

Assessing the Use of Digital Communication Technologies by Select Federal Parastatals During the 2020 Covid-19 Era

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Article Info:

Submitted: **Revised:** **Accepted:** **Published:**

Aug 4, 2025 Aug 26, 2025 Sep 7, 2025 Sep 12, 2025

Abstract

The Covid-19 pandemic fundamentally transformed modes of communication by shifting reliance toward digital communication technologies (DCTs) in response to physical distancing measures. Against this backdrop, this study examined the adoption and use of DCTs in selected federal parastatals in Nigeria during the Covid-19 era, with a particular focus on benefits, challenges, and implications for work, education, and mental health. A survey research design was employed, and data were collected through questionnaires administered to staff of the National Productivity Centre (NPC) and the Nigeria Centre for Disease Control (NCDC) in Abuja. The findings reveal a high level of DCT adoption within both organizations, particularly for virtual meetings, which served as supportive tools in mitigating the disruptive effects of the pandemic. However, challenges such as limited digital literacy among civil servants, unequal access to reliable online services, and the overwhelming proliferation of online information were found to exacerbate anxiety, social tensions, and discriminatory behaviors. The study concludes that bridging the digital divide is critical, recommending that policymakers prioritize affordable access to DCTs, while organizations should invest in

upgrading digital infrastructure and skills, benchmarking against high-performing institutions to enhance competitiveness. By illuminating the dual role of DCTs as both enablers and potential stressors, this study underscores their long-term significance in shaping organizational resilience and social interaction in a post-pandemic future.

Keywords: Covid-19; Digital Communication Technologies; Federal Parastatals; Digital Divide; Organizational Resilience

INTRODUCTION

Communication is considered one of the most important interactivities among human beings. Due to the development of technology, many more types of communication have been introduced to satisfy the increasing contact needs of people. DCT's are digital tools that allow two or more people to communicate with one another. These can be written, verbal, visual or audible communication. Some examples of these are: having a text conversation with someone via mobile phone, using Facebook or Twitter to keep in touch with family or friends, collaborating on a wiki or a blog with students in a work group. Cell phones, social networking, and texting have changed the way people communicate. These forms of communication have created a new social structure governing how, when, and with whom people interact. With the spread of the pandemic, almost all regions had implemented lockdowns, shutting down activities that require human gathering and interactions - including colleges, schools, and malls, places of worship, offices, airports, and railway stations. The lockdown resulted in most people taking to the internet and internet-based services to communicate, interact, and continue with their job responsibilities from home.

Over the last two decades, much of the developed world has transformed to digital communication technologies (DCT). Vast improvement in digital communication technology and the resulting potentials use of smart devices have already transformed the way we live and work (Papagiannidis et al 2020). A wide variety of devices such as Laptops, tablets and smart phones, fueled by advance information technology infrastructures, are increasingly mobile, portable and accessible, which has allowed more work to be done from anywhere at any time (Corso et al, 2005; Kim et al, 2018; Mazmanian et al, 2005; Sorenesen et al, 2005; in Eun-Jung Ko et al 2021).

Digital communication technologies have been adopted in the civil service to minimize transaction cost and reduce bureaucratic procedures and making their operations more effective and efficient. However, the advantages of DCT, the application in government agencies and Parastatals has been a major challenge as a number of civil servants lack the basic skills and knowledge to use its facilities. This has been worsened by the emergence of the corona virus in February 2020. By late May 2020, over 200 countries and territories in the world were affected by the Coronavirus pandemic. This included most urban clusters and even rural regions (PR Newswire, 2020).

In Nigeria, the lockdown entailed a rise in the use of digital communication technology and networks, with massive changes in usage patterns and usage behavior. Employees are adjusting to new "normal" with meetings going completely online, office work shifting to the home, with new emerging patterns of work. These changes have come across most organizations, whether in business, society, or government. The changes have also come suddenly, with barely any time for organizations and people to plan for, prepare and implement new setups and arrangements; they have had to adjust, try, experiment, and find ways that did not exist before.

