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## Effect of Virtual Management on Employee Performance in Selected E-Business Firms in Lagos State, Nigeria

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### **Abstract**

*This paper examines effect of virtual management on employee performance in selected e-business in Lagos state, Nigeria. The specific objectives of the study included: to determine the extent to which virtual communication affects employees' effectiveness and Ascertain the extent to which virtual collaboration affects employees' productivity. The study adopted the survey design. Four selected e-commerce firms in Lagos state, Nigeria were used for the study. The population of the study was 414 staff of the four e-commerce firms which were selected purposively based on the fact that they are the major e-commerce firms in Nigeria. The sources of data for the study were primary and secondary sources. Data were collected using questionnaire research instrument on a five point likert scale. The validity of the instrument was measured using content validity, and was done by five management experts from both the industry and the academia. Data collected were analyzed using simple linear regression analysis and the analysis of variance (ANOVA), at 5% profitability level of significance. The findings revealed that: Virtual communication had a significant positive effect on employees' effectiveness in selected e-commerce firms in Lagos state, Nigeria ( $r = 0.924$ ;  $t = 10.12$ ;  $F = 85.63$ ;  $p = 0.001 < 0.05$ ). Virtual collaboration significantly affected employees' productivity in selected e-commerce firms in Lagos state, Nigeria ( $r = 0.886$ ;  $t = 9.412$ ;  $F = 61.45$ ;  $p = 0.001 < 0.05$ ). From the findings of*

*this study, therefore, it was concluded that, virtual management is a good tool for reducing the overhead cost in selected e-commerce firms in Lagos state, Nigeria. The study recommended that management of e-business firms' needs to increase the quantity of time spent on virtual communication and eliminates a roadblock that tends to disrupt virtual collaboration.*

**Keywords:** Virtual Management, Employee Performance, E-Business Firms, Employee Performance

## Introduction

Globally, internet technology has been improving rapidly and this has brought with it a lot of opportunities in all spheres of life. Economically, socially and culturally, the internet continues to greatly impact on nations, institutions, businesses and the individual. Today, we continue to embrace new ideas like e-governance, e-learning, and of course, e-business amongst others. E-business/e-business has proven to be a vibrant source of economic growth in developed countries since the inception of the 21<sup>st</sup> century, and it is also witnessing rapid growth in Nigeria and some other African countries like South Africa, Kenya etc. E-business in Africa is currently growing at a 25.8% rate which makes it the fastest growing e-business market in the world (Ihenyen, 2015).

The emergence of e-business has greatly changes the traditional method of shopping. Buying and selling of goods and services can now be done virtually anytime online. Goods are delivered with either in-house or partner courier while service providers of electronic products like e-books, videos and audios are delivered electronically. The current market opportunity for e-commerce in Nigeria is over ₦255 billion annually. In Nigeria, e-commerce has been growing faster and more Nigerians are embracing e-commerce as their preferred platform for buying and selling of goods and services. With about 60 million Nigerians now enjoying access to the internet, the e-market is bound to get bigger and wider. The Nigeria internet is majorly surf by a predominantly youthful population. E-commerce has started contributing to the growth of the Nigeria economy by creating jobs, contribution to the increase in the country's economic GDP (Gross Domestic Product) and foreign investment etc (Ihenyen, 2015).

The idea of virtual management and its effects on employees in Nigeria e-business firms has become increasingly critical to the way people do business in Nigeria and ultimately the successes of these firms. Hence, the way to get things done cannot be devoid from local values, customs, and overall external cultural environment as these e-commerce firms are spread all over the country (Fajana, Owoyemi, Eligbede, Gbajumo- Sheriff, 2011). Virtual management which is a part of the virtual human resource management can be said to be still in infancy in Nigeria and a lot of academic research is still required in this area. The application of new management techniques and skills used in the running of firms are all aimed at running a cost-effective system. The good manager-employee relationship is critical to the stable and sustainable development of the Nigerian economy, as well as the world economy as a whole (Lee, 2013).

