



## Organisational Virtualisation in Nigeria: Creating Jobs or Job Loss?

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**Abstract.** Whether Virtual Communication is creating jobs or taking away jobs in organisations in Nigeria has been in the front burner since the turn of the 21<sup>st</sup> century when virtualisation gained popularity in the continent. Organisations that have substantially gone virtual include the oil companies, Banks and some universities. The general belief is that computers have the ability to do jobs meant for more than an individual therefore with the advent of virtualisation, more and more people were going to lose their jobs to technology driven machines. The questions begging for answers however are, do these computers operate themselves? Are there no human inputs in these computer mediated operations? Do the computers really take away all the jobs or do they also create jobs along the line? One thing is sure, the world is going virtual and organisations in Nigeria have no choice but to follow suit if they want to remain relevant in the scheme of world economy. This paper therefore delves into the influence of virtualisation on job creation or loss in organisations in Nigeria.

**Keywords:** Virtual Communication, Job creation, Virtual Organisations, job loss

### 1. Background to the problem

Effective communication is the backbone of every effective organisation. Organisations are consistently looking for ways to meet their set organisational goals in a most cost-effective way. Organisations invest in both human and materials resources to help them achieve their set goals and objectives. However, one of the areas modern organisations are currently investing in is Information and Communication Technology (ICT) which is the vehicle on which virtual communication runs. **Virtual communication** is a modern technological phenomenon through which the information, ideas, actions, signs etc are transmitted from one user to another. Virtual communication basically is possible only through the use of Information and Communication Technologies (ICT). For any organisation to go virtual, it must employ very sophisticated communication technologies. This is because virtualisation is almost impossible without modern communication technologies. There are basic communication hardware and software that support virtual organisations and they include the Internet, World Wide Web (www), telecommunications, groupware such as lotus note, video conferencing and teleconferencing, Wi-Fi, webcam, electronic mail (email), online messenger service, online chat, phone chat like the blackberry chat. Others are hardware like

computers, palmtops, iPads; surface; social websites like Facebook, Skype and Twitter, and a lot of other communication technologies, devices, soft and hardware.

The virtualisation phenomenon is relatively new in Nigeria, as a matter of fact, effective mobile telephony became existent in Nigeria in 1999. Nevertheless, the growth is rapid and unstoppable. Some Nigerian organisations have even gone as far as developing communication technologies that are tailored to their needs just to help them stay virtual. For example, nearly all banks in Nigeria have caught the bug, they all now offer online banking. Though not as sophisticated as their counterparts in the western world, the service has been embraced and has tremendously eased banking operations in Nigeria.

Most organisations in Nigeria are aspiring to become virtual organisations and Shell Petroleum Development Company (SPDC) is one of the leading organisations in this pursuit for virtualisation others are, Totalfinaelf, MTN, Etisalat the banks, and even government agencies like JAMB, EFCC. Becoming a virtual organisation entails a lot. First, it means that members of the organisation can work in teams from varied distances without necessarily coming face to face with each other or their clients yet deliver on their Key Performance Indicators (KPI).

Obviously, being virtual comes with a lot of advantages which is why many organisations are looking in that direction. To succeed, organisations must employ communication strategies that will fully support virtualisation. Without proper consideration of this very vital part of virtualization, transiting organisations, are bound to fail. Virtual communication potentially raises organisations productivity by allowing members of the organisation to do more work with the time spent on travelling from one location to the other. With virtualisation, decision making becomes a lot easier since the organisation does not have to stand still for a manager to return from a journey to take action or decision on a particular issue rather he can be reached no matter how remote

his location, to address the problem. Also he can operate from that location provided he has access to relevant information and communication technologies that enable virtual communication.

The essence of virtual communication is that it allows for the creation of teams that are at their convenient locations; it also allows for collaboration among companies and agencies to concentrate on their core competencies and then contribute that competence to ensure organisational growth. It is in the light of the above that this study seeks to examine if virtualisation translates to job creation or job loss.