Though now, the pandemic is receding and stabilized in the country, many organizations, both government and private still maintain practices employed during the lockdown period. It is in this context that the use of digital communication technology to continue in the same vein for some time in the foreseeable future as during the lockdown. Because of the restrictions imposed during the ongoing pandemic, people have been asked to reduce social relations (Alessandro 2020). Therefore, the present study examines the possible scenarios in this surge in Digital Communication Technology usage at the National Productivity Center, Abuja and the Nigeria Center for Disease Control during the covid-19 era"

Statement of the Problem

Over the years, throughout Nigeria, it has been observed that the government Parastatals have been generally characterized by such negative attributes like bureaucracy, low productivity, archaic technology, low morale and slow work processes among others which affect the general output of the service. The recent proliferation of information available via online media provides an additional layer of complexity. Television and printed news media, which in the past has been an essential conduit for circulating

organization information, must now compete with a vast array of easily accessible social media and online news and opinion sources. In particular, digital technology is highly engaging and encourages users to share organization resources and conduct online meetings (Dobson et al., 2018). The uptake of digital technology signifies an era in which the public actively participates in creating and circulating information (Burgess & Green, 2018). One consequence of this is the proliferation of misinformation that can intensify anxiety and exacerbate social tensions and discriminatory behaviors (Lewandowsky et al., 2017; Waszak et al., 2018). The use of digital technology, however, also provides opportunities for effective communication. It enables vital messages to be disseminated quickly and efficiently and to be appropriately tailored to different audiences in respective of proximity. It also allows different organizations to share information to them and to become actively involved in sharing and honing relevant messages. As stated above, trust is widely recognized as being a central pillar of effective public organization and office management.

With the emergence of the Covid-19 pandemic which at some point brought the economy to a standstill and gave birth to the “new normal”, (this is an era where office operation became mixed up with digital knowledge sharing as a result of social distancing regulation pronounced by federal government of Nigeria), the rise of this era left organizations with no choice but to rely on Digital Communication Technology in order to carry out their daily tasks. Private companies reacted to the situation by aligning their activities along with the prevailing trend. However, same cannot be said about the government sector which found it difficult to move with the trend. This was owing to the fact that many civil servants were not tech savvy and lack adequate skills and knowledge on the use of it. Studies have also reported an increasing trend of DCT use and higher risk of excessive internet use during COVID-19 quarantine or lockdown (Király, 2020). The increased use of ICT can ultimately be associated with various physical, psychosocial, and mental health outcomes (Forsman 2017; Thomée 2015). This increased use may be driven by disrupted daily routine, need for telework and online office routine activities, anxiety due to uncertainty about the future, and need for corporate business activities and social connectedness. Individual differences such as personality traits may also affect feelings about and responses to COVID-19 safety measures and social connectedness. Furthermore, in certain cases where heads of government agencies and Parastatals spent huge money in bringing modern technology to use, employees have been unable to improve their skills of

ICT which has been disastrous and the objectives of such not realized. Therefore, this study seeks to investigate how the National Productivity Centre and Nigeria Centre for Disease Control (NCDC) were able to utilize the Digital Communication Technology facilities during the covid-19 lockdown to carry out the day to day activities in their agencies.

Objectives of the Study

The overall objective of this study is to assess the use of Digital Communication Technology in selected federal Parastatals in the Covid-19 period. Other specific objectives are to;

1. Identify the level of adoption and use of Digital Communication Technology facilities at the National Productivity Centre and the Nigeria Centre for Disease Control (NCDC) Abuja during the Covid 19 lockdown.
2. Ascertain the extent of adoption and use of Digital Communication Technology at National Productivity Centre and the Nigeria Centre for Disease Control (NCDC) Abuja during the Covid 19 lockdown.
3. To find out the effectiveness in adoption and use of Digital Communication Technology at National Productivity Centre and the Nigeria Centre for Disease Control (NCDC) Abuja during the Covid 19 lockdown.

Review of Concepts

Major concepts that constitute the study have been reviewed to provide a better understanding of the current research.

