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ASSESSING THE IMPACT OF NETWORK VIRTUALIZATION ON JOB PERFORMANCE OF OFFICE MANAGERS PUBLIC UNIVERSITIES

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ABSTRACT

The aim of the study was to determine the relationship between system automation and job performance of office managers in public universities. A cross-sectional survey design was adopted for this study. The instrument for data collection used in this study was the questionnaire. The target population of the study comprised of all deposit money banks licensed to operate in Rivers state which were the respondents for the study. Descriptive statistics (mean, standard deviation, and percentages) was used as statistical tools for analysing the data with the Statistical Package for Social Sciences (SPSS). The findings of the study revealed that there is significant and positive relationship between network virtualization and job performance of public universities in Rivers State. A number of recommendations were made among which is that deposit money banks should ensure their system automation are dynamically innovative, creative and accommodative; and continually contribute to societal strategic transformation in compliance with professional code of conduct, ethics and excellence as to foster a success-oriented organization.

Keywords: Network Virtualization, Job Performance, Public Universities

INTRODUCTION

Curohoak & Parzyeh (2003) defined technological advancement strategy as the entire field of investigation design, development, application and method of rendering or processing information through self- acting or self-moving machines and that the office technological advancement refers to those self-regulating process through which work is done with a minimum of human effort.

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.

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
2) There is no significant relationship between network virtualization and productivity of office managers
3) There is no significant relationship between network virtualization and information storage of office managers.

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.

Benefits of Network Virtualization

Shathees et al (2020) posited that Network virtualization helps organizations achieve major advances in speed, agility, and security by automating and simplifying many of the processes that go into running a data center network and managing networking and security in the cloud. Here are some of the key benefits of network virtualization:

i. Reduce network provisioning time from weeks to minutes
ii. Achieve greater operational efficiency by automating manual processes
iii. Place and move workloads independently of physical topology
iv. Improve network security within the data center

Job Performance

Job performance as one of the most vital dependent variables has studied by scholars of different stratifications for a very long time. According to Borman & Motowidlo (2003) stated that there are two types of employee behaviour that are necessary for organizational effectiveness: task performance and contextual performance. Task performance means behaviours that are directly results in producing goods or service, also activities that provide indirect support for the organizations core technical processes (Werner, 2000). When researchers study dimensions of job performance, they often measure job performance using subjective supervisor ratings. Given that individual job performance is a multifaceted and complex construct that may not be captured with subjective assessments, we included objective indicators of performance for the following reasons: First, compensation research highlights the effectiveness of an organizations objective performance measures in guiding employee behaviour as the role expectations are clearly defined (Spreitzer, 2005). Second, objective job performance measures limit both intentional and unintentional biases that occur in performance evaluation processes. In this study, modified Mustapha & Naoum (2008) & Igbaria (2001) Performance Evaluation Questionnaire (PEQ), which contains 24 attitude statements was used by supervisors to measure the performance of professionals who work directly under them. Job performance is a multifaceted term. It is not able to measure job performance by a single criterion. A set of criteria has to be employed. The study employed a more practical approach that was to select key job performance criteria from prior empirical studies. After a review of the relevant literature, two studies that had tested different sets of job performance criteria were identified. There is a general understanding among scholars that performance is an important variable in work organization (Suliman, 2001) and has become a significant indicators in measuring organizational performance in many studies (Wall et al., 2004). Employee performance can also be measured through the combination of expected behavior and task-related aspects (Motowidlo, 2003), even though performance is often determined by financial figures. In reality, performance that is based on an absolute value or relative judgment may reflect overall organizational performance (Gomez- Mejia, Balkin & Cardy, 2007; Wall et al., 2004). However, Wiedower (2001) asserted that performance measure that is based on the performance appraisal items offers higher reliability in evaluating performance. High performance employees pursue higher level of individual and organizational performance which involve quality, productive, innovation rate and cycle time of performance (Bharadwaj, 2005) and therefore they will be able to assist organisation to achieve its strategic aims and sustaining the organisation competitive advantage (Dessler, 2011). Thus, in order to attract and sustain higher employee satisfaction and performance, employer need to treat their workers as the most important internal resources and gratify them (Jin, 2007) because committed and satisfied employees are normally high performers that contribute towards organizational productivity (Samad, 2007).

Goal-setting Theory

The goal-setting theory as proposed by Edwin Locke in the year 1968. This theory postulated that the organizational goals established by an organization play an important role in the performance of every employee. Edwin Locke (1968) posited that advancement in technology is required to

execute effective goal setting include the ability to engage employees in mutual goal setting, clarify role expectations and provide regular performance feedback. Time and energy also need to be given to providing relevant job performance, managing processes, providing adequate resources and workplace training. It also advice that in order to drive the organization to a better job performance, managers and supervisors must put out front the human face of their organization. Principle here is the human-to-human interaction through providing individualized support and encouragement to each and every employee (Salaman et al, 2005). Employee job performance is a major multidimensional construct aimed to achieve results and has a strong link with planned goals of an organization (Abbas &Yaqoob, 2009). Job performance is the key multi character factor intended to attain outcomes which has a major connection with planned objectives of the organization (Sabir et al. 2012). Employees 'goals achievement in this theory is by creating of work environment attractive, comfortable, satisfactory and motivating to employees so as to give them a sense of pride and purpose in what they do. How working environment is designed and occupied affects not only how people feel, but also their work performance, commitment to their employer, and the creation of new knowledge in the organization (Taiwo, 2009).

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.

RESULTS

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

Table 1: 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 Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
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 2: 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		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
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.

	Regression	20.694	1	20.694	30.844	.000[b]
1	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 3: 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.
	Regression	30.947	1	30.947	58.777	.000[b]
1	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 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) Office managers should be encouraged to maintain the status quo on internet facilities as its utilization helps in information storage.
2) 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.
3) 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
4) 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

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