Shell Petroleum Development Company (SPDC), Port Harcourt is arguably the largest employer of labour in Nigeria after the government, Shell operations had long been automated, this means that they had employed the use of computer systems to reduce manual work in the course of their operations. However, in 2003 the organisation began to transit to a virtual organisation in line with global trend. This means moving from mere automation of their operations to actually acquiring operating systems, software, servers and other devices that would enable them to create virtual versions of their operations.

## 2. Objectives of the study

There were two objectives set for the study thus:

- To determine how virtual communication influences employee performance
- Determine if adoption of virtual communication technologies leads to job creation or Job loss.

## 3. Research Questions

- Does virtual communication influence employee performance?
- Does the adoption of virtual communication lead to job creation or job loss?

#### 4. Hypothesis

H1: There is a relationship between the adoption of new media technologies for virtualisation and job loss in Shell Petroleum Development Company, Port Harcourt.

#### 5. The Concept of Virtual Organisation

The concept of the Virtual organisation arose around 10–15 years ago, but many of the practices of virtual organisations can be traced back at least four decades. For example, Sor (1999) has described how many of the features of virtual organisations can be discerned within the organisation of the housing construction industry in Western Australia in the early 1960's. Much has been written about the more specific concept of the 'Virtual Business', and many definitions of Virtual organisations are particularly pertinent to the industrial sector. More and more organisations are turning to virtualisations mostly because they are concerned about driving down cost of production. This according to Sor (1999) was the driving factor that saw the move towards collaborations in Western Australia. The economic idea is that costs can be saved if partners with complementary expertise work together towards some common objective. In particular, the infrastructure costs of a group of small units are likely to be much lower in total than the corresponding cost to a large organisation.

Modern organisations apart from looking for ways to drive down cost, are also concerned about safety, infrastructure in terms of locating their organization, community relations issues, manpower, flexibility, and general organizational effectiveness. A virtual organisation can be "a collection of business units in which virtual team members from geographically dispersed locations work together in order to perform tasks that have a common goal or vision". ( Hoefling 2003) Virtual organisations have to adhere to process deliverable guidelines just as it would do with a stationary near proximity team. There are varying definitions of what virtual office is

including the definition by Pang (2001) which he defines as "a form of corporation involving companies, institutions, and or individuals delivering a product or service on the basis of a common business understanding". In virtual organisations, units from various locations come together in some form of collaboration in such a way that they produce result without any situation that shows any form of break just the way they would deliver if they all were in the same location. Lojeski (2009) also defines a Virtual Organisation as "a goal oriented enterprise composed of multiple members who reside in different locations around the world and use technology media to communicate and coordinate the fulfillment of a defined objective or task". Other authors have varying definitions of virtual organisation all pointing towards the same conclusion. Despite the diffused nature of a virtual organisation, a common identity usually holds it together in the minds of members, customers, or other constituents. The virtual organisation is often described as one that is replete with external ties, (Coyle and Schnarr 1995), managed via teams that are assembled and disassembled according to need, (Grenier and Metes 1995) and Lipnack and Stamps (1997) stresses the aspect which consists of employees who are physically dispersed from one another. The result according to Galbraith (2001) is a "company without walls" that acts as a "collaborative network of people" working together, regardless of location or who "owns" them (Hedberg, Dahlgren, Hansson and Olive 1997)

The various attempts at defining virtual organisation notwithstanding, there are no agreed definitions of what virtual organisation is. According to (Miller 2006) there are many definitions of virtual organisation, including:

- A flexible network of independent entities linked by information technology to share skills, knowledge and access to others' expertise in nontraditional ways
- A form of cooperation involving companies, institutions and/or individuals delivering a product or service on the basis of a common business understanding. The units

participate in the collaboration and present themselves as a unified organisation.

Virtual organisations do not need to have all of the people, or sometimes any of the people, in one place to deliver their service. The organisation exists but you cannot see it. It is a network, not an office.

