



## ADMINISTRATIVE SUPERVISORS' ASSESSMENT OF WORD PROCESSING AND SPREADSHEET COMPETENCIES POSSESSED BY OFFICE TECHNOLOGY AND MANAGEMENT GRADUATE WORKERS IN NORTH-WEST NIGERIA POLYTECHNICS

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### Abstract

*Persistent complaints by employers of labour regarding ineffective work performance by graduates of Office Technology and Management (OTM) from Nigerian polytechnics in the current technology-driven era necessitated this study to determine administrative supervisors' assessment of word processing and spreadsheet competencies possessed by graduates of the programme who work in North-West Nigeria Polytechnics. Descriptive survey research design was used for the study. Two research questions guided the study and four null hypotheses were tested. Population of 378 administrative supervisors in all public polytechnics in the area was studied without sampling. A structured 5-point rating scale questionnaire containing 35 items in two clusters which was validated by experts was used for data collection. Split half method was used to establish the reliability of the instrument with Pearson Product Moment Correlation Co-efficient and a co-efficient value of 0.86 was obtained. Mean and standard deviation were employed to answer the research questions and determine the homogeneity of the respondents' views while t-test was used to test the null hypotheses at 0.05 level of significance. Findings revealed that the OTM graduate workers very much possessed competencies in the two applications. Gender and institution ownership influenced the respondents' views. Based on the findings, it was concluded that OTM graduate workers in polytechnics in North-West Nigeria possess relevant competencies in the two mostly used modern office applications for effective work performance. It was, therefore, recommended among others that these graduate workers should apply their skills suitably in their duty performance in order to enhance their relevance as well as discover other applications where they have lapses for upgrade. Management of the polytechnics and other employers of OTM graduates should ensure the availability of functional computers and regular power supply to facilitate effective use of computer applications by their employees.*

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## **Introduction**

Office Technology and Management (OTM) programme came into being in 2004 and replaced the old secretarial studies curriculum which was found inadequate for the demands of employers of labour in the information and communication technology era. Esene (2014) asserted that the OTM curriculum is an improvement of the old curriculum with emphasis on exposure to modern trends of acquiring knowledge and skills through the use of technological equipment and resources. The curriculum consists of four main components, covering general education/studies, foundation courses, professional courses and student industrial work experience scheme (SIWES). According to Ndinechi and Okoro, (2013), this was aimed at producing hybrid administrative professionals who can respond to the demands of a dynamic and intensely computerized work place. The objectives of the programme, as stipulated by the National Board for Technical Education (NBTE, 2004), include to:

Equip the students with office/secretarial skills and competencies essential for employment into any of computerized office.

Expose students to industrial work experience scheme that will give them the chance to demonstrate and practicalize their skills.

Pave way for the students to further their academic pursuit and

Develop in the students an occupational intelligence that will make them versatile and adaptable to the changing situations in the world of work.

In line with the above, Baba and Akarahu (2012) pointed out that the OTM aims at producing competent graduates with appropriate skills, abilities and competencies, both mental and physical, as equipment for the individual to live and contribute to the development of the society.

An administrative supervisor is a higher officer in an organization who has other workers as subordinates and motivates, directs and controls their activities towards achieving the set goals and objectives of the organization. James (2013) explained that an administrative supervisor being a professionally trained employee, is in charge of developing and promoting harmonious working relationship with and among his subordinates thereby directly influencing their self-confidence, morale and productivity. This means that administrative supervisors are in a position to oversee duty performance of OTM graduate workers under them to assess the level at which they possess required competences to effectively do their jobs. Abdullahi (2012) maintained that {an} administrative supervisor is a person who oversees someone's works or the work done by others. In essence, administrative supervisors



are usually authorized to recommend and or effect hiring, discipline, promoting, punishing/rewarding and other activities associated with personnel management in organizations. The administrative supervisor can be a member of the management team that plans, organizes, directs, coordinates and controls the activities of an organization toward the achievement of stated goals and objectives. In the context of this paper, administrative supervisors are principal officers in the polytechnics who have secretaries attached to them.

Secretaries or administrative assistants are personnel who provide administrative support to senior officers to ensure that the entire organization or its units function effectively and efficiently for enhanced productivity. They provide services such as typesetting office documents, receiving and treating routine office mail, making arrangements for meetings and recording minutes of meetings among others. It was in the light of these that Bachino (2010) posited that a secretary must document essential actions and events taking place in the organization where he serves in fulfillment of his functions. Ezenwafor (2013) asserted that secretarial staff are the category of office personnel concerned with proper maintenance of office information processing covering creating, disseminating, storing, retrieving and modifying different types of office documents. In congruence to the above assertion, it has become imperative that such personnel should possess competencies in the use of different equipment and resources used in processing of office information such as the computer and modern office applications. Furthermore, Arora (2014) observed that a secretary is the personnel who perform a wide variety of responsibilities which could be confidential or complex in public, academic or private institutions.

