
Assessment of Utilization of Information and Communication Technology (ICT) Facilities in Colleges of Education in North-West Geo-political Zone, Nigeria

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Abstract

This study assessed utilization of Information Communication Technology (ICT) facilities in colleges of education in Northwest Geo-political Zone, Nigeria. The study employed a descriptive survey design. The population of the study comprised all the principal management staff in all the thirteen federal and state colleges of education in Northwest zone. A sample size of 13 principal management staff was used for the study. Three research questions guided the study. A self-developed instrument, titled "Institutional ICT Utilization Questionnaire (IICTUQ)," was used for the study. The validity of the instrument was established by experts in the faculty of education, Bayero University, Kano, while the instrument's reliability indices was established using Cronbach's Alpha method on data obtained from similar subjects outside the target population at alpha 0.88 for ICT in financial management; 0.80 for ICT Infrastructural facilities; 0.87 for ICT in instructional supervision; indicating an acceptable level of reliability indices. The research questions were answered using descriptive statistics mean score at 2.50 rating and standard deviation. Findings of the study included that college management did not utilize ICT effectively in financial management and did not utilize ICT infrastructural facilities in the institutions. Based on the findings, it was recommended, among others, that management of colleges of education in Northwest zone should utilize ICT effectively in financial management to improve efficiency. Adequate computers and ICT

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infrastructural facilities should also be made available by federal and state governments to each college of education in the area of study for use by the college management.

Keywords: *Assessment, Information Communications Technology, Utilization of ICT
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Introduction

The adequacy and utilization of Information and Communication Technology infrastructural facilities are important factors to consider if there must be any meaningful benefit in the use of information and communication technology by the management of colleges of education in the North West Geo-Political Zone of Nigeria. The survival of any organization is dependent largely on the quality of management or administrative services involved as such services are an integral part of the organization. Management in education is seen as the planning, organizing, staffing, coordinating and directing the affairs of educational institutions towards achieving educational objectives. Onuka, (2009) observed that management is concerned with a set of activities, plans, policies and programmes with a view to achieving set educational goals, and is the efficient coordination of all organizational and material resources with or through other people to ensure that the objectives of the organization are achieved. In colleges of education, paramount services, according to the FRN (2014), are teaching, research and development, virile staff development programmes, generation and dissemination of knowledge, the administration of management, inter-institutional cooperation and distance education programmes, among others. The effective rendering of these services makes management an imperative.

We live in a world of speed, science and technology; a period of knowledge explosion and vast possibilities of information and communication technological breakthroughs. The world is dynamic. The dynamism of the world has led to its fast transformation into a global community with a vast network of information and communication technological activities. Information Communication

Technology has been found to be an indispensable instrument for the development of effective management, teaching, learning and research in the education system. The 21st century has witnessed tremendous advances in technology, which has had far reaching development in the administrative and academic system of institutions of learning. In the world at large, it is acknowledged that ICT is growing at a rapid pace with emerging technologies continuing to develop. As the knowledge explosion continues, institutions are required to develop greater ICT capability. Hence, integrating ICT and optimizing its potentials is among the major challenges facing the management of tertiary institutions.

Valcke (2010) noted that ICT is particularly useful in tertiary institution management to facilitate giving organizational information about courses, registration and follow-up of students' learning activities, staff bio data, subscriptions for examinations, communication about the instructional process, collaborative learning, self-assessment and collaborative research activities. Information communications technology could be used to revolutionize planning of academic activities in the educational delivery process. Those new and more efficient ways of doing things through information communication technology have given birth to electronic administration (e-administration). E-administration or e-management makes the giving and receiving of information to and from super-ordinates and sub-ordinates easier and faster. This makes management of the different task areas more effective and efficient. The different task areas of management in colleges of education include students' personnel services, staff personnel services, instructional supervision, academic planning, financial management and records management.

