

**VIRTUAL OFFICE DATA MANAGEMENT AND ADMINISTRATIVE COMMUNICATION
HEALTH OF PUBLIC UNIVERSITIES IN SOUTH-SOUTH, NIGERIA**

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ABSTRACT

The study examined the relationship between virtual Office data management and administrative communication health of public universities in south-south, Nigeria. The objective of the study was to examine how virtual office data management relates with measures of administrative communication health of public universities in south-south, Nigeria. The cross-sectional explanatory survey research design was adopted for the study. The population of the study consisted of twenty (20) public (Government-owned) universities across the six (6) States in South-South, Nigeria. The sample size comprised of two hundred and eighty (280) administrative staff in twenty (20) public universities in south-south, Nigeria. This was obtained using the Taro Yamene formula and the public university sample size was calculated using the Bowley's (1960) population proportionate allocation. Structured questionnaire was used as instrument for data collection after face-validation. Cronbach alpha was used to test the internal consistency of the instrument. Out of 280 copies of the questionnaire administered, a total of 250 were retrieved. Arithmetic mean was used for the univariate analysis while the test of hypotheses was done using Correlational Statistical tool such as Spearman Rank Order Correlation and Partial Correlation. The findings revealed that virtual office data management had a high positive correlation with administrative communication health of public universities in south-south, Nigeria. The study concluded that office virtualization in terms of virtual office data management bring about improvement in administrative communication health of public universities in south-south, Nigeria. The study therefore recommended that management should procure digital gadgets such as laptops, ipads among orders for administrative office usage in other to enable the use of Microsoft office suite for data processing tasks among others.

Keywords: Virtual Office, Data Management, Administrative, Communication Health

INTRODUCTION

One of the issues that necessitated this study is the apparent virtual communication issues bedeviling some of the public universities in South-South, Nigeria. The administrative systems of some of the public universities appear to be sick in terms of virtual communication. Some of the factors suggesting that all are not well with the administrative communication activities of some public universities include slow administrative processes, late dissemination of administrative information and updates, ineffective implementation of administrative decisions, administrative mistakes, and general lack of orderliness across offices in the administrative system (Odu, 2021). The researcher's observation in some of the public universities visited, suggests that there is serious communication gap in the administrative system. The flow of information appears not be very timorous notices of meetings and other administrative updates are not shared and accessed by designated users on time and this often leads to last-minute rush and its attendant mistakes. It also appears that administrative coordination is very poor in recent times even with the proliferation of virtual technologies especially after the Covid-19 lockdown (Otamiri & Odu, 2021). The pace at which many tertiary universities in Nigeria are going virtualized even after the outbreak of the Covid-19 Pandemic still appears to be very low. Administrative officers, Heads of

Departments and Units, Deans and Directors offices appear to be littered with desktop computer, laptop computers, mini-laptops, I-phones, networked printers and copiers, CD-ROM, DVDs, flash drives, internet-enabled digital devices, social networking platforms (e-mail, Facebook, WhatsApp, Twitter, Internet and Extranet, etc.) other smart devices, only a few have been able to virtualized their office functions (Odu, 2019). This is partly due to the fact that top level administrators only lately become conscious of the combined want and importance of a virtualized office. Adam, Effah, and Boateng, (2017), employed an interpretive case study approach and with a combined lens of activity and agency theories to understand how public universities attempts to improve their administrative communication health by migrating from a physical to a virtual work environment. Decision making and implementations appears to be very slow. It also appears that even some of the administrative heads do not have full understanding of some of the administrative decisions and programs. This makes it difficult for uniformity and timeliness to be achieved in the administrative business of some of the public universities in South-South, Nigeria. The researcher's observation also suggests that feedback mechanisms are grossly ignored in the administrative system. There appears to be little or no efforts at ensuring that top management gets feedback from the bottom. On the other hand, the interactivity between administrative heads and administrative staff appear to be stifled by poor feedback system. Another issue that appears to be associated with the administrative communication efforts of public universities in South-South, Nigeria is information inaccuracy. A study done by Otamiri and Nmehielle (2020) attests to the fact that some of the information contents shared in the administrative systems of public universities are fraught with ambiguities and errors with makes it difficult for users to fully grasp what is being communicated. It is actually surprising that in spite of the proliferation of smart devices such as computer systems, laptops, routers, and smart phones, most of the offices of public universities in this part of the world are predominantly paper-based while many offices in other sectors are becoming virtual.