Competency is the ability to carry out responsibility as expected. It is the acquired knowledge, skills and procedure that enable workers to meet established performance criteria in organizations. Okolocha and Olanye (2015) viewed computer application competency as the ability to use correct procedure to manipulate the machine software as required in order to obtain results. Computer applications include word processing (Microsoft Word) and spreadsheet among others. Microsoft word (MS Word) is a computer word processing application that allows the user to typeset textual materials or documents such as letters, memoranda, reports, circulars or minutes of meetings. It is one of the most sophisticated word processing programs available to today's users which is easier than ever to efficiently create a wide range of business and personal documents from the simplest letter to the most complex report (Gupta, 2010).



Microsoft Word is relevant to secretarial profession because it allows storage of document, file or folder as well as retrieval for printing or modification. Ndinechi and Ementa (2013) explained that word processing functions are associated with standard editing facilities, which involve inserting, deleting and amending text. It has text enhancement functions such as centering, bolding, italicizing, underlining and alignment of text. The authors maintained that the application possesses text manipulation function of search and replace, word count and auto referencing, text formatting capabilities such as tabs, margin, page layout and mail merge. All these features make word processing very relevant for secretaries by enhancing their effectiveness and efficiency in duty performance, hence the need for relevant competencies. Okoye (2012) affirmed that with MS Word, a clean, accurate and quality document can be produced by secretaries. The application serves as an important tool for the secretary or OTM graduate workers in achieving increased productivity in the office due to its ability to regulate the font size, adjust margins on all sides and adjust line space to suit users' needs.

Microsoft Excel (MS Excel) is a commercial spreadsheet application developed and distributed by Microsoft Corporation. Azih (2010) posited that MS Excel is the computer equivalent of a paper ledger sheet with a lot of calculation capabilities. Excel provides features for scrolling vertically and horizontally using the scroll bar to move around the worksheet being created or modified. Like other MS applications, Excel has a status bar that displays various worksheets (Sheet 1, Sheet and others) in a workbook. It consists of a grid made from columns and rows where the user can make entries and manipulates them quickly and easily. The user can scroll through the entire worksheet using the mouse, scroll button or scroll bar. Ehesienmen (2012) explained that spreadsheet is a programmable application with grid of rows and columns forming cells into which data are usually entered using the keyboard.

Supporting Azih (2010) and Ehesienment (2012) on the features of spreadsheets, Roy (2012) observed that easy calculation, tabulation and programming with the application enables users to achieve desired objectives. Additionally, Dan (2014) regarded spreadsheet as a powerful application that handles much larger set of numerical data in a greater speed. Consequently, spreadsheet competencies are invaluable assets to the secretary/OTM graduate worker in effective and efficient office duty performance.



### **Statement of the Problem**

Office Technology and Management (OTM) curriculum aims at equipping the graduates with office and ICT skills that will enable them to perform effectively in any organization. In today's technological era, there is the need for graduates to possess ICT skills in order to secure and perform well in employment. In line with this, OTM graduates are expected to possess both practical and theoretical skills in ICT based aspects of the curriculum in order to fit properly into the office of any computerized organization and competently perform the functions of a secretary as recommended by the National Board for Technical Education (2004).

However, there are emerging challenges regarding the OTM graduate workers exposure on word processing and spreadsheet applications. These applications are those that the graduates receive training on, with expectation of demonstrating positive learning outcome in the office. Ernest (2010), reported that OTM graduates who are not trained with new technologies could not have performed as expected in modern office and would stand the risk of losing jobs. In confirmation of the above, Grace (2015) observed that, most OTM graduate workers in south-west of Nigeria were not performing as expected due to either inadequate modern training facilities or teachers exposure to use modern machines. This, according to the author, will surely mar the environmental replication of work in their training institutions. This stimulated some supervisors of the products of this programme, after assessing the competencies of the graduates on word processing and spreadsheet to recommend that greater emphasis be placed on teaching the computer based courses so that the graduates can become more competent in their use.

The problem of this study is that, the Polytechnics that churn out these graduates year-in year-out do not seem to have assessed knowledge of their competency level on word processing and spreadsheet to confirm the view of other employers. Since the Polytechnics in north-west Nigeria employ some of these OTM graduate workers, it is considerably necessary that their administrative supervisors should assess them on the two applications; which are very vital to their regular functions, to ascertain their competency for an improved productivity in an office.

