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IMPACT OF SOCIAL NETWORKING ON NIGERIAN PRIVATE UNIVERSITIES IN THE FACE OF COVID-19 (A CASE STUDY OF NILE UNIVERSITY, ABUJA, NIGERIA): IMPLICATIONS FOR COUNSELLING

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ABSTRACT

The COVID-19 crisis has forced school closures across the globe, heavily disrupting the learning process of more than 1.7 billion children, youth, and their families. During this time, distance-learning solutions through social networking were implemented to ensure education continuity. The objective of this study was to ascertain the impact of such

Introduction

Efforts to slow the spread of COVID-19 through non-pharmaceutical interventions and preventive measures such as social-distancing and self-isolation have prompted the widespread closure of primary, secondary, and tertiary schooling in over 100 countries (Gouëdard, Pont and Viennet,2020).

Previous outbreaks of infectious diseases have prompted widespread school closings around the world, with varying levels of effectiveness. Mathematical modelling has shown that transmission of an outbreak may be delayed by closing schools. However, effectiveness

depends on the contacts children maintain outside of school. School closures appear effective in decreasing cases and deaths, particularly when enacted promptly. If school closures occur late relative to an outbreak, they are less effective and may not have any impact at all. Additionally, in some cases, the reopening of schools after a period of closure has resulted in increased infection rates. As closures tend to occur concurrently with

social networking on Nigerian Private Universities in the face of COVID-19 and to suggest ways out through counselling with particular reference to a private university in Nigeria. The study employed the survey research method with a target population of 1108 teaching and non-teaching staff of the Private University. The sample size for the study was 508 using Saunders et al (2009) three process formula technique while the questionnaire was used to collect the data. Pearson Product Moment Correlation Coefficient was adopted to test the hypotheses. According to the findings, the following social networking services: e-learning, network services and signal boosters have a significant impact on performance of Nile University especially in this period of COVID-19. The counselling implication of the study to the students were outlined to help reduce the impact of COVID-19 stressors on the students. The researchers recommend that government should immediately embark on the integration of all higher institutions into online education in order to equip the students with online learning skills. Also, it is recommended that professional counsellors and functional counselling clinics be put in place in all universities in Nigeria for all needed counselling by students who may be traumatize of the covid-19.

Keywords: *Covid-19, Nigerian Private Universities, E-learning, Network service and Guidance Counselling.*

other interventions such as public gathering bans, it can be difficult to measure the specific impact of school closures (Hattie,2020)).

LesEchos (2020) argued that during the 1918-1919 influenza pandemic in the United States, school closures and public gathering bans were associated with lower total mortality rates. Cities that implemented such interventions earlier had greater delays in reaching peak mortality rates. Schools closed for a median duration of 4 weeks according to a study of 43 US cities' response to the Spanish Flu. School closures were shown to reduce morbidity from the Asian flu by 90% during the 1957–58 outbreak, and up to 50% in controlling influenza in the US, 2004–2008.

Multiple countries successfully slowed the spread of infection through school closures during the 2009 H1N1 Flu pandemic. School closures in the city of Oita, Japan, were found to have successfully decreased the number of infected students at the peak of infection; however closing schools was not found to have significantly decreased the total number of infected students. Mandatory school closures and other social distancing measures were associated with a 29% to 37% reduction in influenza transmission rates. Early school closures in the United States delayed the peak of the 2009 H1N1 Flu pandemic (OECD,2019). Despite the overall success of closing schools, a study of school closures in Michigan found that "district level reactive school closures were ineffective."

During the swine flu outbreak in 2009 in the UK, in an article titled "Closure of schools during an influenza pandemic" published in the *Lancet Infectious Diseases*, a group of epidemiologists endorsed the closure of schools in order to interrupt the course of the infection, slow further spread and buy time to research and produce a vaccine. Having studied previous influenza pandemics including the 1918 flu pandemic, the influenza pandemic of 1957 and the 1968 flu pandemic, they reported on the economic and workforce effect school closure would have, particularly with a large percentage of doctors and nurses being women, of whom half had children under the age of 16 (Department for Education, UK,2020). They also looked at the dynamics of the spread of influenza in France during French school holidays and noted that cases of flu dropped when schools closed and re-emerged when they re-

opened. They noted that when teachers in Israel went on strike during the flu season of 1999–2000, visits to doctors and the number of respiratory infections dropped by more than a fifth and more than two fifths respectively(Saavedra,2020).

According to Reimers, and Schleicher (2020), School closures in response to the COVID-19 pandemic have shed a light on numerous issues affecting access to education, as well as broader socio-economic issues. As of March 12, more than 370 million children and youth are not attending school because of temporary or indefinite country wide school closures mandated by governments in an attempt to slow the spread of COVID-19. As of 29 March, nearly 90% of the world's learners were impacted by closures.