Effective instructional supervision and delivery requires that information communication technology be integrated in lecture delivery, students' assignment, course examination, students' presentation of seminars, micro teaching and evaluation of students such as in Computer-Based Testing (CBT) and in scoring of answer sheets of large classes. The quality and quantity of the available information communication technology and its utilization have direct consequences on leadership outcome of both academic and non-academic administrators. They impact on the school curriculum and

also affect the teaching and learning outcomes of the students. The use of ICT in both instructional supervision and administrative service delivery in our colleges of education will help improve academic performance of the students and their behaviours. This can serve as a yardstick for assessing the effectiveness of those concerned in the achievement of set academic and management goals. It is observed that the quality of academic output in colleges of education is going down because of poor integration of ICT in teaching and learning process.

Information and Communication Technology (ICT) embodies a convergence of interests between electronics, computing and telecommunications all of which are leading to the rapid development of microelectronics. The outcome of this technological flux is a paperless office and faster and better ways of doing things. The world has been turned into a global village through the convergence of information and communication technology resources. According to Osuagwu (2009), information communication technology refers to the convergence of microelectronics telecommunication and computers. To Lucey (2007), the term refers to the process of the acquisition, processing, storage and disseminating of vocal, pictorial, textual and numeric information.

Lucey listed the components of information and communication technology to include: Computer systems, Communication system (telecommunication telephone, satellite, telex, facsimile internet, e-mails, video text), document delivery and Reprographic systems (micrographic, electronics copiers, word processor), microware systems (radio, television). It is daily giving birth to new concepts, new products and new ideas and radically transforming not only our industries and businesses, but also every aspect of our lives, including educational management. Information communication technology is now recognized as a utility, such as water and electricity (Ajayi, 2012). ICT as a generic term refers to the technologies used in collecting, storing, processing, (editing) and passing information in various forms. In a general sense, ICT includes communication satellites, radio, television, telephone, video, tape record, microphone, public address system, projectors scoring machines, compact disc, floppy disc, personal computers and so on (Sambo 2002).

Information and Communication Technology is the life-wire of any

organization, including colleges of education. It facilitates the management processes of planning, organizing, leading, controlling and coordinating the activities of the institutions. It enables the academic administrators such as the Provosts, Deputy Provosts, Deans of School, heads of Department, Directors and Coordinators of programmes, and non-teaching administrators such as the Bursar, Registrar, Deputy Registrars (Personnel, Admissions and Academic Board matters, Examinations and Records) and chairmen of results verification, Time – table and Examination Committees to do their jobs more efficiently. Managers need to organize the information they get from outside which is not only the foundation for right action but equally the foundation for handling the challenges of knowledge and worker productivity, and the challenge of managing oneself (Drucker cited in Sapru, 2009). This, according to Drucker, relies heavily on the managers knowing what information they owe to others, and how they systematically develop the methods that turn the chaos of data in the universe into organized and focused information for the executive's own work and job. Management cannot take any decision without information which is better obtained through information and communications technology.

In the North Western Zone of Nigeria, some colleges of education are owned by Federal or State governments while others are owned by individuals. These institutions are differently confronted with numerous challenges in the ICT environment. Indeed, ICT has changed the way we live, work and play (Abiogu, 2007). As already stated, ICT plays a powerful role in helping institutions in managing information because it covers the application of storage of information, retrieval, manipulation and transmission of same for long and short term use, thereby reducing stress and waste of funds, which have characterized the current system of management. This was the observation that these researchers to assess the ICT-utilization by the management of colleges of education in Northwest Zone of Nigeria in terms of infrastructural facilities, instructional supervision and financial management. Such an assessment will provide an insight into what the management of each of this category of institutions has done to favorably position their institutions at a competitive advantage in an ICT knowledge-driven world.

