

## Office information technologies and performance of Tertiary institutions in Southeast Nigeria

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### Abstract

The study examined office information technologies and performance of Tertiary institutions in Southeast Nigeria. Specifically, the study sought to: investigate the influence of printer on employee job performance of tertiary institutions and ascertain the influence of photocopier machine on quality job delivery of tertiary institutions. Research design was descriptive survey research. Sample size of 378 respondents were drawn from 5,503 academic staff of three selected tertiary institutions in Southeast Nigeria namely University of Nigeria Nsukka, Nnamdi Azikiwe University Awka, Michael Okpara University of Agriculture Umudike and Ebonyi State University Abakiliki. The hypotheses were tested with regression analysis comprising student-t statistics. The empirical results show printer has significant influence on employee job performance of tertiary institutions in Southeast in Nigeria (t-statistics (9.292) > P-value (0.000) and photocopier machine has significant influence on quality job delivery of tertiary institutions in Southeast in Nigeria (t-statistics (6.312) > P-value (0.000). The study recommended that management of tertiary institutions in Nigeria should adopt the idea of using up-to-date information technology devices/tools so as to avoid obsolescence so as to improve the service delivery.

**Keywords:** Printer technology; Photocopier technology; Performance of Tertiary institutions; Office information technologies

### 1. Introduction

Information Technology is the term that represents any technology that helps in producing, processing, manipulating, storing, communicating, and/or disseminating information. It includes computer hardware, networks, software, data and other related materials used to build information systems. Information technology has become a necessity in almost every organization today (Oyedokun & Adeolu-Akande, 2022). Since the early part of 20th century, the world has been witnessing an exponential growth in information technology which was considered by many as the most exciting development since the industrial revolution of the 18<sup>th</sup> century (Aliyu, 2021). Information technology has changed the way we go about our daily lives at work, at home, banks, shops, schools, universities and colleges; our thinking and commutation activities. Today the World is globally connected with internet which help individuals communicate with each other from different corners of the world using personal computers, mobile phone among others (Balogun, 2016). Technology is unquestionably considered a central growth point in this century, especially in a strong and competitive organizational environment that requires the use of advanced IT tools and applications in improving the efficiency, less cost and high-quality products and services (Onu and Amadi, 2020).

Olisaemeka, (2022) opined that there are a wide range of office information technologies that can enable staff of tertiary institutions to improve their performance. Such machines are electronic typewriters that replaced the manual ones,

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printers, photocopiers, word processors with multi-purpose facilities, computers and other sophisticated office machines and equipment are now provided by management of organizations. Some of the physical equipment includes communication equipment and electronic pocket organizers. Mailumo, Agugu and Asen, (2019) explained that Microsoft computer software programme help the user-secretary to write and edit memos, letters and reports, data management or databases, which help the staff user to use long list of data and spreadsheet programme which handles tables and numbers. The use of new machines like computers, fax, machines, electric typewriters, word processing etc has generated new skills and new job opportunities.

Organizations continued to employ information technology to solve various problems related to such organizations for more effective and efficient running of their organization (Olaoye, Olaofe-Obasesin & Akanni, 2019). Various Information Technology applications have been used to improve the productivity of employees and management of the organizations (Olisaemeka, 2022; Onu & Amadi, 2020). As these organizations grow and evolve, they rely heavily on information technology to solve various simple and complex problems. Organizations today implement and use information technology to solve problems such as employee's attendance, employee's personal record, promotion exercise, quality assurance and evaluation among others in order to compete with other organizations globally.

### **1.1. Statement of the Problem**

Technology has brought a lot of change in the globe today and one of the major problems facing employee's duties in today's office is the increasing cost of securing required modern office information technologies that could aid them to perform their duties more effectively and efficiently and be result oriented. It is also factual that most of the employees find it difficult to be dynamic in skill acquisition and new knowledge to handle these fast changing office information technologies.

The problems of unavailability, lack of access and lack of skills seemed to have retarded computer technology usage. In the case of unavailability, some lecturers who lack computers and its facilities cannot use them because they are not available. More so, lack of computer technology literacy of some lecturers would likely be a major constraint to effective use of computer technology. Lack of funds, unavailability of computer facilities, lack of electricity supply, lack of experts to assist seemed to be among the notable problems being faced by lecturers in their computer technology usage. Other problems may include human factors (such as resistance to innovation and need for specialized training), lack of interest, lack of time, age, staff conservatism, ignorance of the benefits, lack of confidence and cyber or techno phobia.