According to OECD (2020), the COVID-19 pandemic has affected more than 91% of students worldwide, with approximately 1.6 billion children and youngsters unable to attend physical schools due to temporary closures and lockdowns. Even when school closures are temporary, it carries high social and economic costs. The disruptions they cause affect people across communities, but their impact is more severe for disadvantaged children and their families including interrupted learning, compromised nutrition, childcare problems and consequent economic cost to families who cannot work. According to OECD (2020) studies, school performance hinges critically on maintaining close relationships with teachers. This is particularly true for students from disadvantaged backgrounds, who may not have the parental support needed to learn on their own. Working parents are more likely to miss work when schools close in order to take care of their children, incurring wage loss in many instances and negatively impacting productivity. Localized school closures place burdens on schools as parents and officials redirect children to schools that are open.

In Nigeria and virtually the world over, the tertiary education consists of a university sector and a non-university sector. The latter is composed of polytechnics, monotechnics, and colleges of education (Agu,2016). The tertiary sector as a whole offers opportunity for undergraduate, graduate, and vocational and technical education. The academic year typically runs from September to July. Most universities use a semester

system of 18 – 20 weeks. Others run from January to December, divided into 3 terms of 10 -12 weeks (Saavedra,2020). The National University Commission (NUC), the government umbrella organization that oversees the administration of higher education in Nigeria, listed 40 federal universities, 44 state universities and 68 private universities as accredited degree-granting institutions on its website as of 2017. Many of these institutions are relatively new Andersen and Nielsen (2019). In response to demographic pressures Nigeria's higher education sector expanded over a relatively short period. In 1948, there was only one university-level institution in the country, the University College of Ibadan, which was originally an affiliate of the University of London. By 1962, the number of federal universities had increased to five: The University of Ibadan, the University of Ife, the University of Nigeria, Ahmadu Bello University, and the University of Lagos (Damtew,2020).

Between 1980 and 2020, the number of recognized universities has grown tenfold from 16 to 170, as reported by Nigeria's National Universities Commission. For the first few decades of growth, higher education capacity building was primarily in the public sector, driven by Federal and State governments (Cseaafrica,2020). More dramatic growth occurred beginning in the late 1990s, when the Nigerian government began to encourage the establishment of private universities. Since then, private institutions, which constitute some 45 percent of all Nigerian universities as of 2017, have proliferated at a rapid pace, from 3 in 1999 to 68 in 2017. About two thirds of these institutions are estimated to be religiously affiliated schools. Despite the sheer number of private institutions that have opened, enrollments seem to be relatively low. Although estimates are difficult to find, the small number of United Tertiary Matriculation Examination (UTME) applications to private universities indicates that private universities account for only a small percentage of Nigeria's total tertiary enrollment, which UIS reported as 1,513, 371 as of 2011(Dinesh, Shadi and Shuriah,2020).

Covenant University, Nigeria's largest private university reportedly had a total enrollment of 6,822 students in 2010/2011(The New-York Times,2020), Nigeria's 43 federal universities as well as dozens of teaching hospitals and colleges are under the direct purview of the NUC.

State governments have responsibility for the administration and financing of the 48 state universities, private individual have responsibility for the administration of 79 private universities, bringing the total number of universities in the country to 170 (OECD,2018), In addition to granting institutional accreditation, the NUC approves and accredits all university programs. Accreditation is granted for an initial three-year period and subsequent five-year periods (For a detailed overview of the process, see the NUCs 2012 accreditation manual the suspension of accreditation for programs is not uncommon (Dinesh, Shadi and Shuriah,2020).

In 2016, for example, the NUC publicized a list of 150 unaccredited degree programs at 37 universities (Fredriksson, Hensvik, and Nordström,2018). In addition to universities, there are a large number of polytechnics and colleges under the purview of the National Board of Technical Education (NBTE), the federal government body tasked with overseeing technical and vocational education. In 2017, the NBTE recognized 107 polytechnics, 27 monotechnics, and 220 colleges in various specific disciplines. These institutions were established to train students for technical and mid-level employment. The National Commission for Colleges of Education is the federal body dedicated to overseeing non-university teacher education. As of 2017, there were 84 teacher training colleges in Nigeria (Dinesh, Shadi and Shuriah,2020).

Statement of the Problem

The **Corona-virus pandemic** (COVID-19) has no doubt adversely affected the global economy. It has forced many businesses to temporarily shut down and governments across the world to place a restriction on movement while exempting providers of essential services who are to strictly observe social distancing rules while providing services as a way to contain the spread of the virus (Carlsson,Dahl, Öckert and Rooth ,2015),.

Unfortunately, the educational sector is a part of the receiving end. According to UNESCO (2020), an estimated 1.725 billion learners have been affected as a result of school closures, representing about 99.9% of the world's student population as of April 13th, 2020.

Ogunode,Abigeal and Lydia (2020) argued that to cushion the effects of the pandemic, the world is embracing technological innovations. Virtual interactions are increasingly adopted to replace face-to-face engagements and limit the total disruption to many sectors. UNESCO (2020) has recommended the use of distance learning programmes, open educational applications, and platforms by schools and teachers to reach learners remotely. These could include integrated digital learning platforms, video lessons, Massive Open Online Courses (MOOCs), and broadcast through radio and television. The success of these recommendations' hinges on the use of high-technology or low-technology solutions, which are based on the reliability of local power supply, internet connectivity and digital skills of teachers, students, parents, and caretakers (Jaime,2020).

