Internet Tools Application Competencies Required by Secretaries for Information Exchange in Federal Universities, South-South Nigeria

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Abstract

The purpose of the study was to determine the internet tools application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria. Seven specific objectives was identified, seven research questions was raised and seven null hypotheses was formulated to guide the study. The study adopted a survey research design and was carried out in the South-South zone of Nigeria. The population of the study was 1,026 secretaries from which 287 secretaries were sampled using the Taro Yamane formula. The secretaries were categorized into, administrative, personal and confidential secretaries. The instrument for data collection was developed by the researcher and titled Questionnaire on Internet Tools Application Competencies for Information Exchange (QITACLE). The instrument was face validated by three research experts from University of Uyo, Uyo. The reliability of the instrument was obtained using the Cronbach's Alpha test which yielded reliability co-efficient of .89. Out of the 287 copies of questionnaire distributed 277 were returned with valid data. This gave response rate of 96.51 percent. Mean statistic was used to answer the research questions and Analysis of Variance used to test the null hypotheses at .05 alpha level. The study revealed that all the internet tools application competencies identified by the study are moderately required by secretaries for information exchange. The study revealed from the hypotheses that email, World Wide Web, and file transfer protocol are significantly required. Based on these findings, it was concluded that secretaries require internet tool application competencies for information exchange in Federal Universities in South-South, Nigeria. Based on this conclusion, it was recommended among others that University authorities and management of other organizations should train their secretaries and updates their knowledge and skills on internet tools application for information exchange and other secretarial functions such as video conferencing.

Key Words: Information exchange, Secretaries, e-mail, File Transfer Protocol, Twitter

Introduction

Prior to the use of Information and Communication Technology (ICT) for acquisition, processing, storage and dissemination of information, universities were limited to physically available print materials. However, with the emergence of Information and Communication Technology (ICT), the mode of acquiring and disseminating information changed from physically available prints to electronic materials. The retrieval of these materials is made possible through the Internet. Thus, the Internet becomes a gateway for information centres, providing information generated by different organizations, institutes, research centres, and individuals all over the world (Ezomo, 2006). To this end, Etim, Akpan and Ibok (2013) described the Internet as the inter-connection of systems or subsystems of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information.

The essence of the Internet is to facilitate information exchange in organizations within the shortest possible time for the actualization of predetermined objectives. As a digital tool of ICT, the Internet provides powerful resources and services for students to meet their educational needs. According to Dotimi and Hamilton-Ekeke (2013), the Internet allows for networking among students and teachers to facilitate exchange of ideas and improve opportunities for connecting schools to the world as learning is expanding beyond the classroom. Thus, the Internet provides a number of services and resources for the purpose of retrieving and disseminating information to and from computers on the network. Prominent among these services is the promotion of information exchange. This exchange, according to Emeasoba (2014), is the process through which people, companies and organizations pass information electronically from one person to another. This view presupposes that application of electronic media in the passage of information covers a wide range of people as well as organizations. It also suggests the multiplicity of services that the Internet offers. Gray (2009) rightly stated that the components of the Internet are in different states which are interrelated and are backbone to its application. These services of Internet are but not limited to electronic mail, bulletin board, file transfer, remote login, index programme, news group, electronic surfing and video conferencing. Muzakkari (2002) noted that its resources are e-mail, chat groups, file transfer protocol, instant messaging and World Wide Web. Muzakkari therefore concluded that the Internet is a vast network that connects many independent networks spanning all over the world.

E-mail which is one of the Internet application tools is the short form of electronic mail. Though, similar to a letter, an email is sent through the Internet to a recipient. The messages are distributed by electronic means from one device such as computer and cellphone user to one or more recipients through an Internet network. According to Agomuo (2005), e-mail is a mechanism for sending messages across a computer network (such as the Internet). Agomuo added that the text of the message is typed in one device and then sent to someone else on the network. The recipient of the message reads it on his or her device and can then delete the message, or store it on the computer, print it, send reply or forward it to other people on the network. However, for this communication to be effective, it requires that every e-mail user opens an email address. Meanwhile, Boxie (2004) indicated that e-mail has emerged as a mainstream form of business communication with its volume surpassing that of the postal service. It is not surprising that it is widely used in both small and large organizations. No wonder more e-mails are sent everyday than telephone calls. E-mail offers strategies for creating messages, keeping information organized, locating messages and connecting to other communication systems with gateways. Apart from the use of e-mail, World Wide Web (WWW) is another Internet tool application required by the secretary for information exchange in universities.