For the purpose of this work however, we shall see a virtual organisation as a legal entity whose members and collaborators do business and coordinate themselves with the help of communication technologies, not necessarily seeing themselves or their clients face-to-face, but bringing to bare their expertise to ensure that set goals are reached. Virtual organisations do not need to have all of the people or sometimes any of its people in one place to deliver their services. The organisation exists but you cannot see it. It is simply a network not an office. Relationships within the virtual form are tenuous. In fact, a key implication of virtual organising is that these forms are more reconfigurable, their boundaries are considerably more blurred, and their relationships more likely to be contractual than traditional (Jarillo 1995). Greater switching of tasks, roles, or work assignments is also typical in virtual organisations. This allows for what Mowshowitz (1994) refers to as "combinatorial freedom," or the ability to dynamically allocate work across people or subgroups depending on workload demands. In some cases, the entities composing the organisation may participate in several virtual organisations simultaneously. Davidow and Malone (1992) describe the implications of the virtual form thus: "unlike its contemporary predecessors, the virtual corporation will appear less a discrete enterprise and more an ever-varying cluster of common activities in the midst of a vast fabric of relationships".

In summary, the components (individual workers, teams, departments, units or firms) that make up a virtual organisation are geographically distributed, culturally diverse, electronically linked, and most times have no prior

relationships. These attributes enable the organisation to dynamically modify business processes to meet market demands which is coordinated through formal and informal contracts, to define the boundaries of the firm differently over time or for different customers or constituencies, and to re-arrange relationships among components as needed. Aspects of virtuality occur in many business enterprises. For example, although most companies still maintain a divisional structure, they increasingly are forming external relationships with other firms in the form of strategic partnerships, alliances, and outsourcing contracts. (Mowshowitz 1994) and (Nohria and Berkley 1994). In addition, rapid advancements in telecommunication technologies have enabled more telecommuting and cooperation among physically distributed employees (Barner 1996). These trends suggest that firms are acquiring more virtual characteristics than in the past. Even firms that may not look virtual at the surface are organising selected activities and processes virtually.

Organisations like Shell Nigeria have laid off a huge number of workers since their transitioning started in 2003. However, it is important to note that Shell Petroleum Development Company, Port Harcourt is still employing younger graduates. If Communication technologies are taking away the jobs yet people are being employed only show that a set of new kind of jobs are being created by communication technology. This means therefore that organisations as we know it may not be in existence again in the near future but that while the work environment is changing, only those employees that are ready will retain their jobs. As Cairncross (2002, p.19) put it,

The greatest benefits from the new technologies will come to only companies that change their structure to accommodate them...although hardware and software are essential, what really matters is the way the company is run: how it deals with complexities, speed, uncertainty and above all, how it trains and motivates staff.

## 6. Theoretical framework

In order to provide a theoretical explanation for the use of information and communication technology in organization and to consider how the introduction leads to job loss or otherwise, the Contingency Theory was considered appropriate.

### 6.1 Contingency Theory of Organisation

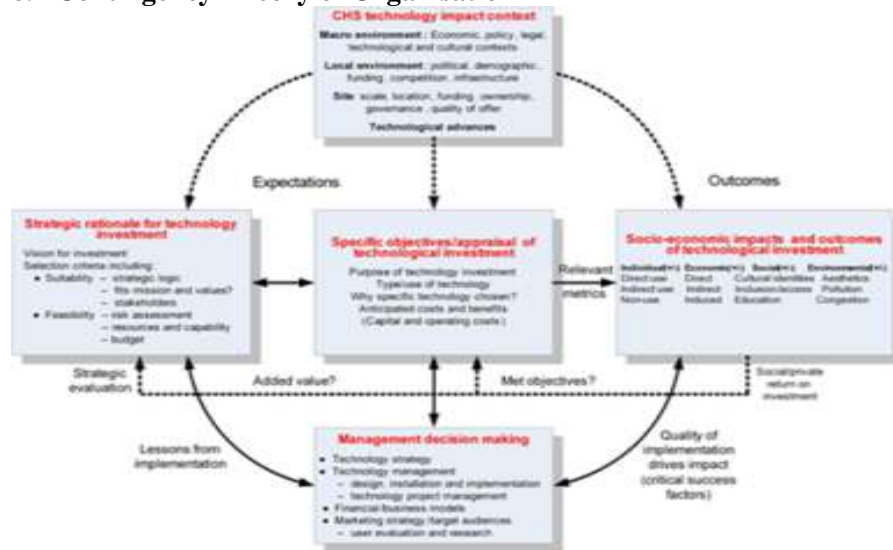


Fig1. Fiedler's contingency model (1967)