As pleasant as this solution is, it is said that students from under-served low-income communities will be left out and unable to access learning during this period. In Nigeria, many states have embarked on airing school lessons on radio and television and this is highly commendable but very expensive.

As stated by Lavy, V. (2015), the nation currently has about 50% of her population living in poverty, with many of the citizens struggling to afford three square meals, especially at this time, despite the palliative measures by the government. This means that there are a lot of students who do not have access to either radio or television, coupled with the issue of erratic power supply. Such students also have no internet access nor educational technological resources, a situation that is creating a gap in their academic progress for as long as this pandemic persists (Harsey,2020).

Obviously, COVD-19 is magnifying the educational inequity in Nigeria as only those with access to digital learning resources will keep learning in the comfort of their homes while those without access (the majority) are left behind (Sharon Dell and Wagdy Sawahel ,2020).

As it is now, many researches have been done on effect of co-vid 19 on many sectors such as on family businesses, hospitals, manufacturing and service firms, some are still on-going but no one has been carried out on Nigerian private Universities, hence, this study.

Objectives of the Study

This study is on the impact of Co-vid 19 on Nigerian Private Universities (A Study of Nile University, Abuja, Nigeria). Sub-Objective is:

To examine the impact of e-learning on performance of Nile University during Co-vid 19 era.

To identify the impact of network service on performance of Nile University during Co-vid 19 era.

To find out the impact of GSM /Network signal booster on performance of Nile University during Co-vid 19 era.

Research Question

This study has the research question below;

What is the impact of e-learning on performance of Nile University during Co-vid 19 era?

What is the impact of network service on performance of Nile University during Co-vid 19 era?

What is the impact of GSM/Network signal booster on performance of Nile University during Co-vid 19 era?

Research Hypothesis

From the Objective above, the researcher has made this hypothesis;

E-learning does not have a significant impact on performance of Nile University during Co-vid 19 era.

Network service does not have a significant impact on performance of Nile University during Co-vid 19 era

GSM/Network signal booster does not have a significant impact on performance of Nile University during Co-vid 19 era,

Concept of E-learning

The term E-learning is one of many terms containing the prefix 'E'that is frequently mentioned in recent times. More and more users use E-banking and E-commerce services, as well as often heard terms such as E-government, E- health service, and E-judiciary. Thus, the programme aims to transform society in an Information Society. Generally, the prefix "E-" (Electronic) indicates the performance of certain activities via

Information and communication technology (ICT). Accordingly to Sharon Dell and Wagdy Sawahel (2020), E-learning can be defined as electronic learning performed via information and communication technologies like computers and the Internet.

Lavy, V. (2015), e-learning is a computer based educational tool or system that enables you to learn anywhere and at any time. Today e-learning is mostly delivered though the internet, although in the past it was delivered using a blend of computer-based methods like CD-ROM. Technology has advanced so much that the geographical gap is bridged with the use of tools that make you feel as 6 if you are inside the classroom. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents and PDFs. Conducting webinars (live online classes) and communicating with professors via chat and message forums is also an option available to users.

As defined by Dinesh, Shadi and Shuriah (2020) e- learning is a learning system based on formalized teaching but with the help of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times. Earlier, it was not accepted wholeheartedly as it was assumed that this system lacked the human element required in learning. Sharon Dell and Wagdy Sawahel (2020) argue that e-learning has proved to be the best means in the corporate sector, especially when training programs are conducted by MNCs for professionals across the globe and employees are able to acquire important skills while sitting in a board room, or by having seminars, which are conducted for employees of the same or the different organizations under one roof. The schools which use E-learning technologies are a step ahead of those which still have the traditional approach towards learning (Hattie,2020),

Co-vid 19 and e-learning

Teaching and learning have been impacted by the COVID-19-related crisis in the most direct way. This is primarily due to the absence of options for face-to-face interactions for an extended period (Reimers and Schleicher,2020). Some countries across the globe initially stopped the education process at universities for a short break only (for example, early holidays were announced in the UK, and an additional one week of vacation took place in Russia; the Kyrgyz Republic announced a longer holiday break to be able to prepare universities for distance learning). However, after understanding that the COVID-19 epidemic and quarantine measures would last for months, the learning process has continued in a distance mode using online technologies. In fact, most countries of the region have by now moved to online learning at the tertiary level, with only a few exceptions due to a specific political environment that has resulted in a "business-as-usual" approach (Saavedra,2020). However, on 10 April 2020, the Ministry of Education of Belarus asked the universities to develop a mechanism securing distance teaching and learning. Switching to the online mode of teaching and learning has revealed several global and local challenges that universities are facing right now. In some countries, around 40 percent of the population still do not use (or do not have access to) the internet. Countries like Bulgaria, Georgia, Ukraine, and Uzbekistan may thus face difficulties in the full implementation of distance learning.

