



## HIGH-TECH MANAGERS RATINGS OF HARDWARE TRAINING NEEDS OF OFFICE EDUCATION GRADUATES FOR AUTOMATED OFFICE IN DELTA STATE

Okeke, A. U. PhD

Department of Vocational Education  
Nnamdi Azikiwe University, Awka  
[auokeke@gmail.com](mailto:auokeke@gmail.com) & [auokeke@unizik.edu.ng](mailto:auokeke@unizik.edu.ng)

AKITI, N.

Dept of Office Tech and Management Education  
Federal College of Education (Technical), Asaba  
[nemmanuelakiti@gmail.com](mailto:nemmanuelakiti@gmail.com)

### Abstract

*The need to improve the quality of office education graduates for the modern day automated office informed the study to determine high technology managers ratings of hardware training needs of office education graduates for automated office in Delta State. One research question guided the study and two hypotheses were tested at 0.05 level of significance. The design of the study was descriptive survey research design. The area of the study was Delta State, Nigeria. The population comprised 114 High Technology managers in Delta State. The entire population was studied without sampling due to the size. A 5-point rating scale questionnaire was used to collect data for the study. Reliability of the instrument was determined through pilot test and data analysed using Cronbach alpha reliability test. The reliability test yielded co-efficient value of 0.87. Mean and standard deviation were used to analyze data in relation to research questions and to check the closeness or otherwise of the respondents' response to the mean while Analysis of Variance (ANOVA) and z-test was used in testing the null hypotheses at 0.05 level of significance. Findings revealed that office education graduates need training on hardware skills. Based on these findings, it was recommended among others that office educators should be given in-service training in the use of hardware tools to facilitate the teaching and learning process.*

*Keywords: Hardware, Training Needs, Office Education, Graduates and Automated Office*

### Introduction

Information and Communication Technology (ICT) has changed the equipment used for office functions and work groups, hence nobody in this present dispensation would like to work in an office where information processing and other secretarial functions are performed manually or mechanically. This is why the mechanized office is gradually giving way to the automated office where computer workstations and other automated equipment have transformed the manual methods and paper communication media to ICT based media. This transformation has resulted in the development of automated systems that rely on electronic collaboration and communication networks, text processing, image processing and other ICTs. Onamade and Adebayo (2012) averred that information communication technology (ICT) is concerned with the aspect of managing and processing information with hardwares and softwares such as database, power point and soft skills which are used to convert, store, protect, process, transmit and retrieve information. According to Atakpa (2010), secretarial functions everywhere in the world have experienced a lot of changes as functions that were previously done manually have been automated. Thus, an automated office is an office which is equipped with office technology tools like computers, scanners, photocopiers and laminating machines among others. As a result of the adoption of new technologies in the office, secretaries who are the key



personnel in office information processing, need to possess new sets of skills to remain relevant in the automated office.

According to Okwuanaso and Obayi (2003), the emergence of ICTs has posed challenges to secretaries because the skills they have only prepared them for manual and mechanical functions such that documents and records were produced with typewriters, duplicating and photocopying machines and stored in files and drawers for manual retrieval. Technology has become a common tool and almost every layman operates handsets, desktops and laptops. Office education students and graduates are expected to move from mere technology to high technology operations by possessing hardware skills.

Similarly, Cameron and Robert (2006) saw information systems hardware as an integral part of the information system infrastructure; it consists not only of the computers used in an organization but also of networking hardware. The computing hardware is essential in an organization's infrastructure because it is needed to store and process organizational data, the networking hardware is needed to connect the different systems to allow for collaboration and information sharing. O'Reilly and Tushman, (2009) averred that the term hardware refers to the tangible parts of a computer system, that is, the physical equipment of the computer. A keyboard, disk drive, power supply unit and monitor are examples of computer hardware. Like the input system, the output system provides an interface through which computers and humans can interact with one another. However, though the human is on the receiving end of the process. Output devices are used to display input data that has been processed by the computer into useful output information (O'Reilly & Tushman, 2009). Nwosu (2004) opined that through output system, the computer presents the data it contains in a form that the user can understand. The presentation is typically any of these forms: graphics (charts and photographs), text (words and numbers), video (photographic images in motion), or audio (music and speech). Probably the most common output devices are monitors for producing temporary displays (soft copies) and printers for producing paper copies of documents such as hard copies (O'Reilly & Tushman, 2009).

Unfortunately, Onamade and Adebayo (2012) reported that the graduates of office education lack competencies in the application of modern technology skills like the operation of a printing machine, fax machines and online processing systems to carry out office tasks. As high technology becomes increasingly available in most establishments, it becomes very necessary that graduates of office education be trained to acquire the relevant technological competencies for their efficient utilization. However such training should be focused on the areas of skills as perceived by experts of high technology managers and demand of business environment.

