THE CHANGING ROLE OF TECHNOLOGY IN UNIVERSITY MANAGEMENT IN ERA OF PANDEMIC: THE MEDIATING ROLE OF ACADEMIC STAFF OF UNIVERSITIES IN NORTH CENTRAL ZONE OF NIGERIA

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Abstract
The COVID-19 pandemic has created an unprecedented crisis with momentous challenges for higher education institutions worldwide. The unplanned closure of schools due to the pandemic left millions of students at all levels out of schools. Academic leaders have been charged with restructuring their systems, ensuring instructional quality while operating with significantly diminished resources. However, the use of technologies offered opportunities for educators and students to engage in remote pedagogical activities during the school closures. With relatively little warning, personnel in educational organizations, abandoned face-to-face instruction and shifted rapidly to online learning. Educational managers were tasked with maintaining relationships and ensuring quality, while balancing student needs with their own personal safety. This paper reviews the relevant situation of the COVID-19 outbreak with focus on university education, the role of academics and their response to the pandemic, in the North Central Zone of Nigeria. This research uses an exploratory quantitative approach, supported by literature content analysis techniques. The data set for this study was collected after the resumption of lectures in 2021. We used SPSS to conduct a descriptive analysis and PLS-SEM to analyse data collected from 233 academic staff of four different universities in the North Central zone of Nigeria. These academics disclosed various challenges encountered in an attempt to adopt digital technology platform applications for online learning. These include: inadaptability and unfamiliarity of the new online learning environment, poor and inadequate infrastructures, students' unpreparedness, lack of motivation, and personal health challenges related to stress and anxiety. It is recommended that university management should adopt those teaching initiatives that have proved to be effective during the remote learning phase and integrate them into the regular education system. It is quite critical and germane to empower academics, investing in the necessary skills development and capacity building to exploit the full potential of remote and blended learning.

Keywords: University Management, Academic Staff, Technology, COVID-19 Pandemic

Introduction

COVID-19 is an unprecedented, worldwide pandemic that has been compared to the Second World War, the Great Depression, and the 1918 Spanish Flu in terms of the impact on human behavior. To control the COVID-19 pandemic, physical distancing, and quarantine measures

were mandated (Vargo, et al 2020). Consequently, unprecedented changes in both human behavior and emerging technology diffusion generate a new opportunity for the research community to study technology-related behavior in the global crisis. The pandemic raging around the globe has caused large-scale institutional and behavioural 'shock effects' in various areas of human activity including education. The impact on learners according to UNESCO (2020) is unprecedented, with over 1,500,000,000 students worldwide from primary to tertiary level who cannot attend school as at April 2020. As a result of these massive and unexpected closures, affected countries and communities have been forced to seek quick fixes in different digital learning platforms (Jandrić, 2020). These rapid moves from classroom to online teaching, according to Teras, et al (2020), have set aside the more profound questions related to national educational policies and theoretical grounds and premises. This trend according to observers, demonstrates how educational institutions and teachers across the world's educational systems transfer their work from classrooms and lecture halls to digital platforms almost overnight. This quick transition has also revealed gaps and shortcomings in how online learning has or has not been adopted in educational institutions. Efforts at covering these gaps have created an influx of various kinds of support such as drop-in sessions, free webinars and blog posts, emergency policy documents (Teras, et al (2020).

The sudden forced closure of face-to-face teaching has led academics and students into "unfamiliar terrain" due to the need to adapt swiftly to total e-learning settings. This sudden change, according to Carolan et al (2020), has required universities to evolve toward online teaching in record time, implementing and adapting the technological resources available and involving academics who lack innate technological capacities for online teaching. The university system must be able to provide quality education in a scenario of digital transformation, disruptive technological innovation, and accelerated change in the educational framework. This paper focuses on the field of education, particularly university institutions in the North Central Zone of Nigeria, and to assess what had been done to cope with the radical transformations driven by the need to digitalize education and training processes in record time with academics who lack innate technological capabilities for online teaching. The university system according to Morales, et al (2021) must strive to overcome this situation to be competitive and provide high-quality education in a scenario of digital transformation, disruptive technological innovations, and accelerated change.

