ISSN: 3348 – 3011
Volume 8, Number 2, 2023
International Journal of Entrepreneurship and Marketing Innovation

NETWORK VIRTUALIZATION AND JOB PERFORMANCE OF OFFICE MANAGERS IN PUBLIC UNIVERSITIES IN RIVERS STATE

Dr Nna-Emmanuel Sarah W.
Department of office Technology and Mgt.
Ken-Saro Wiwa polytechnic, Bori

ABSTRACT

This study investigated the relationship between network virtualization and job performance of office managers in public universities in Rivers State. Correlation survey design was adopted for the study. The population of this study comprised of one hundred and eighty-nine (189) office managers across the three public universities in Rivers State. The sample size for this study consists of one hundred and twenty (120) office managers drawn from the three public universities in Rivers State which was calculated using Taro Yamane formula. The study also employed the use of both primary and secondary sources of data in other to collect the data needed for the study. The study used Pearson Product Moment Correlation in analyzing the study research questions and hypotheses. The study reveals that there was significant relationship between the use of network virtualization and effective performance of office managers in public universities in Rivers State. Based on the findings of this study, the following recommendations were made; among others University management should be encouraged to key into the use of between network virtualization in their operations in order to better the job performance of their office managers.

Keywords: *Network Virtualization, Effective delivery, Information Storage, Job Performance*

INTRODUCTION

According to Dew (2002), early in the 1990s, most of the activities was done or performed manually. A good and quality handwriting was an additional qualification/advantage for holding a position in an institution, but manual organizational activities were greatly slow. Over the years, several efforts have been made in other to improve the functionality of employees in carrying out their daily functions in their various institutions. The invention of the typewriting machine and its use in the office was almost revolutionary in its effect upon the office and particularly, typesetting works of the organizations would be done quickly, more attractively and more economically. The author extended his view by further stating that a typewriter as a machine for writing characters like those made by printer's type when more than a few copies are needed. The author added that this machine (typewriter) consist of a keyboard that controls impression made in any sequence from tape arranged on separate reds or on the periphery of a disc, or other. In the machines of early days, the term "typewriter was also applied to the operator, later the operator become known as typist.

After the invention of a typographer in 1929, several typewriter models followed, but despite some improvement such as introduction of cylinder, most are large and cumbersome, they were all slower than handwriting in operation. Finally, in 1867, the American inventor Shales constructed what become the first practical typewriters its second modern was made in 1865 and was faster than pen.

The need to meet the demand of increased institutions activities, led to the development of typewriters and other devices that could quickly and automatically produce individually typed copies of institution's documents that looked manually typed original.

Jagero & Komba (2012) in their study defined the word processing system as a kind of system which involves a word processing unit consisting of a typewriter with a standard keyboard attracted to a magnetic tape or disc and a playback unit records the material. When a mistake is made the operator backspace and strikes over the incorrect words, this process erases the error.

Other technological advancements strategy that could aid job performance in every institution is in the field of technology, the advent of computers, network and network virtualization are capable of bringing about changes in the manner at which institutions performed their jobs. Computer will automatically perform a series of logical operation on the output in accordance with a form required by the institution uses.

In their book, "institution's procedure and administration" Hanna (2006), contented that the development of office machines arose from the need to improve office methods and speed of office operations. It was the advent of computers that brought about changes in the institutions/organizations job performance. In a nutshell, technological advancement strategy has improved generally organizational performance which educational institutions cannot be excluded, thus enabling universities to become better prepared for technological tasks.

Computer gadget is believed to be one of the gadgets needed for any institution/organization to run smoothly, facts and accurate information are necessary for quick decision-making, and modern office technologies can assist office managers be focused and in contact with their co-workers. It can, therefore, be said that having advanced technologies can increase an office manager's job performance, because such technologies make work flexible. According to Ndlovu (2009), organizations need to be managed effectively so that they have highly productive employees executing goals aligned with the organization's strategic objectives. Technologies play a part in helping organizations meet these strategic objectives. Modern technologies need to be managed effectively, because during their use, an organization's most important information can easily be lost.