Although the usage of information technology globally by various organization have exponentially increased in recent years, the use of IT by various organizations in Nigeria is still at infant stage in most Government Institutions where only 4.7 percent use Information Technology effectively (Olisaemeka, 2022). Although in Nigeria tertiary institutions in Southeast in recent years has witness increase in the usage of Information technology such as the printing question papers, duplication of answer scripts and disseminating information among others, the question of whether the introduction of the Information technology has impact on the performance of Tertiary institutions in Southeast Nigeria remained unanswered.

#### *Objective of the Study*

The main purpose of this study is to investigate office information technologies and performance of Tertiary institutions in Southeast Nigeria. Specifically, the study sought to:

- investigate the influence of printer on employee job performance of tertiary institutions in Southeast Nigeria.
- ascertain the influence of photocopy machine on quality job delivery of tertiary institutions in Southeast Nigeria.

### **1.2. Conceptual Review**

#### *1.2.1. Concept of Office Information Technology*

Office Information technology (IT) is the use of computers to store, retrieve, transmit, and manipulate data or information in offices. IT is considered as a subfield of information and communications technology (ICT). Information technology constitutes of techniques for processing, the application of statistical and mathematical methods to decision-making, and the simulation of higher order thinking through computer programs (Olisaemeka, 2022). Office information technology refers to the use of computer systems, software and networks for processing and distribution of data and communicating information in the organization. An office simply means a professional place of work. Technology enables an organization to manage its operations efficiently and create a competitive advantage (Onu & Amadi, 2020).

Organizational office technology consists of technical devices and tools used by businesses in executing everyday tasks, such as managing clients, managing payroll information, analyzing sales records, fulfilling orders and communicating. For an organization to take significant advantage of technology, it requires personnel in such areas as computer networking, administrators, administrative assistants and computer system analysts. Increasing development in technology means that there is continual need for businesses to upgrade their office technology (Edeh, Sharma, Nwafor, Fyनेface, Sen & Edeh, 2020).

### 1.3. Printers and Photocopiers

Printers are used to convert our documents from soft copy formats to hard copies and photocopiers are used to make additional copies of such documents. In computing, a printer is a peripheral which produces a text and/or graphics of documents stored in electronic form, usually on physical print media such as paper or transparencies. Many printers are primarily used as local peripherals, and are attached by a printer cable or, in most newer printers, a universal serial bus (USB) cable to a computer which serves as a document source (Oyedokun & Adeolu-Akande, 2022). Some printers, commonly known as network printers, have built-in network interfaces, typically wireless and/or Ethernet based, and can serve as a hard copy device for any user on the network. Individual printers are often designed to support both local and network connected users at the same time. In addition, a few modern printers can directly interface to electronic media such as memory cards, or to image capture devices such as digital cameras, scanners; some printers are combined with a scanners and/or fax machines in a single unit, and can function as photocopiers. Printers that include non-printing features are sometimes called multifunction printers (MFP), multi-function devices (MFD), or all-in-one (AIO) printers. Most MFPs include printing, scanning, and copying among their features (Balogun, 2016).

### 1.4. Uses of Printer

- **Personal Use:** These printers are designed to handle low volume and high quality images at specific speeds. Printers are rated by their ability to print at a given speed and still generate acceptable quality prints. The inkjet printers that fall under the personal use category are designed to be used at home on small household projects like family greeting cards, personal letters, occasional pictures of family. These printers are generally small, compact and relatively quiet. These printers are broken down into two sub categories photo or professional or general use (Aliyu, 2021).
- **General Use:** These general use printers are designed to print a wide variety of print jobs. Simple text letters, email and kids term paper. A flyer for a garage sale or a notice of a lost animal with a picture. These type of things that don't require high quality pictures are perfect for these type of general use printers. Now, again these printers are very capable of print photo quality pictures but not anywhere near a good quality as the photo or professional grade printers (Hoque, Razak & Zohora, 2019).
- **Business Purpose:** These printers are generally wide format printers, but they are capable of printing on most sizes of media. The wide format means that they are not limited to 8 1/2 wide media. These are rugged and can handle the larger volume of printing found in most business environments. One reason they are able to handle the larger volume of printing is because the ink cartridges are larger and hold more ink. These printers generally don't have the cartridges that load on the print carriage, they generally plugged into slots in the front or top behind a cover and tubes there are used to deliver the ink to the print heads. Because of that fact these printer will have a slower warm up time, with having to prime the ink pump and all it can take time (Onyema, 2019).