Contingency theory is an outgrowth of systems design. Galbraith (1973) states that in contingency theory, there is no one best way to organise, any way of organizing is not equally effective. These run counter to the optimising notions of many rational theorists. Scott (1987) adds that in contingency theory "the best way to organize depends on the nature of the environment to which the organisation relates" he further states that "Contingency theory is guided by the general orienting hypothesis that organisations whose internal features best match the demands of their environments will achieve the best adaptation". The term was coined by Lawrence and Lorsch in 1969 who argued that the amount of uncertainty and rate of change in an environment impacts the development of internal features in organisations.

Different subunits within an organisation may confront different external demands. "To cope with these various environments, organisations create specialised subunits with differing structural features". (Scott 1987) For example, differing levels of formalisation, centralised vs decentralised, planning time horizon. "The more varied the types of environments confronted by

an organisation, the more differentiated its structure needs to be" (p. 89). Furthermore, the more differentiated the more difficult it will be to coordinate the activities of the subunits and more resources need to be applied for coordination. Lawrence and Lorsch (1969) argue that in complex environments the organisation developed separate departments to confront these differing environmental segments. But these separate departments created coordination problems. Therefore, the extent that the companies could differentiate to the level required by the environment and at the same time integrate these different departments into collective action determined the organisation's success rate.

The inter-departmental conflict inherent in such differentiation is often caused by mutual task dependence, task-related asymmetries, conflicting performance criteria, dependence on common resources, communication obstacles, and ambiguity of goals as well as organisational differentiation (Scott 1987). While the rational perspective sees these conflicts as disruptive and best resolved, and natural perspective notes that conflicts are part of the negotiation process

between coalitions and their conflicting interests and have an important (and possibly beneficial) effect on the organisational goals of the company.

Galbraith's view is similar to systems design in that it stresses information flows but adds that as uncertainty increases the amount of information required for decision making also increases. "Various structural arrangements, such as rules, hierarchy, and decentralization are mechanisms determining the information-processing capacity of the system" (Scott1987). Lawrence and Lorsch (1969) argue that if the open system perspective is taken, rational and natural perspectives identify different organisational types which vary because they have adapted to different types of environments. The more homogeneous and stable the environment, the more formalized and hierarchical the form. Their view is ecological -- those organisations that can best adapt to the environment will survive. They see the rational system coming first because environments were initially stable and are becoming increasingly more volatile. Wiio and Goldhaber (1979) concluded that differences in communication effectiveness are a function both of type of organisation and composition of work force (age, sex, education, tenure). The communication process is influenced by many internal and external constraints from the organisation and its subsystems. The constraints determine the status of the organisation of the environmental suprasystem and the state of each subsystem. The communication process is thus contingent upon external and internal stimuli and upon the degree of freedom of states within the system allowed by the organisational constraints. Some internal contingencies are: structural contingencies; output; demographic; spatiotemporal and traditional contingencies. External contingencies are: economic; technological. Legal; socio/politico/cultural and environmental contingencies. Wiio and Goldhaber further instructed that persons interested in organisational communication should consider such questions as the following: What are the contingencies under which organisations communicate best when confronting their environment? Specifically, do different types of organisations have different

communication needs? Do organisational internal contingencies (demographics such as age, sex, education, seniority, management level, and amount of communication training) affect communication needs? Are different demographics better predictors of communication need in types of organisations? Etc.

Contingency theory talks about different strategies for different organisations depending on their goals and the environment they find themselves. These strategies include communications strategy. This study is about virtual communication and how that affects organisational effectiveness. Part of what this study set out to find out is the different virtual communication technologies SPDC adopts in their transition to virtualisation therefore looking at the different virtual communication technologies the organisation employs in different virtual communication situations. This theory is therefore important because it puts the study in perspective.