### **Research Questions**

The following research questions guided the study:

What is administrative supervisors' assessment of word processing competencies possessed by OTM graduate workers in Polytechnics in North-West Nigeria?



What is administrative supervisors' assessment of spreadsheet competencies possessed by OTM graduate workers in Polytechnics in North-West Nigeria?

### **Hypotheses**

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

Male and female administrative supervisors in polytechnics in North-West Nigeria do not differ significantly in their mean ratings on word processing competencies possessed by OTM graduate workers.

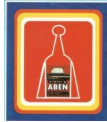
Administrative supervisors in federal and state polytechnics in North-West Nigeria do not differ significantly in their mean ratings on word processing competencies possessed by OTM graduate workers.

Male and female administrative supervisors in polytechnics in North-West Nigeria do not differ significantly in their mean ratings on spreadsheet competencies possessed by OTM graduate workers.

Administrative supervisors in federal and state polytechnics in North-West Nigeria do not differ significantly in their mean ratings on spreadsheet competencies possessed by OTM graduate workers.

### **Method**

Descriptive survey research design was used for the study. The area was North-West Nigeria consisting of seven states namely; Kano, Katsina, Kaduna, Kebbi, Jigawa, Sokoto and Zamfara States. Population consisted of 378 administrative supervisors (Rectors, Registrars, Directors, Senior Administrative officers, Co-coordinators and Heads of Departments and Units) in all polytechnics in the area. The entire population was studied without sampling. The instrument for data collection was a 5-point Likert type structured questionnaire titled "Office Technology and Management Graduate Workers Competencies Questionnaire (OTMGWCQ)". The instrument was validated by three experts from Nnamdi Azikiwe University, Awka. The reliability co-efficient value of 0.86 was obtained using split half method with Pearson Product Moment Correlation Co-efficient. The researchers administered the instrument with the help of three research assistants who work in the polytechnics and 325 copies (representing 86 percent) were retrieved and used for analysis. Data collected were analyzed using mean and standard deviation to answer the research questions and determine the closeness of the respondents' mean ratings while t-test was used to test the null hypotheses at 0.05 level of significance. A null hypothesis was accepted where the p-value was equal to or greater than the alpha level of 0.05 and rejected where the p-value was less than the alpha level. The analysis was done with the Statistical Package for Social Sciences (SPSS) version 16.



## Results

**Table 1:** Respondents' mean ratings on word processing competencies possessed by OTM graduate workers in North-West Nigeria Polytechnics N=325

S/N	Word processing competencies	$\bar{x}$	SD	Remarks
	Ability to:			
1	Use quick access tool box	4.74	0.72	Very Much Possessed
2	Insert or draw tables	4.59	0.75	Very Much Possessed
3	Use symbols when needed in documents	4.58	0.67	Very Much Possessed
4	Insert header and footer in documents	4.53	0.69	Very Much Possessed
5	Insert shapes or pictures in documents	4.87	0.70	Very Much Possessed
6	Paginate documents	4.82	0.63	Very Much Possessed
7	Beautify text/documents with borders	4.07	0.82	Much Possessed
8	Use footnote and indexing	4.82	0.64	Very Much Possessed
9	Use cross referencing	4.57	0.68	Very Much Possessed
10	Use different number formats for tables of contents	4.83	0.63	Very Much Possessed
11	Work with tables	4.58	0.67	Very Much Possessed
12	Address envelopes and labels	4.71	0.70	Very Much Possessed
13	Merge mails suitably	4.82	0.64	Very Much Possessed
14	Use documents review for editing	2.64	0.80	Moderately Possessed
15	Proof read documents	4.58	0.69	Very Much Possessed
16	Track changes in document	4.60	0.69	Very Much Possessed
17	Protect document with passwords	4.57	0.68	Very Much Possessed
18	Use shortcut keys	4.88	0.70	Very Much Possessed
<b>Cluster mean</b>		<b>4.55</b>		Very Much Possessed

Table 1 shows all the 18 listed word processing competencies, but two had mean scores of 2.64 and 4.07 which shows that they are much possessed while the mean scores for the remaining 16 competencies range between 4.53 and 4.88 which shows that they are very much possessed by the OTM graduate workers. The cluster mean score of 4.55 shows that the administrative supervisors in North West Nigeria Polytechnics assessed their OTM graduate workers as possessing word processing competencies very much. Standard deviations for all the items are within the same range meaning that the respondents were homogenous in their views.

