EMERGING TECHNOLOGIES IN THE COVID-19 ERA AND THE EFFECTIVE MANAGEMENT OF TERTIARY EDUCATION IN CROSS RIVER STATE, NIGERIA

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Abstract
The objective of this study was to examine the application of emerging technologies in the era of Covid-19 era and the effective management of tertiary education in Cross River State, Nigeria. The ex-post facto research design was adopted for the study. The population of the study comprised all administrative staff in the four public tertiary institutions in Cross River State. The total population stood at 1902 drawn from the four tertiary institutions in the state. Taro Yamane and proportionate sampling procedure was used to sample 330 which represent 17.4% of the entire population of the study. Further breakdown shows Unical with 139 out of 802, Unicross 89 out of 516, FCE Obudu 56 out of 322 and COE Akamkpa 46 out of 262. One research question and one hypothesis was formulated and tested using Simple Linear Regression at .05 level of significance. The questionnaire was the major instrument of data collection. It consists of three sections, A elicited demographic data of respondents, B measured application of emerging technologies, while the C section measured effective management of tertiary education. Findings revealed that emerging technologies significantly predict effective management of tertiary education in the Covid-19 era in Cross River State. It was recommended among other things that managements should encourage the use of innovative technology for the effective service delivery.

Keywords: *Emerging Technologies, Covid-19, Management of tertiary education*

Introduction

The role of tertiary education in fostering national development of any nation is crucial, this is because it is a catalyst for human capital and economic development of a nation. Tertiary education fosters individual's self-development through acquisition of new skills, knowledge and attitudes which helps to fit in properly into the society thereby contributing to national development. The attainment of tertiary education objectives in the last 3 years appeared to be threatened due to the emergence of the Corona Virus pandemic. According to Eze, Sefatho, Onyishi and Eseadi (2021) the Corona Virus (code named Covid-19) is a disease that is highly infectious and has plaque the inhabitants of the world for three years now. Reports from World Health Organisation (2020) has it that the disease has affected over 9.1 million people and has caused the death of over 500,000 people worldwide. As result of this, governments all over the world has continued to put in place stiffer measures to ensure the containment of the spread of the disease. Some these measures include shutting down all social institutions of which, the tertiary institutions were mostly affected.

In Nigeria, tertiary education was among the various sectors that was mostly affected by the devastating impact of Covid-19 pandemic that ravaged the economic, social and health systems globally. From the 4th quarter of the year 2019 till the time of writing this paper, the whole world is still struggling to recover from the devasting effects of the surge of the virus. Although most advanced countries quickly adopted new technological innovations as alternative to conventional teaching and learning approach, third

world countries were stranded as their school systems remained locked till the tides were down. Yinka and Adebayo (2020) maintained that in most third world economies, the effect of Covid-19 has threaten their educational systems that was already been vulnerable. Eze, Sefotho, Onyishi and Eseadi (2021) stressed that the pandemic has "a peculiar dissipating impact on education in Africa". This is because most African countries were far behind in the adoption of emerging technologies in the management of education. This was responsible for the inability of most African countries to sustained schooling activities during the pick of the Corona Virus pandemic. In Nigeria for instance, tertiary institutions were shut down for a period of one year, a measure that have affected the academic lives of students nationally. While this development was going on, other countries that are technologically compliant quickly switched to e-learning platforms as alternative to conventional learning.

Application of emergence technologies is revolutionizing work processes and enhancing the quality of service delivery in tertiary institutions globally. Edeh , Sharma, Nwafor, Fyneface, Sen, and Edeh (2020) viewed that emerging technologies are changing all facets of educational processes in all dimensions. These changes are bringing about new innovations in lesson delivery, classroom engagements, quality of lesson content, teaching methodologies and new ways of evaluation. Onyema (2019) is of the view that emerging technologies have become a key player in the development of tertiary education. This is because of the role such technologies play in fostering effective teaching and learning especially during the Covid-19 pandemic. Edeh , Sharma, Nwafor, Fyneface, Sen, and Edeh (2020) stressed that emerging technologies facilitates online education, easy access to information, research development and administrative effectiveness in tertiary institutions. Emerging technologies refer to gargets such both hardware and software components that are likely to have huge impact on teaching and learning activities in tertiary institutions. Bozalek (2011) observed that emerging technologies has brought about a paradigm changes to the management and operation of tertiary institutions. Onyema (2019) maintained that emerging technologies has brought tremendous changes in teaching and learning. Due to this changes educators and administrators of education are now moving towards technology-driven teaching and management processes.