Problem Statement

The COVID-19 pandemic has forced many organizations around the world to make full use of a variety of emerging online communication platform technologies. Universities are among the organizations that have asked students, tutors, and lecturers to use a number of different online communication platforms to ensure the education process remains uninterrupted. However, the pandemic has generated considerable challenges for the Nigerian higher education community while using such emerging technologies. One of the foremost organizations to deal with the COVID-19 pandemic is the university in its role as a key higher education institution, as it is among the most important service sectors and its students represent the potential future workforce (Al-Kumaim et al; 2021) Regardless of their experience of e-learning platforms or ability to use these emerging information technologies in their education journey, the COVID-19 pandemic has tested the extent to which both academics and students are prepared to adopt and use these technologies in their online learning activities. The role of academics is rapidly evolving becoming in many ways more difficult than when learning took place physically. Two emerging situations have shifted due to the pandemic. The pedagogical adaptations have proven to be pivotal as the traditional lecturing in-person models do not translate to a remote learning environment, and secondly, the pandemic has recalibrated how the academics share their time between teaching, engaging with students, and administrative tasks Kruse, Hackmann, & Lindle, (2020). However, the transition to these emerging trends by academics in universities in North Central Zone of Nigeria was met with a lot of challenges and resistances such as inadaptability and unfamiliarity of the new online learning environment, poor and inadequate infrastructures, students' unpreparedness, lack of motivation, and personal health challenges related to stress and anxiety. This study primarily focuses on the new role of university academics in educational goal achievement and the associated challenges during

the COVID-19 pandemic in the North Central Zone of Nigeria.

Research Questions

1. What level and kinds of institutional support and encouragement given to academics by the university management in the North Central Zone of Nigeria during the COVID-19 pandemic?
2. What is the effect of the digital technologies in use on educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria?
3. Did academic staff mediate the relationship between digital technologies and educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria?

Objectives of Study

1. To ascertain the level and kinds of institutional support and encouragement given to the academics by the university management in the North Central Zone of Nigeria during the COVID-19 pandemic.
2. To ascertain the effect of the digital technologies in use on educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria.
3. To ascertain the mediating role of academic staff on the relationship between digital technologies and educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria

Hypotheses

HO_1: There is no relationship between institutional support and educational goals accomplishment by university academics in the North Central Zone of Nigeria during the -19 pandemic.

HO_2: There is no relationship between academic staff and educational goals accomplishment by university academics in the North Central Zone of Nigeria during the COVID-19 pandemic.

HO_3: Academic staff did not mediate the relationship between institutional support (digital technologies) and educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria

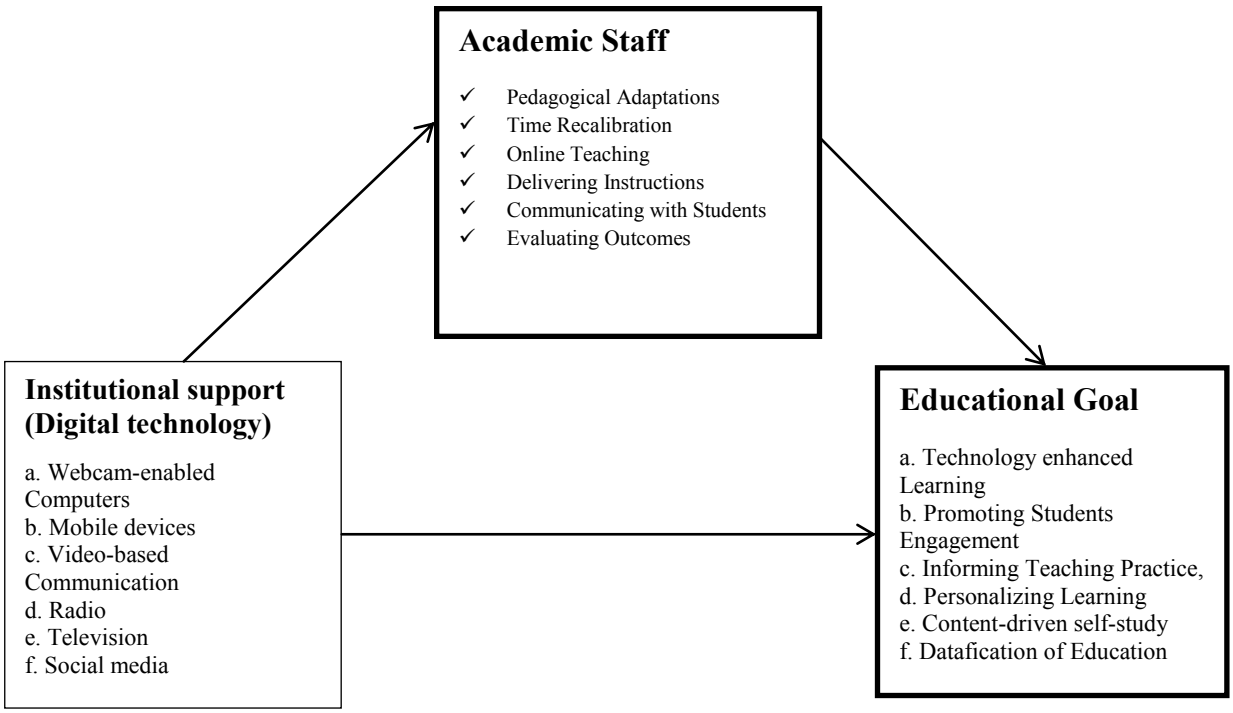

Figure 1: Conceptual Framework

Review of Related Literature

Higher education plays a key role in the creation, improvement and maintenance of human capital which in turn is quite essential for growth and development. The mandate of higher institutions according to Idogho (2011) is to develop the whole man mentally, morally and physically and to confer degrees on their products (graduates) who are found worthy in character and learning, to enable them assume leadership roles in their immediate and extended society. Higher education has experienced rapid growth world over in recent past and this growth according to Law and Schalkwyk (2002) has brought a lot of pressure on the sector such as under funding, incessant strikes, burgeoning population, and several other conflicts. The university education sector in particular has been the focus of much attention in recent years.Anijaobi-Idem and Archibong (2012) argued that the education sector in Nigeria like several other public sector organisations around the world face unprecedented pressure to improve service quality while progressively lowering their costs. At the same time, they are expected to become more accountable, customer focused and responsive to stakeholder needs. Achieving these goals invariably involves a transformation in corporate governance (management practices, processes and culture). According to Ncmerson (2004) several governments (federal, states and local) appear to be showing keen interest in this issue by using targets and league tables to enhance improvements in the services being delivered on taxpayers' behalf. This development has resulted into new public sector management.

University Governance and Management

Becher and Kogan's work (as cited in Ogbogu, 2013) posited that management of higher educational institutions is concerned with the determination of values inside universities, their systems of decision-making and resource allocation, their mission and purpose, the patterns of authority and hierarchies and the relationship of universities as institutions to the different academic worlds. The concept of governance for university education predominantly refers to the internal structure, organisation and management of autonomous institutions. The organisation of internal governance is generally composed of a governing board (the pro chancellor, council and the senate made of council chairman and members, the vice-chancellor or executive head, (CEO) academic deans and heads of department, professors and principal officers of the university.

The management of a university according to Irtwange and Orsaah (2010) involves the achievement of intended outcomes through the allocation of responsibilities and resources, monitoring of their efficiency and effectiveness. It also involves the implementation of authorized procedures and the application of systems to achieve the agreed results. It equally involves identification of opportunities, setting strategic directions, and investing in and drawing on people's capabilities to develop organisational purposes and values (leadership). University managers in this guise must be capable of cultivating conceptual thinking, setting achievable goals and objectives to be met as prioritizing activities and arriving at appropriate decisions. Krücken (2011) observed three major areas of profound transformation in the university systems. These include:

1. An increasing inclusion of persons, subjects of study, and university missions at the macro-level.
2. At the level of university governance, new public management reforms have put into question the traditional mode of governance that was based on the interplay of strong state regulation and academic self-governance. In this process, new actors like accreditation and evaluation bodies or boards of trustees are emerging.
3. At the university level itself, the university is transforming into an organisational actor, (an integrated, goal oriented, and competitive entity in which management and leadership play an ever more important role) (Krücken (2011).