Nwachukwu and Asom (2015) asserted that World Wide Web usually referred to as the Web, is a solution for displaying, formatting and accessing multimedia information over a network such as the Internet. It is a system of interlinked hypertext documents which allows related subjects to be presented together without regard to the locations of the subject matter. Hyperlinks function as pointers to information, whether the information is located within one website or at any site throughout the world. A website is a set of files residing on a computer (usually called a server or a host). Websites do not have to be connected to the Internet. Many organizations create internal Web sites to enhance education, communications and collaboration within their own organizations, while the individual accesses the site with software called a web browser which displays the files as "pages" on the screen. The pages can contain files of text, graphics, sounds, animation, interactive forms-almost any form of multimedia-and they can be downloaded to the computer. Webpages are written in Hyper Text Markup Language (HTML). Apart from World Wide Web application, File Transfer

Protocol (FTP) is an internet tool whose competence is required by the secretary for information exchange in universities.

The File Transfer Protocol (FTP) is the most common way of sending and receiving files between two devices. It is the standard files between a client and server on a computer network (Stroud, 2008). Skiba (2008) stated that it is the commonly used protocol for exchanging files over the internet. By using the Internet's Transmission Control Protocol/Internet Protocol (TCP/IP), data transfers are enabled. More still, using the FTP software, files are transferred between two computers. The user's computer is termed the local host machine which is connected to the Internet, and the second is referred to as the remote host which is also running FTP software and is connected to the Internet. To effectively transfer information from one machine to another, the secretary requires some competencies in the use of FTPs. Apart from the FTP, twitter is another internet application tool that build competency required by secretaries for information exchange in universities.

Twitter is a social media network based on short posts limited to 280 characters. It is an online news and social networking service where users post and interact with messages known as 'tweets'. It is not surprising that twitter has been adopted as a communication and learning tool in educational and research settings mostly in colleges and universities (Grandjean, 2016). This network has been used as a channel to promote students and staff interactions. Hence, Church (2008) observed that twitter can helps students and secretaries communicate with each other and faculty, promotes informal learning, allows shy members of staff (including secretaries) a forum for increased participation. Universities secretaries needs twitter competency for their information exchange for effective job performance to take place.

The above Internet application tools competencies arerequired by secretariesin order to keep successful information exchange in the organization. Organization in this context is federal universities. These universities are those owned and managed by the federal government. The universities among other things provide services to support academic activities for manpower development. However, before the introduction of the Internet, these services and operations were done by secretaries manually using facilities such as typewriters, handwriting and manual operational procedures. With the provision of internet facilities in universities which obviously replaced the manual facilities, one wonders whether the secretaries adequately possess the required competencies of internet tools application for information exchange in federal universities owing to the poor perception of the facilities by most of the secretaries in their daily activities, hence the need for the study.

Statement of the Problem

In contemporary times, the Internet is generally acknowledged by scholars as an indispensable tool for information exchange in organizations due to its speed, accuracy, reliability and high precision. Thus, with the help of Internet, information is generated by secretaries with fewer mistakes and promptly delivered to designated departments. Although, the internet tools such as e-mail, world-wide web, twitter and facebook, among others, are aimed at facilitating information exchange. It is observed that they are not effectively utilised by most secretaries in universities due to poor perception of the tools. One therefore wonders whether they actually possess the required competence in the use of the Internet tools for information exchange in universities. It also goes to show that where the competencies are lacking, the overall objectives of the universities which are teaching, learning and research could be crippled. Thus, needs occur where investigation of the required competencies of secretaries in the application of internet tools for information exchange in Federal Universities in South-South Nigeria is required.