## 7. Methodology

The researcher used the survey method for the study. The survey offered the researcher the opportunity of eliciting information from members of staff of Shell Petroleum Development Company Port Harcourt. Considering the large population of SPDC members of staff, the survey method was most suitable because surveys are useful in describing the characteristics of large populations. The survey allows for many questions to be asked about a given topic giving considerable flexibility to the analysis. This method also allows for flexibility in deciding how the questions are handled. The tools employed for this survey was the questionnaire and interview schedule.

The population of this study was made up of the employees of SPDC working in their Industrial Area (IA) - this is the SPDC's Head office situated at Rumuobiokani in Port Harcourt. This is where the managing director of Shell Nigeria operates from and most of their operations in Nigeria originate and terminate here. Kidney

Island (KI) - this is the Shell Logistics base located at Abonema wharf in Port Harcourt and Residential Area (RA). Third party staff referred to as contractor staff who also complement the activities of regular SPDC staff in Shell Port Harcourt were also part of the population of the study. The sample size of this study was determined using an online software, the Sample size calculator (survey Monkey).

respondents. The multistage sampling technique was adopted for the study. This research employed the questionnaire and interview schedule as instruments for data gathering. The statistical tools employed are – Pearson Product Moment Correlation. To test the two hypotheses, multiple regressions on the relationship between independent variables and dependent variables were employed. All the hypotheses were tested at 0.05 level of significance.

The minimum sample size of this study was therefore Four Hundred and Twenty (420)

### 8. Data Analysis and Discussion of Findings

The data gathered are presented in tables showing numbers and percentages of respondents as well as their responses.

**Table 1: Years of Service**

| Years              | Frequency  | Percentage  |
|--------------------|------------|-------------|
| 1-5 years          | 100        | 30%         |
| 6-10 years         | 135        | 34%         |
| 11-15 years        | 133        | 33%         |
| 16-20 years        | 19         | 5%          |
| 21 years and above | 15         | 4%          |
| <b>Total</b>       | <b>402</b> | <b>100%</b> |

Table 1 shows that 30% of the respondents have worked in SPDC for between 1 to 5 years, 34% have been in SPDC for 6 – 10 years, 33% have been in SPDC for 11 – 15 years while respondents who have worked in SPDC for 16 – 20 years were 5% of respondents and 4% of the respondents had spent 21 years in SPDC. This means that a good number of staff started working in SPDC at the period of transition to virtual office.

**Table 2: Does the adoption of communication technologies affect job performance in SPDC**

| Response     | Frequency  | Percentage  |
|--------------|------------|-------------|
| Yes          | 373        | 93%         |
| No           | 29         | 7%          |
| <b>Total</b> | <b>402</b> | <b>100%</b> |

Table 2 above shows that 373 respondents representing 93% of respondents agreed that the adoption of information and communication technologies such as internet, mobile phones, teleconferencing, etc. affect job performance in SPDC while 29 persons representing 7% of the respondents were of the view that the adoption of communication technologies do not affect job performance while none of the respondent abstained. This suggests that new Technologies have a very strong influence on job performance.

**Table 3: Ways Communication technologies affect Job performance in SPDC**

| Responses  | Frequency | Percentage |
|--|-----------|------------|
| Makes meeting targets easier                     | 86        | 21%        |
| Makes working from anywhere and anytime possible | 169       | 42%        |
| Helps improve relationship with other staff      | 17        | 4%         |
| Makes job schedule more flexible                 | 116       | 29%        |

|                 |            |             |
|-----------------|------------|-------------|
| Makes work slow | 11         | 3%          |
| Others          | 3          | 1%          |
| <b>Total</b>    | <b>402</b> | <b>100%</b> |

