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Extent of Information and Communication Technology Skills Possessed by Office Technology and Management Graduates in the Civil Service of Enugu State

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Abstract: The study assessed Information and Communication Technology (ICT) skills possessed by office technology and management graduates (workers) in the civil service of Enugu State. Two research questions guided the study and four null hypotheses were tested. Descriptive survey design was adopted for the study. The population comprised 200 Office Technology and Management (OTM) Workers from 27 ministries in the State was used for the study. No sampling was taken out since the population size was manageable. A 25-item structured validated questionnaire was used for data collection. The instrument was validated by four experts; one from measurement and evaluation and two from business education, while one from Adult Education all in Faculty of Education Nnamdi Azikiwe University, Awka. The reliability of the instrument was ascertained using Cronbach alpha which showed that the clusters achieved co-efficient from B1 and B2 clusters 0.79 and 0.76 respectively, with an overall reliability co-efficient values of 0.78. Data related to the research questions were analyzed using mean and standard deviation, while t-test was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that OTM workers in Enugu State civil service highly possessed Microsoft office skills and moderately possessed database. Findings also revealed that there was no significant difference in the mean ratings of male and female OTM workers on the extent they possess Microsoft office and database management skills. Findings further revealed that significant difference exist based on age on the extent OTM workers possessed Microsoft office and database management. Based on the findings, the researcher concluded that Office Technology and Management (OTM) workers cannot perform effectively without high possession of the skills required especially the database management skill. It was recommended among others that government ministries should procure the latest model of ICT facilities to enhance OTM functions. Adequate provision of latest ICTs will not only motivate the workers but will also increase their efficiency, effectiveness and productivity.

Keywords: Assessment, information and communication technology (ict) skills, office technology and management graduates, civil service.

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Introduction

The unprecedented technological advancement being witnessed across the world since the turn of the new technology has radically changed the old ways of doing things. Revolution in Information and Communication Technology (ICT) is by far the most widely felt of the advancements hence the general consensus that the world is in ICT age (information age or jet age). To Nwabueze (2011), Information and Communication Technology (ICT) 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 various services and applications associated with them, such as video conferencing and distance learning. ICT is often spoken of in a particular context such as ICT in education, health care, libraries and civil service among others. The impact of new technologies is felt by organizations in every aspect. Computing technology, communication technology and mass storage technology are some of the areas of continuous development that have reshaped the way government offices and organizations access, retrieve, store, manipulate and disseminate information to users. The prevalence and rapid development of ICT has transformed human society from the information technology age to the knowledge age (Yusuf andOnasanya, 2013). In this regard ICT is viewed as innovations that enable office technology and management workers (OTMW) in civil service to perform their office tasks effectively and efficiently.

Office Technology and Management (OTM) workers in civil service are one of the staff responsible for public administration of the government of the country. It excludes the legislative, judicial and military branches (Ogidefa, 2008). Members of the civil service have no official political allegiance and are not generally affected by changes in government. The Nigeria civil service consists of workers in government agencies other than military. Most employee/career civil servants in the Nigerian ministries are progressing based on qualification and seniority. According to Olugbenga (2015), civil service is defined as either a branch of governmental service in which individuals are employed or hired on the basis of professional merit as proven by competitive examination; or the body of workers in any government agency apart from the military which is a separate extension of the national government.

Office Technology and Management (OTM) workers in Enugu State civil service is a holistic nomenclature ascribed to the secretaries who perform office managerial services with modern automation such as computer, fax machine, addressing machine, scanning machine, printing machine, laptops, android phone among others. OTM workers cannot perform effectively without adequate possession of the skills required and provision of ICT equipment like computer, printing machine fax machine among others in government establishment. This is because; the speed at which technology is evolving and changing methodology of office work is now on the increase. Based on this, the OTM workers in Enugu State civil service are challenged the more; as a result of this, they are expected to assume greater responsibilities using the new technologies. The existing occupations and rising job requirements make retraining very necessary for OTM workers in Enugu State civil service. Therefore, only re-trained workers can fill the gap in manipulating the old and the modern technologies for effective performance. The ability of OTM workers in civil service to effectively carry out their office task using ICT depends on the level of ICT skills possessed.