Purpose of the Study

The main purpose of this study was to determine internet tools application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria. Specifically, the study sought to determine:

1. e-mail application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria
2. world wide web (www) application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria.
3. file transfer protocol application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria.
4. twitter application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria.

Research Questions

The following questions were raised to guide the study;

1. What are the e-mail application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria?
2. What are the world wide web (www) application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria?
3. What are the file transfer protocol (FTP) application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria?
4. What are the twitter application competencies required by secretaries for information exchange in Federal Universities in South-South, Nigeria?

Research Hypotheses

The following null hypotheses were formulated and tested at .05 level of significance:

Ho_1 There is no significant difference among the Mean ratings of administrativesecretaries' personal secretaries and confidential secretaries on their e-mail application competencies required for information exchange in Federal Universities in South-South, Nigeria.

Ho_2 There is no significant difference in the Mean ratings of administrative secretaries' personal secretaries and confidential secretaries on their World Wide Web (www) application competencies required for information exchange in Federal Universities in South-South, Nigeria.

Ho_3 There is no significant difference in the Mean ratings of administrative secretaries' personal secretaries and confidential secretaries on their file transfer protocol (FTP) application competencies required for information exchange in Federal Universities in South-South, Nigeria.

Ho_4 There is no significant difference in the Mean ratings of administrative secretaries' personal secretaries and confidential secretaries on their twitter application competencies required for information exchange in Federal Universities in South-South, Nigeria.

Scope of the Study

The study was delimited in scope to internet tools application competencies required by secretaries for information exchange in Federal Universities in South- South, Nigeria. Specifically, the study covered e-mail, World Wide Web (www), facebook, skype, whatsapp, file transfer protocol and twitter application competencies required by secretaries for information exchange in Federal Universities in South South, Nigeria. The study was also delimited to administrative, personal and confidential secretaries in Federal Universities in South-South Nigeria.

Design of the Study

The research design that was adopted for this study was the descriptive survey research design. According to Ali (2006), this design attempts to use the data obtained from a

sample in an investigation to document, describe and explain what is in existence or non-existence, or the present state of a phenomenon being investigated. This design therefore is considered most appropriate for the study since the researcher will exploit the information that will be obtained from the respondents in drawing inference of the current state of what is being studied.

Population of the Study

The population for the study comprised 1,026 secretaries in six federal universities in South-South, Nigeria. The Universities include, University of Uyo, University of Calabar, University of Benin, University of Port Harcourt, Federal University, Otuoke and Federal University of Petroleum Technology, Effurum, Delta.

Sample and Sampling Technique

The sample size for the study consisted of 287 respondents made up of 110 administrative secretaries, 90 personal secretaries and 87 confidential secretaries. The sample size was statistically determined using Taro Yamane formula as shown in appendix IV. The sample was selected using a combination of cluster and stratified sampling techniques. The population was first clustered into six federal universities. The population was then stratified into three categories as administrative secretaries, personal secretaries and confidential secretaries. Finally, based on the population of administrative secretaries, personal secretaries and confidential secretaries available in each of the six federal universities, a proportionate sample was calculated for each strata for each university. Thereafter, balloting was used to select the required sample from each strata in each of the federal universities. The population and sample distribution for each stratum in each of the federal universities in South-South Nigeria,

Instrumentation

Instrument for data collection for the study was the researcher-made structured questionnaire titled, 'Questionnaire on Internet Tools Application Competencies for Information Exchange' (QITACIE). The questionnaire comprisedof two sections. Section A contained the demographic characteristics of the respondents. This section containedthe categories of secretaries. Section B consists of 61 items that sought to provide information on the various internet tools application competencies required by secretaries for information exchange in Federal Universities in South- South Nigeria. These internet tools competencies were on e-mail, World Wide Web, file transfer protocol and twitter application competencies. The items were designed on a- 5 point rating scale of very highly required (5), highly required (4), moderately required (3), lowly required (2), and very lowly required (1).