Internet facilitates the information exchanges between organizations, concerning issues such as discovery of new customer needs, trends of the local and global markets, competitive moves, joint development of products, joint selling activities, etc (Avlonitis & Karayanni, 2000). Internet is an information system in the shape of a network that can encompass many different technologies" (Bay, 2017). Researchers discovered that using the Internet is a vital source of information, while it does not hinder the use of traditional sources, such as books and articles (Large & Beheshti, 2000, as cited in Irvine, 2002).

Research Hypotheses

The following null hypotheses were stated and tested at 0.05 level of significance to give direction to the study:

1) There is no significant relationship between network virtualization and effective information delivery of office managers in public universities in Rivers State
2) There is no significant relationship between network virtualization and productivity of office managers in public universities in Rivers State
3) There is no significant relationship between network virtualization and information storage of office managers in public universities in Rivers State.

Network Virtualization

Network Virtualization (NV) refers to abstracting network resources that were traditionally delivered in hardware to software. NV can combine multiple physical networks to one virtual, software-based network, or it can divide one physical network into separate, independent virtual networks (Reisman, 2006). Network virtualization software allows network administrators to move virtual machines across different domains without reconfiguring the network. The software creates a network overlay that can run separate virtual network layers on top of the same physical network fabric (Sazali&Raduan, 2011).

According to Sung & Gibson (2000), network virtualization is rewriting the rules for the way services are delivered, from the software defined data center (SDDC), to the cloud, to the edge. This approach moves networks from static, inflexible, and inefficient to dynamic, agile, and optimized. Modern networks must keep up with the demands for cloud-hosted, distributed apps,

and the increasing threats of cybercriminals while delivering the speed and agility you need for faster time to market for your applications. With network virtualization, you can forget about spending days or weeks provisioning the infrastructure to support a new application. Apps can be deployed or updated in minutes for rapid time to value.

Sung & Gibson (2000) Network virtualization decouples network services from the underlying hardware and allows virtual provisioning of an entire network. It makes it possible to programmatically create, provision, and manage networks all in software, while continuing to leverage the underlying physical network as the packet-forwarding backplane. Physical network resources, such as switching, routing, firewalling, load balancing, virtual private networks (VPNs), and more, are pooled, delivered in software, and require only Internet Protocol (IP) packet forwarding from the underlying physical network.

Shathees, et al (2020), network and security services in software are distributed to a virtual layer (hypervisors, in the data center) and "attached" to individual workloads, such as your virtual machines (VMs) or containers, in accordance with networking and security policies defined for each connected application. When a workload is moved to another host, network services and security policies move with it. And when new workloads are created to scale an application, necessary policies are dynamically applied to these new workloads, providing greater policy consistency and network agility.

Concept of Job performance

In this study, the meaning of job performance refers to task performance or in-role job performance as defined by Motowidlo (2003) as the organization's total expected value on task related proficiency of an employee, or fulfillment of tasks that are required by the formal job description. In other words, task performance is the behaviors related specifically to performing job-related matters. In human resource management studies, task performance has been measured using a range of criterion measures, including supervisory ratings, productivity indexes, promotability ratings, sales total, and turnover rate. Although these indicators might be presumed to reflect performance at various degrees, Gomez-Mejia et al., (2007) stated that task performance should be distinguished into quality of work done, quantity of work performed, and interpersonal effectiveness. Therefore, from the above definitions it is clear that job performance is related to the extent to which an employee is able to accomplish the task assigned to him or her and how the accomplished task contributes to the realization of the organizational goal. (Mawoli & Babandako, 2011).