### 1.5. Functions of a Photocopier

As technology advances, photocopiers are becoming increasingly more innovative with a vast array of functions to help speed up the process of office work. Today, the office photocopier is almost always a multifunctional device, offering printing, scanning and photocopying as standard. Mailumo, Agugu and Asen, (2019) opined further functions of a photocopier which include:

Scan to email: the majority of the photocopiers now have scanner embedded on the device, meaning you can easily send documents from the photocopier to your own email or to a clients. You can set your own email as a contact and shortcut button on the photocopier, so you can easily send scans to yourself without having to key your email in every time.

Scan to searchable PDF: Many photocopiers have Optical Character Recognition (OCR) function enabled, which means that when you scan your document, the scanner reads the letters and words and can save the document as a 'searchable PDF'. This allows users to search for the document based on words within the document, rather than the title, making documents easier than ever to find (Mailumo, Agugu & Asen, 2019).

**USB / SD Card printing:** Many photocopiers have USB or SD card ports which means that if you have a document ready to print on a USB or SD card, you can walk straight up to the device and print it, without the need for a print driver on your laptop (Onu & Amadi, 2020).

**Enlarge or reduce:** a common function of a photocopier is the ability to enlarge or reduce your documents so they are the ideal size. This can be a very useful feature for many office tasks and usually comes as standard with most new photocopiers (Onu & Amadi, 2020).

**Duplex:** Duplex printing is a feature that many photocopiers and multifunctional printers offer, allowing the printing of two pages onto one sheet, by printing on both sides. This is one of the best ways of reducing your print costs, as it simply halves the amount of paper used! If you are printing portrait documents then, you need to duplex on the 'long edge', if printing landscape documents, such as spread sheets, then the duplex would need to take place on the 'short edge' in the print driver.

**Collation:** Got multiple documents, such as hand-outs for a meeting to print. It can be quite time consuming to manually separate each bundle into a separate pile. Photocopiers have a 'collate' option, which slightly shifts each bundle of documents, so one can easily see where one copy ends and the next one begins. This is very useful for schools and classrooms as well as in the corporate business world.

**Staple / hole-punch:** There are many finishing options that can be added to a photocopier to help reduce manual tasks. By adding a staple or hole punch unit, users can produce high-quality stapled and hole punched documents at the click of the button. Not only does this save time, but it ensures that the staples and hole punches are in the exact same place each time (Onyema, 2019).

**Booklet printing:** By adding a saddle stitch finisher to your photocopier, you can print documents that are folded in the centre with two staples along the fold. This means you can print booklets quickly and easily in-house on your office photocopier, without having to pay for outsourced printing (Mailumo, Agugu & Asen, 2019).

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## **2. Theoretical Literature**

### **2.1. Technology Acceptance Theory (TAT)**

Davis, Bagozzi, and Warshaw (1989) propose the Technology Acceptance Theory (TAT) to explain the conceptual model that users' intention or acceptance degree towards information system or new technology. TAT is constructed on the foundations of perceived usefulness and perceived ease of use. Perceived usefulness refers to individual belief to improve the degree of job performance through using a particular new technology and information system. Perceived ease of use indicates how easy an individual learns how to operate or use new technology or information system (Davis et al., 1989; Gefen et al., 2003). The model places more emphasis on how perceived ease of use would positively affect perceived usefulness. Exogenous variables such as environment are also the antecedent that induces perceived usefulness and perceived ease of use. Thus, TAT is based on both important perceptual factors as perceived usefulness and perceived ease of use. TAT is widely applied on the research of information technology.