High tech managers represent experts that oversees the functions of high technology industries that involves highly-skilled workforce and products that require a high proportion of research for new products in the ICT industry. It involves the most modern or advanced methods of using electronic equipment and computers. Zakrzewska-Bielawska (2010) defined high technology industry as a company, which offers high capacity for creation, implementation and popularisation of various innovations and information processing. In this sense, high tech managers are



individuals' who are responsible for overseeing the daily routine of high tech companies and are aware of the office information system needs that enhance effective office information processing. Okeke (2013) asserted that high tech managers provide training on modern technology skills and competencies for graduates of office education among other operations to fit into ICT environment and careers. Thus, high tech manager is an individual who is responsible for the day-to-day specific job routine and complexities of a high technology company who is aware of the office information system processes and needs that enhance effective office operations in an automated office.

Certain factors have been seen to influence managers' opinion on issues like students training needs. According to authors like Okeke (2013) and Onamade and Adedayo (2012) gender and years of experience do influence high tech managers views on training needs. However, this has not been empirically verified to be the case among high technology managers in Delta State. It is against this background that researchers determined high tech managers' ratings of hardware training needs of office education graduates for automated office in Delta State.

One of the aims of vocational education is to promote the capacity to earn a living, or, expressed in more social terms, the capacity to do one's share of the productive work of the world. Vocational training therefore can only be given where the training jobs are carried on in the same way with the same operations, the same tools and the same machines in the occupation itself.

### **Statement of the Problem**

Technology has become part of activities in the current era as almost every layman operates technological equipment & devices like the phone and laptops. Employers and the society expect office education graduates to demonstrate skills which surpass those of the layman. Unfortunately, it seems they lack the competency to operate modern office information system, like the hardware for effective work performance. Nwaokwa and Okoli (2012) noted that lack of ICT skills is one main causes of poor performance of office education graduates in many organizations in Nigeria thereby increasing unemployment rate.

With the diversities of these office technologies, the office education graduate is expected to possess new skills and sub-skills to enable them to remain relevant in the modern office. However, it appears that office education graduates have failed to acquire the necessary office information systems skills needed in an automated office. It therefore becomes imperative that this study is carried out to determine the hardware training needs of office education graduates for automated office in Delta State.

### **Research Question**

*One research question guided the study:*

What are the hardware training needs of office education graduates for automated office in Delta State?

### **Hypotheses**

The following null hypotheses were tested at 0.05 level of significance:



1. There is no significant difference in the mean responses of male and female high technology managers on hardware training needs of office education graduates for automated office in Delta State.
2. There is no significant difference in the mean responses of high technology managers on hardware training needs of office education graduates for automated office in Delta State based on years of experience.

### **Method**

The study was a descriptive survey. The population of the study consisted of 114 high technology managers from ICT training centres in Delta State. Instrument for data collection was a structured questionnaire on a five point response categories of Strongly Agree (SA), Agree (A), Moderately Agree (MA), Disagree (D) and Strongly Disagree (SD). To establish the reliability of the instrument, it was administered on 10 high technology managers in Awka Metropolis in Anambra State who were not included in the population of the study. The Cronbach Alpha reliability method on the obtained data yielded a co-efficient value of 0.87 for internal consistency which was deemed high for the study. The researcher administered copies of the instrument personally to the respondents and with the aid of three research assistants. Out of the 114 copies of the questionnaire administered, 108 copies were returned. This accounted for 94.74 percent return rate of the questionnaire distributed. The data collected from the respondents were analyzed using mean and standard deviation. The mean value was used to answer the research question while the standard deviation was used to ascertain the homogeneity or otherwise of the respondents' ratings. Analysis of Variance (ANOVA) and z-test were used to analyze the null hypotheses at 0.05 level of significance. The following boundary limits were used to determine high tech managers opinion:

<b>Response Option</b>	<b>Values</b>	<b>Real Limit</b>
Strongly Agree	5	4.50 – 5.00
Agree	4	3.50 – 4.49
Moderately Agree	3	2.50 – 3.49
Disagree	2	1.50 – 2.49
Strongly Disagree	1	0.50 – 1.49

For the hypotheses, where the calculated f or z value is less than the critical value of f or z, it means that there is no significant difference and the hypothesis was upheld. Conversely, where the calculated f or z value is equal to or greater than the critical f or z value, it means that there is significant difference and the hypothesis was not upheld.

