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## Impact of Information Communication Technology on Academic Achievement of Business Administration Students of Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria

**OLUSOLA James Seyi**

Department of Business Administration, Federal Polytechnic, Ado-Ekiti, Ekiti State Nigeria  
E-Mail: Iwamimoseyi@gmail.com

### **Abstract**

*The study investigated the impact of Information Communication Technology on academic achievement of Business Administration students of Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. The study adopts descriptive survey of research design. The population for this study consists of all Business Administration students, Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. Stratified random sampling technique was used to select 50 Business Administration students each from OND I and OND II respectively among all the students of Federal Polytechnic, Ado-Ekiti, Ekiti State of Nigeria. A total of one hundred (100) OND Business Administration students were used as samples for the study. Three research questions were raised and tested at 0.05 level of significance. The instrument for the study was self-designed questionnaire. The instrument was subjected to validity and reliability mechanism. The data collected were analysed using Chi-Square ( $X^2$ ) statistical analysis package. The results of the analyses showed that availability of ICT facilities influences academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State. The result also showed that utilization of ICT facilities influences academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. Finally, analysis of the data collected also revealed that utilization of ICT facilities influences academic performance of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. Based on the findings of the study, conclusion and recommendations were made.*

**Keywords:** Business Administration, Information, Communication, Technology, and Federal polytechnic.

## Introduction

The role information and communication technology (ICT) play in the educational and learning environment cannot be over emphasized. The use of ICT in modern learning environment ranges from slice use of computers in practical aspects to an online learning experience which enhances and improves students' intellectual and learning behavior.

Rapid advances in information technology have provided new learning methods and environments. This has been the case for the teaching of business studies over the years. More advancement is needed, however, and Nigerian business studies curriculum needs more use of technology and an examination of methods of delivering instruction. Research literature for the past decade has shown that technology can enhance literacy development, impact language acquisition, provide greater access to information, support learning, motivate students, and enhance their self-esteem (O'hara, Pritchard & Bacon, 2014). Indeed, there is affirmed that computer technology provides abundant opportunities for students to build or modify their personal knowledge through rich experiences that technology affords (Wikipedia, 2009). Information and communication Technology is an umbrella term that include any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various application associated them, such as video conferencing and learning. Information Communication Technology are often spoken of in the area of education, healthcare, Libraries, security etc. the term is somewhat more common outside Nigeria. The effect of Information Communication Technology (ICT) on learning in a content area and libraries had elsewhere been highlighted (Krubu & Osawaru; 2011; Falobi, 2014 and Ajisafe, 2014).

Information Communication Technology (ICT) implies interaction between the user and the data. It can also be seen as a revolution that involves the use of computers, projector, internet and other telecommunication techniques in every aspect of human's life. Pearson, Kinzer & Leu (2005) demonstrated positive effects of technology on both learning in a content area and learning to use technology itself. They study the potential of multimedia and hypermedia technologies. One study, the reporter project, used multimedia technology to enhance sixth-grade students, information gathering and writing skills. The reporter project was developed and tested in sixth grade classroom for two years and shown that students made statistically significant improvement in their recognition and the use of elements such as main ideas supporting details, and cause and effect relationships their writing was also more cohesive than their control-group peers who were taught using similar materials and sequences but without the use of information communication technology (ICT).

Information communication technology (ICT) have serious impact on teaching and learning of business studies. Technologies have changed the way people live, work and learn. The use of technology in education is one of the main challenges for Nigerian Educational Research and Development Council (NERDC) and other stakeholders in the educational sector. Traditional methods of teaching business studies are no longer able to meet the needs of today's learners. New technologies provide opportunities including the ability to tailor learning with various individuals.

According to Burniske (2001), ICT skills play an important role in developing a nation. ICT has been regarded as an important tool to leverage the economy and society, thus mastering basic skills and concepts of ICT has become one of the core parts in education, besides reading, writing and numeracy. ICT skills are necessary prerequisites for information literacy and life-long learning. Karim & Hassan (2006), noted the exponential growth in digital information,

which changes the way students perceive study and how electronic materials are used to facilitate study. Participation and communication methods in educational institutions have changed since the use of ICT has been widespread. Teaching-learning processes are simplified by the internet, computers, mobile phones, social networking and related technologies.