The Concept of Digital Communication

Digital Communication Technology refers to all forms of physical equipment that is used for processing, storage and transmission of information. This includes: Computers, communication networks and tools, fax machines, and electronic software. Generally, DCT covers a wide range of equipment, computers, tools, data storage, means of communication and networking, applications and services that are used by organizations to create data and knowledge.

DCT system is not able to survive without creating the information production culture. Therefore, the most important thing in DCT is the information-oriented thinking.

It is composed of a combination of useful ideas created rather than being a set of computers, super computers, wires, cables, and tools. It is the thinking of wise people that generates information. It refers to methods of producing and collecting information. It makes data accessible to anyone from everywhere by making computer programs smaller, cheaper, more applicable, and simpler to the extent possible.

Tambe & Hitt (2013) defined IT as a mechanism whereby companies will endeavor through innovative ways of operating and relay information to achieve economic gains. Lal (2006) also stressed that, one of the vital activities in the recent era is on how to address the shortage in ICT manpower that is usually present in the IT industry and in both private and governmental organizations as well as the costs and compensation that relates to this shortage.

Review of Related Literature

It is imperative to review related literature in order to provide strong literature background for the current study.

1. Rationale for the use of Digital Communication Technology

For over two decades, information has been seen as a valuable resource along with other factors of production. Following the expansion of business activities, globalization, and rapid changes in the organizations' environment, information is considered as a strategic factor to the extent that today it is seen as a powerful tool in dealing with environmental problems and challenges as well as a tool that makes proper use of opportunities.

Accordingly, the establishment of an appropriate information system using ICT for collecting, processing and storing of data is of vital importance. Although ICT and the use of computer have never replaced human decision making, their power to help managers and employees to make the right decisions using accurate information and speeding up tasks cannot be neglected. Many organizations have realized the importance of information technology and its impact on speeding up and accurate performance of tasks and increasing customer satisfaction, support systems, managers' decision-making, and especially the organization's effectiveness. Such awareness has caused most organizations to quickly move towards the application of DCT (Yardley, 2015).

2. Applications of Digital Communication Technology in organizations

Digital Communication Technology has different applications in organizations and most scholars have classified these applications into two categories: operational and informational.

This literature review supports the strong evidence of the use of SM platforms on government communication, government interaction, and emergency management as essential communication channels.

Social Media in public administration has had an exciting journey thus far. Brainerd and McNutt (2010) re- searched the interaction between Washington D.C. Police Department and citizens via online discussion groups. They developed new ideas regarding how police interact with citizens and found that most activities are transactional and less collaborative. Research from Mergel (2012) is a steppingstone for future works. It collects experiences and systematizes the use of SM in government. This seminal work guides collaboration, participation, and transparency at different levels and areas of government. Her research demonstrates how SM includes different communication stages – push, pull, and networked. However, results indicate that SM is somewhat underutilized by LGs, with about a 70% overall use rate (Graham & Aver, 2013).

Operational Application

The use of Digital Communication Technology in a profession is called "operational application". Preparing payroll lists, issuing personnel orders, forecasting inventory, production planning, distribution and allocation of labour, industrial costing, and other specialized tasks are included in the operational applications of information technology. The use of computers for such applications results in automation of tasks and administrative affairs so the tasks are performed more economically and rapidly.

Informational Application

Informational use of Digital Communication Technology will facilitate the collection, storage, and dissemination of information. In other words, the operational use of computers and DCT serves as a mechanical tool to change inputs into outputs. While the informational use is seen as an element and a major factor in collecting, transferring and disseminating information (Ahmadi, 2002).

3. Digital knowledge sharing (DKS)

KS is a critical success factor of knowledge management (Blanken- ship and Ruona,

2009). It can be defined as activities that involve the transfer of knowledge between individuals and organizations (Lee, 2001). In the present study, DKS refers to those activities through which employees share knowledge digitally with actors within or outside their organization (Lin, 2007; Luo et al., 2021).