Results

### **Research Question 1**

*What are the hardware training needs of office education graduates in Delta State?*



**Table 1: Respondents Mean Responses on the Hardware Training Needs of office Education graduates (N=108)**

S/N	Item Statements	$\bar{X}$	SD	Remarks
1.	Training in computer system	4.28	0.89	Agree
2.	Locating documents on the computer	3.81	1.09	Agree
3.	Inputting information in the computer system through the keyboard	4.19	0.93	Agree
4.	Assessing information with the computer touchpad	4.33	0.84	Agree
5.	Using the light pen to input information into the computer system.	4.12	0.9	Agree
6.	Using the scanner to process information	4.35	0.89	Agree
7.	Using the photocopying machine to make extra copies of office documents.	4.03	0.76	Agree
8.	Using graphic tablet to map out business strategies.	3.90	1.04	Agree
9.	Using speech recognition devices to record information.	4.31	0.77	Agree
10.	Using automated teller machines to make cash transactions.	4.06	0.97	Agree
11.	Using Point-of-Sale (POS) Devices for customers transactions.	3.99	1.00	Agree
12.	Using fax machines to send out office correspondence	4.31	0.88	Agree
13.	Using the Universal Serial Bus (USB) to receive and transfer office information.	4.10	0.99	Agree
14.	Using screen resolution of the Video Display Unit (VDU) to adjust computer monitor.	3.94	1.02	Agree
15.	Using Printers to produce hard copy documents.	4.28	0.89	Agree
16.	Projecting information from the computer.	4.32	0.86	Agree
17.	Training on system analysis, design and implementation.	2.23	0.65	Disagree
18.	Training on programming languages and coding.	2.04	0.77	Disagree
<b>Cluster Mean</b>		<b>3.92</b>		<b>Agree</b>

Data in Table 1 reveals that the respondents agreed on 16 of the items, listed with mean responses ranging from 3.81 to 4.35 as hardware training needs of office education graduates and disagreed with two (17 and 18) with mean responses of 2.23 and 2.04. The cluster mean of 3.92 indicates that the respondents agreed that office education graduates in Delta State need training in different aspects of hardware manipulation. The standard deviation of 0.65 to 1.09 shows that the respondents' opinions are homogenous.

**Hypothesis 1**

There is no significant difference in the mean responses of male and female high technology managers on hardware training needs of office education graduates for automated office in Delta State.

Table 2



**Z-test** Analysis of Respondents’ Mean Responses on Hardware Training Needs of Office Education Graduates Based on Gender

Variable	N	$\bar{X}$	SD	df	$\alpha$	z-cal.	z-crit	Decision
Male Managers	72	4.27	0.96	106	0.05	0.52	1.96	NS
Female Managers	36	4.16	1.04					

Data in Table 2 shows that the calculated z-value of 0.52 at 106 degree of freedom and at 0.05 level of significance is less than the critical value of 1.96. This means that there is no significant difference in the mean responses of male and female high technology managers on hardware training needs of office education graduates in Delta State. The null hypothesis is therefore, upheld.

**Hypothesis 2**

There is no significant difference in the mean responses of high technology managers on hardware training needs of office graduates for automated office in Delta State based on years of experience.

**Table 3**

Analysis of Variance (ANOVA) Summary on Mean Responses of Respondents on Hardware Training Needs of Office Education Graduates Based on Years of Experience

Source of Variable	Sum of Squares	df	Mean Square	F-cal	Sig.
Between groups	60.4	2	30.2	0.92	3.89
Within groups	392	12	32.7		
Total	452.4	14	62.9		

The information in Table 3 indicates that the calculated F-value of 0.92 is less than the significant level of 3.89. Since the F-value is less than the F- critical, the null hypothesis is accepted. On the basis of this analysis, it can be concluded that there is no significant difference in the mean responses of high technology managers in Delta State on hardware training needs of office education students for automated office based on years of experience.

**Discussion and Implications of the Study**

The findings on hardware training needs indicated that high technology managers agreed that office education graduates in Delta State require training on hardware. This is in line with Olayanju and Asogwa (2010), that for secretaries to be effective they require emphasis on skills and knowledge for the use of modern information processing facilities (ICT). Olayanju and Asogwa revealed that these facilities include word processors, data processing equipment, micro-computers, records management with its emphasis on paperless files and reprographics. Similarly, the findings supported Okeke (2013) that a skill in ICT encompasses computer hardware skills and computer software knowledge. In the same vein, the study agreed



with the submission of Ezenwafor (2013) that every modern day secretary needs competencies on the ability to connect hardware components, effectively use input devices, ability to connect and use printer and relevant equipment for duplication, ability to use secondary storage devices.

The findings also revealed that there was no significant difference in the mean responses of high technology managers on hardware training needs of office education graduates in Delta State based on gender and years of experience. This is in line with Adebayo (2012) who found that gender and years did not influence managers' views on training needs. This shows that the high technology managers, irrespective of gender and years of experience, agreed that office education students need hardware training in order to function effectively in the modern day office.