Statement of the problem:

The utilization of Information and Communication Technology causes fundamental changes in the nature and procedures of management. It was argued that ICT not only helps management to become more efficient and effective, but it also helps them to become competitive. Based on the researchers' interactions with some of the management staff of the colleges of education studied, it was observed that the utilization of ICT infrastructural facilities used in planning of academic activities by the management of the institutions has not made much impact in the institutions for efficient management functions. The use of e-mails, desktop computer, laptop computer, the publication of vital information about the college online and even the application of ICT to personnel management and communication had been painfully slow. ICT has been integrated into the management of colleges of education in Nigeria for some time now; however, it is not clear whether its use by the college management in the Northwestern zone has improved as compared to what it was before. The researchers are worried about this perceived development. It is to address this uncertainty that this study was poised to assess the utilization of Information and Communications Technology (ICT) facilities in colleges of education in North-west Geopolitical Zone, Nigeria

Objectives of the study:

The study assessed the utilization of ICT facilities in the management of colleges of education in Northwest zone, Nigeria, specifically to:

1. determine the utilization of ICT in financial management by colleges of education in Northwest Zone, Nigeria.
2. find out the ICT infrastructural facilities used in planning of academic activities by colleges of education in Northwest Zone, Nigeria.
3. examine the utilization of ICT in instructional supervision by colleges of education in Northwest Zone, Nigeria.

Research Questions

The following research questions guided the study:

1. In what ways has the management utilized ICT in financial management?
2. What are the ICT infrastructural facilities used in planning of academic activities?

3. In what ways has the management utilized ICT in instructional supervision?

Method

Research Design

The study adopted a descriptive research design using survey method. This study therefore described in a systematic manner the utilization of ICT facilities in the management of colleges of education, in Northwest Nigeria. The design was deemed appropriate in order to conduct a field investigation and elicit information from the respondents (principal management staff) on ICT facilities utilization in colleges of education in the study area.

Population of the Study

The population of the study comprised all the principal management staff in the thirteen Colleges of Education in the Northwest geo-political zone: all the Provosts/Dep. Provosts, all the academic administrators (Deans of Schools, Directors of Programmes) and all the non-teaching administrators (Registrars, College Librarians and College Bursars) in the seven states.

Sample and Sampling Technique

There was no sampling technique since the population was small and could be managed. The reliance on “Institutional Questionnaire” as the instrument used also made sampling technique dispensable; only one management staff is eligible to complete the instrument on behalf of the institution. The sample is 13. This is in conformity with Nworgu (2015) who asserted that if the researcher's population is extremely small, no sampling technique is needed. The sample for the study is shown on the Table below:

Sample Size of the Study:

1.	FCE, Zaria	1
2.	FCE, Kano	1
3	FCE, Katsina	1
4.	FCE (T), Bichi	1
5.	FCE (T), Gusau	1
6.	COE, Sokoto	1

7.	COE, Gidan Waya	1
8.	COE, Kumbotso	1
9.	COE, Gumel	1
10.	COE, Dutsen-ma	1
11.	COE, Argungu	1
12.	COE, Maru	1
13.	KCARS, Kano	1
<hr/> Total		13

Instrument

The instrument used for data collection was an Institutional Questionnaire titled, “Institutional ICT Utilization Questionnaire (IICTUQ)”. The instrument was made up of two sections. Section 'A' consisted of items relating to the institution, such as: name of institution, ownership, and designation, while Section 'B' has 12 items, grouped under 3 clusters each answering the research questions and patterned after a modified Likert scale format of SA, A, D, SD for respondents to express their agreement or disagreement. The instrument was validated by experts at Bayero University, Kano and a reliability index of 0.81 was established using Cronbach Alpha statistical tool on data obtained from similar subjects outside the target population. Data were analyzed using mean and standard deviation to answer the research questions.

Procedure for Data Collection

Three research assistants assisted the researchers in the face-to-face administration and collection of data for the study. All the questionnaires, one from each institution, were collected.