It is quite surprising that office functions such as collection, storage and sharing of administrative information are still predominantly via the paper-based method. In most of the public universities, office files are still carried about and letters may not get to certain persons until they are seen in person. Notices of meetings are still shared in print form and held in the face-to-face format. While the use of virtual meeting technologies gained popularity during the Covid-19 pandemic, the premature upsurge in the use of virtual meeting technologies such as zoom video communications application, Microsoft Team and Skype usage has reduced drastically shortly after the pandemic. The storage of office files is still done on files and in the somewhat digitalized offices on laptops and local storage devices. The fact remains that computing today has gone virtual and office files are supposed to be stored and managed from virtual platforms like Google Drive and One Drive. The failure of some of the administrative systems to fully embrace office virtualization makes it difficult for administrators to access office files and information virtually which may be capable of impacting on their ability share and use administrative information effectively.

Different researchers have examined office virtualization and administrative communication health from different perspectives. For instance, Ned (2016) examined the relationship between internet services and secretaries' job performance in public universities in Rivers State; the impact of WhatsApp messenger on students' performance in public universities in Ghana (Johnson & George, 2016); Influence of voice call (Skype) usage on employee productivity A case of university of cape coast staff (Daniel, et al., 2017); the effect of the use of social networking sites in the workplace on job performance (Murad, 2017); strategic impact of social media usage on employee productivity A case of British American tobacco limited employees (Mercy, 2018); the influence of digital communication technologies on office and information managers' job performance in public universities in Rivers State (Amadike, 2018); the influence of workplace social media usage on administrative effectiveness in Rivers State Civil Service (Dike, 2018); the relationship between electronic communication platforms and administrative effectiveness in Enugu State Government Parastatals (Chiemele, 2018); the impact of new media usage on organizational performance in

Dead Sea products companies in Jordan (Ardam, 2019); impact of new media (social networking) on employee performance (Naheed & Tasawar, 2019). The findings of these studies revealed that web-based communication platforms, new media usage or social media has enhanced the efficient and effective communication in the workplace.

Nebo et al. (2015) examined the role of effective communication in the organizational performance of Nnamdi Azikiwe University, Awka and it was found that effective communication is a necessity for effective and efficient management performance.

Otamiri et al. (2016) examined how dimensions of digital citizenship regular browsing, access to e-library, and digital literacy impacted on business educators' job performance in terms of educational communication. The study revealed that access to digital resources enhances business educators' job performance and workplace communication. More recently, a study done by Nmehielle (2020) revealed that office digitalization enhances organizational communication success of public universities in Rivers State. None of these studies were able to provide empirical insight on office virtualization and administrative communication health of public universities in South-South, Nigeria. This suggests that the relationship between virtual office data management and administrative communication health has not received adequate research attention within the context of public universities in South-South, Nigeria. This therefore suggests a gap in the existing body of literature, and it is this gap in knowledge that the researcher seeks to address in embarking on this study.

The following tentative hypotheses were formulated

- Ho₁ There is no significant relationship between virtual office data management and information dissemination of public universities in South-South, Nigeria.
- Ho₂ There is no significant relationship between virtual office data management and administrative coordination of public universities in South-South, Nigeria.
- Ho₃ There is no significant relationship between virtual office data management and information accuracy of public universities in South-South, Nigeria.

Virtual Office Data Management and Administrative Communication Health

Administrative activities of office administrators in public universities are usually huge, therefore they create modalities of ensuring that official files/documents are protected and accessed when needed. One of these modalities is the adoption of virtual office data management. Through virtual office data management administrative officers are able to save bug data virtually so as to facilitate their operation in their respective offices. Thus, the use of virtual office makes it possible for two or more staff to open and work on the same document simultaneously even when they are not in the same geographical location. This type of system is known as document management system. A common example of this kind of virtual platform is the Google Drive. Institutional records stored in Google Drive can be accessed and edited by authorized users using internet protocol even they are physically dispersed. Thus, documents typed or accessed in each office or unit of an institution are stored in the cloud which makes it possible for designated personnel to access and use relevant files from anywhere in the world via internet connection (Vega et al., 2015). Virtually, placing all institutional data on a cloud-based server system (under lock and key with a competent service provider) saves time and energy as well as guarantees secured access to such data from any device from any location. In other words, centralizing an institution's data resources in a virtual office database management opens the door for unrivaled flexibility and efficiency.

The advantages of virtual office data management cannot be overemphasized. This is because it has made management of office data much easier. Virtual office data management is the key to improvement in all aspects of an organization's operations. By securing a powerful office data management solution for an institution, management can cut processing time in half with useful features that were previously unheard of (Saeed, 2015; Watson, 2016). Virtual office data management is equally advantageous in administrative activities as it offers a variety of techniques to store and retrieve institutional data from various sub-databases in various units of the institution.