The Role of Academics in University Management

Universities are unique institutions in their structure and purposes; hence Anderson et al (1999) opined that it would be a serious mistake to adopt uncritically management practices that have been devised for industrial productive or service organizations. Universities unlike other organisations are not unitary institutions, but composed of faculties and schools which have distinct tasks of preparing students for entry to particular professions, or inducting them into the intellectual traditions and methods of distinct academic disciplines. Professions and disciplines according to Anderson et al (1999) have external

reference groups and a fact of university life is that staff loyalty and identification can be more strongly devoted to a professional organisation or to the international disciplinary network than to the seemingly less relevant university that happens to employ them. University managers or administrators need to take this aspect of the university life very seriously when they seek the interest and involvement of their academic staff in university management or governance.

The International Standard Classification of Education (ISCED) defines academic staff to include personnel whose primary assignment is instruction, research, or public service. This includes staff personnel who hold an academic rank with titles such as professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of these academic ranks. The category includes personnel with other titles such as Dean, Director, Associate Dean, Assistant Dean, Chair or Head of Department, if their principal activity is instruction or research. Such staff members are defined in statute as professional and administrative personnel with duties, and subject to types of appointments, that are primarily associated with higher education institutions or their administration, with titles such as vice-chancellor, rectors, provost, and other personnel in charge of cooperation offices.

Academic staff are significant part of the modern research university, and it is essential that the university administrators understand their role if they wish to run a university effectively. Central to the realisation of the university education goals and objectives are the academic staff whose roles are crucial. Samuel and Chipunza 2013) assert that research as the role and influence of these members of the university community is sparse. Researchers most often are interested in areas relating to changes in academic governance, structure, and the general climate from the point of view of crisis situation in Nigerian universities.

The role of academics is rapidly evolving in many ways, more difficult than when learning took place only in person. The COVID-19 pandemic has particularly changed the role of university academics in two main folds: First and foremost, pedagogical adaptations have proven to be pivotal as the traditional lecturing in-person models do not translate to a remote learning environment. No matter the type of channel used (radio, TV, mobile, online platforms, etc.) university academics need to adapt their practices and be creative to keep students engaged as every household has become a classroom - more often than not - without an environment that supports learning. Secondly, the pandemic has recalibrated how university teachers divide their time between teaching, engaging with students, and administrative tasks. The pandemic has highlighted the need for flexibility and more time for student-teacher interactions (Barron, et al 2021).

The Concept of Technology

The dynamic nature of technology has contributed to the existence of various definitions and concepts by the previous studies which are related to technology transfer Wahab, et al (2012). The discussion on the concept of technology is crucial in getting a clear understanding of the nature of technology and examining what the word consists of. Kumar, et. al (1999) believe that the term technology consists of two primary components: the physical component which comprises of items such as products, tooling, equipments, blueprints, techniques, and processes; and the informational component which consists of know-how in management, marketing, production, quality control, reliability, skilled labor and functional areas. Lan and Young (1996) opine that technology is always connected with obtaining certain result, resolving certain problems, completing certain tasks using particular skills, employing knowledge and exploiting assets. (Lovell, 1998; Bozeman, 2000) cited in Wahab, et.al (2012), argue that the concept of technology does not only relate to the technology that embodies in the product or service but it is also associated with the knowledge or information used, application and the process in developing the product/service.