Given the impact of management of employees who work in e-business firms in Nigeria; the high degree of understanding (empathy) towards employees, employees' effectiveness, the wide acceptability, the job creation to millions of Nigerians and the impact on the economy of Nigeria, virtual management ought to be taken seriously by e-business firms. Nigeria businesses especially e-commerce must maintain the philosophy that says 'its ultimate goal is not only to make a profit

through aggressive selling but also to promote employee satisfaction, improve employee trust and introduce employee development by training, empowering, delegating and allowing employees to participate in the firm's planning process. Greater success will depend on the ability of employees and managers of business to deal with this issue successfully; this obviously will be a credible measure of management quality and employee performance. Therefore, this study is to examine the effects of virtual management on employee performance in selected e-commerce firms in Lagos state, Nigeria.

### **Statement of Problem**

Virtual communication systems that fail to generate communication satisfaction amongst employees will not foster job satisfaction or affective organizational commitment regardless of the quantity of the information that is transmitted. The way that virtual communication is distributed within organizations is becoming increasingly complex with globalization. Operational costs can increase when employees who are working in different geographical locations find it difficult to communicate. Virtual communication can cause complications and contribute to misinterpretation or multiple misinterpretations of messages by employees that can cause collective action within organizations to become disorganized. Communication affects employee attitudes that may be strongly related to identification.

In *virtual organizations collaboration* can be more difficult to attain, especially when members work for different department or units. There is a world of difference between merely working together and truly collaborating with one another. Virtual collaboration provides real-time communication between people, but it lacks the aspect of face-to-face interaction. Also virtual collaboration might provide a range convenient and efficient meeting options but network failure and equipment breakdown might limit its use.

### **Objectives of the Study**

The broad objective of the study was to examine the effect of Virtual Management on Employee Performance in Selected E-Business Firms in Lagos State, Nigeria while the specific objectives were as follows:

- i. To determine the extent to which virtual communication affects employees' effectiveness in selected e-business firms in Lagos state, Nigeria.
- ii. Ascertain the extent to which virtual collaboration affects employees' productivity in selected e-business firms in Lagos state, Nigeria.

### **Research Questions**

- i. To what extent does virtual communication affects employees' effectiveness in selected e-business firms in Lagos state, Nigeria?
- ii. To what extent does virtual collaboration affects employees' productivity in selected e-commerce firms in Lagos state, Nigeria?

## **REVIEW OF RELATED LITERATURE**

### **The Concept of Virtual Management**

Virtual Management is a current topic in the literature of global organization defined as "the supervision, leadership and maintenance of virtual teams and employees which was brought

about by the rise of the internet, globalization, outsourcing and telecommuting (Powell, Piccoli and Ives, 2004). It has been recognized as the management of frequently widely dispersed groups and individuals with rarely, if ever, meeting them face to face (Bell and Kozlowski, 2002). It is also the ability to organize and coordinate with effect a group whose members are not in the same location or time zone and may not even work for the firm (Olivier, 2009). It requires deeper understanding of people, process and technology and recognition that trust is a more limiting factor compared with face to face interactions (Duarte and Snyder, 2006). Peters and Manz (2007) argued that Virtual management is managing work across boundaries of time and space by utilizing modern computer-driven technologies.

Loughran (2005) states that virtual management is the coordination of groups of distributed people working together to achieve a common goal and solve a shared problem through the use of computer-mediated communication technologies, linking them across time, space, and cultural barriers. It is a high risk strategy unless corporations are committed, and it requires investment in technology as well as in team training. Commitment, investments, and training are essential, but they have to be accompanied by measures that reduce uncertainty of virtual contacts and activities (Bavec, 2002). The choice of how to manage your business has just gotten more complicated. It's no longer enough just to choose between functionally or divisionally organizing. The current technological environment enables businesses to virtually organize.

### **Virtual Communication**

Communication is the key in getting things done in an organization whether that's through computer-mediated communication or face-to-face because it provides a vehicle enabling employees to make decisions, collaborates, and achieve results as established by the firm (Zbar, 2002). Computer-mediated communication technology allows employees to connect and this connectivity has also enabled employees to communicate in real time wherever they are located across the globe, at minimal cost (Berry, 2011). And, as many firms have become global, the way in which employees are communicating with one another and working together has inevitably changed. Friedman's "Work Flow Software" flattener discusses how people have not just been connecting with other people, but have been working and collaborating with each other. Everyone's applications are now connected with everyone else's applications and so 'workflow' (design, create, buy and sell) can be performed here, there and everywhere across the globe (Friedman, 2005).