In Nigeria, Government universities are still on co-vid holidays. Only a few Private universities engage in online lectures such baze University, Nile University, Vertitas Universty and others (Agu,2016)

Co-vid 19 and university Examinations

Face-to face exams are not possible within quarantine and confinement situations. Therefore, countries with national school leaving exams that are separate from university admission, but also those where both form part of one process, face the question of how and when to conduct these exams (LesEchos ,2020). For example, several Latvian universities anticipate serious issues if school graduation exams are canceled, as the universities have neither the required infrastructure nor additional resources to conduct entrance examination remotely. Most government

universities in Nigeria have not taken a final stand on this: some are still hoping schools will resume soon. some have already postponed exams indefinitely. All these universities are in a waiting mode, hoping that the COVID-19 crisis is not going to last very long (Harsey,2020). Some countries (for example, France, Ireland, Norway, and the UK) have already canceled their 2020 school leaving exams; in some cases, student results will be proposed by teachers and/or calculated on the average progress in studies during the last years.

In Nigeria, every government-owned university suspended academic activities since march,2020 following the federal government policy to arrest the novel disease. Till now, nobody thinks neither talks about when to return to school. In the area of Private Universities in Nigeria, final exams for 2019/2010 session had been conducted and new academic year (2020/2021) has started (Ogunode,Abigeal and Lydia, 2020).

Co-vid 19 and university Admissions

COVID-19 pandemic affects administrative procedures in universities, as well. Many countries have yet to take a decision on how admission to universities will work in 2020. It seems clear that admissions to universities will be postponed, and some countries have already articulated that expectation (for example, Russia); however, no final decision has been taken regarding how long this is going to be and what will be the procedures for applicants (Dinesh, Shadi & Shuriah ,2020). Other universities, however, are proceeding with online applications. International student admission procedures for both Bachelor's and Master's degree. Some of the related issues are the same as above; however, international students will face additional challenges concerning admission as some countries closed their borders to foreigners (for example, Denmark, Georgia, and Hungary) (Fredriksson, Hensvik & Nordström2018). While some Master's degree programs accept applications throughout the year, and there is still a possibility to apply later, for others, and notably for Bachelor's programs applicants, the timing of the crisis poses a profound challenge. Some countries have already announced a delay in visa applications (for example, the Netherlands).

In Nigeria, Admissions are expected to take place in government universities when the schools re-open. In this regard, Private universities have gone on admission drive indifferent states and locations for new students. Therefore, admission into new levels is on-going (Agu.2016).

Co-vid 19 and Students` Graduation

In Nigeria, graduation is being handled with less uncertainty in Private universities. Several approaches are used: postponing thesis defense and graduation, undertaking them online, and sometimes providing students the opportunity to choose (Damtew,2020). For universities, this is not as hard to manage either academically or administratively. At the same time, the COVID-19 pandemic will have a huge negative impact on entrance to the labor market of 2020 graduates. Based on the experience of previous crises, this cohort will feel the impact of the recession throughout their lives. Uncertainty is clearly dominating countries and universities across in terms of formal procedures and changes in the academic calendar, especially with a view to admission (Andersen and Nielsen,2019). Decisions need to be taken and publicly articulated as soon as possible to ensure transparency and confidence in the system, especially for prospective students and their parents (Ogunode, Abigeal and Lydia,2020).

Impact of Co-vid 19 on Education

While COVID19 is primarily affecting public health, spillover effects can already be observed in education, stemming largely from extended school closures. School closure decisions have to balance different factors (Jaime,2020). On one hand, despite the low rates of infection among students, school closures are a critical pillar of the social distancing tools to mitigate the spread of the disease and avoid an acceleration of cases that will put a strain on health services. Its effectiveness as a measure to slow down the spread of contagion will depend on the exact timing of the closures, the age structure of the population and the length of the closure. Recent guidance from the United States Center for Disease Control (US-CDC) suggests that school

closures do serve a purpose, in particular if COVID19 cases are school-based, to allow for decontamination and contact tracing. It also recognizes its importance as a tool to increase social distance. The reports note that a closure of 4 to 8 weeks might be required in case of substantial community spread. On the other hand, extended interrupted education that disengage students from the learning process has the potential cost of reversing gains in learning results Carlsson, Dahl, Öckert and Rooth,2015). Another higher cost and challenge comes in where school feeding is the norm, closed schools might preclude students getting school meals unless alternative arrangements are in place (Jaime,2020). In secondary schools, longer school closures could result in an increased risk of dropout for youth, particularly from lower income

School counsellors and impact of covid-19 on students

With school closures, over a long period of time due to covid-19, an even higher cost and challenge comes from the disengagement of students with learning challenges in our Nigerian universities today e.g., students with adjustment difficulties, scholastic backwardness, personality disorders, psychiatric disorders, students with special/diverse educational needs or persons with disabilities etc., who may not effectively cope with remote learning strategies. As a result, services of professional counsellors are definitely needed in situations mentioned above. Trained counsellors are needed to help students with learning disabilities or with other special educational needs as covid-19 continuous to impact on the educational system of our country Nigeria and many other countries of the world.