Validation of the Instrument

The questionnaire instrument was given to three education experts for face-validation. Two of the experts were from Department of Vocational Education, and one from Department of Curriculum Studies, all from the University of Uyo. These experts were requested to read the items of the instrument one after the other, make corrections, indicate the suitability of the items, language used and the arrangement of the items in logical and chronological sequence having attached the research questions, hypotheses and objectives of the study as guide. Their comments, suggestions, corrections and other inputs were integrated in the instrument and used for the final copy.

Reliability of the Instrument

The reliability coefficient of the instrument was determined using Cronbach Alpha technique. The instrument was tested on 30 secretaries from University of Port Harcourt, Rivers State who were not used in the main study. Cronbach Alpha technique according to Ojo (2001), is suitable for instrument reliability because it takes care of both variances and proportion of correct and incorrect responses in the items. The Cronbach's alphas for each cluster were as follows: e-mail application competencies = .53; www application

competencies = .78; file transfer protocol application competencies = .68; twitter application competencies = .50;

Method of Data Collection

The researcher with the aid of two research assistants who were briefed on the purpose of the study administered the 287 copies of the questionnaire to the secretaries at their various institutions. While the researcher covered University of Uyo, the research assistants covered the other five universities. The administration of the questionnaire lasted for three weeks and completed copies were retrieved on the spot or a call back basis depending on the convenience of the respondents. Out of 287 copies of instrument administered, only 277 were adequately collected, which represented 96.51 percent return rate. The copies not returned and those not completely filled were discarded through recycling.

Method of Data Analysis

The Mean statistics was used to answer the research questions, while the one way analysis of variance (ANOVA) statistics was used to test the null hypotheses at .05 level of significance.

Results and Discussion

This chapter presents the results of the study based on the analysis of data obtained from the respondents. Of the 287 copies of questionnaire given out, 277 were retrieved with valid data. Hence, 96.51 percent response rate was achieved by the study. The results of the study were presented based on the research questions and the research hypotheses that guided the study.

Results

This section presents results of the findings based on research questions and hypotheses.

Research Question 1: What are the e-mail application competencies required by secretaries for information exchange in Federal Universities in South-South Nigeria?

Data analysis related to Research Question 1 is presented in Table 1.

Table 1:   **Mean and Standard Deviation of Responses on the E-mail Application Competencies Required by the Secretaries for Information Exchange. (n=277)**

S/N	Items	$\bar{X}$	SD	Remarks
1.	Navigation through an e-mail or g-mail address for information extraction.	2.69	0.56	MR
2.	Compilation of information/message	2.90	0.57	MR
3.	Arrangement of information for distribution using copy feature	3.00	0.56	MR
4.	Knowledge of universities URL for information access.	3.00	0.67	MR
5.	Knowledge of logging in and out of e-mail.	2.86	0.63	MR
6.	Securing information in applications from unauthorized access.	2.63	0.66	MR
7.	Identification of part of an e-mail for various information retrieval.	2.78	0.71	MR
8.	Knowledge of attaching document in e-mail	3.08	0.61	MR
9.	Knowledge of information failure notice.	2.87	0.76	MR
10.	Knowledge of information tracking by date, time and sorting.	2.67	0.79	MR
11.	Knowledge of information cloud drop-box.	2.69	0.80	MR
12.	Ability to manage information update in the net.	2.90	0.83	MR
	Cluster mean	**2.84**	**.28**	**MR**

MR = Moderately Required

The data in Table 1 shows that the mean responses on all the 12 itemsas well as the cluster mean fall into the category of 2.50 and 3.49. This implies that all the 12 e-mail application items are moderately required by secretaries for information exchange in Federal Universities in South-South Nigeria. The result indicates that the standard deviation ranged between 0.28 and 0.83 indicating that the respondents were not divergent in their responses.

Research Question 2: What are the World Wide Web (WWW) application competencies required by secretaries for information exchange in Federal Universities, South-South Nigeria?

Data analysis related to Research Question 2 is summarized in Table 2.