It serves as an efficient handler to balance the needs of multiple applications using the same data (Mehmet & Serhat, 2011). It presents a uniform administration procedure. Its application programmers never exposed to details of data representation and storage. It uses various powerful functions to store and retrieve data efficiently. It offers data integrity and security for effective administration of official duties. This act as great advantage because it protects official data from unauthorized users for accessing them as well as giving accurate information as stored at all point in time. It schedules concurrent access to the data in such a manner that only one user can access the same data at a time. This triggers administrative communication health in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility).

In line with the above assertion, Bergiel et al. (2018) posit that virtual office data management has saved major transnational organizations up to \$50 million, proving it to be a cost effective way of conducting business. In addition to cost savings, virtual management eliminates the non-verbal cues and power differences that inhibit equal participation, resulting in more equal levels of participation within heterogeneous groups as well as improving administrative communication health in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility).

Although, Guru (2020) averred that challenges for the adoption of virtual office data management cut across high cost of hardware and software of a VDBMS is quite high which increases the budget of one's organization; most virtual office database management systems are often complex systems, so the training for users to use the VDBMS is required. Physically disadvantaged employees have greater access to the virtual environment than the physical workspace, creating teams that are more diverse in makeup and fostering greater creativity and innovation.

Meuser et al. (2016) postulates that virtual office data management, facilitate the availability of information to effectively ensure proper execution of tasks. This is because the advent of information and communication technology has made it possible for office functions to be executable virtually outside the confines of a building or room. The adoption of virtual office data management helps administrative workers to finish up their daily, weekly, monthly and yearly targets on time, since it allows them to go virtual and also collaborate with other individuals. As a result, administrative employees in the entire nation of Nigeria and beyond have greatly been on continuous appreciation of the creation and usage of cloud storage platforms because of how much of job simplification they have done. These go a long way in ensuring great administrative communication health in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility).

More so, for administrative officers of any public universities in South-South region of Nigeria to effectively manage official data virtually, they must as a matter of fact ensure proper usage of Microsoft office suite. This is predicted on the ground that employing Google spreadsheets, Google word and Google PowerPoint in administrative activities facilitates the smooth execution of task so as to improve administrative communication health in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility). However, Dike (2020) asserts that Google spreadsheets as form of Microsoft office suite is a hugely powerful tool that aids everything from digital marketing to finance modeling, project management to statistical analysis, in fact, just about any activity involving the recording and analysis of data.

Furthermore, Google drive usage is equally one of the indexes of ensuring that virtual office data management brings about administrative communication health. This is noted on the fact that Google drive also offers application with offline capabilities for windows and MacOS computers, and Android and iOS smart phones and tablets (Joseph, 2018). With virtualization technology, office managers today subscribes to Google drive and have most of their administrative files stored there for easy access anytime. This makes it possible for office workers and committee members to access and even upload documents to a platform that can be accessed by designated members anywhere and anytime. This improves administrative communication health in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility). In line with the above assertion, Gildred (2020) opined that Google drive can be used to store documents, images, videos, and even back up an entire PC. The service makes it easy to transfer files from one device to another without having to email them to oneself. It also lets someone share documents with others and will make sure files are safe if PC stops working. Google Drive is free of charge and goes head to head with services like Drop box and Box. Although using it is not exactly rocket science, the service does have many features that might confuse a newbie. Google Drive is a cloud storage service, and like any cloud storage service, its main purpose is to expand someone's ability to store files beyond the limits of their hard drive.

Michael (2020) averred that Google Drive is great for transferring files from one device to the other. You can, for example, upload files from a smart phone and then download them to your PC. When using Drive on the web, select a file or folder, click on the More actions icon in the top-right corner (three vertical dots), and select Download. The story is similar on mobile tap the same icon next to a file of choice, select Download, and you are good to go. Alternatively, you can also open the Drive folder on your PC and transfer the files to a folder on your computer. However, the files will not be available in Drive anymore, whereas downloading them directly from the web client ensures that they will also stay in the cloud storage. Managing the drive is an essential thing to consider as a user. This improves administrative communication health in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility).

Also, one virtual office data management tool that is capable of affecting performance of organization (public universities in South-South, Nigeria) is One Drive. This is drawn from the fact that One Drive helps in storing and sharing files with people that a user invites. Content that a user saves to one drive is private until the user shares it with others, making it the best option for storing personal and draft documents that are not intended to be shared or not ready to be shared. These necessitate the increment in the administrative communication health of public tertiary institution in South-South region of Nigeria in terms of information dissemination (access to correspondences, information justice and feedback), administrative coordination (decision making/implementation, smooth workflow and resource maximization) and information accuracy (detailed account of events, error free correspondence and content comprehensibility).