Scholars have argued that fostering DKS during the pandemic is invaluable for firms (Duarte Alonso et al., 2020). However, at present, we have only a limited understanding of how DKS unfolds in large-scale WFH settings (Waizenegger et al., 2020). This is an important area to understand because, in the post-COVID-19 era, the assumption is that hybrid work models that include a mixture of office work and WFH are becoming the new normal (Jaiswal and Arun, 2020).

- **Internal Digital Knowledge Sharing**

Internal knowledge refers to knowledge that is present within organizational borders (Jensen and Szulanski, 2004). It is based on the insight and expertise that an organization's employees already possess (Carmeliet al., 2013). According to the knowledge-based view (Grant,1996), the knowledge that is embedded within a firm is a crucial resource for generation of ideas. Internal DKS involves the virtual dissemination of this internal knowledge throughout a department or an entire organization (Yang, 2004).

- **External Digital Knowledge Sharing**

Individuals and organizations might also need outside sources of expertise to complement their own and assist them in generating new knowledge (Nonaka and Takeuchi, 1995). Firms are increasingly following an open innovation approach, combining internal ideas with external knowledge (Chesbrough, 2020; Ferraris et al., 2020). Scholars have shown that employees with relations that go beyond organizational boundaries perform better (Cross and Cummings, 2004; Ferraris et al.,2020). In an online environment, DKS between actors with different expertise and knowledge makes it possible to approach a problem or task from alternative angles (Tortoriello et al., 2012).

Theoretical Framework

Diffusion of Innovation (DOI) Model was selected to serve as the theoretical underpinning for this study. The theory was selected as a result of its relevance and applicability to the current study.

Diffusion of Innovation Model

Diffusion of Innovation (DOI) Model, developed by E.M. Rogers in 1962, is one of the oldest social sciences Model. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously. The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.

Adoption of a new idea, behavior, or product (i.e., "innovation") does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others. Researchers have found that people who adopt an innovation early have different characteristics than people who adopt an innovation later. When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation.

METHODS

Burns and Grove (2003) define a research design as “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings”. A research design is a basic plan that guides the data collection and analysis phases of the research project. There are different ways or methods of carrying out a research. In the field of social science, one or a combination of these could be adopted depending on the nature and types of research to be undertaken. This study however adopted the survey research design.

Survey research design refers to a particular type of research design where the primary method of data collection is by survey. In this study the survey design is used as a tool by the researcher to gain a greater understanding about individual or group perspectives relative to a particular concept or topic of interest. The survey research design method was used in this study, by collecting data through questionnaire from population of interest.

The choice of sample size, that is, the number of units from the population that are

selected for observation is determined by several factors namely:

- The population size which is denoted as N
- ii. The sample size is denoted as
- iii. The risk of selecting a bad sample, that is, type1 error denoted as α , usually $\alpha=5\%$ is chosen.
- The allowable sampling error is denoted as $\pm z\sigma$; which is sometimes called level of precision. In most cases, it is expected that the precision rate of $\pm 5\%$ is used.

Therefore, the expression for sample size for this study is stated as:

$$n = \frac{N \cdot z^2 \cdot \sigma^2}{1 + N \cdot (0.05)^2}$$

$$= \frac{1270 \cdot 3.175}{1 + 1270 \cdot (0.05)^2}$$

$$= 317$$

RESULTS

The researcher administered 375 copies of the instrument to respondents. However, only 306 copies were completed and returned useable. The presentation and analysis is based on the data obtained from the questionnaire administered from the field work through the instrument of questionnaire. Below is a tabular presentation of the data obtained.

Table 1: Showing the level of awareness of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown

OPTION	No of respondent	Percentage (%)
Strongly	86	28
Agree	123	40
Undecided	48	16
Disagree	37	12

Strongly Disagree	23	8
Total	306	100

Source: Field survey, 2023

From the above table which indicates that 28% of the respondents strongly agree with the opinion that they are aware of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown and 40% agree on the opinion raised while 16% of the respondents are uncertain on whether they are aware of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown and 12 disagreed with the opinion raised in the above table. From the tabulated response it can be deduced that the majority of the staff are aware of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown

The table below indicates data collected from the selected NPC and NCDC Abuja during the covid-19 lockdown. It analysis the opinion of respondents as it relates to how Office transactional activities have improved due to the adoption of DCT facilities in office practices.