### **2.2. Empirical Studies**

Olisaemeka, (2022) examined the relationship between computer technology usage and teaching efficiency in tertiary educational institutions in Lagos state, Nigeria. Specifically, the study sought to ascertain how lecturers perceive their rate and mode of computer usage, enhancing and identify inhibiting factors to computer usage perceptions in teaching efficiency. The target population for the study included all the tertiary institutions in Lagos State. The sample size of 438 (15%) out of the 2,919 lecturers in the 13 out of the 14 tertiary institutions in Lagos State. The methods of data analysis were Pearson's Product Moment Correlation and T-test statistics. The study's major findings include: 76% of the lecturers in Lagos State were inexperienced in computer usage, there was low rate of computer technology (CT) use; 77% of the sample depended on technical assistants to operate computers; poor technical support, epileptic power supply, lack of facilities and lack of CT training/skills ranks high among hindering factors. The study recommended that federal, state government should make policy that will ensure lecturers proper CT usage to actualize teaching efficiency.

Aliyu, (2021) investigated the impact of information technology on organizational performance of Nigeria Immigration Service (NIS) Kebbi State Command. Specifically, the study sought to examine the extent NIS Kebbi State Command use Information Technology and ascertain the impact of information technology on performance of Nigeria Immigration Service. The sample size of 214 respondents was drawn from 465 staff of NIS Kebbi State Command. The method of

data analysis was simple percentage, mean and regression analysis. The empirical results revealed that there is a positive relationship between the information technology and organizational performance; it also shows that information technology has significant effect on organizational performance. The study revealed that there are IT devices available for the personnel of NIS Kebbi State Command to discharge their statutory duties efficiently. The study revealed that the use of IT contributed to increase in revenue generation, helped provide the up-to-date technology in computers, and improved the data collection process and reporting by the NIS personnel. The study recommends that Nigeria Immigration Service Kebbi State Command should adopt the idea of using up-to-date IT devices/tools so as to avoid obsolescence so as to improve the service delivery.

Edeh, Sharma, Nwafor, Fyeface, Sen, Edeh, (2020) examined the impact of emerging technologies on the job performance of educators in selected tertiary institutions in Nigeria. Specifically, the study also examines the various barriers that impede the use of emerging technologies by educators in tertiary institutions. Data were collected through structured questionnaires administered to 152 educators selected from five different tertiary institutions in Nigeria. The collected data were later analyzed using STATA/regression Analysis. The result shows that there was a significant improvement on the job performances of educators due to their usage of various emerging technologies. Most of the participants used emerging technologies for; content development and delivery, knowledge creation, communication, assessment, research, academic advising and professional development, all of which enhanced their efficiencies and productivity at work. Also, several factors such as; network and electricity issues were found to limit the use of emerging technologies by educators. The study commended that there is need for all educators to always update their digital skills in line with the emerging trends in technology and education.

Onu and Amadi, (2020) investigated influence of modern technology on office and information management profession in Ken Saro Wiwa Polytechnic, Rivers State. The specific objectives of the study were to; ascertain ways modern technology influences opportunity for training and retraining programmes of office and information management and determine ways modern technology influences management productivity of office and information management. The sample size of 106 respondents was taken from 218 staff (127 academic and 91 administrative staff) of organization under study. Data obtained was analyzed using the mean ( $\bar{X}$ ) and Z-test. The result showed that academic and administrative staff on modern technology influences opportunity for training and retraining programmes and management productivity of office and information management in Ken Saro Wiwa Polytechnic, Rivers State. The study recommended that government and private organizations should procure adequate modern office technology/equipment to enhance the productivity in Ken Saro Wiwa Polytechnic, Rivers State

Mailumo, Agugu, and Asen, (2019) investigated Information and Communication Technology (ICT) facilities and the management of tertiary institutions in Benue State. Specifically, the study sought to: ascertain the influence of internet on the management of tertiary institutions in Benue State, Nigeria and ascertain the influence of computer on the management of tertiary institutions in Benue State. The sample size of 340 respondents was taken from 6,805 academic staff from 12 tertiary institutions of learning in Benue State. Mean and standard deviation were used to answer the research questions while the Chi-square ( $\chi^2$ ) test of goodness of-fit was used to test the null hypotheses at 0.05 level of significance. The findings indicated that internet and computer services have significant influence on the management of tertiary institutions in Benue State Nigeria. It is recommended among others that tertiary institutional administrators should ensure that all her academic and non-academic staff undergo computer training to enable them know how to use internet on computers to undertake research and enhance effective teaching and learning in their various universities.