Table 3 above shows that 86 respondents representing 21% of respondents were of the view that adoption of communication technologies made meeting targets easier in SPDC, 169 respondents representing 42% were of the view that adoption of communication technologies by SPDC made members of staff work from anywhere and anytime, 17 respondents representing 4% of the total respondents were of the view that the adoption of communication technologies by SPDC helped in improving interpersonal relationships among members of staff, 116 respondents representing 29% of the total respondents were of the view that adoption of communication technologies made their job schedule more flexible; 11 respondents representing 3% of total respondents were of the view that adoption of communication technologies made their work slow while 3 respondent representing 1% of the total respondents was of the view that adoption of communication technologies affected job performance in other ways. The import of the above data suggests that new technologies affect SPDC staff operations in several ways.

**Table 4: Existing Challenges to communication technologies usage in SPDC**

| Response   | Frequency  | Percentage   |
|--|------------|--------------|
| Staff not being prepared for the usage of the ICTs     | 20         | 5%           |
| The ICTs requiring a lot of updating to catch up with  | 141        | 35%          |
| The ICTs for communication not being readily available | 36         | 9%           |
| The ICTs cause job loss                                | 53         | 13%          |
| It reduces interpersonal communication                 | 80         | 20%          |
| Disposal of e-waste creates a lot of challenge         | 40         | 10%          |
| It creates uncertainty                                 | 32         | 8%           |
| <b>Total</b>   | <b>402</b> | <b>100.0</b> |

Table 4 above shows that 20 respondents representing 5% of total respondents identified lack of preparation for communication technologies as a challenge; 141 respondents representing 35% of total respondents identified continuous update as a challenge to the adoption of communication technologies in SPDC; 36 respondents representing 9% of total respondents identified lack of availability of communication technologies as a challenge; 53 respondents representing 13% of the total respondents identified job loss as challenge as a result of communication technologies in SPDC; 80 respondents representing 20% of the total respondents identified reduction in face-to-face communication as a challenge of communication technologies in SPDC; 40 respondents representing 10% of the total respondents identified e-waste disposal as a challenge resulting from adoption of communication technologies while 32 respondents representing 8% of total respondents identified creation of uncertainty as one of the challenges resulting from the adoption of information and communication technology. What the above data imply is that the degree of challenges of ICTs adoption varies as shown by the percentage differences in the opinions expressed in terms of the variables.

**Table 5: Does Adoption of virtual communication lead to job creation in SPDC**

| Response     | Frequency  | Percentage  |
|--------------|------------|-------------|
| Yes          | 29         | 7%          |
| No           | 359        | 89%         |
| Don't Know   | 14         | 4%          |
| <b>Total</b> | <b>402</b> | <b>100%</b> |

Data from Table show that 29 respondents representing 7% of total respondents agreed that SPDC adoption of virtual communication technologies leads to job creation, 359 respondents representing 89% of total respondents were of the view that SPDC adoption of virtual communication technologies does not

lead to job creation while 14 respondents representing 4% of the total respondents did not know if SPDC adoption of virtual communication technologies leads to job creation or not. The manifest import of the analysis is that there is the presence both job creation and job loss occasioned by the adoption of virtual communication in SPDC.

**Table 6: Opinion on whether the adoption of virtual communication technologies leads to job loss in SPDC?**

| Response     | Frequency  | Percentage  |
|--------------|------------|-------------|
| Yes          | 294        | 73%         |
| No           | 100        | 25%         |
| Don't Know   | 8          | 2%          |
| <b>Total</b> | <b>402</b> | <b>100%</b> |

Table 6 shows that 294 respondents representing 73% of the total respondents affirmed that adoption of virtual communication technologies led to job loss in SPDC, 100 respondents representing 25% of the total respondents disagreed that adoption of virtual communication technologies led to job loss in SPDC while 8 respondents representing 2% of total respondents do not know whether adoption of virtual communication technologies led to job loss in SPDC. The above analysis suggests that majority of the respondents believe that the adoption of ICTs led to job loss while a substantial number also disagree that adoption of virtual communication technologies led to job loss in SPDC.