Table 2: Showing the adoption of DCT by NPC and NCDC during the covid-19 lockdown.

OPTION	No of respondent	Percentage (%)
Strongly Agree	78	25
Agree	96	31
Undecided	36	12
Disagree	85	28
Strongly Disagree	11	4
Total	306	100

Source: Field survey, 2023

After soliciting responses from the various respondents the adoption and use of DCT by NPC and NCDC during the covid-19 lockdown made working from home pleasurable. Based on the opinion raised 25 % of the respondents are strongly in agreement with the opinion and 31% agreed that DCT has made work pleasurable while 12% are undecided and 28% disagreed with the opinion solicited. Based on the tabulated generated response rate it can be logically concluded that the adoption and use of DCT by NPC and

NCDC during the covid-19 lockdown made working from home pleasurable.

The table below analysis the data collected from the selected agency on ascertaining whether DCT has improved service delivery at the above agency during COVID 19 Lock Down.

Table 3: Showing the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC due to DCT

OPTION	No of respondent	Percentage (%)
Strongly Agree	26	8
Agree	83	27
Undecided	98	32
Disagree	58	19
Strongly Disagree	41	13
Total	306	100

Source: Field survey, 2023

From table 3 above 27% of respondents agreed with the opinion that the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC, while 8% strongly agreed with this view, while 32% of the respondents are uncertain on the opinion solicited. Out of the gamut of the opinion collated it was also discovered that 19% of the respondents disagreed with the opinion that the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC. After analysis of the results based on percentage of the frequency of the opinion it can be stated that the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC

Table 4: Showing the Performance of the agencies are improved tremendously as a result of the adoption of DCT in office transactions

OPTION	No of respondent	Percentage (%)
Strongly Agree	32	10
Agree	83	27
Undecided	92	30
Disagree	53	17
Strongly Disagree	46	15
Total	306	100

Source: Field survey, 2023

Table 4: above indicates that 10% strongly agreed with the opinion that Performance of the agencies has improved tremendously as a result of the adoption of DCT in office transactions and 27% agreed with it while 30% are undecided on whether the Performance of the agencies has improved tremendously as a result of the adoption of DCT in office transactions while 30% are undecided on the opinion and 15% strongly disagree on it. This indicates divergent and close ties in the response rate on the agency performance in relation to the adoption of DCT in the selected agency.

From the data collected in relation to the second research question raised on DCT Facilities facilitating the work from home which has helped to reduce work lump and improve service delivery. It analysis the opinion of respondents as it relates to ascertaining whether DCT Facilities facilitated the work from home which has helped to reduce work lump and improve service delivery.

Table 5: Showing the frequent use of DCT helped reduce work lump and improve service delivery during the covid-19 lockdown.

OPTION	No of respondent	Percentage (%)
Strongly Agree	76	25
Agree	98	32
Undecided	32	10
Disagree	57	19
Strongly disagree	43	14
Total	306	100

Source: Field survey, 2023

Based on the information derived from the table above 25% strongly agree with the opinion raised while 32% agreed and 10% are undecided on whether the frequency usage of DCT Facilities has facilitated the work from home which has helped to reduce work lump and improve service delivery based on this opinion 19% of the respondents also disagreed with the opinion raised by the people, while 14% strongly disagree on the opinion. Based on this we can logically conclude that the frequent use of DCT helped reduce work lump and improve service delivery during the covid-19 lockdown.

Table 6: Zoom was the most used DCT during the covid-19 lockdown at NPC and NCDC.

OPTION	No of respondent	Percentage (%)
Strongly Agree	62	20
Agree	88	29
Undecided	56	18
Disagreed	79	25
Strongly disagreed	21	7
Total	306	100

Source: Field survey, 2023

The table above illustrates that 18% of the respondent solicited for through the structure questionnaire are undecided and 20% strongly agree with the opinion that Zoom was the most used DCT during the covid-19 lockdown at NPC and NCDC and 25% disagreed with the opinion while 7% strongly disagreed with the opinion. Based on this Zoom was the most used DCT during the covid-19 lockdown at NPC and NCDC.