Olaoye, Olaofe-Obasesin and Akanni, (2019) conducted a study to examine the impact of information technology on corporate organizations performance in Nigeria. The research explores the significance of information technology on corporate organization effectiveness and efficiency. The study is empirical as questionnaire was the primary source of data while results were presented on average, variance and standard deviation. The target respondents constitute specialist in the field of information technology, specifically Lagos state. To achieve the primary aim of this research, forty-five questionnaires were administered to the IT specialist, forty was received which were analyzed with the one way ANOVA technique. Findings from the research depicted information technology have a significant impact on corporate organizations performance in Nigeria. It was recommended; corporate organizations must prioritize training of personnel and invest massively on IT for efficiency in operations.

Balogun, (2016) conducted a study to examine the effects of information technology on organisational performance in Nigerian banking industries. The specific objective of the study was to examine customer's and employee's responses to technology innovation, and their effects on the performance of the Nigerian banks. Fifteen (20) major banks were selected for the research. Four hundred and fifty (450) questionnaires were distributed to customers to test the first hypothesis out of which 400 were collected which is 88.88% of the distributed questionnaires, Chi square was used to

test the hypothesis . Findings revealed that technological innovation influenced banks employee’s performance, customer’s satisfaction and improvement in banks profitability. The study recommends effective management of technological innovation for improved employees performance, customer’s satisfaction, sustainable profit, increased return on investment, returns on equity, and to promote competitiveness in the Nigerian banking industry.

### 3. Methodology

Research design was descriptive survey research. Study Area was tertiary institutions in Southeast Nigeria. Sample size of 378 respondents were drawn from 5,503 academic staff of three selected tertiary institutions in Southeast Nigeria namely University of Nigeria Nsukka, Nnamdi Azikiwe University Awka, Michael Okpara University of Agriculture Umudike and Ebonyi State University Abakiliki. The study used structured questionnaire to obtain data. The research question was answered with simple percentage, mean and deviation while methods of data presentation are table and simple percentage. The hypotheses were tested with regression analysis comprising student-t statistics.

#### 3.1. Data Presentation and Analysis

**Table 1** Comprehensive Demographic Distribution of Respondents

Title	Frequency	Percentage
Questionnaires Distributed	378	100%
Returned Questionnaires	358	95%
Not Returned Questionnaires	20	5%
<b>Gender`</b>		
Female	213	59.5%
Male	145	40.5%
<b>Age Bracket</b>		
20-30 Years	153	42.7%
31-40 Years	111	31.0%
41-50 Years	66	18.4%
51Years – above	28	7.8%
<b>Marital Status</b>		
Married	223	62.3%
Single	125	34.9%
Widow/widower	7	1.9%
Divorce	3	0.8%
<b>Educational Qualification</b>		
MBA/M.sc	230	64.2%
Ph.D	125	35.0%
HND/B.Sc	3	0.8%
<b>Working Experience</b>		
1- 5 Years	111	31.0%
6-10 Years	153	42.7%
11-20 Years	66	18.4%
21 -35 Years	28	8.3

Sources: Field Survey, 2023

Three hundred and seventy eight (378) copies of questionnaire were designed and distributed to the respondents. Out of the 378 Questionnaires distributed, 358 (95%) were completed and returned while 20 (5%) were not returned. Therefore, 95 percent respondents were a good representation. The table showed the respondents profile in frequency and percentage distribution of gender, age bracket, marital status, educational qualification, and working experience.