Skill is a person's ability to perform a given task well as a result of training and practice. Obi (2015) defined skills as manual dexterity acquired through repetitive performance of operations. Skills are concerned with what people do (their work), how they do it (method

and technology used) and what they achieve (their results). According to Idowu and Ogunbodede (2008), ICT skills involve using computer based technologies to manipulate, create, store and retrieve information, express ideas and communicate with others. ICT skill is the ability required by OTM workers for effective delivery of office task in Enugu State civil service of Nigeria. The new ICT skills expected of OTM workers include microsoft office and database management among others which were absent in the old curriculum of business studies. According to Bartlett (2015), microsoft's suite of productivity products known as office, or MS office, is a fixture at businesses around the world. The office suite includes word-processing program, excel, access, publisher and powerpoint among others. Bartlett (2015) further stated that entry-level skills for most office work include the ability to open, create, save and modify documents in word, send and receive email in outlook and create spreadsheets in excel. Therefore, knowing how to use microsoft office is essential for many offices and businesses, and employers require their workers to possess the necessary skills for effective job performance.

Database management deals with introduction of users to languages, applications and programming used for the design and maintenance of business databases. Ronse *et al.*, (2016), database is a collection of information that is organized so that it can easily be accessed, managed and updated. One of the basic skills covered in database management courses is the use of Structured Query Language (SQL), the most common database manipulation language (Courtney *et al.,* 2010). People learn to write programmes with packages, debugging procedures, triggers and database structures using SQL. These ICT skills are used by professionals in their various fields of endeavours. As the demand of nowadays office work increases with its dynamic and sophisticated nature, microsoft and database management skills are highly needed by office technology and management workers to meet the requirements of today's office practices. The dissemination of the information can be effectively accomplished through the application of requisite technology.

The impact of ICT is becoming pronounced worldwide in such a way that nothing is mentioned in any area of human endeavour without reference to it. The work of Nigerian civil servants involves high level of documentation and information processing, storage, and retrieval. The information intensiveness of a civil servant responsibility is that tools and technologies would be used to speed up the documentation; management and information handling are not only important but professionally necessary.

The value of accuracy, correctness, completeness, relevant and timelessness in the area of documentation, data processing, communication, storage and retrieval system by the aid of ICT gadgets almost effortlessly and with jet speed has made ICT very important for workers in civil service. As a result of numerous benefits of ICT, the Federal Government of Nigeria (FGN) (2013) has imbibed ICT skills into the workforce, in that they recently embarked on in-service courses organized for workers in the Nigerian civil service to update their skills in Information and Communication Technology. Among these workers are male and female office technology and management workers who are working in government offices. The training is being carried out in partnership with a computer institute called Digital Bridge Institute at the Federal Capital Territory, Abuja. The federal government has decided that the training will be a regular and continuous one (Digital Bridge Institute, 2015).

The influencing factors on information and communication technology are gender and age of the workers. Gender in this study refers to male and female civil service personnel. The issue of uneven embracement of ICT culture across the gender and generational divide must also be

critically addressed. Although this may be attributed to certain factor such as gender differences in ICT attitudes of civil service personnel. Martina and Marjolein (2014) stated that in most western countries, the participation of females in ICT professional careers is not only low but is also still falling. Females are seen shying away from ICT saying it is boring and irrelevant. Similarly, age may also be a determinant factor in the use of ICT. Probably the older generations do not welcome technology as much as the younger generation. This may make them resist the use of such technology. Katrin (2010) noted that it is often argued that the skills of older workers are outdated, making them more exposed to technology shocks than younger workers; or that older workers have lower learning capabilities. Underlying this process is the fact that ICT accelerate skill obsolescence. Given that older workers have completed their education less recently than younger ones, they are more affected by the lack of competence.

In the above context, continuous training becomes a key policy instrument to foster the employability and retention of older workers. It is most likely that these issues may result into low effectiveness and efficiency of the OTM workers which may affect their performance on the job. Based upon this background, it becomes pertinent to assess the ICT skills of office technology and management workers in Enugu State Civil Service.

Statement of the Problem

Developments and transformations in office technology are increasing on daily basis and this is making office automation more complex, which in turn impact on the performance of OTM workers. Tunji (2014) observed that the central problem of Nigeria's civil service is its inability to respond to serious change. Many of the office technology and management workers, and office technologist found in the civil service of today still find it difficult to effectively operate ICT facilities (Ogidefa, in Akintode, 2013). Since the key feature of modern technology is the ability to handle information and data, this becomes a huge problem that must be resolved if OTM workers are to fully optimize the use of ICT. However, this problem has resulted to various challenges. Some of the challenges include but not limited to miscommunication/misrepresentation of data due to preventable typographical errors, under-utilization of ICT facilities and platforms resulting to serious productivity loss, unnecessary loss of stored data/files, compromise of classified database due to poorly managed security firewall which can have damaging consequences on government business, poor transmission of information required for smooth running of government to the grassroots, delay and reductions of workers' salaries resulting in workers unrest.