Based on the data collected from the selected agencies in FCT Abuja. It analysis the opinion of respondents as it relates to ascertaining whether the use of What Sapp office group platforms and Telegram were the platforms where information was shared to staff at NPC and NCDC during the covid-19 lockdown.

Table 7: What Sapp office group platforms and Telegram were the platforms where information was shared to staff at NPC and NCDC during the covid-19 lockdown.

OPTION	No of respondent	Percentage (%)
Strongly Agree	44	14
Agree	86	28
Undecided	46	15
Disagree	73	24
Strongly Disagree	57	19
Total	306	100

Source: Field survey, 2023

From table 7 above indicates that 24% disagree with the opinion that the use of What Sapp office group platforms and Telegram were the platforms where information was shared to staff at NPC and NCDC during the covid-19 lockdown and 15% are uncertain on whether the use of DCT tools has helped to disseminate information during

covi-19 lockdown era while 14% strongly agreed and 28% agreed with the opinion solicited upon. It can be logically deduced that the use of What Sapp office group platforms and Telegram were the platforms where information was shared to staff at NPC and NCDC during the covid-19 lockdown.

Table.8: The agency face-book page has enhanced office relation activities and increased the response rate of staffs to official duties and proceedings during covid-19 lockdown

OPTION	No of respondent	Percentage (%)
Strongly Agree	65	21
Agree	93	30
Undecided	45	15
Disagree	72	24
Strongly Disagree	31	10
Total	306	100

Source: Field survey, 2023

From the table above 10% of the respondents strongly disagree with the opinion that the agency Facebook page has enhanced office relation activities and increased the response rate of staffs to official duties and proceedings during covid-19 lockdown in NPC and NCDC, 30% agreed with it, while 21% strongly agreed. It was also discovered that 15% are undecided on the opinion raised. It can conclusively be stated based on the opinion collated and the analysis which state that the agency Facebook page has enhanced office relation activities and increased the response rate of staffs to official duties and proceedings during covid-19 lockdown.

DISCUSSION

The findings of this study were discussed thematically in line with the research questions of the study in order to answer the research questions.

Based on the above analysis, in the efforts to assess the use of Digital Communication Technology in some select Federal Parastatals in the Covid-19 period, the objectives would be to highlight the role DCT can perform in transforming office procedures and practices in National Productivity Centre and the Nigeria’s Centre for Disease Control (NCDC) Abuja. Based on the above analysis, it was discovered that in

Table 1, which analyzed the opinion of respondents on awareness of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown, the study agrees with the study of Ukwuoma & Elisha and Olurunleke (2022) “ the role of e-governance in overcoming the consequence of covid-19 pandemic in Nigeria” where they argued that e-government has become a global necessity; therefore government agencies should train their staff to improve their technical and ICT skills to fit into global digital space. From the analysis of the first table which indicated that 28% of the respondents strongly agree with the opinion that they are aware of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown and 40% agree on the opinion raised while 16% of the respondents are uncertain on whether they are aware of aware of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown and 12 disagreed with the opinion raised. Based on the outcome it indicates that majority of the staff are aware of the usage of DCT facilities in NPC and NCDC Abuja during the covid-19 lockdown.

In the same vain the second table data were analyzed and it indicated that the adoption and use of DCT by NPC and NCDC during the covid-19 lockdown made working from home pleasurable. The findings on this research question agree with the study of Brown, White, and Garcia (2020), “Technology Adoption by Public sector Organizations during the Covid-19 pandemic”. The study effectively addresses the crucial need to understand how technology adoption played a vital role in enabling continuity and resilience within the public sector. Based on the opinion raised 25 % of the respondents are strongly in agreement with the opinion and 31% agreed that DCT has made work pleasurable while 12% are undecided and 28% disagreed with the opinion solicited. Based on the tabulated generated response rate it can be logically concluded that the adoption and use of DCT by NPC and NCDC during the covid-19 lockdown made working from home pleasurable.