Table 2: **Mean and Standard Deviation of Responses on the WWW Application Competencies Required by the Secretaries for Information Exchange. (n=277)**

S/N	Items	X	SD	Remarks
1.	Demonstration of basic internet operations	3.12	0.74	MR
2.	Knowledge on various www browsers for information download.	3.04	0.81	MR
3.	Knowledge on various www browsers for information upload.	2.90	0.82	MR
4.	Knowledge of universities URL for information access.	2.90	0.77	MR
5.	Knowledge of internet web navigation for information search.	2.95	0.73	MR
6.	Knowledge on creation of query statements for information extraction from web	2.95	0.75	MR
7.	Knowledge of web page linking for information links.	2.71	0.71	MR
8.	Knowledge of using web correction tracking on document	2.86	0.80	MR
9.	Knowledge to install web application components for information management on web.	3.18	0.68	MR
	Cluster Mean	**2.96**	**0.45**	**MR**

MR = Moderately Required

The data in Table 2 showsthat the mean responses on all the 9 items as well as the cluster mean fall into the category of 2.50 and 3.49. This implies that all the 9WWW application items are moderately required by secretaries for information exchange in Federal Universities in South-South Nigeria. The result indicates that the standard deviation ranged between 0.45 and 0.82 indicating that the respondents were not divergent in their responses.

Research Question 3: What are the file transfer protocol application competencies required by secretaries for information exchange in Federal Universities, South-South Nigeria?

The summary of data analysis related to Research Question 3 is presented in Table 4.3.

Table 3. Mean and Standard Deviation of Responses on the File Transfer Protocol Application Competencies Required by the Secretaries for Information Exchange. (n=277)

S/N	Items	$\overline{X}$	SD	Remark
1.	Ability to interact with the university and other universities web-site for information exchange	3.03	0.65	MR
2.	Ability to search and place a hold on information.	2.99	0.67	MR
3.	Knowledge of remote access to computers.	2.87	0.65	MR
4.	Knowledge on communication with internet service provider.	2.91	0.71	MR
5.	General knowledge of document file corruption.	2.89	0.76	MR
6.	Knowledge on how to use distributed information processing system.	2.75	0.64	MR
7.	Knowledge on how to access distributed information on universities web-sit.	2.55	0.63	MR
8.	Knowledge on how to recover information met for universities in a distributed environment.	2.61	0.64	MR
	Cluster Mean	**2.82**	**0.38**	**MR**

MR = Moderately Required

The data in Table 3 showsthat the mean responses on all the eight items as well as the cluster mean fall into the category of 2.50 and 3.49. This implies that all the eight File Transfer Protocol application items are moderately required by secretaries for information exchange in Federal Universities in South-South Nigeria. The result indicates that the standard deviation ranged between 0.38 and 0.76 indicating that the respondents were not divergent in their responses.

Research Question 4: What are Twitter Application Competencies Required by Secretaries for Information Exchange in Federal Universities, South-South Nigeria?

Data analysis related to Research Question 4 is summarized in Table 4.4.

Table 4 Mean and Standard Deviation of Responses on the TwitterApplication Competencies Required by the Secretaries for Information Exchange. (n=277)

S/N	Items	$\overline{X}$	SD	Remark
1.	Knowledge of connecting to tweet community for information exchange.	2.89	0.64	MR
2.	Ability to generate user's name for information exchange.	2.81	0.77	MR
3.	Knowledge on re-naming users during information exchange	2.70	0.74	MR
4.	Awareness of potential threat to inform security.	2.84	0.79	MR
5.	Knowledge of information back-up.	3.02	0.78	MR
6.	General knowledge of information exchange management in shared resources.	3.06	0.70	MR
7.	Knowledge of blocking unregistered members to information meant for university staff.	2.75	0.68	MR
8.	Knowledge on managing information exchange through university tweeter account	2.53	0.57	MR
	Cluster Mean	**2.82**	**0.33**	**MR**

MR = Moderately Required

The data in Table 4 shows that the mean responses on all the eight items as well as the cluster mean fall into the category of 2.50 and 3.49. This implies that all the eightTwitter application items are moderately required by secretaries for information exchange in Federal

Universities in South-South Nigeria. The result indicates that the standard deviation ranged between 0.33 and 0.79 indicating that the respondents were not divergent in their responses.