**Table 2:** Respondents' mean ratings on spreadsheet competencies possessed by OTM graduate workers in North-West Nigeria Polytechnics N = 325

S/N	Spreadsheet processing competencies	$\bar{x}$	SD	Remarks
	Ability to:			
1	Use data alignment	4.63	0.85	Very Much Possessed
2	Use conditional formatting	4.01	0.94	Much Possessed
3	Use light and dark table style	4.52	0.89	Very Much Possessed
4	Sort and filtering data	4.69	0.80	Very Much Possessed



5	Use auto sum functions to perform calculations	4.57	0.84	Very Much Possessed
6	Use pivot table	4.77	0.71	Very Much Possessed
7	Use charts and bars to represent data	4.69	0.75	Very Much Possessed
8	Work with hyper links	4.43	0.90	Much Possessed
9	Use embedded objects	4.67	0.78	Very Much Possessed
10	Work with built-in themes	4.52	0.91	Very Much Possessed
11	Use scale to fit for entries in columns	4.54	0.90	Very Much Possessed
12	Use formula auditing	4.53	0.92	Very Much Possessed
13	Use logical functions	4.65	0.76	Very Much Possessed
14	Get external data from Access and web	4.59	0.85	Very Much Possessed
15	Freeze and unfreeze panes	3.87	1.21	Much Possessed
16	Edit data in worksheet	4.57	0.83	Very Much Possessed
17	Work with proof reading options	4.69	0.75	Very Much Possessed
<b>Cluster mean</b>		<b>4.53</b>		Very Much Possessed

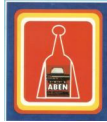
Table 2 reveals that 15 of the spreadsheet competencies listed had mean scores ranging from 4.52 to 4.77 which means that they are very much possessed by the OTM graduate workers while the remaining two items have scores of 3.87 and 4.01 showing they are much possessed. The cluster means score of 4.53 shows that administrative supervisors in North-West Nigeria polytechnics assessed their OTM graduate workers as possessing spreadsheet competencies very much. Standard deviations for all the items are within the same range showing that the respondents' were homogenous in their ratings.

**Table 3:** *t-Test analysis of male and female respondents' mean ratings on word processing competencies possessed by OTM graduate workers in North-West Nigeria Polytechnics*

Group	N	Mean	SD	df	Std	t-cal	P-value	$\alpha$	Decision
Male	217	4.59	0.92	323	0.05	-0.33	0.00	0.05	Sig.
Female	108	4.57	0.82						

Table 3 shows that the p-value of 0.00 is less than the alpha level of 0.05 with the calculated t-value of -0.33 and 323 degree of freedom. This implies that male and female administrative supervisors differed significantly in their mean ratings on word processing competencies possessed by OTM graduate workers in north-west Nigeria polytechnics. Therefore, the null hypothesis was rejected.

**Table 4:** *t-Test analysis of mean ratings between respondents' from federal and state owned polytechnics in North-West Nigeria on word processing competencies possessed by OTM graduate workers*



Group	N	Mean	SD	df	Std	t-cal	P-value	$\alpha$	Decision
Federal	145	4.51	0.97	323	0.04	-0.32	0.00	0.05	Sig.
State	180	4.65	0.78						

Table 4 reveals that the p-value of 0.00 is less than the alpha level of 0.05 with the calculated t-value of -0.32 and 323 degree of freedom. This implies that administrative supervisors in federal and state owned polytechnics in North-West Nigeria differed significantly in their mean ratings on word processing competencies possessed by OTM graduate workers. Therefore, the null hypothesis was rejected.

**Table 5:** *t-Test analysis of male and female respondents' mean ratings on spreadsheet competencies possessed by OTM graduate workers in North-West Nigeria Polytechnics*

Group	N	Mean	SD	df	Std	t-cal	P-value	$\alpha$	Decision
Male	217	4.58	0.84	323	0.05	-0.32	0.00	0.05	Sig.
Female	108	4.63	0.76						

Table 5 shows that the p-value of 0.00 at 323 degree of freedom and calculated t-value of -0.32 is less than the alpha level of 0.05. This implies that male and female administrative supervisors in polytechnics in North-West Nigeria differed significantly in their mean ratings on spreadsheet competencies possessed by OTM graduate workers. The hypothesis was, therefore, rejected.

**Table 6:** *T-test analysis of mean ratings between respondents' from federal and state owned polytechnics in North-West Nigeria on spreadsheet competencies possessed by OTM graduate workers.*

Group	N	Mean	SD	df	Std	t-cal	P-value	$\alpha$	Decision
Federal	145	4.57	0.75	323	0.05	-0.27	0.00	0.05	Sig.
State	180	4.61	0.84						

Table 6 shows that the p-value of 0.00 at 323 degree of freedom and calculated t-value of -0.27 is less than the alpha level of 0.05. This means that administrative supervisors in federal and state owned polytechnics in North-West Nigeria differed significantly in their mean ratings on spreadsheet competencies possessed by OTM graduate workers. The hypothesis was, therefore, rejected.