From table 8 above 27% of respondents agreed with the opinion that the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC, while 8% strongly agreed with this view, while 32% of the respondent are uncertain on the opinion solicited. This research question agrees with the study “Evaluating the effectiveness of digital communication technologies in ensuring business continuity during the covid-19: The perspective of federal Parastatals” by Williams, Adewale and Ibrahim (2021). The study delves into the adoption, utilization, and effectiveness of digital communication tools as critical mechanctisms in supporting remote work, collaboration, and overall organizational

resilience during the pandemic. Out of the gamut of the opinion collated it was also discovered that 19% of the respondents disagreed with the opinion that the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC. After analysis of the results based on percentage of the frequency of the opinion it can be stated that the level of efficiency and effectiveness in response rate to the office dealings are high now in NCDC and NPC.

The analysis in table 8 above indicates that 24% disagree with the opinion that Frequent office routines are accomplished through the use of DCT facilities during the covid-19 lockdown and 15% are uncertain on whether most routines are accomplished through the use of DCT, it was also discovered from the table that 14% strongly agreed while 28% agreed with the opinion solicited upon. It can be logically deduced that frequent office routines are accomplished through the use of DCT facilities during the COVID 19 lockdown. It can be said that this research question still agrees with the study by Williams , Adewale, and Ibrahim in their study “Evaluating the effectiveness of digital communication technologies in ensuring business continuity during covid-19; The perspective of federal Parastatals” as the study provides valuable insights into significance of digital communication technologies in ensuring business continuity for federal Parastatals, the impact of digital tools in maintaining operations, enhancing collaboration, and supporting employees during challenging times. In table 5: above indicates that 10% strongly agreed with the opinion that Performance of the agencies has improved tremendously as a result of the adoption of DCT in office transactions and 27% agreed with it while 30% are undecided on whether the Performance of the agencies has improved tremendously as a result of the adoption of DCT in office transactions while 30% are undecided on the opinion and 15% strongly disagree on it. This indicates divergent and close ties in the response rate on the agency performance in relation to the adoption of DCT in the selected agency.

The analysis based on the type of DCT, data was collated and it was discovered that 18% of the respondent solicited for through the structure questionnaire are undecided and 20% strongly agree with the opinion that Zoom was the most used DCT during the covid-19 lockdown at NPC and NCDC and 25% disagreed with the opinion while 7% strongly disagreed with the opinion. Based on this Zoom was the most used DCT during the covid-19 lockdown at NPC and NCDC.

From the tabulated responses collected from questionnaire distributed to the staff of National Productivity Centre and the Nigeria's Centre for Disease Control (NCDC) in Abuja on the challenges of DCT usage in the agencies. Based on the field data collated indicated that 31% of the respondents are undecided on either the use of DCT in administrative procedures are quite expensive to achieve. while 8% strongly agree with the opinion that the use of DCT in administrative procedures are quite expensive to achieve followed by 35% of respondents whom agreed on it and it was discovered that 17% disagreed on the opinion raised, from this it was discovered that the use of DCT in administrative procedures are quite expensive to achieve.

On the hypothesis generated which states that the level of adoption and uses of Digital Communication Technology Facilities in National Productivity Centre and the Nigeria's Centre for Disease Control (NCDC) Abuja is low, was tested with the chi-square tool of analysis. The computed value of chi – square is (187.8) which appear to be higher than the critical table value (5.991), therefore the alternative hypothesis (H1) should be accepted and the null hypothesis is rejected. So it was discovered that the level of adoption and uses of Digital Communication Technology Facilities in National Productivity Centre and the Nigeria's Centre for Disease Control (NCDC) Abuja is high. The second hypothesis generated states that Digital Communication Technology facilities in National Productivity Centre and the National Centre for Disease Control (NCDC) Abuja has not been effectively utilized was also tested with the chi-square tool of analysis. The computed value of chi – square is (134.8) which appear to be higher than the critical table value (5.991), therefore the alternative hypothesis (H1) should be accepted and the null hypothesis rejected. After testing the hypothesis it was concluded that there is a positive relationship in the outcome which indicated that Digital Communication Technology facilities in National Productivity Centre and the Nigeria's Centre for Disease Control (NCDC) Abuja has been effectively utilized.