Findings of the study have implications for office education graduates that the determination of their hardware training needs would help improve their knowledge and skills on the use of office information system hardwares which will in turn improve their capacity to function effectively in a modern office. This view is also shared by Okeke (2013) who posited that the knowledge of hardware skills will help to improve the capacity of office education graduates to function in an automated office. Findings of the study also have implications for would be information processing specialist (secretaries) that the determination of their training needs on the use of hardware tools and equipment would help in improving their hardware management skills hence positioning them for the demands of the present day automated office.

### **Conclusion**

It was concluded that high-tech managers in Delta State agreed that office education graduates need training in hardware and that years of experience and gender did not significantly affect the opinion of high-tech managers on information system training needs required of office education graduates. Thus, office education graduates need training on hardware skills to function in an automated office.

### **Recommendations**

Based on the findings of this study, the researcher proffers the following recommendations:

1. Office educators should be given in-service training in the use of hardware tools to facilitate teaching and learning process.
2. Government and the management of the institutions should go into partnership with high technology organizations so as to mapout hardware training guides for office education students.
3. Office education laboratories should be established to encourage practical appreciation of ICT in office procedures and tasks usually faced in an automated office.

### **REFERENCES**



- Agboola, J.O. & Ademiluyi, L.F. (2011). Communication competencies needed for successful entrepreneurship: Implications for polytechnic education. *Business Education Journal*, 8(1), 155- 168.
- Atakpa, R. A. (2010). *Office practice and management: Practical approach*. Agbor: Royal Pace Publications.
- Cameron, K. S. & Robert, Q. E. (2006). *Diagnosing and changing organizational culture*. San Francisco, CA: Jossey-Bass.
- Ezenwafor, J. I. (2013). Enhancing the relevance of secretarial staff in the university system. *Journal of Emerging Trends in Educational Research and Policy Studies*, 4(3), 424-432.
- Ezenwafor, J. I. & Okeke, A. U. (2011). Skills needed by confidential secretaries for effective performance as perceived by top civil servants. *African Journal of Interdisciplinary Studies*, 4(1), 15- 22.
- Fitts, P. M. (1984). Perceptual motor skill learning. In A.W. Melton (Ed.). *Categories of human learning*. New York: Academic Press.
- Gimba, D. (2011). *Employability skills required by polytechnic graduates building technology in Nigeria*. A Research Project Submitted to the Department of Vocational Teacher Education (VTE), Faculty of Education, University of Nigeria, Nsukka.
- National Board for Technical Education (2004). *National/higher national diploma in office technology and management curriculum and course specifications*. Kaduna: Federal Government Press.
- Nnabuife, E. (2009). *Organizational behavior and management theory*. Nimo: Rex Charles & Patrick Pubs.
- Nwaokwa E. & Okoli, B.E (2012). Information of communication technology on the influence performance of secretaries in government ministries in Nasarawa State, North-Central Nigeria. *Research journal of information technology*, 4(3), 93-97.
- Nwosu, B. O. (2004). *Office management in Nigeria*. Benin: Barloz Publisher Inc.
- Okeke, A.U. (2013). Identifying modern office information system careers for business education graduates through high technology operators in public universities in Anambra/Enugu States. *Journal of Vocational and Adult Education*, 8 (1), 83-95.
- Okwuanaso, S. L. & Obayi, T. (2003). *Elements of office automation*. Enugu: JTC Publishers.
- Olawole, S. A. & Abuya, A. O. (2011). Measures for effective implementation of office technology and management programme in tertiary educational institutions in Nigeria. *Journal for the advancement of Office Technology and Management*, 5 (1), 22-33.
- Olayanju, T. K.& Asogwa, A. N.(2010).Competency-improvement needs of secretaries of higher institutions in ICT for effective office work performance. *Multidisciplinary Journal of Research Development*, 15 (3), 1-9.
- O'Leary, T. J. & O'Leary, L. I. (2005). *Computing essentials* (Complete edition). New York: McGraw-Hill.



- Onamade, S. A. & Adedayo, T. G. (2012). Skills improvement needs of secretaries trained in private institutions in South-West Region of Nigeria. *Continental Journal Education Research*, 5 (1), 17 – 26.
- Onoyovwi, D. A. (2009). *Office work skills required of NCE office education graduates in a modern office as perceived by employers in selected organisations in Delta State* (Master's thesis). Department Of Business Education, Faculty of Education, University Of Nigeria, Nsukka.
- O'Reilly, C. A. & Tushman, M. L. (2009). The Ambidextrous Organization. *Harvard Business Review*, 82 (4), 74–82.
- Zakrzewska-Bielawska, A. (2010). *High technology company: Concept, nature, characteristics*. Retrieved 24th March, 2016 from [http://www.onet.pl/a\\_bielawka@poczta](http://www.onet.pl/a_bielawka@poczta).