Technological developments such as information communication technologies (ICTs), a global talent pool, and a dynamic business environment enable organizations to operate across further distances; and the advent of virtual firm caused a reorientation of business communication from the shift in communication platforms including the incorporation of computer-mediated communication (Caya, Mortensen, and Pinsonneault, 2013). Managers of virtual employees need the skill of communication to engage their employees by using varied communication mediums (Chen, 2012).

### **Virtual Collaboration**

Virtual collaboration is commonly used by globally distributed business and scientific employees. Ideally, virtual collaboration is most effective when it can simulate the face-to-face collaboration between employees through the transfer of contextual information, but technological limits in



sharing certain types of information prevent virtual collaboration from being as effective as face-to-face interaction. Virtual collaboration is the method of collaboration among employees that is carried out via technology-mediated communication. The virtual collaboration follows the same process as collaboration, but the parties involved in virtual collaboration do not physically interact and communicate exclusively through the technological channel (Peters and Manz, 2007). Distributed employees use virtual collaboration to simulate the information transfer present in face-to-face meetings, communicating virtually through verbal, visual, written, and digital means. Virtual employees can collaborate through the following medium; video-conferencing, audio-conferencing, instant messaging, text messaging, phone calls, conference calls, e-mail, wikis, discussion boards, application-specific groupware, or shared databases etc.

### **Effect of Virtual Communication on Employee Effectiveness**

The effectiveness of virtual employees depends on effective communication and a supportive environment inside the firm and the larger organization (Berry, 2011; Daniel, 2010). Clarity in communication and knowledge transfer between virtual employees can reduce frustration and time required to complete a project and knowledge creation is one of the most important attributes for modern organizations because knowledge is a critical foundation of competitive advantage (Wang, Su, and Yang, 2011). Creating and retaining knowledge allows organizations to compete with other companies in modern business environment.

### **Effect of Virtual Collaboration on Employee Productivity**

Virtual collaboration is widely used in corporate businesses for its efficiency, innovation, and ability to gain or keep competitive advantages in the market. Firms commonly use virtual collaboration technology to facilitate problem-solving between employees within the firm, and also to collaborate with another firm. Virtual collaboration improves profit margins by increasing operational efficiency and productivity within the company, either by means of innovating solutions or through the increased sharing of knowledge through virtual means (Gergle, Kraut, and Fussell 2012). For example, IBM, one of the leaders in using virtual collaboration to promote business processes, has developed many systems to help employees collaborate more easily across boundaries. IBM's use of virtual collaborative spaces, such as 3-D meeting rooms and use of avatars, the virtual universe community provides employees with a way to collaborate which has resulted in more production (Cherbakov and Luba, 2009).

### **Electronic Business (e-business)**

Electronic business (e-business) can be defined as the use of the internet to network and empower business processes, electronic commerce, organizational communication and collaboration within a company and with its customers, suppliers, and other stakeholders; while electronic commerce (e-commerce) is the buying and selling, marketing and servicing of products and services via computer networks; Since e-business includes the process of transacting with suppliers and customers there is an overlap in activities with e-commerce.

E-businesses utilize the internet, intranets, extranets and other net-works to support their commercial processes. E-Business is also referred to as the use of advanced information and communication technologies to create new business relationships, enhance existing ones and

increase the efficiency of business flow processes without the constraints of time or geographical barriers.

With the advent of the Internet and plenty of web development technologies around the world, e-business is the new mantra of businesses in today's world. The Internet has in many ways facilitated the development of businesses worldwide that can reach out to a wider consumer base and advertises their products more effectively and efficiently. Corporate communications, interface designs, cutting edge applications are also found on the Internet. E business has been added as the latest domain in business and has become a must-have in the highly competitive technology driven open market. The new economy has been boosted by the development of the infrastructure that supports the internet, ICT and digital technology.

Information dissemination has been widely regarded as the forte of e-business, which uses information technology in a most efficient manner. Not only has e-business has come to play an important role in the world trade scenario; there is no business without an accompanying e-business in today's world. E-business gives a business the opportunity to open its portal to the global market and become a part of the global business community. The most important feature of e-business is that the helps businesses move on to the international scene at minimal cost but with maximum efficiency (Gray, 2016). The essential features of e-business strategies are supply chain management and email marketing.