Method of Data Analysis

The data collected was analyzed and completed around the research questions using summative rating scale, otherwise called “weighted mean.” The mean values of the four responses were determined by dividing the summation of the frequency of responses by the summation of the scale used. The decision rule was that any mean that rated above the bench mark of 2.50 was regarded as “Agree” while mean rated below the bench mark (2.50) was regarded as “Disagree”.

Results

The results are presented on the basis of research questions as follows:

Research Question One: In what ways has the management of Colleges of Education in North-west zone utilized ICT in financial management?

Table 1: Opinions of respondents on ways management of colleges of education in Northwest Zone utilized ICT in Financial Management

S/N	A: ICT in Financial Management	SA	A	D	SD	Total	Mean	STD
1.	College utilizes Remita for payment of all school fees	3(23.1)	2(15.4)	4(30.8)	4(30.8)	13(100)%	2.00	1.0
2.	College uses ICT facility for students to make fee payment for hostels electronically.	1(7.7)	1(7.7)	8(61.5)	3(23.1)	13(100)%	1.6	0.8
3.	College utilizes e-payment for all outstanding contracts	2(15.4)	2(15.4)	8(61.5)	1(7.7)	13(100)%	1.98	0.9
4.	Financial contributions from Alumni Association, banks and corporate bodies were properly utilized by our college for ICT related facilities	1(7.7)	5(38.5)	1(7.7)	6(46.2)	13(100)%	1.78	0.7
Grand Mean							1.84	

Results from Table 1 above indicated that all the respondents' responses from items 1-4 rated below the acceptable mean of 2.50 showing disagreements with the statements. The grand mean of 1.84 likewise showed that the respondents reacted negatively towards the statements pertaining to ways management of colleges of education in Northwest Zone utilized ICT in financial management. The results further showed that ICT is not properly utilized in financial management in Northwest Zone, Nigeria.

Research Question Two: What are the ICT infrastructural facilities used in planning of academic activities by the management of Colleges of Education, North Western Nigeria?

Table 2: Opinions of respondents on ICT Infrastructural Facilities used in planning of academic activities by management of colleges of education, Northwest Zone Nigeria

S/NO	B. ICT Infrastructural Facilities	SA	A	D	SD	Total	Mean	STD
5.	Institution has a functional E-library	00	1(7.7)	6(46.2)	6(46.2)	13(100%)	1.60	0.6
6.	ICT lecture rooms housing multimedia projector	00	00	6(46.2)	7(53.8)	13(100%)	1.50	0.5
7.	Desktop computers in offices	7(53.8)	5(38.5)	1(7.7)	00	13(100%)	3.00	0.6
8.	Facilities for e-conferences	1(7.7)	8(61.5)	00	4(30.8)	13(100%)	1.98	1.5
9.	Internet and other facilities for academic staff	2(15.4)	1(7.7)	8(61.5)	2(15.4)	13(100%)	2.00	0.9
Grand mean							2.02	

Results from Table 2 indicated that all the respondents from items 5-6 and 8-9 rated below the criterion mean score of 2.50 in disagreement to the statements, except for item 7 which rated above the acceptable mean showing agreement with the statement. The grand mean of 2.02 likewise showed that the respondents reacted negatively to the statements on ICT Infrastructural Facilities used in planning of academic activities by management of colleges of education, Northwest Nigeria. The results further showed that college management does not utilize ICT infrastructural facilities in the planning of academic activities in the institutions studied.

Research Question Three: In what ways has the management utilized ICT in instructional supervision?