According to (Motowidlo, Borman & Schmidt, 1997), job performance is defined as the total expected quality and value in a particular job from an employee's behaviors carried over a standard period of time. Kahya (2009) posited that there are two separate dimensions of work behaviors in job performance which are contextual (citizenship) performance and task performance. Werner (2000) posited that contextual performance is described as the employee's effort that is not directly related to their main job function but their efforts are important as they support the organizational, social, and psychological environment that serves as the critical catalyst for job activities and processes. Whereas, the task performance is defined as the task employee perform the job activities are formally recognized as part of their jobs and the activities that will be contributed to the organization (Borman & Motowidlo, 2003). According to Witt, Kacmar, Carlson, and Zivnuska (2002), contextual performance produces a competitive advantage for organizations than task performance. Besides, job performance can also be viewed as the individual behaviors that performed activities or tasks to achieve the organization's goal and objective (Motowidlo, Borman & Schmidt, 2007). It is an important factor that will be affecting the profitability of the organization where inefficient job performance will destruct the overall organization productivity, profitability, and effectiveness. Other than that, Employee' job performance is significant for the organization as their performance and contribution will lead the business toward success, as well as achieve competitive advantages. Performances are also

important for individuals as the accomplishment of a job and performing tasks at a high level can be a source of satisfaction (Muchhal, 2014). The employee who is low performance and fails to achieve organizational goals might be experienced as dissatisfaction or personal failure. There might be exceptions for those high performers as they will have a better career opportunity and get promoted more easily within the organization than the low performers (Van Scotter, Motowidlo & Cross, 2006). The employee's job performance can be affected by numerous factors in their working environment. Based on some researchers and practitioners, performances of employees at the workplace may affect by various factors which can be the change of job function, exclusive nature, systematic technology development, or weakening in job satisfaction (Saeed, Mussawar, Lodhi, Iqbal, Nayab &Yaseen, 2013). There are certain factors that individually and collectively affect employees either enhance or lower their job performance.

The Theory of Planned Behaviour

The Theory of Planned Behavior (TPB) started as the Theory of Reasoned Action in 1980 to predict an individual's intention to engage in a behavior at a specific time and place. The theory was intended to explain all behaviors over which people have the ability to exert self-control. The key component to this model is behavioral intent; behavioral intentions are influenced by the attitude about the likelihood that the behavior will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome.

The TPB has been used successfully to predict and explain a wide range of health behaviors and intentions including smoking, drinking, health services utilization, breastfeeding, and substance use, among others. The TPB states that behavioral achievement depends on both motivation (intention) and ability (behavioral control). It distinguishes between three types of beliefs - behavioral, normative, and control. The TPB is comprised of six constructs that collectively represent a person's actual control over the behavior.

1. Attitudes - This refers to the degree to which a person has a favorable or unfavorable evaluation of the behavior of interest. It entails a consideration of the outcomes of performing the behavior.
2. Behavioral intention - This refers to the motivational factors that influence a given behavior where the stronger the intention to perform the behavior, the more likely the behavior will be performed.
3. Subjective norms - This refers to the belief about whether most people approve or disapprove of the behavior. It relates to a person's beliefs about whether peers and people of importance to the person think he or she should engage in the behavior.
4. Social norms - This refers to the customary codes of behavior in a group or people or larger cultural context. Social norms are considered normative, or standard, in a group of people.
5. Perceived power - This refers to the perceived presence of factors that may facilitate or impede performance of a behavior. Perceived power contributes to a person's perceived behavioral control over each of those factors.
6. Perceived behavioral control - This refers to a person's perception of the ease or difficulty of performing the behavior of interest. Perceived behavioral control varies across situations and actions, which results in a person having varying perceptions of behavioral control depending on the situation. This construct of the theory was added later, and created the shift from the Theory of Reasoned Action to the Theory of Planned Behavior.

This theory of planned behavior (TPB) proposes that a person's intention to perform certain behavior is the central determinant of that behavior because it reflects the level of motivation a person is willing to exert to perform the said behavour (Teece,2007). A fundamental principle of socio-technical systems thinking is that a technology on its Oron has little meaning for purpose of organizational performance analysis. It can only be understandable in terms of the context in which it was embedded and the organizational goals or transformations that it serves or enables (Rothwell, 2002).