## **Discussion**

Findings of the study showed that OTM graduate workers in North-West Nigeria polytechnics were assessed by their administrative supervisors as possessing word processing competencies very much. This finding agreed with Okolocha and Olannye (2015) who reported that supervisors in Delta State rated their secretaries (who are OTM graduates) as highly possessing word processing competencies. It is also in agreement with the finding of Duniya (2011) that OTM graduate workers in Kogi State polytechnics were rated by their supervisors as possessing word processing skills at a high extent. This finding could be as a result of OTM lecturers' proficiency in demonstrating the skills and effectively imparting the competencies to the graduate workers during their training. This is in line with the report of Ndinechi and Ementa (2013) that word processing skills were effectively taught by lecturers in tertiary institutions in Nigeria. It could also be as a result of the graduate workers' extra effort to enrich their proficiency level through engagement in private training or due to their regular usage of the application since word processing constitutes the major part of their routine tasks in the office.

The study also found that gender and institution ownership significantly influenced the mean ratings of administrative supervisors in Polytechnics in North-West Nigeria on word processing competencies possessed by their OTM graduate workers. This finding also agreed with that of Ndinechi and Ementa (2013) who reported that male and female business education students in South-East Nigeria differed significantly in their mean ratings on possessed word processing skills. On the other hand, the finding contradicted that of Duniya (2011) that gender did not influence the mean ratings of secretaries in federal and state polytechnics in Kogi State on their acquired word processing skills.

Findings of the study further revealed that OTM graduate workers in polytechnics in North-West Nigeria were rated by their administrative supervisors as possessing spreadsheet competencies very much. This finding agreed with Ezoem and Ndinechi (2014) who discovered that OTM graduate workers in government and private organizations in Delta State possessed spreadsheet processing competencies at a high extent. Also this finding corroborated that of Okolocha and Olannye (2015) that secretaries in government ministries in Delta State of Nigeria were rated competent in the use of spreadsheet application. This consistent report could be evidence that the OTM graduate workers were effectively taught the knowledge and skills in the use of spreadsheet during their training in line with the report of Okolocha and



Olannye that secretaries in government ministries in Delta State demonstrated spreadsheet competencies for efficient work performance especially for tabulation and related tasks. It could also be due to constant use of the application since it is a generally known fact that practice makes perfect. Interest could also have played a part in motivating the OTM graduate workers to seek and register for out of school training to enhance their spreadsheet competencies.

The findings further indicated that respondents differed significantly in their mean ratings on spreadsheet competencies possessed by OTM graduate workers in North-West Nigeria polytechnics as a result of gender and institution ownership. This finding contradicted the report of Okolocha and Olannye (2015) that gender did not significantly influence supervisors' mean ratings of spreadsheet competencies possessed by secretaries in government ministries in Delta State. The finding also disagreed with Ndinechi and Garba (2014) that male and female OTM students in North-West Nigeria polytechnics did not differ significantly in their mean ratings on their proficiency in spreadsheet processing.

### **Conclusion**

Based on the findings of this study, it was concluded that OTM graduate workers in North-West Nigeria Polytechnics possess relevant competencies for effective performance of their office functions contrary to the reports trending among some employers of labour that graduates of the programme perform poorly in employment due to lack such competencies. This implies that OTM lecturers in Nigeria polytechnics apply suitable pedagogies for expected learning outcomes to turn out competent graduates that can effectively perform assigned functions in employment.

### **Recommendations**

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

The OTM graduate workers should continue to apply their word processing and spreadsheet competencies for effective work performance and engage in in-service training programmes to develop competencies in other modern office applications where they are lacking for enhanced productivity.

Administrative supervisors in North-West Nigeria polytechnics and their counterparts in other organizations should ensure that relevant ICT resources are provided and functional for use by OTM graduate workers for effective information processing and records management.

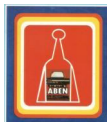


Administration supervisors in North-West Nigeria polytechnics and other organizations should recommend the approval of in-service training for their OTM graduate workers to update their competencies in other modern office applications that are relevant for their work performance.

- . 3. Management of the polytechnics covered and their counterparts in other areas should ensure that ICT resources are adequately available and functional in the OTM department for use by lecturers and students for practical exercises to maintain the quality of the graduates.  
Other employers of OTM graduates should motivate their employees to improve on their computer application competencies by providing the resources and sponsoring them to in-service training programmes.

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