With the introduction of computers, the precursor of our modern-day ICT, and the promising potentials of computer-based instruction and learning, though researchers and funding agencies were led to invest much of their resources to investigate the possibility of computers replacing teachers in key instructional roles. Moreover, the 'Everest Syndrome' also resulted in many believing that computers should be brought into the education arena simply 'because they are there' and the resultant perpetuation of the myth that students would benefit qualitatively from computers by simply providing them with the software and hardware.

Information and communication technology (ICT) has become a topic of discussion in the technological arena and its applications in different sectors and education in particular. Information and Communication Technologies (ICT) are generally accepted as a modern instrumental tool that enables the educators to modify the teaching methods they use in order to increase the students performance. Some scholars believe that ICTs improve the students' study habit, others do not support this view. In line with the above, Valasidou & Bousiou (2005) stated that students frequently use ICT resources especially internet for their studies, and that internet has huge influence on teaching and learning of business studies. Having noticed that the use of ICT has spread globally in enhancing effective teaching and learning process in other subject including business studies, thus the researcher intends to investigate how this view influenced students' achievement in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria.

### **Research Questions**

The following research questions were answered:

1. Would the availability of ICT facilities influence academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti?
2. Would the utilization of ICT facilities influence academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti?
3. Would the compliance in the use of ICT facilities influence academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti?

### **Literature Review**

#### ***Concept of information communication technology (ICT)***

Information and Communication Technology (ICT) is the future of our generation and education is its main focus, ICT has helped many industries, government, organizations. Universities should promote their ICT curriculum in a more high- technologically advanced system using computer and multi-media lessons that students can easily understand their lessons using interactive approach in learning. Students highly enjoy audio visual teaching methods which are probably more effective than chalk and talk or book and notebook learning although it does not intend to replace such method.

The field of education has certainly been affected by the penetrating influence of ICT worldwide. ICT has made impact on the quality and quantity of teaching, learning and research in the institutions using it (Kwacha, 2007). According to Ololube, Ubogu & Ossai (2007), the

introduction of ICT usage, integration and diffusion has initiated a new age in educational methodologies, thus has radically changed traditional method of information delivery and usage patterns in the domain as well as offering contemporary learning experience for both instructors and learners. ICT has the potential to accelerate, enrich and deepen skills, motivate and engage students in learning; helps to relate school experiences to work places, helps to create economic viability for tomorrow's workers, contribute to radical changes in school, strengthens teaching, and provides opportunities for connection between the school and the world (Yusuf, 2005). Adomi & Kpangban (2010) described Information and communication technology (ICT) as electronic technologies used for information storage and retrieval.

According to Sultan (2010), he stated that information and communications technology or information and communication technology, usually abbreviated as ICT, is often used as an extended synonym for information technology (IT), but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middleware as well as necessary software, storage- and audio-visual systems, which enable users to create, access, store, transmit, and manipulate information. In other words, ICT consists of IT as well as telecommunication, broadcast media, all types of audio and video processing and transmission and network based control and monitoring functions.

ICT as described by Scott (2002) encompasses a range of applications, communications and technologies which aid information retrieval and research communication and administration. These include online databases, library services and online services and fax machine. It has become a global phenomenon of great importance and concerns in all aspects of human endeavour, spanning across education, governance, business, labour, market, productivity, trade, agriculture, commerce and others. The expression was first used in 1997 in a report by Dennis Stevenson to the United Kingdom government and promoted by the new National Curriculum documents for the United Kingdom in 2000.

### ***Benefits of information communication technology to teaching and learning***

ICT provides a bridge between students' prior knowledge and the learning of new physical concepts, helping students develop scientific understanding through an active reformulation of their misconceptions (Awodun & Ajisola, 2016). ICT now plays a major role in education, learning and research in general, agriculture, health, commerce and even in poverty alleviation by generating or creating new jobs and investment opportunities..." This declaration and indeed other opinions shared by others point to conclusive evidence that ICT has some real and material applications for countries like Nigeria because countries can leverage ICT to totally transform and modernizes their economy. Tinio (2002) noted that ICTs are powerful enabling tools for educational change and reform. When used appropriately, helps expand access to education, strengthen the relevance of education to the workplace, and raise educational quality by creating an active process connected to real life.