Relationship between theory of planned behavior and technological advancement strategy

Theory of planned behavior (TPB) proposes that a person's intention to perform certain behavior is the central determinant of that behavior because it reflects the level of motivation a person is willing to exert to perform the said behavour. The theory suggests that the behavior of every individual in an organization has a way of contributing to the growth or down fall of the organization. When office managers in public universities are natured in a manner that they will think and act towards contributing their quotas to success of the organization, then they will be left with no other option than to put in their best efforts for the achievement of the organization objective. Knowing that no employee mind is a blank slate (tabula rasa) there is therefore every reason to ensure that office managers bring their individuals experiences in the adoption of technological advancement strategy that will aid job performance. Thus, the adoption of the planned behaviour theory in technological advancement strategy and job performance of office managers in public universities became expedient as it will help in guiding both management and employees in ensuring that both parties plans and brings out the best behaviour for the success of the organization.

METHODOLOGY

The correlation survey design was adopted for the study. The population of this study consists of all the public universities in Rivers State. As at the time of conducting this study, the total number of public universities in Rivers State was three (3) with each having different number of faculties and departments make the number of staff to vary between the institutions. Hence, the population of the study was one hundred and eighty-nine (189) office managers across the three public universities in Rivers State. The sample size for this study consists of one hundred and twenty (120) office managers drawn from the three public universities in Rivers State. The Taro Yamane formula was ideal to be used when the population size is known (Wali, 2011). However, the simple random technique will be adopted for this study because it gives every office manager the equal chance of being selected for the sample. The queationnaire was use for data collection. The researcher used Pearson Product Moment Correlation to analyse and answer the research questions that were stated regarding the relationship between Technological advancement strategies and job performance and to test the hypotheses that were formulated at 0.05 level of significance.

Research Hypotheses

Research Hypothesis One: There is no significant relationship between network virtualization and effective information delivery of office managers in public universities in Rivers State

Summary of regression analysis on the relationship between network virtualization and effective information delivery of office managers in public universities in Rivers State

PART.A Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.714[a]	.510	.503	.68688

a. Predictors: (Constant), Network Virtualization

PART.B Coefficients[a]

Model	Unstandardized	Standardized	t	Sig.

Model		Coefficients B	Std. Error	Coefficients Beta	t	Sig.
1	(Constant)	15.923	.585		27.218	.000
	Network Virtualization	.391	.045	.714	8.592	.000

a. Dependent Variable: Effective Information Delivery

PART.C ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.831	1	34.831	73.825	.000[b]
	Residual	33.499	118	.472		
	Total	68.330	119			

a. Dependent Variable: Effective Information Delivery
b. Predictors: (Constant), Network Virtualization

The table above showed the summary of regression analysis on the relationship between network virtualization and effective information delivery of office managers in public universities in Rivers State. **Part A** showed that network virtualization account for **51.0**% (0.510x100) based on the R-square value network virtualization of office managers of public universities in Rivers State. **Part B** shows a very positive but weak relationship between the two variables (B= 0.714). The regression equation y=**15.923+0.391** indicating that an increase in the network virtualization will lead to increase in effective information delivery of office managers in public universities. **From Part C**, the F-statistic 73.825) shows that there was significant relationship between the independent variable (network virtualization) to product variable (**F1, 118=73.825, p<.05**). This implies that the network virtualization significantly relates to effective information delivery of office managers in public universities in Rivers State. Therefore, the null hypothesis was rejected and the alternate accepted at 0.05 alpha level.