Ho$_1$: There is no significant difference among the mean ratings of administrative secretaries, personal secretaries and confidential secretaries on their e-mail application competencies required for information exchange in Federal Universities in South-South Nigeria.

The summary of analysis of variance of the mean rating of administrative, personal and confidential secretaries on the e-mail application competencies required for information exchange in Federal Universities in South-South Nigeria is presented in Table 4.8.

Table 5: **Analysis of Variance of the Mean Rating of Administrative, Personal and Confidential Secretaries on their E-mail Application Competencies for Information Exchange.**

Source of variance	SS	Df	Ms	F	P	Decision
Between groups	0.27	2	0.13	1.65**	0.19	NS
Within groups	22.85	284	0.68			
Total	23.12	286				

**Not significant at p≤ .05

The result in Table 5 revealed that the value of F-cal is 1.65 with level of significance (p) being 0.19. Based on the fact that the obtained p-value of 0.19 is greater than the stipulated alpha level of 0.05, this implies that the calculated f-value is not significantat 0.05 level of significance. Therefore, the null hypothesis is retained signifying that there is no significant difference in the mean rating of administrative, personal and confidential secretaries on their e-mail application competencies required for information exchange in Federal Universities in South-South Nigeria.

Ho$_2$: There is no significant difference in the rating of administrative, personal and confidential secretaries on www application competencies required by secretaries for information exchange.

The summary of analysis of variance of the mean rating of administrative, personal and confidential secretaries on the world wide web (www) application competencies required for information exchange in Federal Universities in South-South Nigeria is presented in Table 5.

Table 6: **Analysis of Variance of the Mean Rating of Administrative, Personal and Confidential Secretaries on world wide web (www) Application Competencies required by Secretaries for Information Exchange.**

Source of Variance	SS	Df	Ms	F	P	Decision
Between groups	0.05	2	0.23	0.11**	0.89	NS
Within groups	59.88	284	0.211			
Total	59.93	286				

**Not significant at p≤ .05

The data in Table 6 revealed that the value of F-cal is 0.11 with level of significance (p) being 0.89. Based on the fact that the obtained p-value of 0.89 is greater than the stipulated alpha level of 0.05, this implies that the calculated f-value is not significant at 0.05 level of significance. Therefore, the null hypothesis is retained signifying that there is no significant difference in the mean rating of administrative, personal and confidential secretaries on their WWW application competencies required for information exchange in Federal Universities in South-South Nigeria.

Ho$_3$: There is no significant difference in the rating of administrative, personal and confidential secretaries on file transfer protocol competencies required for information exchange.

The summary of analysis of variance of the mean rating of administrative, personal and confidential secretaries on the File Transfer Protocol application competencies required for information exchange in Federal Universities in South-South Nigeria is presented in Table 6.

Table 7: Analysis of Variance of the Mean Rating of Administrative, Personal and Confidential Secretaries on their File Transfer Protocol Competencies Required for Information Exchange.

Source of variance	SS	Df	Ms	F	P	Decision
Between groups	0.06	2	0.03	0.20**	0.82	NS
Within groups	40.46	284	0.04			
Total	40.51	286				

**Not significant at p≤ .05

The result in Table 7 revealed that the value of F-cal is 0.20 with level of significance (p) being 0.82. Based on the fact that the obtained p-value of 0.82 is greater than the stipulated alpha level of 0.05, this implies that the calculated f-value is not significant at 0.05 level of significance. Therefore, the null hypothesis is retained signifying that there is no significant difference in the mean rating of administrative, personal and confidential secretaries on their File Transfer Protocol application competencies required for information exchange in Federal Universities in South-South Nigeria.

Ho$_4$: There is no significant difference in the rating of administrative, personal and confidential secretaries on twitter application competencies required for information transfer.