In Nigerian educational system, ICT has helped to increase access to and improving the relevance and the quality of education. It greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formulation and execution and widen the range of opportunity for business and the poor (Omotoso,2006). This new communication tends to reduce the sense of isolation, and open access to knowledge. This is enhanced because ICT provides access anytime and anywhere by making possible asynchronous learning. Online course materials, for example,

can be accessed 24 hours a day. ICT based educational delivery like educational programming broadcast over radio and television also dispenses with the need for all learners and the instructor to be in one location. In addition, certain types of ICTs such as teleconferencing technologies enable instructions to be received simultaneously by multiple, geographically dispersed learners (synchronous learning).

Furthermore, ICT has enhanced access to remote learning resources. Teachers and learners no longer have to rely solely on physical media housed in libraries (and available in limited quantities) for their educational needs. With the internet and world wide web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at any time of the day by an unlimited number of people. This is particularly significant for many schools in developing countries and developed countries that have limited outdated library resources. ICTs also facilitate access to resource persons all over the world.

In Nigerian educational system, one interesting thing is that ICTs are also a transformational tool that has promoted the shift to a learner – centered environment. It has assisted in improving the quality of education and training by increasing learners’ motivation and engagement, facilitating the acquisition of basic skills (Ololube, Ubogu & Ossai 2007). The use of ICT tools such as videos, television and multimedia computer software that combine text, sound and colourful moving images is used to provide challenging and authentic content that engages the students to be more involved. More importantly, networked computers with internet connectivity increases learners motivation as it combines the media richness and interactivity of other ICTs with the opportunity to connect with real people and to participate in real world events. The transmission of basic skills and concepts that forms the foundation of higher order thinking skills and creativity is enhanced by ICT through drill and practice. Most of the early users of computers were for computer-based learning that focused on mastery of skills and content through reinforcement and repetition.

Haddad & Draxier (2002) also indicated that ICT has contributed to effective learning through expanding access, promoting efficiency and improving the quality of learning and improving management systems. According to Obeng (2004), ICT is now regarded as a utility such as water and electricity and hence has become a major role in education, learning and research in general, agriculture, and health and even in poverty alleviation by generating or creating new jobs and investment opportunities. David (2005) said that students become more aware about how to learn when using ICT because they must interact with computer. ICT has also changed the relationship between students and lecturers and has made it open and intimate. The idea of sharing knowledge and the capability of using new resources for learning are enhanced by using ICTs. It has also helped undergraduates in better communication and access to information. This is due to the fact that there is a national policy supporting ICT in schools. It has also helped students’ curiosity and motivation that has in turn forced the lecturers to seek more knowledge.

The benefits derived from ICT use in education are summarized as active learning, collaborative learning, creative learning, integrative learning and evaluative learning. By active learning, ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information, thus provides platform for students’ enquiry, analysis and construction of new information. ICT-supported learning encourages interaction and cooperation among students, teachers and experts regardless of where they are. Also, ICT–supported learning promotes manipulation of existing information and creation of real world products rather than regurgitation of received information. It has also enhanced integrative approach to teaching and learning. This



approach eliminates the artificial separation between the different disciplines and between theory and practice that characterizes the traditional classroom approach. By evaluative learning, ICT-enhanced learning is student – directed and diagnostic. Unlike static, text or print-based educational technologies, ICTs allow learners to explore and discover rather than mere listening and remembering.

### ***Problems Militating Against the Use of ICT in Tertiary Institution in Nigeria***

Empirical studies have indicated that even teachers who have competence in the use of ICT do not integrate them in their teaching. Problems of quality and lack of resources are compounded by the new realities faced by higher education institutions battle to cope with every increasing student's numbers. Not only have higher education systems expanded worldwide, the nature of the institution within these systems has also been shifting, through a process of differentiation (Ololube, Ubogu & Ossai, 2007).

According to Pelgrum (2001), obstacles for ICT implementation include the following: Insufficient number of computers, teachers' lack of ICT knowledge/skills, difficult to integrate ICT to instruction, scheduling computer time, insufficient peripherals, not enough copies of software, insufficient teacher time, not enough simultaneous access, not enough supervision staff and lack of technical assistance. Similarly, Lewis and Smith (2002) summarized these barriers as limited equipment, inadequate skills, minimal support, time constraints and the teacher's own lack of interest or knowledge about computer.