Consequences of School Closures in the face of Co-vid 19

As submitted by Dinesh, Shadi and Shuriah (2020), Consequences of School Closures in the face of Co-vid 19 include the following;

i. Unintended strain on health-care system: Women make up almost 70% of the health care workforce, exposing them to a greater risk of infection. They often cannot attend work because of childcare obligations that result from school closures. This means that many

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medical professionals are not at the facilities where they are most needed during a health crisis.

ii. Distance learning: Online learning has become a critical lifeline for education, as institutions seek to minimize the potential for community transmission. Technology can enable teachers and students to access specialized materials well beyond textbooks, in multiple formats and in ways that can bridge time and space. Due to the COVID-19 pandemic, many schools began conducting classes via videotelephony software such as Zoom. The Organization for Economic Co-operation and Development has created a framework to guide an education response to the COVID-19 Pandemic for distance learning.

iii. Unequal access to technology: Lack of access to technology or fast, reliable internet access can prevent students in rural areas and from disadvantaged families. Lack of access to technology or good internet connectivity is an obstacle to continued learning, especially for students from disadvantaged families. In response to school closures caused by COVID-19, UNESCO recommends the use of distance learning programmes and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. To aid in slowing the transmission of COVID-19, hundreds of libraries have temporarily closed. In the United States, numerous major cities announced public library closures, including Los Angeles, San Francisco, Seattle, and New York City, affecting 221 libraries. For students without internet at home, this increases the difficulty of keeping up with distance learning.

iv. Unequal access to educational resources: Lack of limitations and exceptions to copyright can also have an impact on the ability of students to access the textbooks and materials they need to study. Several initiatives were taken to grant that students and teachers can have access to open educational resources, or understand copyright limitations. The International Council for Open and Distance Education issued a special website to provide webinars, tips for online teaching and resources for teachers. [In New Zealand, a group of publishers agreed to allow for virtual public readings of their materials from libraries and classrooms. A similar agreement took place in Australia, where the Australian Publishers Association, the Australian Library and Information Association and

the Australian Society of Authors agreed on a set of exceptional measures to allow libraries to provide educational content.[181] *The Australian organization AMCOS agreed to give a gratis license for all their music sheets to all schools across Australia.*

v. Inaccessibility to mitigation strategies: The effect of school closure on academic achievement has been studied in the summer months. Many of the strategies used to prevent academic slump, such as attending summer school, visiting libraries, and/or participating in literacy-rich summer-based activities are not available during the pandemic. Reading every day to a child, an option available while staying at home, reduced the rate of loss by 42%.

Students learning outcomes During Co-vid 19 Era

Fredriksson, Hensvik &Nordström (2018) argued that School closures negatively impact student learning outcomes. Schooling provides essential learning and when schools close, children and youth are deprived opportunities for growth and development. The disadvantages are disproportionate for under-privileged learners who tend to have fewer educational opportunities beyond school. When schools close, parents are often asked to facilitate the learning of children at home and can struggle to perform this task. This is especially true for parents with limited education and resources (Sharon Dell and Wagdy Sawahel ,2020). Students gain literacy slower during school closures than in a business-as-usual academic year. It has been estimated that the rate of reading ability gain in kindergarten children, primary, secondary and university students in the U.S slows down by 66% during school closures compared to active schooling (Dinesh, Shadi and Shuriah,2020).

Student drop-out rates tend to increase as an effect of school closures due to the challenge of ensuring all students return to school once school closures ends. This is especially true of protracted closures. Disadvantaged, at-risk, or homeless children are more likely not to return to school after the closures are ended, and the effect will often be a life-long disadvantage from lost opportunities (Jaime,2020). Schools are also hubs of social activity and human interaction. When schools are

closed, many children and youth miss out on social contact that is essential to learning and development.

Research Design

Ugwu (2020) asserts that research design serves as a total map or plan of action sharing what and how the researcher will carry out step by step procedure of accomplishing the research endeavour. It is a blue print for collection, evaluation and analysis of the necessary data for a study. Thus, research design for this study as adopted is "survey method" and is a process of analyzing only a part of the population i.e., the sample in such a manner that the part so selected for analysis will be deemed to be true representative of the entire population. The choice of survey method is that it is cost effective, dependable and a true representation of the entire population.

Population of the Study

The target population of this study comprised of the non-teaching and teaching staff of the Nile University Abuja, Nigeria. As at the period of this study, the total staff strength of this university is made up of 1,108. Specifically, the population of this study comprised the following:
Staff Strength of Nile University, Abuja

Dept	Non-teaching staff	Teaching Staff	Total
Accounting	227	92	319
Bus Admin.	188	64	234
Marketing	176	60	236
Banking &Finance	150	80	230
Entrepreneurship	79	10	89
Total	820	288	1108

Source: Field Study, 2020

Sample Size Determination

The Saunders et al. (2009) three (3) process formula for sample size determination was adopted in which the three processes include:
Minimum sample size Adjusted sample size Actual sample size.

