is defined exclusively in terms of teaching. However at the higher education level, teachers' primary responsibility is of a tripartite nature involving teaching, research and community service. In effect it can be suggested here that any approach to ICT adoption at the higher education level that stressed only instructional applications and ignores research applications, will be grossly inadequate in meeting the needs of both students and teachers.



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The indispensability of ICT in education research in particular includes learning how to optimize the creativity of African Scientists through participation in international networks and working with data sets.

ICT applications run through the entire gamut of the educational research process. The advocacy for the indispensability of ICT in educational research can be further strengthened by the following argument that tends to underscore the values derivable from applying ICT in educational research.

- It reduces time and cost of conducting educational investigation.
- Data sets and library resources can be shared by institutions in different locations.
- Educational researchers have easy access to current literature materials
- Data sets, irrespective of size can be stored and retrieved when needed.
- Researchers in different locations can collaborate more easily, etc (Nworgu, 2007)

Ijafuyi and Adebajo (2006) while speaking on the usefulness of ICT in sustainable development advised on the need for a well-equipped ICT centres in all educational institutions to enable them live up to their social and political responsibilities.

### **2.2 THE NATIONAL POLICY ON ICT IN EDUCATION**

The need to have a standardized and coordinated development and deployment of ICT in education informed the development of the National Policy on ICT in Education in 2010 (Mary et al 2011). A multi-sectorial approach involving the Federal Ministry of Education and its parastatals, States ministries of Education, IT professional bodies, the private sector and non- Governmental Organizational was adopted in the development of the policy. The policy defines a broad vision for ICT integration encompassing 'engaging, empowering, enriching and enabling' ICT-furthered education (FME, 2010).

The policy objectives of ICT in Education are:

- To facilitate the teaching and learning processes.



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- To promote problem-solving, critical thinking and innovative skills.
- To promote life-long learning.
- To enhance the various teaching/ learning strategies required to meet the needs of the population.
- To foster research and development.
- To support effective and efficient education administration.
- To enhance universal access to information.
- To widen access to education and the range of instructional options and opportunities for any-where, any-time, any-place and any-path learning.

In order to implement the ICT in Education agenda the policy thrust is to

- Encourage the development of ICT manpower required for ICT-furthered education,
- Establish ICT infrastructure platform for education and
- Encourage development of a National Education and Research infrastructure,
- Ensure and encourage ICT Research and Development (R&D)
- Provide appropriate legal, regulatory and security frameworks to ensure ICT furthered Education
- Adopt creative financing models for ICT in Education

### **2.3 ICT RESOURCES FOR SUSTAINABLE DEVELOPMENT IN THE NIGERIA EDUCATION SYSTEM**

According to Attama and Owolabi (2008) the following are primary ICT resources,

1. Computers: Computers are no longer just mathematical tools but essential management resources. As we all may know, different operations can be handled more efficiently using Computers. With the computer, such activities as information generation, processing, analyzing,



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storage and communication for sustainable development could be executed easily. The greatest assets of the computer are speed, cost-effectiveness and optimal utilization of available resources. Some other computer accessories worthy of mentioning are CD.ROM, diskettes, flash drive, etc.

2. The Internet: This has proven to be the most valuable vehicle for accelerated information flow. According to Ogbomo (2004), it is a network of computers that communicate with each other, often over telephone lines. The potentials of the internet lie in the provision of global platform for information sharing among organizations and individuals. Information sharing creates awareness, ensures continuous use of products and services, provides feedback and support for organization. The contention here is that any institution that has current and useful information is empowered to enhance productivity and Sustainable Standards

3. Electronic Mail (E-mail): This is the most widely used resource of the Internet. It is provided for sending and receiving mails (messages) through electronic devices. Intra and inter organizational communication has been made faster and cheaper. E-mail has become the life-wire for many business and organizational communication.

4. World Wide Web (WWW): World Wide Web is also an Internet-based resource. It is a utility based on hypertexts (Hypertexts simply documents through keywords in document or page). A visit to a website helps individuals or organization to locate products, information, pursues political or social agenda and transacts business (Chilvetalu, 2003). From the above, we can infer that being on the web would put any nation or organization on the right course of speedy and sustainable development in line with the emerging changes in technology, economic and political paradigms. Consequently, many organizations, ministries and parastatals in Nigeria have their own websites



through which they make relevant information available to Students, lecturers and members of the public.

### 3.0 RESEARCH METHODOLOGY

This study is purely theoretical and based on research. The specific objective is to elicit the opinion of the people in order to be more acquainted with the significance of ICTs in the Nigeria Education system. Both observed and documented materials for data gathering were used. These resources gave a good insight into what has been documented. Questionnaires were also used to gather relevant information from some respondents (lecturers and students). The purpose of this was to identify the role, problems and challenges as it affects ICT in Education.