Not since World War II have so many countries around the world seen schools and educational institutions go into lockdown at about the same time and for the same reason. While it is known that the impact of this virus will be far-reaching, what might it mean in the longer term for education? Technology has stepped into the breach, and will continue to play a key role in educating future generations (Luthra, & Machenzie, 2020). Studies have shown that Information and Communication Technology ICT is making significant transformations in students' learning and those using ICT facilities have higher learning gains. The learners in the 21st-

century are called 'digital natives' because they are more accustomed to the recent technologies than the previous generation (Javed, et al 2020). The majority of students in our educational institutions today are from Generation Z, a generation that has grown up in a truly globalized world. This generation, the oldest of whom are now 26 years old, is likely to be reflecting on their education as a result of a truly global pandemic, with many facing cancelled exams, sporting events and even graduation. This generation is defined by technology, where the terms such as "Fear of Being Alone" and "Fear of Missing Out" express their expectation of instant communication and feedback, supported through Apps like Instant Messenger, Snapchat and WhatsApp, and the likes (Luthra & Machenzie, 2020)

Generation Alpha, the children of millennial, are the most racially diverse generation across the world, and one in which technology is simply an extension of their own consciousness and identity, with social media being a way of life. The COVID-19 crisis may well change our world and our global outlook; it may also teach us about how education needs to change to be able to better prepare our young learners for what the future might hold. UCLG & GTLRG (2020) enumerate these lessons to include:

1. Educating citizens in an interconnected world: COVID-19 is a pandemic that illustrates how globally interconnected the world is. There is no longer such a thing as isolated issues and actions. Successful people in the coming decades need to be able to understand this interrelatedness and navigate across boundaries to leverage their differences and work in a globally collaborative way.
2. Redefining the role of the educators: The notion of an educator as the knowledge-holder who imparts wisdom to their pupils is no longer fit for the purpose of a 21st-century education. With students being able to gain access to knowledge, and even learn a technical skill, through a few clicks on their phones, tablets and computers, we will need to redefine the role of the educator in the classroom and lecture theatre. This may mean that the role of educators will need to move towards facilitating young people's development as contributing members of society.
3. Teaching life skills needed for the future: In this ever-changing global environment, young people require resilience and adaptability – skills that are proving to be essential to navigate effectively through this pandemic. Looking into the future, some of the most important skills that employers will be looking for will be creativity, communication and collaboration, alongside empathy and emotional intelligence; and being able to work across demographic lines of differences to harness the power of the collective through effective teamwork.
4. Unlocking technology to deliver education: The COVID-19 pandemic has resulted in educational institutions across the world being compelled to suddenly harness and utilize the suite of available technological tools to create content for remote learning for students in all sectors. Educators across the world are experiencing new possibilities to do things differently and with greater flexibility resulting in potential benefits in accessibility to education for students across the world.

The Changing Role of Technology

Not long before the outbreak of the coronavirus, Williamson et al. (2019) outlined what they see as pressing issues in education technology research. They point that educational research needs to shift its focus from offering evidence of how technologies can solve existing problems towards new problems raised by education technology. Months before the pandemic outbreak, Selwyn et al. (2020) called for the development of a critical ed-tech agenda and proactivity. Already before the pandemic, leading scholars have clearly articulated an urgent need for development of critical education technology research.

Technology has proved a useful and necessary tool to help ensure that those on the frontline of the emergency continue to provide essential public services during the COVID-19 crisis. As the coronavirus continues to spread around the world, governments have put in place important restrictions on the movement of people, the functioning of services, and rules on physical distancing. Within this context, technology can have a profound effect on citizen's daily lives and ensure them access to education, health services, information, and communication with competent authorities, among other things (Morales, et al 2021)

Faced with the pandemic, several countries have combined high-tech and low-tech approaches to help teachers better support student learning. In some countries, Nigeria inclusive, for example, education leaders designed a strategy that combines SMS, printed handouts, and continuous teacher feedback, taking advantage of the high mobile phone penetration in the countries. The approach goes beyond providing low-tech materials: it gives information on how to access learning programmes, ensures students access paper-based learning materials, and includes home visits to monitor distance learning activities (Vargo, et al 2020).

Technology has equally enhanced government-teacher support, adapting existing coaching programmes to be delivered remotely, creating spaces for peer support programmes such as Virtual EdCamps initiative, created to facilitate peer-to-peer learning among teachers or establishing EdTech hotlines for teachers to solve any technological question teachers might have. In the same vein, technology interventions have **enhanced teacher engagement with students**, through improved access to content, data and networks, helping teacher's better support student learning, as laid out in the World Bank's Platform for successful Teachers, where effective use of technology is one of the key principles to ensure cadres of effective teachers (Vargo, et al 2020).