The population of this study is 1108

The formula for calculating the minimum sample size is

$$n = P\% \times q\% \times \frac{(z)}{(e\%)}^2$$

where

n = Minimum sample size required

P% = The population belonging to the specified category (i.e. percentage estimate of response rate)

q% = The population not belonging to the specified category (i.e. 100% - p%)

Z = The Z – value corresponding to the level of confidence required (i.e. at 217 95% confidence level; Z - value = 1.96)

e% = The margin of error required (i.e. at 5%)

:. P% = 67% (this is because hand delivery way adopted in questionnaire Administration and based on pre-instrument testing)

q% = (100 – 67)% = 33%

Z – value = 1.96

e% = 5%

Substituting in the above formula

$$n = 67\% \times 33\% \times \frac{(1.96)}{(5\%)}^2$$

$$n = 2211 \times \frac{(3.8416)}{(25)}$$

$$n = 2211 \times (0.153664) = 339.7$$

:. Minimum sample size n = 339.7

To calculate the adjusted sample size

$$n1 = \frac{n}{1 + \frac{(n)}{(N)}}$$

Where

n1 = The adjusted sample size

n = The minimum sample size, (i.e. predetermined value of 339.7)

N = The population of the study

$$\therefore n1 = \frac{339.7}{1 + \frac{339.7}{}}$$

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1108 218 = 339.7

1 + 0.3065884 =

339.7 = 259.99 = 260

1.3065884

Computation of actual sample size:

$$na = \frac{n \times 100}{re\%}$$

Where

na = Actual sample size required

n = The minimum sample size (i.e. 339.7)

re% = The estimated response rate expressed as a percentage (67%)

$$na = \frac{339.7 \times 100}{67} = \frac{33970}{67} = 507.01$$

n = 508

Method of Data Analysis

The primary data collected through the questionnaire was analyzed and presented using non-parametric methods. The data was presented using simple percentage table, while the hypotheses formulated earlier was tested using correlation (Pearson). Hypotheses one, two and three were tested using Pearson Product Moment Correlation. All the three hypotheses were tested at 5% error. However, the level of significance was represented at 95 degree of confidence.

Decision Rule

Reject Ho if the calculated value of t is greater than or less than the value of t read from the table. Do not reject Ho if otherwise.

Hypotheses Testing

Hypotheses one, two and three were tested through the instrumentality of Pearson Product Moment Correlation Coefficient. This tool was adopted because it was the most sensitive measure of correlation for situation in which it applied.

Test of Hypothesis One

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H0: E-learning does not have a significant impact on performance of Nile University during Co-vid 19 era

H1: E-learning does have a significant impact on performance of Nile University during Co-vid 19 era.

To test this hypothesis, the Karl Pearson Product Moment Correlation Coefficient was applied hence it is a parametric test and is the most sensitive measure of correlation for situation in which it applies.

The raw score formula for computing the Pearson Product Moment Correlation Coefficient (r) is given by:

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X\,2 - (\Sigma X)2\; N\Sigma y\,2 - (\Sigma y)2}}$$

The above hypothesis was tested at 0.05 level of significance.

Where:

N = Number of cases

X = Variable factor x in the population

Y = Variable factor y in the population

Option	Non-teaching Staff(X)	Teaching Staff (Y)	X2	Y2	XY
Determined	49	38	2401	1444	1862
Strongly Determined	61	52	3721	2704	3172
Exceedingly Determined	67	59	4489	3481	3953
Not Determined	47	34	2209	1156	1598
Not strongly Determined	30	12	900	144	360
Not exceedingly Determined	32	6	1024	36	192
Total	286	201	14744	8965	11143

The value of the variables in the formula are herewith determined.

N = 6

ΣX = 286

ΣY = 201

ΣX2 = 14744

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$\Sigma Y\ 2 = 8965\ \Sigma XY = 11143$

By substitution

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X\ 2 - (\Sigma X)2\ N\Sigma y\ 2 - (\Sigma y)2}}$$

$$r = \frac{6\ x\ \ 11143\ -\ 286\ x\ 201}{\sqrt{(6\ x\ 14744 - (286)2)\ (6\ x\ 8965\ x\ (201)2}}$$

$$r = \frac{66858\ -\ 57486}{\sqrt{(88464 - 81796)\ (53790\ x\ 40401)}}$$

$$r = \frac{9372}{\sqrt{89277852}}$$

$$r = \frac{944869}{9372}$$

r = 0.99

This value implies a very strong position relationship between the two variables, x and y.

The Correlation Coefficient 'r' is 0.99. To test for the hypothesis, the table value of the Pearson Product Moment Correlation Coefficient was determined at 5% significant level and at N-2 degree of freedom (DF) in which N = 6; DF is therefore 6 – 2 = 4. The table value at 0.05 significant level and (DF) of 4 = 0.3215

Decision:

The computed r (0.99) is greater than the critical value of 0.3215 at 4 degree of freedom and 0.05 significant level. There is every reason to reject the Null hypothesis and accept the Alternate hypothesis based on the comparison of the values generated in which the null hypothesis states that E-learning does not have a significant impact on performance of Nile University during Co-vid 19 era.