### 3.2. Presentation of Result

**Question One** what is influence of printer on employee job performance of tertiary institutions in Southeast Nigeria?

**Table 2** Mean rating of responses of respondents on what is influence of printer on employee job performance of tertiary institutions in Southeast Nigeria

S/N	Question Items	VGE (5)	GE (4)	ME (3)	LE (2)	VLE (1)	Total	Mean	SD
1	Printing duplicate office documents into many copies that is needed in the office	630	632	192	40	10	1504	4.20	0.0030
		126	158	64	20	10	358		
		35%	44%	18%	5%	2%	100%		
2	Printers are used to print a wide variety of print jobs. Simple text letters, email and term paper	580	632	222	26	17	1477	4.13	0.0029
		116	158	74	13	17	358		
		32%	44%	21%	3%	2%	100%		
3	Printers are use in printing exam papers and school files	900	400	144	46	7	1497	4.18	0.0030
		180	100	48	23	7	358		
		50%	30%	13%	6%	1%	100%		
4	Printers makes it easy for printing out research works in the office	985	416	111	24	8	1544	4.31	0.0032
		197	104	37	12	8	358		
		55%	29%	10%	3%	2%	100%		
	Grand Mean							4.205	0.0030

Source: Field Survey, 2023

This table showed the opinion of respondents on what is the influence of printer on employee job performance of tertiary institutions in Southeast Nigeria. The respondents are in agreement with all the items. The study thereby revealed that printer has significant influence on employee job performance of tertiary institutions in Southeast Nigeria since printing duplicate office documents into many copies that is needed in the office (The grand me 4.205 was greater than the cutoff point 3).

**Question Two:** what is the influence of photocopier machine on quality job delivery of tertiary institutions in Southeast Nigeria?

**Table 3** Mean rating of responses of respondents on what is the influence of photocopier machine on quality job delivery of tertiary institutions in Southeast Nigeria

S/N	Question Items	VGE (5)	GE (4)	ME (3)	LE (2)	VLE (1)	Total	Mean	SD
1	Photocopier enlarges or reduces document to the ideal size and has feature that can easily send documents to email	780	496	174	24	8	1475	4.14	0.0029
		156	124	58	12	8	358		
		44%	34%	16%	3%	2%	100%		
2		620	624	144	40	10	1438	4.02	0.0027

	Many photocopiers have Optical Character Recognition (OCR) function which can scan document, reads the letters and words and also save the document as a searchable PDF.	124	156	48	20	10	358		
		35%	44%	13%	5%	2%	100%		
3	Many photocopiers have USB or SD card ports which can print without the need for a print driver on a laptop	1065	364	126	18	3	1576	4.40	0.0034
		213	91	42	9	3	358		
		59%	25%	12%	2%	0.8%	100%		
4	Photocopiers have collate option which sort produced document to the original document	985	416	111	24	8	1544	4.31	0.0032
		197	104	37	12	8	358		
		55%	29%	10%	3%	2%	100%		
	Grand Mean							4.218	0.0031

Source: Field Survey, 2023

This table showed the opinion of respondents on what is the influence of photocopy machine on quality job delivery of tertiary institutions in Southeast Nigeria. The respondents are in agreement with all the items. The study thereby revealed that photocopy machine has significant influence on quality job delivery of tertiary institutions in Southeast Nigeria since many photocopiers have USB or SD card ports which can print without the need for a print driver on a laptop (Grand-mean 4.218 was greater than the cutoff point 3).

### 3.3. Test of Hypotheses

#### 3.3.1. Test of Hypothesis One

Printer has no significant influence on employee job performance of tertiary institutions in Southeast Nigeria.

**Table 3** Regression Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.871 <sup>a</sup>	0.885	0.884	0.34657
a. Predictors: (Constant), Printer				

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72.903	1	72.903	14.239	0.000 <sup>b</sup>
	Residual	1827.84	357	5.120		
	Total	1900.743	358			
a. Dependent Variable: Employee job performance						
b. Predictors: (Constant), Printer						



Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.195	0.086		2.275	0.024
	Printer	0.455	0.049	0.941	9.292	0.000
a. Dependent Variable: Employee job performance						

In testing this hypothesis, printer was regressed against employee job performance. The result of the single-regression analysis showed the model to investigate the influence of printer on employee job performance of tertiary institutions in Southeast Nigeria.

### 3.4. Employee job performance = 0.195 + 0.455 Printer

The empirical result showed that the coefficient of printer has positive influence on employee job performance; it means that printer has positive and direct influence on employee job performance. The result of the t – statistics denotes that the coefficient of printer was statistically significance because the observed values of t – statistics (9.292) was greater than its p-values (0.000). The result of the F – statistical test showed that the overall regression of the hypothesis one was statistically significance because the observed value of the F – statistics (14.239) was great than its p-value (0.000). Again, our empirical result showed that the Pearson product moment correlation analysis (r) was 0.871. The strength of relationship between the two variables was high. However, we rejected the null hypothesis and concluded that printer has positive and significant influence on employee job performance of tertiary institutions in Southeast Nigeria.