Research Hypothesis Two: There is no significant relationship between network virtualization and productivity of office managers in public universities in Rivers State

Table Summary of regression analysis on the relationship between network virtualization and productivity of office managers in public universities in Rivers State

PART. A Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.550[a]	.303	.293	.81910

a. Predictors: (Constant), Network Virtualization

PART. B Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	15.950	.897		17.787	.000
	Network Virtualization	.312	.056	.550	5.554	.000

a. Dependent Variable: Productivity

PART.C ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.694	1	20.694	30.844	.000[b]
	Residual	47.636	118	.671		
	Total	68.330	119			

a. Dependent Variable: Productivity
b. Predictors: (Constant), Network Virtualization

The table above showed the summary of regression analysis on the relationship between network virtualization and productivity of office managers in universities in Rivers State. **Part A** showed that network virtualization account for **30.3**% (0.303x100) based on the R-square value network virtualization of office managers in public universities in Rivers State. **Part B** shows a very positive but weak relationship between the two variables (B= 0.550). The regression equation y=**15.950+0.312** indicating that an increase in the network virtualization will lead to increase in productivity of office managers in public universities. **From Part C**, the F-statistic 17.787) shows that there was significant relationship between the independent variable (network virtualization) to product variable (**F1, 118=73.825, p<.05**). This implies that the network virtualization significantly relates to productivity of office managers in public universities in Rivers State. Therefore, the null hypothesis was rejected and the alternate accepted at 0.05 alpha level.

Research Hypothesis Three: There is no significant relationship between network virtualization and information storage of office managers in public universities in Rivers State.

Table : Summary of regression analysis on the relationship between network virtualization and information storage of office managers in public universities in Rivers State

PART A. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.673[a]	.453	.445	.72562

a. Predictors: (Constant), Network Virtualization

PART C. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.461	1.104		11.284	.000
	Network Virtualization	.277	.036	.673	7.667	.000

a. Dependent Variable: Information Storage

PART.C ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.947	1	30.947	58.777	.000[b]
	Residual	37.383	118	.527		
	Total	68.330	119			

a. Dependent Variable: Information Storage
b. Predictors: (Constant), Network Virtualization

The table above showed the summary of regression analysis on the relationship between network virtualization and information storage of office managers in public universities in Rivers State. **Part A** showed that network virtualization account for **45.3**% (0.453x100) based on the R-square value network virtualization of office managers in public universities in Rivers State. **Part B** shows a very positive but weak relationship between the two variables (B= 0.673). The regression equation y=**12.461+0.277** indicating that an increase in the network virtualization will lead to increase in information storage of office managers in public universities. **From Part C**, the F-statistic 58.777) shows that there was significant relationship between the independent variable (network virtualization) to product variable (**F1, 118=58.777, p<.05**). This implies that the network virtualization significantly relates to information storage of office managers in public universities in Rivers State. Therefore, the null hypothesis was rejected and the alternate accepted at 0.05 alpha level.

Relationship between network virtualization and effective information delivery of office managers in public universities in Rivers State

Research question seven and its corresponding hypothesis showed a significant relationship between network virtualization and effective information delivery of office managers in public universities in Rivers State.

The finding of study was in line with the study of (Mohmad & Mohamod, 2014), it was found that awareness in network virtualization strategy can lead to effective information delivery and thus improving their performance. The finding was also in line with the result of (Lunsford & Poplin, 2011). The study found that network virtualization strategy is important for effective information delivery for office mangers in public university. Lunsford & Poplin (2011) added that there is necessity for institutions to work with a good network virtualization in other to increase their performance in terms of information delivery.

Relationship between network virtualization and productivity of office managers in public universities in Rivers State

Research question eight and its corresponding hypothesis showed a significant relationship between network virtualization and productivity of office managers in public universities in Rivers State. The finding of the study was in line with the finding of (Mohmad & Mohamod, 2014) which posited that the drastic advancement in technology-based systems are increasingly leading to fundamental changes in how business organizations interact with their customers. Abdullah (2011) further added that network virtualization will lead to productivity of office managers in public university. Kang & James (2014) supported the findings of the study by positing that only institutions with good network virtualization can effectively lead to productivity of office managers in public institutions (universities) in this era that every institutions is walking towards fully adoption of technological advancement. In the present day organization, the level of network virtualization in an organization determined the level of productivity of office managers. Hence, a good network virtualization will lead to high productivity of office managers. Bateson & Hoffman (2011) stated that network virtualization is one of the measures of productivity in times of quantity of customers that can be attended to at a given time, the level of accuracy on the services rendered to customers. They added that institutions with good network virtualization will definitely have a better productivity than an institution with bad or low network virtualization.