## **Theoretical Framework**

### **The Social Exchange Theory (SET)**

The social exchange theory (SET) asserts that trust between individuals and the expectation that the other party will fulfil their unspecified obligation is the framework for business relationships. The social exchange theory was developed by Homans (1955) to understand the social behaviour off human's in business activities. The social exchange theory is a theoretical framework of considerable research in different fields such as virtual communication, business loyalty rewards and online shopping (Shiau and Luo, 2012). The theory proposes that behaviour that creates positive outcomes is likely to be repeated and behaviour that is rewarded in the past will continue. Relating it to the virtual employee-manager relationship, the communication style, leadership style, reward pattern and training system the manager uses will determine the effectiveness or performance of the employee.

Virtual communication, business loyalty rewards and online shopping are all examples of the same central concept of actors exchanging resources via a social exchange relationship (Walumbwa, Cropanzano and Goldman, 2011). The social exchange theory is important as various fields such as information communication technologists use thee social exchange theory to research their industry (Robnett and Feliciano, 2011). The internet culture encourages collaboration, cooperation and sharing therefore, the social exchange theory is consistent. (Chaudhuri and Ghosh, 2012). People who participate in virtual communication are motivated to do so for different and individual reasons (Wheatley, 2012) and understanding interpersonal disclosure in online networking is an ideal application of the social exchange theory.

The social exchange theory outlines conditions under which people are obligated to respond to behaviour or actions that they receive from others such as virtual managers and their members (Agnessens and Wittek, 2012). Virtual employee job commitment directly relates to social exchange (Fay and Kline, 2011). A variety of factors associated with existing managers and

subordinates relationship in a virtual environment reveals the basic context of the social exchange theory (Mitchell, 2015).

The researcher is selecting the social exchange theory as one of the theoretical framework of this study for two reasons; (a) the theory is appropriate in the context of a growing virtual workforce, and (b) the theory relates to the manager-employee relationship.

### **Empirical Review**

Mitchell (2015) carried out a study on the correlation between virtual communication and employee engagement. The purpose of the study was to examine the existence of significant correlation between employee engagement (the dependent variable) and the quantity and perceived quality of virtual management communication (the independent variable). The population of the study was 75 virtual workers from ABC designs, a U.S based business and the sampling method employed was the volunteer sampling, a form of purposive sampling. The statistical package for social sciences (SPSS) was used for data analysis. The results of the regression analysis were statistically significant, indicating that quantity of time a manager spent communicating with virtual employees and the virtual employees' perceived quality of communication positively affected employee engagement which also affects the employee performance in the organization. In conclusion, the study achieved the goal to gain a better understanding of virtual management and environment surrounding communication between managers and employees. Therefore, the study recommended that employees and employers should strengthen their relationships through investment in training and positive communication.

Obisi (2016) researched on the empirical validity of the adjustment to virtual work arrangement by business organizations in Anambra state, Nigeria. The objective of the research was to examine the empirical validity of the adjustment to virtual work arrangement by business organizations in Anambra state, the central automotive business area in Nigeria. The research relied on the use of questionnaires as major source of data. The questionnaires were self-administered to 1200 employees of organizations operating in the chosen area, out of which a total of 900 responses were retrieved. A random sampling method was adopted to eliminate bias in the selection process. The rating of the responses was made possible using a 5-point Likert scale. The analysis was conducted with the aid of the statistical package social sciences (SPSS). The study found that the level of internet connectivity, usage and tele-density presents a positive domestic balancing framework for the operation of virtual arrangement in the country. The findings also revealed that the nature of interpersonal relationship among employees of business organizations play a significant role in the application of virtual work arrangement in the country. The study concluded that adjustment to virtuality in work places is gaining momentum in most developed nations as a way of redressing employees-employer conflict and also a technique of increasing employee performance.

Conill (2013) studied motivation in virtual project management on the challenges of engaging virtual teams and features of project software in USA. The study aimed to explore the characteristics of motivation in the virtual environments, its contribution to enhance virtual project outcomes and the role that virtual project management software plays in fostering motivation in dispersed teams. The study required purposive sampling which provided and established a good correspondence between research questions and the sampling itself.