Diffusion of Innovation Theory

Diffusion of Innovation Theory was propounded Roger in 1962. Roger's Diffusion of Innovation Theory explains the process and benefits of allowing emerging digital practices to diffuse into a work system (Rogers' 1962 in Ikemefuna, 2016). It explains the processes involved in the adoption of innovations such as new technologies, techniques, and procedures as well as the resultant effects of such steps on organizational processes (Rogers in Creswell, 2014; Ahiauzu & Asawo, 2016).

The diffusion of innovation theory assumes that

- i) In a social system, there will always be a disparity in the level and time at which individuals within a given social system adopt new ideas, techniques, and technology.
- ii) Individuals and arms of institutions that adopt innovations early will naturally outperform late adopters and the laggards (Rogers as cited in Ayodele, 2012; Odu, 2017; George-Amadi, 2018).

This theory was succinctly adopted as the theoretical underpinning of this study because it is related to the predictor variable of this study (office virtualization as an innovation) and its accurate prediction of how innovations such as office virtualization could affect organizational activities such as administrative communication health in public universities of south-south geo-political zones in Nigeria.

The theory predicts that firms that adopt innovations such as office virtualization on time will experience better organizational success than those who stick to traditional systems of operations. The process of adopting new innovations has been studied for over 30 years, and one of the most popular adoption models is described by Rogers in his book, *Diffusion of Innovations* (Sherry & Gibson, 2002). Much research from a broad variety of disciplines has used the model as a framework. Dooley (1999) and Stuart (2000) mentioned several of these disciplines as political science, public health, communications, history, economics, technology, and education, and defined Rogers' theory as a widely used theoretical framework in the area of technology diffusion and adoption. There are four main elements in the diffusion of innovation, they are

- Innovations
- Communication Channels
- Time
- Social System

Rogers' diffusion of innovations theory is the most appropriate for investigating the adoption of technology in higher education and educational environments (Medlin, 2001; Parisot, 1995). In fact, much diffusion research involves technological innovations so Rogers (2003) usually used the word technology and innovation as synonyms. Rogers (2003), asserts that a technology is a design for instrumental action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome. It is composed of two parts hardware and software. While hardware is the tool that embodies the technology in the form of a material or physical object, software is the information base for the tool (Rogers, 2003). Since software (as a technological innovation) has a low level of observability, its rate of adoption is quite slow. For Rogers (2003), adoption is a decision of full use of an innovation as the best course of action available and rejection is a decision not to adopt an innovation. Rogers defines diffusion as the process in which an innovation is communicated thorough certain channels over time among the members of a social system. As expressed in his definition, innovation, communication channels, time, and social system are the four key components of the diffusion of innovations.

METHODOLOGY

The explanatory cross sectional survey research design was adopted for this study. The population of this study consisted of twenty (20) public (Government-owned) universities across the six (6) states in South-South, Nigeria. The entire population of twenty (20) public universities in South-South, Nigeria was used as the study sample. Thus, this study is census research. The collection of primary data was done using a questionnaire designed by the researcher. Arithmetic Mean and Standard Deviation was used for Univariate Analysis, Spearman Rank Order Correlation was applied for the Bivariate Analysis while. The test of hypotheses was done at 95% confidence level.

RESULTS

Virtual Office Data Management and Administrative Communication Health

- Ho₁ There is no significant relationship of virtual office data management on information dissemination of public universities in South-South, Nigeria.
 Ho₂ There is no significant relationship of virtual office data management on administrative coordination of public universities in South-South, Nigeria.
 Ho₃ There is no significant relationship of virtual office data management on information accuracy of public universities in South-South, Nigeria.

Table 1 Correlations between Virtual Office Data Management and Administrative Communication Health

		Virtual Office Data Management	Information Dissemination	Administrative Coordination	Information Accuracy	
Spearman's rho	Virtual Office Data Management	Correlation Coefficient	1.000	0.557**	0.693**	0.470**
		Sig. (2-tailed)	.	.000	.000	.000
		N	250	250	250	250
	Information Dissemination	Correlation Coefficient	0.557**	1.000	0.785**	0.786**
		Sig. (2-tailed)	.000	.	.000	.000
		N	250	250	250	250
	Administrative Coordination	Correlation Coefficient	0.693**	0.785**	1.000	0.646**
		Sig. (2-tailed)	.000	.000	.	.000
		N	250	250	250	250
	Information Accuracy	Correlation Coefficient	0.470**	0.786**	0.646**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	250	250	250	250

** . Correlation is Significant at the 0.01 level (2-tailed).

Source SPSS Output

Column two of table 1 above shows r value of 0.557 at a significance level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating virtual office data management and information dissemination. Since the significance value is less than the alpha level of 0.05, the null hypothesis (Ho₁) which states that there is no significant relationship between virtual office data management and information dissemination of public universities in South-South, Nigeria is rejected and the alternate hypothesis (Ha₁) is accepted. This implies that there is a moderate positive relationship between virtual office data management and administrative communication in terms information dissemination in public universities in south-south, Nigeria.