Several questions may arise when mobilizing digital technologies in order to respond to crisis. Digital technologies may be seen as a gateway to solve many of the problems arising from such crisis (Luthra & Machenzie 2020). For instance, how can we control the spread of COVID-19? How do we continue to provide education to the many people who have to stay at home? Are digital rights protected? Technology is quite vital in protecting communities in the aftermath of the crisis and digital tools must ensure that citizen's rights are being protected as well as serve to bridge the socioeconomic divide and promote the transformation needed to achieve the global agendas (Teras, et al 2020). As the demand for digital technologies grows, local and regional governments are increasingly committed to improving the lives of all populations under the principles of privacy, freedom of expression and democracy (UNESCO, 2020).

Methodology

In this study, the survey research design was adopted and the data was collected through the distribution questionnaire. The nature of the questionnaire used for this study was a five-point Likert-scale, ranging from "strongly agree" to "strongly disagree" (5 = 'Strongly Agree', 4 = 'Agree', 3 = 'Undecided', 2 = 'Disagree' and 1 = 'Strongly Disagree'). A total of 300 questionnaires was administered which determined through the Yamane 1976 formula, only a total of 233 were returned giving a response rate of 77.67%.

Method of Data Analysis

Data analysis was conducted using partial least square (PLS) software 3.3.3 The PLS-SEM in study tested for the measurement model and the structural model. The measurement model assesses the constructs involved in the study, which is to determine whether the indicators such as, Composite reliability (CR), convergent validity, average variance extracted (AVE) and discriminant validity, as described by Hair et al. (2011), Hair et al (2012) and Henseler et al (2015) met their required threshold.

Table 1: Convergent Validity

	Indicators	Factor Loading	CR	AVE
Institutional Support	**IS2**	0.728	0.830	0.550
	IS3	0.790		
	IS4	0.742		
	IS5	0.706		
Academics	**AMR3**	0.773	0.842	0.641
	AMR4	0.845		
	AMR5	0.781		
Educational Goals	**EG1**	0.716	0.814	0.525
	EG2	0.800		
	EG3	0.734		
	EG4	0.639		

The result in Table 1 shows the convergent validity for the constructs under study. The results thus demonstrated a high level of convergent validity of the latent construct and used in the model. An AVE value of at least 0.5 indicates sufficient convergent validity, meaning that a latent variable can explain at least half of the variance of its indicators on average.

Table 2: **Heterotrait-Monotrait Ratio (HTMT) Discriminant Validity**

	AMR	EG	IS
AMR	-	-	-
EG	0.783	-	-
IS	0.596	0.548	

Table 2 shows the discriminant validity result. According to Henseler,et al (2015), a well-fitting model should indicate that the heterotrait correlations should be smaller than monotrait correlations, meaning that the HTMT ratio should be below 1.0. They further suggested that if the HTMT value is below 0.90, discriminant validity has been established. Structural model fitness is examined after measurement model assessment has been met and fitness is shown to be acceptable. The structural or inner model consists of the factors and the arrows that connect one factor to another. The loadings of the direct paths connecting factors are standardized regression coefficients.

Table 3: Structural Fitness Indices

Construct	Items	VIF	R^2	f^2	Q^2
Institutional Support	**IS2**	1.386			
	IS3	1.570			
	IS4	1.363			
	IS5	1.454			
Academics	**AMR3**	1.554	0.188	0.231	0.108
	AMR4	1.358			
	AMR5	1.188			
Educational Goals	**EG1**	1.468			
	EG2	1.546	0.350	0.047	0.168
	EG3	1.460			
	EG4	1.302			

Table 3 also presents the VIF diagnostic and estimated PLS weights for the indicators of all the items from the questionnaire. A common rule of thumb is that problematic multicollinearity may exist when the variance inflation factor (VIF) coefficient is higher than 4.0 (some use the more lenient cutoff of 5.0). None of the original indicators had VIF greater than 4. The overall effect size measure for the structural model shows that the 18.8% and 35.0% of the changes in academics and educational goals are explained by institutional support in the model. The f-size value of .02 represents a "small" effect size, .15 represents a "medium" effect, and .35 represents a "high" effect size. It can be said that the effect size of the model is medium effect for academics and a little above low for educational goals. The $Q^2$was estimated by the blindfolding method. The values of the Q^2 are 0.168 and 0.108 indicated that since they are greater than zero, they have predictive relevance for this study.