Interviews were conducted in this study with Skype in order to gain the benefits of face-to-face interaction. Data was analyzed in twofold: firstly, the thematic analysis suited for identifying, analyzing, and reporting patterns or themes within data. Secondly, the benchmarking method which allows for a clear understanding of the current tools leading to understanding their outcomes from the design perspective, but also from the functionalities offered to managers and employees.

### Methodology

The study was carried out using descriptive survey. The survey design is employed to draw a sample from the four major e-business firms in Nigeria. The purpose is to collect responses from employees of these firms to determine, evaluate, assess, and examine the effect of virtual management on employee performance in Nigeria. Primary data was collected from responses of the questionnaires from the four major e-commerce firms in Nigeria while secondary data was collected from textbooks, journals, articles and published data sourced from the internet. A sample size of 200 was drawn from the population of 414 at 5% level of significance using Star Trek's Planning Wizard Tool. 200 questionnaires administered, 192 of them were returned, making a response rate of 96%, 8 out of the 200 questionnaires were not returned, making a non-response rate of 4%. The questionnaire was designed in five point likert scale format. The researcher conducted a pre- test on the questionnaire to ensure the validity of the instruments by giving it to a panel of five management experts in the company who made the necessary correction and ensure that the instrument measure what it ought to measure. The reliability test was done using the test- retest method with the help of Cronbach Alpha coefficient. The results give reliability coefficient of 0.924 indicating a high degree of internal consistency. Data collected were presented in frequency tables. Simple linear regression coefficient statistical tools were used to test the hypotheses.

### Data Analysis and Presentation

**Table 4.1 Distribution and Return of Questionnaire**

Names of E-commerce Firms	Number Distributed	%	Number Returned	%	Not Returned	%
Jumia, Nigeria	57	29	55	27.5	2	1
Konga, Nigeria	57	29	54	27	3	1.5
Payporte, Nigeria	45	22	43	21.5	2	1
Dealdey, Nigeria	41	20	40	20	1	0.5
<b>Total</b>	<b>200</b>	<b>100</b>	<b>192</b>	<b>96</b>	<b>8</b>	<b>4</b>

**Source: Field Survey. 2017**

Table 4.1 shows that out of the total number of 200 questionnaires administered, 192 of them were returned, making a response rate of 96%, 8 out of the 200 questionnaires were not returned, making a non-response rate of 4%.

**Test of Hypotheses**

**Test of Hypothesis One**

Virtual communication has a significant positive effect on employees’ effectiveness in selected e-commerce firms in Lagos state, Nigeria **Ho:**

Virtual communication has no significant positive effect on employees’ effectiveness in selected e-commerce firms in Lagos state, Nigeria **H<sub>1</sub>:**

**Table 4.2a. Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.924 <sup>a</sup>	.786	.658	.3671	1.285

a. Predictors: (constant), virtual communication

b. Dependent Variable: Employees’ effectiveness

**Table 4.2b.ANOVA<sup>b</sup>**

	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	57.016	2	23.516	63.132	0.001 <sup>a</sup>
Residual	45.261	17	2.131		
Total	102.277	19			

a. Predictor: (Constant), virtual communication

b. Dependent Variable: Employees’ effectiveness

**Table 4.2c Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	15.211	10.175		4.176	0.001
Virtual communication	.621	2.312	.924	4.176	0.001

a. Dependent Variable: Employees’ effectiveness

Table 4.2a and 4.2b shows that the analysis of variance of the fitted regression equation is significant with F value of 93.217; this is an indication that the variation explained by the model is not due to chance. Since the p-value (0.001) is less than 0.05, it shows a statistically significant positive effect between the variables at 95 per cent confidence level. Therefore, the null hypothesis of no significant effect is rejected. Thus, virtual communication has a significant positive effect on employees’ effectiveness. The R<sup>2</sup> statistic in Table 4.2b indicates that the model as fitted explains 78.6 percent of the total variability in employees’ effectiveness. In other words, 78.6 percent of the total variability in employees’ effectiveness can be explained by virtual

communication. The value of  $R^2 = 0.786$  shows that virtual communication is a good predictor of employees' effectiveness. The standardized coefficients (Beta) value of .924 in Table 4.2c reveals that the independent variable is statistically significant at 0.05 significant level. The null hypothesis is therefore rejected and the alternative hypothesis accepted. Thus we conclude that virtual communication has a significant positive effect on employees' effectiveness in selected e-commerce firms in Lagos state, Nigeria.