In all these, the societies are at the receiving end, suffering the consequences. It is therefore these problems that prompted the researcher to assess the ICT skills possessed by office technology and management workers in Enugu State civil service with the view to identifying areas that need improvement and preferred solution.

Purpose of the Study

The main purpose of this study was to assess the information and communication technology (ICT) skills possessed by office technology and management workers in Enugu State civil service. Specifically, this study sought to assess:

1. Microsoft office skills possessed by office technology and management workers in Enugu State civil service.
2. Database management skills possessed by office technology and management workers in Enugu State civil service.

Research Questions

The following research questions guided the study:

To what extent do:

1. Office technology and management workers in Enugu State civil service possess Microsoft office skills?
2. Office technology and management workers in Enugu State civil service possess database management skills?

Hypotheses

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

1. There is no significant difference in the mean ratings of male and female OTM workers in Enugu State civil service on the extent they possess Microsoft office skills.
2. There is no significant difference in the mean ratings of OTM workers in Enugu State civil service on the extent they possess Microsoft office skills based on age.
3. There is no significant difference in the mean ratings of male and female OTM workers in Enugu State civil service on the extent they possess database management skills.
4. There is no significant difference in the mean ratings of OTM workers in Enugu State civil service on the extent they possess database management skills based on age.

Method

Descriptive survey research design was adopted for the study. The population for the study comprised 200 Office Technology and Management (OTM) workers from the 27 ministries in the State. Data collected from Enugu State Civil Services Commission as at 2018. The entire population was studied because of its manageable size. A 25-item structured questionnaire was used in gathering data for the study. The questionnaire was validated by three experts-two experts in business education and one in measurement and evaluation. To establish the instrument's reliability, pilot test was utilized. The data from the tests were analyzed using Cranbach Alpha to determine the degree of reliability. The analysis achieved co-efficient from values of 0.79 and 0.76 respectively for the two clusters with an overall co-efficient of 0.78.

Data collected in the study regarding research questions were analyzed using mean and standard deviation. Decision on the questionnaire items and research question was interpreted relative to the real limit of numbers as follows: Very highly possessed (VHP), Highly possessed (HP), Moderately possessed (MP), Lowly possessed (LP) and Very lowly possessed (VLP). The t-test was used to test the null hypotheses at 0.05 level of significance. Where the calculated z-value was less than the critical t-value, it meant that there was no significant difference and the hypothesis was not rejected. Conversely, where the calculated t-value was equal to or greater than the critical t-value, it meant that there was significant difference and the hypothesis was rejected.

Results

Research Question 1

To what extent do office technology and management workers in Enugu State civil service possess microsoft office skills?

Data relating to research question 1 were analyzed and presented in Table 1.

Table 1. Mean Ratings of OTM Workers in Enugu State Civil Service on Microsoft Office Skills Possessed N = 194

S.No	Microsoft Office Skills Possessed by OTM workers	$\bar{X}$	SD	Decision
1	Operate word processing packages	4.00	.45	Highly Processed
2	Operate excel spreadsheet programmes	4.30	.46	Highly Processed
3	Operate access programmes	4.30	.78	Highly Processed
4	Operate powerpoint programmes	3.80	.40	Highly Processed
5	Manipulate notepad programmes	4.10	.54	Highly Processed
6	Open documents	4.20	.40	Highly Processed
7	Create documents	4.30	.64	Highly Processed
8	Save documents	4.20	.87	Highly Processed
9	Modify documents	3.80	.75	Highly Processed
10	Operate through shortcuts	4.10	.54	Highly Processed
Cluster Mean		4.11		**Highly Processed**

Data in Table 1 show that the respondents highly possessed item 1 to 10 on microsoft office skills with mean scores between 3.80 to 4.30. The cluster mean of 4.11 shows that the OTM workers in Enugu State civil service highly possessed the listed items. The standard deviation which falls between 0.40 to 0.87 reveals closeness in opinions of the respondents on microsoft office skills possessed by OTM workers. This therefore indicates that OTM workers in Enugu State civil service highly possessed the listed items on microsoft office skills.

Research Question 2

To what extent do office technology and management workers in Enugu State civil service possess database management skills?

Data relating to research question 2 were analyzed and presented in Table 2.