Kwacha (2007) also noted that the most common problems associated with the effective implementation of ICT are lack of qualified ICT personnel, cost of equipment, management attitudes, inconsistent electric power supply, inadequate telephone lines, particularly in rural areas and non-inclusion of ICT programmes in teacher's training curricula and at the basic levels of education. Also, these problems stated can affect or hinder the effective use of ICT by students if they are not properly implemented. For students in Nigerian tertiary institutions to be abreast with the present information age, these facilities need to be put in place to enhance the teaching-learning process.

### **Methodology**

The study investigated the impact of Information Communication Technology on academic achievement of Business Administration students of Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. The study adopts descriptive survey of research design.

The population for this study consists of all Business Administration students, Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. Stratified random sampling technique was used to select 50 Business Administration students each from OND I and OND II respectively among all the students of Federal Polytechnic, Ado-Ekiti, Ekiti State of Nigeria. A total of one hundred (100) OND Business Administration students were used as samples for the study. Three research questions were raised and tested at 0.05 level of significance. The instrument for the study was self-designed questionnaire. The instrument was subjected to validity and reliability mechanism.

The researcher personally administered the instrument (questionnaire) on the selected sample to elicit the relevant information needed for the study. Three research questions were raised and tested at 0.05 level of significance. The data collected were analysed using Chi-Square ( $X^2$ ) statistical analysis package.

## Results and Discussions

### Results

#### Research Question 1

Would the availability of ICT facilities influence academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti?

**Table 1: Chi-Square Analysis of data on the influence of availability of ICT facilities on academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti.**

S/N	ITEMS	$X^2_{-Cal}$	$X^2_{-tab}$	df	Remark
1	ICT facilities are not available in the Federal Polytechnic, Ado-Ekiti	14.35	7.82	3	*
2	School library are not well equipped with ICT facilities				
3	Business Administration laboratories and classrooms are not well-equipped with ICT facilities				
4	Availability of ICT facilities has nothing to do with learning of Business Administration				
5	Availability of ICT facilities in the Federal Polytechnic, Ado-Ekiti ICT centre inspired me to study Business Administration.				
6	Federal Polytechnic, Ado-Ekiti in general lacks modern ICT facilities.				
7	Inadequate ICT facilities in the Federal Polytechnic, Ado-Ekiti are affecting me negatively.				

$P < 0.05$  , \* = Significant

#### Research Question 2

Would the utilization of ICT facilities influence academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti?

**Table 2: Chi-Square Analysis of data on the influence of utilization of ICT facilities on academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti.**

S/N	ITEMS	$X^2_{-Cal}$	$X^2_{-tab}$	df	Remark
1	Use of ICT facilities helps in effective learning of Business Administration.	17.33	7.82	3	*
2	Use of ICT facilities gives effective mastering of concepts in Business Administration.				
3	Use of ICT facilities stimulates my interest in Business Administration.				
4	Use of ICT facilities helps my better understanding of Business Administration.				
5	Use of ICT facilities in the College inspired me to study Business Administration.				
6	Use of ICT facilities in the College cater for individual differences learning of Business Administration.				
7	Use of ICT facilities in the College assists my academic performance in Business Administration.				

$P < 0.05$  , \* = Significant

### Research Question 3

Would the compliance in the use of ICT facilities influence academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti?



**Table 3: Chi-Square Analysis of data on the influence of compliance in the use of ICT facilities on academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti**

S/N	ITEMS	X <sup>2</sup> <sub>-Cal</sub>	X <sup>2</sup> <sub>-tab</sub>	df	Remark
1	ICT facilities expose Business Administration students to some practical aspects of Business Administration.	16.78	3.84	3	*
2	ICT facilities attract Business Administration students to the learning of Business Administration.				
3	ICT facilities stimulate my interest in Business Administration.				
4	ICT facilities promotes students' attitude towards Business Administration.				
5	With the frequent use of ICT facilities in the learning of Business Administration aids retention in learning.				
6	Business Administration could be learnt better with the use of ICT facilities.				
7	Use of ICT facilities assists my academic performance in Business Administration.				