Test of Hypothesis Two

H0: Network service does not have a significant impact on performance of Nile University during Co-vid 19 era

H1: Network service does have a significant impact on performance of Nile University during Co-vid 19 era

The Pearson Product Moment Correlation Coefficient was applied to test this hypothesis at 5% level of significance.

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The formula for computing the Pearson Product Moment is thus:

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X\,2 - (\Sigma X)2\; N\Sigma y\,2 - (\Sigma y)2}}$$

Where

N = No. of cases

X = Variable factor x in the population

Y = Variable factor y in the population

Option	Non-teaching Staff(X)	Teaching Staff (Y)	X2	Y2	XY
Determined	41	30	1681	900	1230
Strongly Determined	53	35	2809	1225	1855
Exceedingly Determined	58	40	3364	1600	2320
Not Determined	63	45	3969	2025	2835
Not strongly Determined	37	39	1369	1521	1443
Not exceedingly Determined	25	21	625	441	525
Total	277	210	13817	7712	10208

The value of the computed variables are:

ΣX = 277

ΣY = 210

ΣX 2 = 13817

ΣY 2 = 7712

ΣXY = 10208

N = 6

Substituting these values in the formula

By substitution

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X\,2 - (\Sigma X)2\; N\Sigma y\,2 - (\Sigma y)2}}$$

$$r = \frac{6 \text{ x } 10208 - 277 \text{ x } 210}{\sqrt{(6 \text{ x } 13817 - (277)2)\,(6 \text{ x } 7712 \text{ x } (210)2}}$$

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$$r = \frac{61248 - 58170}{\sqrt{(82902 - 76729)(46272 \times 44100)}}$$

$$r = \frac{3078}{\sqrt{(6173)(2172)}}$$

$$r = \frac{3078}{\sqrt{13407756}}$$

$$r = \frac{3078}{3661.66}$$

r = 0.846

This result indicates that there is a positive correlation between the two measuring variables, x and y.

To test for the hypothesis, the Pearson Product Moment Correlation table at 5% significant level and N-2 degree of freedom was used in which N = 6 and degree of freedom (DF) is therefore 6 -2 = 4 The critical value or table value at 5% significant level and 4 (DF) is = 0.3215. This is a two tailed test hence the rejection of the null hypothesis with regard to the fact that the computed value (r = 0.8406) is greater than the table value 0.3215.

Decision:

Sincer – cal (0.8406) > r – critical (0.3215) at 4 degree of freedom and 0,05 level of significance incorporating two tailed test, there is every reason to reject the Null hypothesis which states that Network service does not have a significant impact on performance of Nile University during Co-vid 19 era. The Alternate hypothesis is hereby accepted which states that Network service does have a significant impact on performance of Nile University during Co-vid 19 era.

Test of Hypothesis Three

H0: GSM/Network booster does not have a significant impact on performance of Nile University during Co-vid 19 era.

H1: GSM/Network booster does have a significant impact on performance of Nile University during Co-vid 19 era.

The statistical tool to adopt in treating this hypothesis was the Pearson Product Moment Correlation Coefficient 'r' and it was tested at 5% level of significance.

The formula for the computation of the Pearson Product Moment Correlation Coefficient is thus:

The formula for computing the Pearson Product Moment is thus:

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X\,2 - (\Sigma X)2\; N\Sigma y\,2 - (\Sigma y)2}}$$

Where

N = No. of cases

X = Variable factor x in the population

Y = Variable factor y in the population

Option	Non-teaching Staff(X)	Teaching Staff (Y)	X2	Y2	XY
Determined	40	30	1600	900	1200
Strongly Determined	47	33	2209	1089	1551
Exceedingly Determined	54	39	2916	1521	2106
Not Determined	53	49	2809	2401	2597
Not strongly Determined	51	36	2601	1296	1836
Not exceedingly Determined	37	18	1369	324	666
Total	282	205	13504	7531	9956

The value of the computed variables are:

ΣX = 282

ΣY = 205

ΣX 2 = 13504

ΣY 2 = 7531

ΣXY = 9956

N = 6

In putting the determined values in the formula

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X\,2 - (\Sigma X)2\; N\Sigma y\,2 - (\Sigma y)2}}$$

$$r = \frac{6 \times 9956 - 282 \times 205}{}$$

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$$r = \frac{59736 - 57810}{\sqrt{(6 \times 13504 - (282)2)(6 \times 7531 \times (205)2}}$$

$$r = \frac{59736 - 57810}{\sqrt{(81024 - 79524)(45186 \times 42025)}}$$

$$r = \frac{1926}{\sqrt{(1500)(3161)}}$$

$$r = \frac{1926}{\sqrt{4741500}}$$

$$r = \frac{1926}{2177.49}$$

$$r = 0.884$$

The value r = 0.884 shows that there is a positive correlation or relationship between the x variable and y variable.