Table 2. Mean Ratings of OTM Workers in Enugu State Civil Service on Database Management Skills Possessed N = 194

S.No	Data base Management Skills Possessed by OTM workers	$\bar{X}$	SD	Decision
1	Maintain Files	3.30	.46	Moderately Processed
2	Add new files to the database	3.20	.40	Moderately Processed
3	Remove files from the database	3.70	.46	Highly Processed
4	Update data in an existing files	3.70	.46	Highly Processed
5	Retrieve information from the database	3.54	.53	Highly Processed
6	Extract data from existing files	3.24	.46	Moderately Processed
7	Work and organize database view	3.20	.40	Moderately Processed
8	Control text in database	3.50	.50	Highly Processed
9	Change database format	3.38	.52	Moderately Processed
10	Restrict and access files in the database.	3.56	.53	Highly Processed
11	Create tables in a database	3.50	.50	Highly Processed
12	Perform data entering in a datasheet	3.60	.49	Highly Processed

13	Sort records in alphabetical order	3.40	.49	Moderately Processed
14	Find and replace data in a database	3.60	.49	Highly Processed
15	Modify table structure	3.43	.52	Moderately Processed
Cluster Mean		3.46		**Moderately Processed**

Data in Table 2 show that item numbers 1, 2, 6, 7, 9, 13 and 15 had mean scores ranging from 3.20 to 3.42. This show that OTM workers in Enugu State civil service moderately possessed the listed items on data base management skills, while items 3, 4, 5, 8, 10, 11, 12 and 14 had mean scores ranging from 3.50 to 3.70 which show that they highly possessed them. The standard deviation which falls between 0.40 to 0.53 show that OTM workers are not different in their responses which indicate homogeneity. The cluster mean score of 3.46 shows that OTM workers in Enugu State civil service moderately possessed the items listed on data base management skills.

Testing of Hypotheses

Null Hypothesis 1

There is no significant difference in the mean ratings of male and female OTM workers in Enugu State civil service on the extent they possess microsoft office skills.

Data obtained in respect of null hypothesis 1 were analyzed and presented in Table 3.

Table 3. z-test Comparison of the Mean Ratings of Male and Female OTM Workers in Enugu State Civil Service on the Extent they Possess Microsoft Office Skills N=194

Gender	N $\bar{X}$	SD	α Df	t-cal	t-crit	Decision
Male	112 4.12	.15	0.05	0.93	1.96	Not significant
Female	82 4.10	.10	192			

Data in Table 3 shows that the t-cal value of 0.93 was less than the t-critical value of 1.96 at 192 degree of freedom and at 0.05 level of significance. Therefore, the null hypothesis of no significant difference between the two groups was not rejected. This means that male and female OTM workers in Enugu State civil service do not differ significantly in their mean ratings on the extent they possess microsoft office skills.

Hypothesis 2

There is no significant difference in the mean ratings of OTM workers in Enugu State civil service on the extent they possess microsoft office skills based on age.

Data obtained in respect of null hypothesis 2 were analyzed and presented in Table 4.

Table 4. z-test Comparison of the Mean Ratings of OTM Workers in Enugu State Civil Service on the Extent they Possess Microsoft Office Skills Based on Age N=194

Age	N $\bar{X}$	SD	α Df	t-cal	t-crit	Decision
18-40 years	118 4.08	.11	0.05	4.94	1.96	significant
41 years and above	76 4.16	.14	192			

Data in Table 4 shows that the t-cal value of 4.94 was greater than the t-critical value of 1.96 at 192 degree of freedom and at 0.05 level of significance. Therefore the null hypothesis of no significant difference between the two groups was rejected. This means that OTM worker with 18 to 40 years and those with 41years and above differ significantly in their mean ratings on the extent they possess microsoft office skills.

Null Hypothesis 3

There is no significant difference in the mean ratings of male and female OTM workers in Enugu State civil service on the extent they possess database management skills.

Data obtained in respect of null hypothesis 3 were analyzed and presented in Table 5.

Table 5. z-test Comparison of the Mean Ratings of Male and Female OTM Workers in Enugu State Civil Service on the Extent they Possess Database Management Skills N=194

Age	N $\bar{X}$	SD	α Df	t-cal	t-crit	Decision
Male	112 3.50	.12	0.05	1.43	1.96	Not significant
Female	82 3.52	.13	192			

Data in Table 5 shows that the z-cal value of 1.43 was less than the z-critical value of 1.96 at 192 degree of freedom and at 0.05 level of significance. Therefore, the null hypothesis of no significant difference between the two groups was not rejected. This means that male and female OTM workers in Enugu State civil service do not differ significantly in their mean ratings on the extent they possess database management skills.