**Table 7: Why workers lose jobs because of adoption of communication technologies,**

| Options  | Frequency  | Percentage  |
|--|------------|-------------|
| Because staff cannot meet up with the new technology | 129        | 32%         |
| Because fewer people are needed to do more jobs      | 99         | 25%         |
| Because workers are offered fat pay-offs             | 50         | 12%         |
| Because more young people are being engaged          | 15         | 4%          |
| Because workers have difficulty adjusting            | 66         | 16%         |
| Because workers are just fed up                      | 31         | 8%          |
| None of the above                                    | 12         | 3%          |
| <b>Total</b>   | <b>402</b> | <b>100%</b> |

The analysis from Table 7 shows that 129 respondents representing 32% said that workers lost their job because of the adoption of communication technologies. 99 respondents representing 25% affirmed that adoption of communication technologies led to loss of jobs because fewer people were needed to do the job of more people with the help of the information and communication technology. 50 respondents representing 12% said that workers opted for the fat pay-offs when it was offered as a result of the adoption of communication technologies. 15 respondents representing 4% were of the view that the adoption of communication technologies led to loss of job because younger people were engage while the older ones felt out of place. 66 respondents representing 16% said that workers lost their jobs because they had difficulty adjusting to the newly adopted communication technologies. 31 respondents representing 8% were of the view that adoption of communication technologies led to job loss because workers were just fed up with the technology while 12 respondents representing 3% said that adoption of communication technologies did not led to loss of jobs for any of the stated reasons.

**Hypothesis**

H0: There is no relationship between the adoption of new media technologies for virtualisation and job loss in Shell Petroleum Development Company, Port Harcourt.

**Table 8: Correlation between the use of new media technologies in SPDC and job loss.**

| Rating | Scores | New Media | Job loss | X <sup>2</sup> | Y <sup>2</sup> | XY |
|--------|--------|-----------|----------|----------------|----------------|----|
|--------|--------|-----------|----------|----------------|----------------|----|

|                   |       | (X)            | (Y)            |                    |                    |                   |
|-------------------|-------|----------------|----------------|--------------------|--------------------|-------------------|
| Strongly Agree    | 5     | 82             | 102            | 6724               | 10404              | 8364              |
| Agree             | 4     | 167            | 167            | 27889              | 27889              | 27889             |
| Undecided         | 3     | 33             | 29             | 1089               | 841                | 957               |
| Disagree          | 2     | 79             | 70             | 6241               | 4900               | 5530              |
| Strongly Disagree | 1     | 41             | 34             | 1681               | 1156               | 1394              |
| Total             | N = 5 | $\sum X = 402$ | $\sum Y = 402$ | $\sum X^2 = 43624$ | $\sum Y^2 = 45190$ | $\sum XY = 44134$ |

$r = 0.97$

Table 6 shows that the computed Pearson Product Moment Correlation value (r) is 0.97. The table (critical) value at 400 df is .098. Since the computed value (r) is greater than the critical value, the null hypothesis which states that the use of new media technologies in SPDC has not led to job loss in SPDC is rejected and the alternate or research hypothesis upheld. It therefore means that the use of the new media technologies in SPDC has led to job loss in SPDC.

### 9. Discussion of findings

This section discussed the findings of this research work in relation to the research questions that were set at the beginning of the work. This research was aimed at ascertaining if virtualisation by SPDC leads to job creation or job loss. To meet the objective of the research, the following research questions were set:

How does virtual communication affect employee performance in Shell Petroleum Development Company, Port Harcourt?

Does the adoption of virtual communication lead to job creation or job loss in Shell Petroleum Development Company, Port Harcourt?

**Research Question 1:** How does virtual communication affect employee performance in Shell Petroleum Development Company of Nigeria?