The summary of analysis of variance of the mean rating of administrative, personal and confidential secretaries on the Twitter application competencies required for information exchange in Federal Universities in South-South Nigeria is presented in Table 4.11.

Table 8: Analysis of Variance of the Mean Rating of Administrative, Personal and Confidential Secretaries on their Twitter Application Competencies Required for Information Exchange.

Source of variance	SS	Df	Ms	F	P	Decision
Between groups	0.77	2	0.38	3.45*	0.03	S
Within groups	31.27	274	0.11			
Total	32.04	276				

*Significant at p≤ .05

The result in Table 8 revealed that the value of F-cal is 3.45 with level of significance (p) being 0.03. Based on the fact that the obtained p-value of 0.03 is less than the stipulated alpha level of 0.05, this implies that the calculated f-value is significant at 0.05 level of significance. Therefore, the null hypothesis is rejected signifying that there is significant difference in the mean rating of administrative, personal and confidential secretaries on their Twitter application competencies required for information exchange in Federal Universities in South-South Nigeria. A post hoc test was conducted to determine

where the difference lies

Table 9   Post-hoc Pairwise Comparison of the mean rating of administrative, personal and confidential secretaries on the Twitter application competencies required for information exchange

Dependent Variable: AV_twitter

Groups	Mean difference	Standard Error	Sig
1 Vs 2	0.08	0.05	0.26
1 Vs 3	-0.06	0.05	0.53
2 Vs 3	-0.13	0.04	0.03*

* The mean difference is significant at the .05 level.

Table 9 provided a summary of the post hoc pairwise comparison of the mean rating of administrative, personal and confidential secretaries on the Twitter application competencies required for information exchange. Table 9 shows that the mean difference between group 1 (administrative secretaries) and group 2 (personal secretaries) is 0.08 and it is not significant at 0.05 level of significance (p = 0.26). The mean difference between group 1 (administrative secretaries) and group 3 (confidential secretaries) is -0.06 and it is also not significant at 0.05 level of significance (p= 0.53). The mean difference between group 2 (personal secretaries) and group 3 (confidential secretaries) is -0.13 which is significant at 0.05 level of significance (p = 0.03). This result implies that the mean rating of group 3 (confidential secretaries) is significantly higher than the other two groups. This is evident in the mean rating of the three groups (administrative, personal and confidential secretaries) on their Twitter application competencies which are 2.83, 2.76 and 2.89 respectively. This therefore implies that the significant difference is caused by group 3 (confidential secretaries) which has the highest mean rating on their Twitter application competencies.

Findings of the Study

Based on the result of data analysis related to the research questions and hypotheses, the study reveals that:

1. Twelve E-mail application competencies are moderately required by secretaries for information exchange in Federal Universities in South-South, Nigeria.
2. Nine World Wide Web (www) application competencies are moderately required by secretaries for information exchange in South-South, Nigeria.
3. Eight File transfer protocol competencies are moderately required by secretaries for information exchange in Federal Universities in South-South, Nigeria.
4. Eight Twitter application competencies are moderately required by secretaries for information exchange in Federal Universities in South-South, Nigeria.
5. There is no significant difference in the mean rating of the secretaries on the E-mail application competencies required by them for information exchange.
6. There is no significant difference in the mean rating of the secretaries on the World Wide Web (www) application competencies required by them for information exchange.
7. There is no significant difference in the mean rating of the secretaries on the File transfer protocol application competencies required by them for information exchange.
8. There is significant difference in the mean rating of the secretaries on the Twitter application competencies required by them for information exchange.

Discussion of Findings

The findings of the study are arranged and discussed according to the research questions and the null hypotheses formulated for the study.

E-mail Application Competencies Required by Secretaries for Information Exchange.

The study found that 12 e-mail application competencies are moderately required by secretaries for information exchange. These include, among others,ability to navigate through an e-mail or g-mail address for information extraction; ability to compose information/message; ability to arrange information for distribution using copy feature; knowledge of attaching document in e-mail and ability to manage information update in the net.Testing of the corresponding null hypothesis revealed that there was no significant difference in the mean rating of the three classes of secretaries on the E-mail application competencies required by them for information exchange.This indicates that the respondents homogeneously agreed that e-mail application competencies are moderately required for information exchange in Federal Universities in South-South Nigeria.