P < 0.05 , \* = Significant

**Discussion**

A cursory look at table 1 reveals that x<sup>2</sup>-calculated was 14.35 and x<sup>2</sup>- critical was 7.82 in research question one. Showing that x<sup>2</sup>-calculated is greater than x<sup>2</sup>-table value at 0.05 and df = 3 ( i.e.. x<sup>2</sup><sub>-Cal</sub> > x<sup>2</sup><sub>-tab</sub> ). The result is significant; this implies that availability of ICT facilities influences academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. This result agrees with the findings of Kwacha (2007) that information and communication technology to have the potential to accelerate, enrich and deepen skills; to motivate and engaged students in learning; to help create economic availability for tomorrow workers; contribute to radical changes in schools; to strength teaching and to provide opportunities for connecting between the schools and the world. The result also agrees with the findings of Ololube, Ubogu & Ossai (2007) that ICT has assisted in improving the quality of education and training by increasing learners' motivation and engagement, facilitating the acquisition of basic skills.

Similarly, a cursory look at table 2 reveals that x<sup>2</sup>-calculated was 17.33 and x<sup>2</sup>- critical was 7.82 in research question one. Showing that x<sup>2</sup>-calculated is greater than x<sup>2</sup>-table value at 0.05 and df = 3 ( i.e.. x<sup>2</sup><sub>-Cal</sub> > x<sup>2</sup><sub>-tab</sub> ). The result is significant; this implies that utilization of ICT facilities influences academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. This result agrees with the findings of Kwacha (2007) that information and communication technology to have the potential to accelerate, enrich and deepen skills; to motivate and engaged students in learning; to help create economic availability for tomorrow workers; contribute to radical changes in schools; to strength teaching and to provide opportunities for connecting between the schools and the world. The result also

agrees with the findings of Ololube, Ubogu & Ossai (2007) that ICT has assisted in improving the quality of education and training by increasing learners' motivation and engagement, facilitating the acquisition of basic skills.

Finally, a superficial look at table 3 reveals that  $\chi^2$ -calculated was 16.78 and  $\chi^2$ -critical was 7.82 in research question one. Showing that  $\chi^2$ -calculated is greater than  $\chi^2$ -table value at 0.05 and  $df = 3$  ( i.e..  $\chi^2_{-Cal} > \chi^2_{-tab}$  ). The result is significant; this implies that compliance in the use of ICT facilities influences academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. This result agrees with the findings of Kwacha (2007) that information and communication technology to have the potential to accelerate, enrich and deepen skills; to motivate and engaged students in learning; to help create economic availability for tomorrow workers; contribute to radical changes in schools; to strength teaching and to provide opportunities for connecting between the schools and the world. The result also agrees with the findings of Ololube, Ubogu & Ossai (2007) that ICT has assisted in improving the quality of education and training by increasing learners' motivation and engagement, facilitating the acquisition of basic skills.

### Conclusion

Based on the results of this study, the findings revealed that: there was statistical significant relationship between the availability of ICT facilities and academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. Also, there was statistical significant relationship between the utilization of ICT facilities academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. Finally, there was statistical significant relationship between the compliance in the use of ICT facilities and academic achievement of students in Business Administration in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. The results of the findings strongly suggest that, ICT will significantly enhance easy delivery of Business Administration education, teaching and learning. Also ICT will significantly provide necessary Business Administration information for the learners on students. Furthermore, ICT will significantly help the Business Administration students to avail themselves with the opportunity of current knowledge and skills.

### Recommendations

Based on the findings of this study, the following recommendations were made:

- Students should develop more interest in the learning of Business Administration through the use of ICT facilities;
- the Federal and State Government should review its National ICT policies in order to ensure effective, qualitative Business Administration education;
- the school management should make a provision for all Business Administration students to have access to the free internet facilities;
- the ministry of education should integrate ICT into Tertiary Institutions Curricula; and
- finally, government should address the problem of irregular supply of electricity in the country in order to take full advantage of the opportunities offered by ICT for qualitative Business Administration education in Nigeria tertiary institutions.

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