The researcher's intention here was to find out if virtualisation had affected employee performance in Shell Petroleum Development Company of Nigeria. The answer to this research question can be found in tables 2 and 3. As shown in the analysis on tables 2, nearly all respondents represented by 94% were positive that the adoption of virtual communication

technology affected their jobs in different ways. As shown in table 3, Forty four percent of the respondents stated that virtual communication gave them the leverage of working from anywhere in the world. This supports the hypothesis tested in Table 8, where the Pearson Product Moment Correlation value (r) is 0.97 and the table (critical) value at 400 df is 0.98. Since the computed value (r) is less than the critical value, then the null hypothesis which states that the use of new media technologies in SPDC has not improved management's strategy in achieving overall goals better than the old media is rejected and the alternate or research hypothesis upheld. It therefore means that the use of the new media technologies in SPDC has improved managements achievement of their overall goal.

The adoption of virtual communication by Shell Petroleum Development Company, Port Harcourt means that workers are no longer confined to a certain space before they can deliver on their key performance indicators. This position tallies with the views of Grenier and Metes (1995, p.3) where they stated that:

we have all seen the human subjects encased in gloves, helmets, recliners and other sorts of technological wombs, participating in activities they electronically constructed, feeling as if they are physically involved in real, intense situations...today our virtual travellers fly jet aircrafts, crawl through human cells, walk on the moon, or stroll through Bangkok with full (or greater) sensory apprehension of time, place, and motion. The effects of reality are felt, although the usual physical causes have been replaced by electronic simulations and stimulations.

As the day goes by new communication technologies emerge that help organisations reduce their overhead cost and become more and more effective. It used to be common to see people take along their laptops and iPads as they make their journey because they may need to access certain files in their system but with the introduction of SkyDrive to the myriad of communication technologies, one can access all the files in one's system from any system in the world provided the system has SkyDrive facility. Four percent (4%) of the respondents were positive that the adoption of communication technologies has made their jobs flexible while 25% of the respondents were positive that adoption of communication technologies make meeting their target easier. By this analysis, it is clear that about 93% of the total respondents agreed that the adoption of communication technologies in SPDC was desirable because according to them, it had positive effect on their jobs.

**Research Question 2:** Does the adoption of virtual communication lead to job creation or job loss in Shell Petroleum Development Company, Port Harcourt?

The main focus of this research was to determine if the adoption of virtual communication technologies by Shell Petroleum Development Company, Port Harcourt, has led to job creation or has caused members of staff of the organisation to lose their jobs. The answer to this question is imbedded in tables 4, 5 and 6. As shown in table 5, 7% of the respondents agreed that the introduction of virtual communication technologies lead to job creation in SPDC, 89% disagreed while 4% said they do not know if the adoption of virtual communication technologies in SPDC has led to job creation. However, the same question was asked from another angle thus: Has the adoption of virtual communication technologies led to job loss in SPDC. The response for the question as presented in table 6 indicates 73% of the respondents agreed that the adoption has led to job loss in the organisation, 25% of the respondents indicated that the adoption has not led to job loss while 2% indicated that they do not know if the adoption has led to job loss or not. A juxtapose of

research question 1 and 2 would clearly show that the workers are of the view that the adoption is taking away jobs but that it is no doubt not only creating a new kind of jobs, but also providing tools for new job creation. This position tallies with the view of World Bank policy note published in the Washington post of September 10, 2013, information and communication technologies are creating new job opportunities and making labor markets more innovative, inclusive and global. It also tallies with the views of Chris Vein, World Bank Chief Innovation Officer for Global ICT Development who said that "ICTs are influencing employment both as an industry that creates jobs and as a tool that empowers workers to access new forms of work, in new and more flexible ways," he further said that "The emerging ICT-enabled employment opportunities matter because countries around the world are looking to create more good jobs, which have positive economic and social implications for workers and for society."

The argument that virtual communication technologies is taking away jobs unfortunately is strongest in Third World countries because most of us are not bracing up to the challenges. Some workers are stock in the old way while virtual communication technology is creating new kind of jobs.

## 10. Recommendations

In view of the summary/conclusion reached above, the researcher wishes to make the following recommendations:

- That Shell Petroleum Development Company should take advantage of the benefits of virtualisation as it is the way to go.
- That all organisations planning or that have adopted virtualisation must have deliberate plans to train and retrain their members of staff to be up to date with the ever changing virtual technologies.

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