This finding could be explained by the fact that the secretaries recognized the importance of e-mail as a quick and faster means of information exchange in universities, hence, they agreed on all the 12 listed competencies as being very important for effective performance of their job.. This finding is in line with that of Crystal (2002) who asserted that knowing how to use e-mail effectively is an essential skill in business and it is widely used in the corporate world as well as individuals every day.

World Wide Web (www) Application Competencies Required by Secretaries for Information Exchange

The study also found that secretaries moderately require nineWorld Wide Web application competencies for information exchange. Such competencies include knowledge to install web application components for information management on web, demonstration of basic internet operation and knowledge of various www browsers for information download and others. Testing of the corresponding null hypothesis reveals that there is no significant difference in the mean rating of the secretaries on the World Wide Web (www) application competencies required by them for information exchange. This indicates that the respondents homogeneously agreed that World Wide Web application competencies are moderately required by secretaries for information exchange in Federal universities in South-South, Nigeria.

This result is in line with the finding of Bankole and Babalola (2011) which asserted that qualified secretaries require www application competencies for information exchange in their organizations.

File Transfer Protocol Competencies required by Secretaries for Information Exchange.

The study further found that eight file transfer protocol competencies are moderately required by secretaries for information exchange. Such competencies include ability to interact with the university and other universities web-site for information exchange, ability to search and place a hold on information and knowledge of communication with internet service providers. Others are knowledge on how to use distributed information processing system, general knowledge of document file corruption and knowledge of how to recover information meant for universities in a distributed environment. Testing of the corresponding null hypothesisreveals that there is no significant difference in the mean rating of the secretaries on the file transfer protocol application competencies required by them for information exchange.

This finding is very glaring. It shows that the secretaries acknowledged the importance of file transfer protocol competencies for effective information exchange. Obviously, without requisite file transfer protocol competencies, the secretaries would be unable to use the internet to transfer important documents as file attachment from one person to another. The finding is in line with the assertion made by Skiba (2008) that file transfer protocol is the commonly used protocol for exchanging information through files over the

internet. Skiba stressed that to effectively transfer information from one machine to another, the secretaries require some competencies in the use of file transfer protocol.

Twitter Application Competencies Require by Secretaries for Information Exchange

It was also revealed by this study that eight twitter application competencies are moderately required by secretaries for information exchange. The competencies required by secretaries for information exchange using twitter application include general knowledge of information exchange management in shared research and knowledge of information back-up and knowledge of connecting tweet community for information exchange. The corresponding null hypothesis tested indicates that there was significant difference in the mean rating of the secretaries on the Twitter application competencies required by them for information exchange.

This result support the finding of Nwaokwa and Okoli (2012) which discovered that the use of ICT (internet applications) enhanced speedy delivery of information, accuracy and effectiveness of secretaries work. Therefore, secretaries require internet application competencies including competencies in twitter application.The finding also supports the assertion by Grandjean (2016) that secretaries need twitter application competencies because twitter application is dedicated to personal expression and is mostly used in institutions where twitter application is adopted as a communication tool.

Conclusion

On the basis of the finding of the study and discussion, it is concluded that, secretaries require internet tools application competencies for information exchange in any organization, particularly in Federal Universities in South-South Nigeria. Information exchange through internet tools are more effective and accurate than the manual method, hence secretaries should acquire these competencies to enable them become effective in their professional practice.

Recommendations

Based on the findings of the study, the following recommendations are made;

1. The management of Federal Universities in South-South Nigeria should endeavour to update their secretaries skills in internet tools application to enable them perform their functions effectively and efficiently in this era of emerging technologies.

2. All administrative, personal and confidential secretaries in Federal Universities in South-South Nigeria should be sponsored to attend seminars and conferences to enable them update their skills in internet tools applications such as use of e-mail, world wide web, facebook, twitter, and file transfer protocol for information exchange

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