Null Hypothesis 4

There is no significant difference in the mean ratings of OTM workers in Enugu State civil service on the extent they possess database management skills based on age.

Data obtained in respect of null hypothesis 4 were analyzed and presented in Table 6.

Table 6. z-test Comparison of the Mean Ratings of OTM Workers in Enugu State Civil Service on the Extent they Possess Database Management Skills Based on Age N=194

Age	N $\bar{X}$	SD	α Df	t-cal	t-crit	Decision
18-40 years	118 3.54	.14	0.05	4.46	1.96	significant
41 years and above	76 3.46	.09	192			

Data in Table 6 shows that the t-cal value of 4.46 was greater than the t-critical value of 1.96 at 192 degree of freedom and at 0.05 level of significance. Therefore, the null hypothesis of no significant difference between the two groups was rejected. This means that OTM worker with 18 to 40 years and those with 41years and above differ significantly in their mean ratings on the extent they possess database management skills.

Discussion of Findings: Analysis of research question one revealed that the OTM workers in Enugu State civil service highly possessed microsoft office skills in operating word

processing packages, excel spreadsheet programs, access programs, power point programs, manipulating notepad programs, opening documents, creating documents, saving documents, modifying documents and operating through shortcuts. The findings agreed with Bartlett (2015) who stated that entry-level skills for most office work include the ability to open, create, save and modify documents in word, send and receive email in outlook and create spreadsheets in excel. This is done in order to ensure that potential workers are equipped to manage the job. Today's secretaries require the knowledge, skills, attitude and aptitude of microsoft office to obtain good output in office operations.

The test of hypothesis 1 revealed that there was no significant difference among responses of male and female OTM workers in Enugu State civil service on the extent they possess microsoft office skills. In addition, it was found that age has significant effect on OTM workers on the extent they possess microsoft office skills in the area of study. In terms of gender, was in disagreement with Martina and Marjolein (2008) who stated that females are seen shying away from ICT saying it is boring and irrelevant. In the area of age, was in agreement with Katrin (2015) who opined that older workers have completed their education less recently than younger ones; they are more affected by the lack of competence on the use of microsoft office skills.

The research question two revealed that OTM workers in Enugu State civil service moderately possessed database management skills in maintaining files, adding new files to the database, extracting data from existing files, working and organizing database view, changing database format, sorting and recording in alphabetical order and modifying table structure. They also highly possessed database management skills in removing files from the database, updating data in an existing files, retrieving information from the database, controlling text and accessing files in the database, entering, finding and replacing data in the database. Organizations of all sizes now use computers to perform the data processing functions required to provide information for management decision-making. Experience with business applications of data processing has shown that the data itself is a valuable organizational resource that must be carefully managed. This is supported by the view of Courtney *et al.*, (2010) who stated that the data resources of an organization are usually stored in databases, which are highly integrated sets of files shared by users throughout the organization. This shows the need for OTM graduates to possess all the necessary ICT skills in order to cope with the demands of their jobs.

The test of hypothesis 2 revealed that there was no significant difference among the ratings of male and female OTM workers in Enugu State civil service on the extent they possess database management skills. It followed therefore that the null hypothesis was not rejected. In addition, it was found that age has significant effect on OTM workers on the extent they possess database management skills in the area of study.

Conclusion

The prevalence and rapid development of information and communication technologies (ICT) has transformed human society from the information technology age to the knowledge age. Computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way that government offices and organizations access, retrieve, store, manipulate and disseminate information to users. In this regard, ICT is viewed as innovations that enable OTM workers in civil service to facilitate their office tasks effectively and efficiently. The result of the study revealed that OTM

workers highly possessed microsoft office skills while they moderately possessed database skills.

Based on the findings, the researcher also concluded that office technology and management workers cannot perform effectively without high possession of the skills required especially the database skills which is required and provision of ICT equipments in government establishment in the area of study. The provision of ICT equipments is very paramount to enable OTM workers acquire the necessary skills for effective job performance where everything is technologically driven both in the office and in the business world.

Recommendations

Based on the findings of this study, the researchers proffer the following recommendations:

1. Government ministries should procure the latest model of ICT facilities to enhance OTM functions. Adequate provision of latest ICTs facilities will not only motivate the workers but will also increase their efficiency, effectiveness and productivity.
2. Mandatory training and re-training of office technology and management workers should be established by the government. This will help to equip OTM workers with the latest skills that will help them to perform effectively in the office using latest ICT equipments.
3. OTM workers in the civil services should be taught by well-equipped business educators. This could be possible by training more business educators with latest ICT facilities while in school.

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