To test for this hypothesis, the table value of the Pearson Product Moment Correlation Coefficient was determined at 5% significant level and at N-2 degree of freedom (DF) in which N = 6; (DF) is therefore 6-2 =4. The table value at 0.05 significant level and (DF) of 4 = 0.3215.

Decision Rule:

The computed r (0.884) is greater than the critical value of 0.3215 at 4 degree of freedom and 0.05 significant level. This is a two tailed test and there is every reason to reject the null hypothesis which states that GSM/Network booster does not have a significant impact on performance of Nile University during Co-vid 19 era and accept the alternate hypothesis which states that GSM/Network booster does have a significant impact on performance of Nile University during Co-vid 19 era.

Discussions of Findings

Objective one: To examine the impact of e-learning on performance of Nile University during Co-vid 19 era.

The need to examine whether e-learning has impact on performance of Nile University during Co-vid 19 era was proved right based on the various parameters used which were supportive. Based on the fact that computed 'r' value is 0.99 indicating that it is greater than the critical value of 0.3215 at 4 degree of freedom and 0.05 significant level as shown in table above. There is every reason to reject null hypothesis and accept alternate hypothesis which shows that e-learning has a significant impact on performance of Nile University during the co-vid-19 era.

This result aligns with Bright (2020) who carried out a research on effect of co-vid 19 on online teaching and learning in South African Secondary schools. He selected 85students out 780 students. Regression method was used to test the hypothesis and oral interview was used to gather the data. Finally, he discovered that co-vid 19 has effect on online teaching and learning in South African Secondary schools.

Objective two: To identify the impact of network service on performance of Nile University during Co-vid 19 era.

It was found that network service has impact on performance of Nile University during Co-vid 19 era. Consequently, from the statistical information in table above, the r-calculated is 0.8406 and greater that the table value of 0.3215, there is every reason to reject the null hypothesis and accept alternate hypothesis which shows that Network service does have a significant impact on performance of Nile University during Co-vid 19 era.

This result confirms the research of Ugwu (2020) who investigated the effect of network services in Government Schools in Anambra State, Nigeria during co-vid 19 pandemic. He selected a classroom and used questionnaire to collect data for the study. He tested his hypotheses using Pearson Product Moment Correlation Coefficient. According to his findings, network services has a significant effect on Government Schools in Anambra State, Nigeria during co-vid 19 pandemic.

Objective three: To find out the impact of GSM /Network signal booster on performance of Nile University during Co-vid 19 era.

As seen in table above GSM /Network signal booster has a significant impact on performance of Nile University during Co-vid 19 era. Consequently, from the statistical information in table above the 'r' calculated is 0.884 and is greater than the critical value of 0.3215 at 4 degree of freedom and 0.05 significant level. There is every reason to reject the null hypothesis and accept the alternate hypothesis which states that GSM/Network booster does have a significant impact on performance of Nile University during Co-vid 19 era.

This is in line with the research Isabidle (2019) who conducted a study on effect of electronic boosters on online teaching and learning in Ghana. He selected two private universities and used questionnaires and oral interview to collect data, while he used chi-square test of independence to test his hypotheses. The findings had it that electronic boosters had effect on online teaching and learning in Ghana. He advised that Government should upgrade the boosters across the country so as to provide adequate services when needed.

Conclusion

The national lockdown of educational institutions as a result of COVID-19 pandemic in Nigeria and across the World is going to cause major interruption in students' learning; disruptions in academic programme, suspension of examination, cancellation of internal and international conferences, creating gap in teaching and learning and probably may cause manpower shortage in the institutions as a result of death caused by COVID-19.

Now is the time to bridge the gap of educational inequity by ensuring adequate funding of the education sector. The effect of the pandemic is just one out of many implications of educational inequity, we don't know what awaits us in the future, so it is highly important that we provide an equitable and inclusive learning environment for the students to ensure continuity in learning for all, irrespective of their socio-economic background. One of the palliative measures that can be adopted includes a public-private partnership with non-profits and other government agencies who are working to salvage the situation. Such efforts can be supported through the provision of funds at this critical time. We should not forget that education is the bedrock of every society as education is the solution to whatever problem we might have.

Recommendations

The government should increase the funding of higher institutions in next year budget to allow them manage all the damages caused by the COVID-19 school close down.

The government should immediately embark on the integration of all higher institutions into online education.

The Nigeria government should direct all the higher institutions to extend physical teaching and research activities to the online network, conduct teaching seminars online, jointly solve new problems that may arise in the teaching process.

It is recommended that professional counsellors and functional counselling clinics be put in place in all universities in Nigeria for all needed counselling by students who may be traumatized as a result of the covid-19.

It is suggested that portable solar radios be provided especially in government universities. This will ensure continuity in learning for the majority of learners who are unable to access digital learning resources during this period.

Also, Lecturers need to be trained on how best to deliver radio lessons. Such training can be done using virtual platforms. Sincere appreciation goes to the teachers working assiduously in delivering lessons on radio despite the short notice and lack of training for such context because teaching in a conventional four-walled classroom is quite different from teaching on radio and so it is important to know how best to carry it out so as to achieve best results

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