### 4.0 RESULTS AND DISCUSSIONS

RESEARCH QUESTION:

**TABLE 1**

1. What role does ICT play in the Nigerian Educational System?

S/N	CATEGORY OF RESPONSE	TOTAL NUMBER OF RESPONDENTS	NO OF RESPONSE	OF	PERCENTAGE OF RESPONSE
1	Facilitates Research	100	15		15%
2	Promotes e-payment services	100	12		12%
3	Used for e-learning	100	16		16%
4	Supports management information systems(MIS)	100	18		18%



5	For Communication and Information Dissemination.	100	17	17%
6	All of the Above	100	78	78%
7	None of the Above	100	-	-

From the table, all the 100 respondents acknowledge the fact that ICT plays a significant role in education. 78% of the respondents chose all the above option, 17% communication and information dissemination, 18% were for management and information systems, 16% E-Learning, 12% E-payment Services and the remaining 15% says it facilitates research.

**TABLE 2**

2. What are the various factors militating against the effective utilization of ICT in Education?

S/N	CATEGORY OF RESPONSE	NUMBER OF RESPONSE	PERCENTAGE OF RESPONSE
1	Lack of qualified ICT personnel	16	16%
2	Poor Power Supplies	18	18%
3	Poor Communication Response	12	12%
4	Lack of Public Funding	23	23%
5	All of the Above	31	31%
6	None of the Above	-	-
7	TOTAL	100	100%



From the table, out of the 100 respondents, 16% identified lack of ICT personnel as one of the factors militating against the effective use of ICT in education. 18% says poor power supplies is factor, 12% admits poor communication response, 23% admits lack of public funding is a factor. While 31% admits all the above factors.

**TABLE 3**

3. What is the level of Student awareness on the increasing impact of ICT in education?

S/N	CATEGORY OF RESPONSE	NO OF RESPONSE	PERCENTAGE OF RESPONSE
1	Aware	55	55%
2	Not Aware	40	40%
3	Indifferent	5	5%
4	Total	100	100%

From the table, 55% of students are aware of the increasing impact of ICT in Education, 40% are not aware while 5% were indifferent.

**TABLE 4**

4. What is the level of Teachers/lecturers awareness on the increasing impact of ICT in education?

S/N	CATEGORY OF RESPONSE	NO OF RESPONSE	PERCENTAGE OF RESPONSE
1	Aware	60	60%
2	Not Aware	25	25%
3	Indifferent	15	15%
4	Total	100	100%



From the table, 60% of the lecturers are aware of the increasing impact of ICT, 25% are not, while 15% are indifferent.

**TABLE 5**

5. What is the attitude of Student towards the use of information and communication technology in Education?

S/N	CATEGORYOF RESPONSE	NOOF RESPONSE	PERCENTAGEOF RESPONSE
1	Positive	90	90%
2	Negative	-	-
3	Indifferent	10	10%
4	Total	100	100%

From the table 90% of the students have a positive attitude towards the use of ICT in education none had a negative attitude, while 10% was indifferent.

**TABLE 6**

6. What is the attitude of Teachers/Lecturers towards the use of Information and Communication technology?

S/N	CATEGORYOF RESPONSE	NOOF RESPONSE	PERCENTAGEOF RESPONSE
1	Positive	90	90%
2	Negative	-	-
3	Indifferent	10	10%
4	Total	100	100%



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From the table, 90% of the lecturers have a positive attitude towards the use of ICT in education, 10% were indifferent.

### **4.1 DISCUSSION**

The data generated with aid of the questionnaire revealed that ICT is indeed a fundamental tool for improving the quality of education in Nigeria.

In addition, the data got indicated that Lecturers and Students level of awareness of the remarkable role of ICT is relatively high as shown in Tables 3 and 4, This high level of awareness must have informed their positive attitudes towards the effective utilization of ICT.

Some of the factors militating against the effective utilization of ICT in education were also considered; 31% of the respondents saw all the items in the question as factors hindering the effectiveness of ICT. Some of these factors include lack of qualified ICT personnel, lack of public funding, poor power supplies and poor communication response.

### **5.1 CONCLUSION**

From the result of this study, it has been seen from all indications that Information and Communication Technology (ICT) is a veritable tool for enhancing educational Standards in Nigeria.

By reducing the costs of information sharing, improving its timely availability and providing the opportunities to create networks between people in the Academia, ICT has the potential to contribute to the improvement of the Nigerian Education System.

### **5.2 RECOMMENDATION**



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- Proper budgeting from government is required, and agencies should be put in charge to make sure the monies released are used for the intended purpose it was budgeted for and not embezzled.
- The private sector should be more involved in the support of ICT and the government should also go into partnership with the private sector to put more integrity into the works.
- Technically qualified hands should be employed to help pass the knowledge and also a train the trainer program, where few people are trained and when they return they train others, so lots of people will have the knowledge and can now train more people.

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