Table 3: Opinions of respondents on ways management of colleges of education utilized ICT in instructional supervision

S/NO	ICT Application in Instructional Supervision	SA	A	D	SD	Total	Mean	STD
10.	College utilizes multimedia projector in teaching/learning process	4(30.8)	4(30.8)	3(23.1)	2(15.4)	13(100%)	2.00	
11.	College utilizes computers in the keeping of school records	4(30.8)	9(69.2)	00	00	13(100%)	3.10	
12.	College standardizes the quality of instruction through the use of smart board technology	1(7.7)	1(7.7)	8(61.5)	3(23.1)	13(100%)	1.60	
Grand mean							2.23	

Results from Table 3 above indicated that the respondents from items 10 and 12 rated below the acceptable mean of 2.50 in disagreement with the statements, except for item 11 which rated above the criterion mean of 2.50 showing agreement with the statement that college utilizes computers in the keeping of school records. The grand mean of 2.23 also showed that the respondents reacted negatively to the statements concerning ways the management of colleges of education utilized ICT in instructional supervision. The results further showed that college management does not utilize ICT in instructional supervision.

Discussion of findings

The purpose of this study was to investigate the utilization of ICT by the management of colleges of education, Northwest zone, Nigeria. The results of the research questions have revealed that the level of utilization of ICT in the colleges of education studied is abysmally low, and that there should be maximum improvement because the significance level is low. Information Communication Technology

(ICT) benefits the business world by allowing organizations to work more efficiently and maximize productivity. This finding is in line with Adwin, Okpara, Mike and Francis (2014) who highlighted that the ubiquity of ICT has increased across the boundaries and it has now become an inevitable domain to incorporate ICT in all workstations to tackle all the activities in efficient and effective fashion. The emergence of ICT and e-governance has certainly increased efficiency and effectiveness of financial management. That this improvement has not reflected in the financial management of colleges of education in Nigeria's Northwest region shows an inadequate utilization of this new ICT method by the management of these institutions of learning.

The study further revealed that out of five items on infrastructural facilities presented, college management disagreed to four showing non-utilization. This is in agreement with the findings of Odeh (2011), who established non-availability and inadequate utilization of ICT facilities in colleges of education in the North central zone. Out of the 31 items in the questionnaire, no ICT item was found to be always available. ICT has increasingly played a critical role in all fields of human endeavours. It is being used globally to translate ideas into realizable goals and develop same into concrete achievement. ICT has the potential to contribute to substantial improvements in the educational system (Moursund, 2005). However, to date, relatively little of this potential has been achieved in spite of ICT having significant impact on the school system. ICT has provided innovation for teaching and learning and has engendered advances in research about how people learn, thereby bringing about rethinking the structure of education (Lopez, 2013).

The result further showed that out of the 3 items presented on utilization of ICT in instructional supervision, college management disagreed to two items only, indicating non-utilization. Today, Information and Communication Technology provides a knowledge-based system that includes knowledge acquisition, knowledge incubation, knowledge amplification and knowledge dissemination. This finding agrees with Okeh & Opone (2017) whose research revealed that information is a key resource which permeates teaching, learning, research and publishing. Okeh and Opone further stated that the use of ICT can serve several functions in the national educational growth.

Conclusion

Based on the result of this study, it was concluded that there is poor acquisition and utilization of ICT facilities at the colleges of education studied. In other words, the management of colleges of education in Northwest Nigeria did not utilize Information and Communication Technology facilities adequately in the institutions. The world is fast becoming a global village as a result of the development in ICT. The challenge of utilizing ICT infrastructural facilities, use of ICT in financial management and instructional supervision by management is a very big task and a necessity.

Recommendations

1. Management of colleges of education in Nigeria's Northwest Zone should utilize ICT facilities adequately in financial management to improve efficiency.
2. College management should partner with other non - governmental organizations to establish ICT centers in their schools.
3. Government should provide ICT facilities in Colleges of Education North West, Nigeria, to enhance its utilization in the institutions studied.
4. Management of colleges of education in the study area should endeavour to utilize ICT in instructional supervision in order to improve teaching/learning process.
5. College management should seek means of internally generating fund to support government effort in the provision and management of ICT facilities in their institutions.
6. There should be a comprehensive strategy for the integration and utilization of ICT in the entire colleges of education, Northwest Zone of Nigeria.

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