**Test of Hypothesis Two**

Virtual collaboration has no significant positive effect on employees' productivity in selected e-commerce firms in Lagos state, Nigeria **Ho:**

Virtual collaboration has a significant positive effect on employees' productivity in selected e-commerce firms in Lagos state, Nigeria **H<sub>1</sub>:**

**Table 4.3a Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.886 <sup>a</sup>	.732	.649	.68430	1.694

- a. Predictors: (constant), Virtual collaboration
- b. Dependent Variable: Employees' productivity

The table 4.3a is the model summary which shows how much of the variance in employees' productivity is explained by virtual collaboration. In this case the R square value is .732 which means virtual collaboration explains 73.2% variance in employees' productivity

**Table 4.3b.ANOVA<sup>b</sup>**

	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	130.151	1	34.126	61.451	.0001 <sup>a</sup>
Residual	114.132	23	22.262		
Total	244.283	24			

- a. Predictor: (Constant),Virtual collaboration
- b. Dependent Variable: Employees' productivity

Table 4.3b shows the assessment of the statistical significance of the result. The ANOVA table tests the null hypothesis to determine if it is statistically significant. The table shows that the analysis of variance of the fitted regression equation is significant with F value of 61.451 this is an indication that the model is a good one.

**Table 4.3 coefficient**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.536	10.175		9.417	.001
Virtual collaboration	.762	2.312	.886	9.417	.001

Dependent Variable: Employees' productivity  
 $p < 0.05$

Table 4.3c is a coefficient table shows the simple model that expresses how virtual collaboration affects employees' productivity. The model is shown mathematically as follows;

$Y = a + bx$  where  $y$  is employees' productivity and  $x$  is virtual collaboration, 'a' is a constant factor and 'b' is the value of coefficient. From this table therefore, employees' productivity =  $6.536 + 0.762VC$  (Virtual collaboration). This means that for every 100% of increased in productivity, virtual collaboration, contributed 76.2%. Since the p-value is less than 0.05, it shows a statistically significant relationship between the variables at 95 per cent confidence level. Therefore, the null hypothesis of no significant effect is rejected. Thus we conclude that virtual collaboration has a significant positive effect on employees' productivity in selected e-commerce firms in Lagos state, Nigeria.

**Summary Of Findings, Conclusion And Recommendations**

**Findings**

The result based on the descriptive statistics reveals the following:

- i. Virtual communication had a significant positive effect on employees' effectiveness in selected e-commerce firms in Lagos state, Nigeria ( $r = 0.924$ ;  $t = 10.12$ ;  $F = 85.63$ ;  $p = 0.001 < 0.05$ ).
- ii. Virtual collaboration significantly affected employees' productivity in selected e-commerce firms in Lagos state, Nigeria ( $r = 0.886$ ;  $t = 9.412$ ;  $F = 61.45$ ;  $p = 0.001 < 0.05$ )

**Conclusion**

The findings of this research have significant managerial implications for e-business firms in Nigeria in terms of building an effective communication system virtually, a common online supportive collaboration environment, virtual training system and an effective virtual relationship between managers and employees which allows both management and employees to be effective, productive, loyal and developed.

Virtual Communication, collaboration and Training do not only constitute an opportunity to communicate information to increase knowledge and awareness, but also to change behaviour, facilitates effective achievement of organizational goal, and enhance employee performance.

The study concludes that the performance of virtual employees depends on effective communication and collaboration in the work place, strong relationship between employees and management of the firm as this determines employee satisfaction, loyalty and commitment. This study achieved the goal to gain a better understanding of virtual management, virtual communication, virtual collaboration and how they affect the performance of employees.

### Recommendations

The following recommendations were made based on the findings of this study;

- i. The Management of e-commerce firms should increase the quantity of time spent communicating with employees and strengthen the managers' ability to communicate to employees in different geographical locations because communication is a determining factor of employee effectiveness.
- ii. Since virtual collaboration brings about a collective action where employees of e-commerce firms interact to create and promote productivity, the management of these e-commerce firms needs to eliminate roadblocks (such as outdated technology) that tends to disrupt online collaboration and to increase the level of information sharing through video conferencing, e-mails, phone calls, instant messaging and audio-conferencing.

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