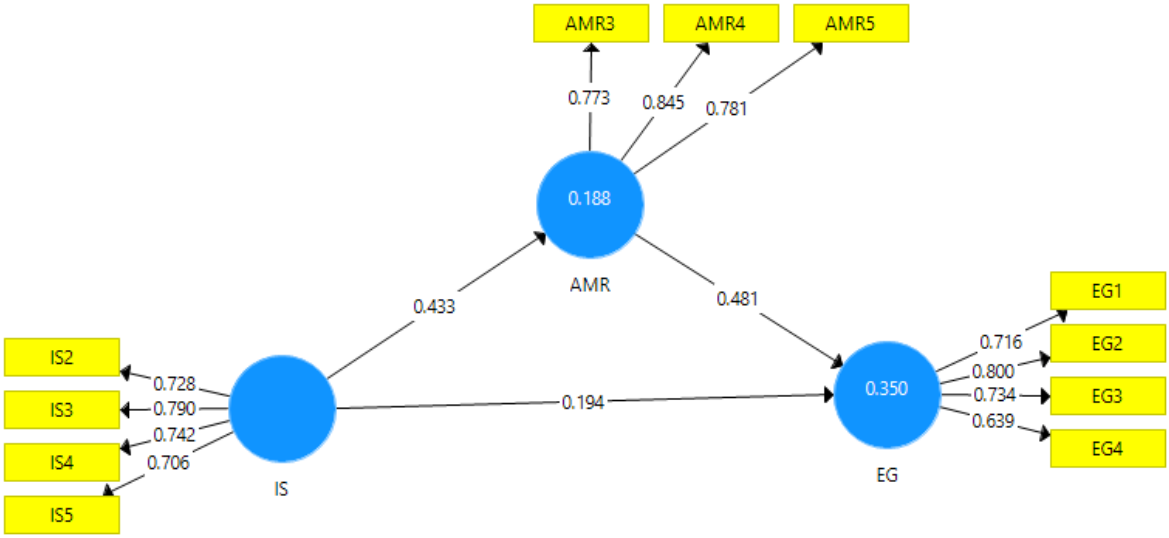

Figure 2: PLS-SEM structural mod

Hypotheses Testing

H_{01}: There is no relationship between institutional support and educational goals accomplishment by university academics in the North Central Zone of Nigeria during the COVID-19 pandemic.

Institutional support has a positive and significant relationship to educational goals. With p-value of 0.000, which is less than the significance level of 0.05 as shown in Table 4, we reject the null hypothesis. Hence, there is a relationship between institutional support and educational goals accomplishment by university academics in the North Central Zone of Nigeria during the COVID-19 pandemic.

H_{02}: There is no relationship between academic staff and educational goals accomplishment by university academics in the North Central Zone of Nigeria during the COVID-19 pandemic

Academic staff has a positive and significant relationship to educational goals accomplishment. Given that the p-value is 0.000, which is less than the significance level of 0.05 as shown in Table 4, we reject the null hypothesis. Thus, there is a relationship between academic staff and educational goals accomplishment by university academics in the North Central Zone of Nigeria during the COVID-19 pandemic.

Table 4: PLS-SEM Result for Mediation

	Coeff. B	Std err	t-test	LCI	UCI	Decision
IS -> AMR -> EG	0.208	0.045	4.667	0.129	0.306	Significant

$H0_3$: Academic staff did not mediate the relationship between institutional support (digital technologies) and educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria.

Decision Rule: There are two conditions that must be met for mediation to occur: The first condition requires that the t-value is ⩾1.65 for one-tailed test. The second condition based on the contributions of Preacher and Hayes (2008) there must be non-zero straddle between the upper class interval (UCL) and lower class interval (LCI).