### 3.5. Test of Hypothesis Two

Photocopy machine has no significant influence on quality job delivery of tertiary institutions in Southeast Nigeria.

#### Table Regression Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.902 <sup>a</sup>	0.840	0.840	0.40781
Predictors: (Constant), Photocopy machine				

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	61.376	1	61.376	9.954	0.000 <sup>b</sup>
	Residual	2201.262	357	6.166		
	Total	2262.638	358			
a. Dependent Variable: Quality job delivery						
b. Predictors: (Constant), Photocopy machine						

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.650	0.113		5.645	0.000
	Photocopy machine	0.391	0.062	0.917	6.312	0.000
a. Dependent Variable: Quality job delivery						

In testing this hypothesis, photocopier machine was regressed against quality job delivery. The result of the single-regression analysis showed the model to ascertain the influence of photocopier machine on quality job delivery of tertiary institutions in Southeast Nigeria.

### 3.6. Quality job delivery = 0.650 + 0.391 Photocopier machine

The empirical result showed that the coefficient of photocopier machine has positive influence on quality job delivery; it means that photocopier machine has positive and direct influence on quality job delivery. The result of the t – statistics denotes that the coefficient of photocopier machine was statistically significance because the observed values of t – statistics (6.312) is greater than its P-values (0.000). The result of the F – statistical test showed that the overall regression of the hypothesis one was statistically significance because the observed value of the F – statistics (9.954) was great than its P-value (0.000). Again, our empirical result showed that the Pearson product moment correlation analysis (r) was 0.902. The strength of relationship between the two variables was high. However, we rejected the null hypothesis and conclude that photocopier machine has positive and significant influence on quality job delivery of tertiary institutions in Southeast Nigeria.

#### Summary of the Findings

The following are the major findings of the study:

- The study thereby revealed that printer has significant influence on employee job performance of tertiary institutions in Southeast in Nigeria since printing duplicate office documents into many copies that is needed in the office (t-statistics (9.292) > P-value (0.000).
- The study thereby revealed that photocopier machine has significant influence on quality job delivery of tertiary institutions in Southeast in Nigeria since many photocopiers have USB or SD card ports which can print without the need for a print driver on a laptop (t-statistics (6.312) > P-value (0.000).

## 4. Conclusion

The study concluded that there was positive and significant influence office information technologies on performance of tertiary institutions in Southeast Nigeria. Nigeria has increasingly adopted and implemented national policies on information technologies. The benefits of integrating information technologies into Nigeria's educational system cannot be overemphasized. Office information technologies has been noted to increase access to modern learning techniques in work environment which improves knowledge in this highly competitive era of globalization. Information technology in its crucial role in Nigeria Tertiary. Nigeria is adapting information technology into its tertiary education system. Although this is at a slow rate due to some impediments. The possibility of office information technologies in Nigeria tertiary education is achievable if the government implements information technology policies as well as provides adequate funding for information technology infrastructure. Lastly, national governments must monitor information technology infrastructure in various tertiary institutions to be sure that information technology equipment is not abandoned but are in use. With effective policy legislation and execution, information technology would be able to become a powerful stimulant of quality job delivery in Nigerian tertiary institutions.

#### Recommendations

The study recommends that:

- Management of tertiary institutions in Nigeria should adopt the idea of using up-to-date information technology devices/tools so as avoid obsolescence so as to improve the service delivery. There is equally need for regular

training and retraining of the personnel on the use of information technology tools, border management information system software and radio equipment as it will help increase long-term productivity, reduce mistakes and saves time. The culture of maintenance should be established by the management of tertiary institutions to ensure that the available information technology facilities and equipment are always in good working conditions.

- In addition, there is need for the provision of adequate funding by the government to provide adequate information technology infrastructures and improved power supply. The organization should provide more backup storage devices for the safety of the organization's vital information. Outdated information technology facilities and equipment should be replaced with modern facilities and equipment.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest among the authors.

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