Column three of table 2 above shows r value of 0.693 at a significance level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating virtual office data management and administrative coordination. Since the significance value is less than the alpha level of 0.05, the null hypothesis (Ho₂) which states that there is no significant relationship between virtual office data management and administrative coordination of public universities in South-South, Nigeria is rejected and the alternate hypothesis (Ha₂) is accepted. This implies that there is a high positive relationship between virtual office data management and administrative communication in terms of administrative coordination in public universities in south-south, Nigeria.

Column four of table 3 above shows r value of 0.470 at a significance level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating virtual office data management and information accuracy. Since the significance value is less than the alpha level of 0.05, the null hypothesis (Ho₃) which states that there is no significant relationship between of virtual office

data management and information accuracy of public universities in South-South, Nigeria is rejected and the alternate hypothesis (H_{a3}) is accepted. This implies that there is a moderate positive relationship between virtual office data management and administrative communication in terms of information accuracy in public universities in south-south, Nigeria. These results show that virtual office data management has moderate positive relationship between administrative communication health in terms of office dissemination and information accuracy. It also revealed that there is a high relationship between virtual office data management and administrative coordination in public universities in South-South, Nigeria.

Discussion of Findings

Virtual Office Data Management and Administrative Communication Health

The test of hypotheses one to three revealed that there is a significant positive relationship between virtual office data management and administrative communication health in terms of information dissemination, administrative coordination, and information accuracy in public universities south-south, Nigeria. This implies that for consequent enhancement of virtual office data management such as Microsoft office suite usage, goggle drive usage and one drive usage brings about a corresponding in improvement in administrative communication health in terms of information dissemination, administrative coordination, and information accuracy in public universities south-south, Nigeria. This is drawn from the fact that administrative activities of office administrators in public tertiary institutions are usually huge, therefore they create modalities of ensuring that official files/documents are protected and accessed when needed. One of these modalities is the adoption of virtual office data management. Through virtual office data management administrative officers are able to save bug data virtually so as to facilitate their operation in their respective offices. Thus, the use of virtual office makes it possible for two or more staff to open and work on the same document simultaneously even when they are not in the same geographical location. This type of system is known as document management system. A common example of this kind of virtual platform is the Google Drive. Institutional records stored in Google Drive can be accessed and edited by authorized users using internet protocol even they are physically dispersed. Thus, documents typed or accessed in each office or unit of an institution are stored in the cloud which makes it possible for designated personnel to access and use relevant files from anywhere in the world via internet connection (Vega et al., 2015). Virtually, placing all institutional data on a cloud-based server system (under lock and key with a competent service provider) saves time and energy as well as guarantees secured access to such data from any device from any location. In other words, centralizing an institution's data resources in a virtual office database management opens the door for unrivaled flexibility and efficiency.

In line with the findings above, Saeed (2015) finding revealed that the advantages of virtual office data management cannot be overemphasized. This is because it has made management of office data much easier. Virtual office data management is the key to improvement in all aspects of an organization's operations. By securing a powerful office data management solution for an institution, management can cut processing time in half with useful features that were previously unheard.

CONCLUSIONS

The study concluded that virtual office data management is a major determinant of administrative communication health of public universities in South-South, Nigeria. The quality of office virtualization enhances learning and general performance of the institutions by ensuring that there is information dissemination through the use of virtual office data management. Virtual meeting enhances administrative communication health by fostering administrative coordination through the application of virtual platforms such as zoom, Microsoft team as well as Skype meeting which eliminates distance barriers.

RECOMMENDATIONS

Based on the conclusions of this study, the following were recommended

1. Management should procure digital gadgets such as laptops, ipads, among others, for administrative office usage in other to enable the use of Microsoft office suite for data processing tasks.
2. Management should encourage the use of Google drive as a virtual storage facility at the management level to ensure the security of files across units of the university.
3. Management should upgrade to the use of One Drive to enhance administrative file sharing among the management units as this will enhance the sharing of files with ease and at a faster rate.
4. Management team should adopt the culture of using virtual meeting platforms such as Zoom to curb distance barrier among its management staff. This will allow meetings to take place anywhere and at any time at the comfort of their homes and offices.

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