From Table 5, based on the first condition, the t-test value is 3.668 which is greater than 1.65, while the (LCI=0.129, and the UCI=0.306) do not have zero (0) between upper and lower class interval. Therefore, Academic staff did mediate the relationship between institutional support (digital technologies) and educational goals accomplishment during the COVID-19 pandemic in the North Central Zone of Nigeria.

Discussion of Findings

This study primarily reviews the relevant situation of the COVID-19 outbreak with focus on university education, the role of academics and their response to the pandemic in the North Central Zone of Nigeria. The results of this study indicate that significant and positive relationships exist between employment of digital technologies, institutional support and accomplishment of academic goals of universities in the North Central zone of Nigeria, particularly during the COVID-19 pandemic. This implies that academic staff who had the support of the university administration to engage their students using digital technologies during the pandemic were able to achieve the educational goals. This finding is supported by Cobo, et al (2021), Edeh, et al (2021), Garjek, & Brook, (2020), who opine that education systems that built technical and institutional capacities prior to this pandemic quickly deployed remote learning using new and old technologies and leveraging existing resources (e.g. infrastructure, devices, contents but primarily human capacities). Those that had limited experience with remote education have had to rapidly react by adapting external resources from partners or simply building them from scratch. Thus, while most systems swiftly transitioned to remote learning, not all started from the same position. Most developing economies that have experienced remote education for the first time and did not have vast repositories of digital content have faced the challenge to quickly design, implement, and sustain a distance learning programme while schools are closed.

Conclusion and Recommendations

The COVID-19 pandemic has forced many organizations around the world to make full use of a variety of emerging online communication platform technologies. Universities are among the organizations that have asked students, tutors, and lecturers to use a number of different online communication platforms to ensure the education process remains uninterrupted. Despite the overwhelming consequences of the pandemic, this global crisis has also been an extraordinary time for learning. We are learning how adaptable and resilient educational systems, policy makers, teachers, students and families can be. The availability of digital technologies that can support online learning presents an unprecedented opportunity for the transformation of higher education at a global level. We are all involved in a digital world, and the phenomenon of online learning is here to stay. Nigeria is a developing country, and continuously struggling with ups and downs condition with its education system. The transition to these emerging trends by academics in universities in North Central Zone of Nigeria was met with a lot of challenges and resistances such as inadaptability and unfamiliarity of the new online learning environment, poor and inadequate infrastructures, students' unpreparedness, lack of motivation, and personal health challenges related to stress and anxiety. After some months of online experiences, a paradigm shift has occurred in university education. Online teaching has gained relevance and ensured its continuance even after the Covid-19 pandemic. To mitigate these challenges while also building a more resilient stem that can withstand future crises, we recommend the followings:

1. Prepare for Future Shocks (Proactive): It is imperative that the educational institutions not only recover from the pandemic but that it should use this experience to become better prepared for future crises. To support this aim, education managers need to build their capacity to provide blended models of education in the future. Educational institutions should be better prepared to switch easily between face-to-face and remote learning as needed. This will protect the education of students not only during future pandemics, but also during other shocks that might cause school closures, such as natural disasters or adverse weather events. It will also create opportunities for more individualized approaches to teaching and learning.
2. Implement Learning Recovery Programmes**:** As a matter of urgency, education managers must ensure that students who have fallen behind receive the support that they need to catch up to expected learning targets. The first step must be to carry out just-in-time assessments to identify these students and their support needs. The poor result of 2021 JAMB in Nigeria is clear indication that there is urgent need to implement learning recovery programmes in all our secondary schools.

3. Improve and Protect the Education Budget. Given the significant financial strain that governments at all levels have undergone during the pandemic, there are tendencies for government budget cuts that could jeopardize the gains that have been made in recent years in terms of access to education and improved learning outcomes. To ensure a resilient recovery, it is essential that the education budget be protected and possibly be improved so that the schools that need financing the most are supported.
4. Wide Adoption of Teaching Initiatives: University management should adopt **those teaching initiatives that have proved to be effective** during the remote learning phase and integrate them into the regular education system. It is quite critical and germane to empower academics, investing in the necessary skills development and capacity building to exploit the full potential of remote and blended learning.

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