CONCLUSION

Although the measure of lockdown is proving effective in containing the virus, Brooks et al. (2020) highlighted that the reduction of face-to-face interactions, the loss of freedom, and uncertainty lead to dramatic psychological effects on the staff in the selected agency. The only panacea to ameliorate the problem is the introduction of Digital

Communication Information Technology.

In the present study, we showed that using digital technologies for communications and virtual meetings could represent a supportive tool to manage the negative consequences of the social distancing imposed during the COVID-19 lockdown in Nigeria affecting most governmental Parastatals office activities through social distancing. As suggested by Waytz and Gray (2018), online office practices can improve social relationships, especially when close off-line relationships are not available, such as during an ongoing lockdown. The authors claimed that digital communications technologies when deployed in office practices can have positive effects, allowing people to empathize with socially distant individuals, fostering emotional and informational support (Taylor, 2011). Nevertheless, all this requires staff to be online and connected to digital technology. These technological solutions are less available to those already at a higher risk of infection, such as the elderly, ill people, and those living in poverty. The lack of reliable access to online services may, therefore, represent an additional burden for those with less access to material and social resources to buffer the negative effects of the coronavirus lockdown. Thus, policymakers should consider implementing strategies to reduce the digital divide in the near future, offering affordable access to digital communication technologies.

A continued pattern of social distancing, beyond the containment strategy to reduce the spread of the virus, could have broader societal effects, particularly for the most vulnerable (Leigh-Hunt et al., 2017). During the ongoing pandemic, instead of being what the sociologist Sherry Turkle has termed “alone together,” we have access to digital tools that previous generations could not have imagined, and we can now invent new and socially meaningful ways of being together apart.

Recommendations

In the time of constant changes in an organization with its problems to sustainability and growth, the following recommendations are made;

- There is a need for the selected organization to upgrade themselves with the current digital communication technologies whether in equipment and in systems and software considering that the results revealed the less utilization of such systems and programs. To be updated and competitive, the organizations can perform benchmarking with top performing organizations in order to copy those best practices that can be best applied in

the college settings.

- The organization should device ways and means to implement the systems and programs to implement and maintain sustainably the application of intranet, CRM, HR system, accounting software and office 365 which can improve the operations and processes of the organization without proximity limitations and Covid-19 or any other pandemic that might occur. The utilization of these systems and programs provides the selected organization with a good database management that proves to impacts positively on organizational performance.
- The Top management and Supervisory support are highly needed in order to attain its objective on revolutionizing advance technology in the organization. Since this decision requires large outlay, the IT department should have convincing and workable plans for the top management to acquire new technological devices and programs that will work for longer period at home and a sustainable system in the long- term operations by the organization.
- Seminars and workshops should be conducted regularly or from time to time on the use of DCT facilities at the NPC and the NCDC and the systems that will be applied. To achieve Digital Communication Technology revolution, the employees should be well-aware whatever advancement in technologies for their efficiency and applications. This also should cater not only to the senior staff and junior staff where office automation is being carried out especially in the DCT department.
- Top priority on DCT use should be done on maintaining good database management system to organize and use in long- term the data or information may it be on registration records, financial records, maintenance records and others for an easy, convenient, fast, reliable and well-informed organizational decisions or decision making processes of the selected agency. This means that, keeping databases and systems will improve the current operations in the agency. Database can be internally or externally sourced based on what is preferable and convenient for the selected organization to utilize or depending on their needs.
- The DCT department should initiate a proposal and requisition on the purchase of new systems and software and develop a timeline for its implementation to elevate the present operational system utilized by the Agency. Notwithstanding, DCT

equipment can also be requisitioned to replace the old equipment for upgrading.

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