Relationship between network virtualization and information storage of office managers in public universities in Rivers State

Research question nine and its corresponding hypothesis showed a significant relationship between network virtualization and information storage of office managers in public universities in Rivers State.

The result of the study was in line with the findings of Mursi (2003) which states that there is a significant and positive relationship between network virtualization and information storage of office managers in public universities in Rivers State. Hiti (2000) posits that network virtualization have a positive relationship with job performance of office managers in public universities in Rivers State. Network virtualization contributes to institutions success because it ensures that organizations always have a concept of the job and how it relates to its failure. An institution that refuses to engage in good network virtualization in order to be proactive may find itself with a number of unfilled positions. The findings of the study was also in line with the findings of Maga (2009) which posits that among all the risks that an organization can think of, information storage is considered to be critical in minimizing risk exposure within the institution. A number of scholars such as Makhura (2008), survey university of Technology (2008), Sampson (2013) and Williams (2017) contend that weak information storage programmes, systems and practices have remained a problem and a major obstacle to developing watertight risk management strategies in the institution.

The study of Gurrod (2014) was also in support of the findings of the present study. Gurrod (2014) stated that public institutions are exposed to risks such as fraud of different stratification, poor service delivery and failure to enforce compliance within existing regulatory framework. To handle these challenges, staff with high level of computer literacy needs to be employed in institution with the aim of curbing issues associated with information storage.

CONCLUSIONS

Based on the analysis and findings of the study, it was concluded that there is a significant relationship between network virtualization and job performance of office managers in public universities in Rivers State. This shows technological advancement strategies such as computer gadgets, internet facilities, network virtualization influences job performance of office managers in public universities in Rivers State.

RECOMMENDATIONS

Based on the findings of the study, the study recommended among the following that:

1) Public universities should maintain the use of good network virtualization in their operations in order to better the job performance of their office managers in terms of information storage.
2) Public universities should maintain the use of good network virtualization in their operations in other to better the job performance of their office managers in terms of effective information delivery
3) Public universities should maintain the use of good network virtualization in their operations in order to better the job performance of their office managers in terms of productivity

REFERENCES

Abdullah (2011). Towards a theory of digital literacy: Three scenarios for the next steps. *European Journal of Open, Distance and E-Learning, 5*(4), 98-100. www.eurodl.org/?p=archives&year=2006&halfyear=/8article=223

Bateson, J. E. G., & Hoffman, K. D. (2011). *Services marketing* (4thed.). United States: South-Western College.

Hiti (2000). Predictive analytics where-big-data-and-messy-humans-meet.html.

Jagero, D. N. & Komba, H. V. (2012). Relationship between on the job training and employee's performance in courier companies in Dar Es Salaam, Tanzania.

Kang, G. D. & James, J. (2014). Service quality dimensions: an examination of Gronroos's service quality model. *Managing Service Quality, 14*(4), 266-277.http://doi.org/101108/09604520410546806

Makhura (2008). Internet banking practices and potentials in Nigeria" Paper delivered at a workshop organized by Institute of chartered Accountants of Nigeria at Lagos.

Mursi, M (2003). The importance of records management in audit: South African experience". Paper presented at 16th UA Congress in Kuala, Lumpur 121-27 July, 2008.

Saeed, D. M., & Asghar, M. A. (2012). Examining the relationship between training, motivation and employees job performance: The moderating role of person job fit. *Journal of Basic and Applied Scientific Research, 2*(12), 12177-12183

Sampson K. L. (2013). *Value added records management: Protecting corporate asset, reducing business risks* (2nd ed.) Greenwood Publishers Group.