Akbulut (2010) stressed that contemporary workplace practices entail that administrators acquaint themselves with skills in the use of Information and Communication Technology (ICT) so as to improve efficiency and effectiveness in service delivery. Today, there are different kinds of technological platforms, gargets and applications that are deployed in the management of tertiary institutions. Some of them include biometri device used to detect fraud, CCTV cameras used in monitoring access, Zoom used for video conferencing and many others. One of the ways to guarantee quality in service delivery and effective management of human and material resources within an institutions is the application of technology. Onyema (2019) viewed that managers of educational organisations globally now adopt different technological platforms to disseminate information to students, staff, parents and the general public and also receive feedback. Onyema; Udeze and Chinecherem (2019) observed that emerging technologies such as Video Conferencing (Google Meet, ZOOM, GoToMeeting etc) are now used by tertiary institutions to facilitate teaching and learning to students in remote locations. These technologies have been tested to be transparent, durable, accurate, effective and efficient in providing quality services in their institutions of learning. Also, Patrick (2018) maintained that emerging technologies were largely used to convey workshops, conferences, seminars, white papers and other academic activities during the lockdown. Emerging technologies has helped in removing the barriers of distance in learning by connecting many learners with the teachers and providing flexibility in the learning process. With these technological innovations, issues of crowded classrooms are avoided as students can connect to the lecturers from any location of the world.

In spite the enormous potentials derivable from the utilization of emerging technologies in providing effective, effective and quality services in tertiary institutions, it is unfortunate that many tertiary institutions are still lagging behind in the implement and utilization of technologies in managing tertiary education. According toProTrainedu.org, (2019) as more technologies are applied in teaching and other activities in tertiary institutions, managers of tertiary education ought to brace up in the utilization of emerging technologies to improve classrooms engagements, record management, student admission, information dissemination and feedbacks..There seems to be scanty literature on the utilization of emerging technologies

in effective management of tertiary education. Thus this study is focused on examining emerging technology and effective management of tertiary institutions in Cross River State, Nigeria.

Statement of Problem

The effective management of tertiary education could be recognised based on the quality of teaching /learning objectives achieved. Studies over the years has shown that management of tertiary institutions has been poor. This has resulted to unethical practices such as examination malpractices, resource leakages, bribery, cash for grade etc. Access to information by students, parents and the general public about activities of tertiary institutions has been very difficult. During the period of lockdown which was as a result of the wide spread of Covid-19, institutions were shutdown and teaching/learning was suspended leading to uncertainties about educational development in the country. However, utilization of emerging technologies has changed everything in work places and has enhance effective and efficient service delivery in tertiary institutions in most developed countries. Therefore this study sought to investigate the effect of emerging technologies on management of tertiary education in Cross River State .

Objectives

The focus of this study is to investigate emerging technologies and the effective management of tertiary education in Cross River State Nigeria. Specifically, the study sought to find how the emerging technologies could be used to predict effective management of tertiary education in Cross River State, Nigeria

Research Question

To what extent does emerging technologies predict effective management of tertiary education in Cross River State?

Hypothesis

Emerging technologies does not significantly predict effective management of tertiary education in Cross River State

Methodology

The objective of this study was to examine the application of emerging technologies in the era of Covid-19 era and the effective management of tertiary education in Cross River State, Nigeria. The ex-post facto research design was adopted for the study. The population of the study comprised all administrative staff in the four public tertiary institutions in Cross River State. The total population stood at 1902 drawn from the four tertiary institutions in the state. Taro Yamane and proportionate sampling procedure was used to sample 330 which represent 17.4% of the entire population of the study. Further breakdown shows Unical with 139 out of 802, Unicross 89 out of 516, FCE Obudu 56 out of 322 and COE Akamkpa 46 out of 262. Two null hypotheses were formulated and tested using simple linear regression at .05 level of significance. The questionnaire was the major instrument of data collection. It consists of three sections, section A elicited demographic data of respondents, B measured application of emerging technologies, while the C section measured effective management of tertiary education.

Results

RQ: To what extent does emerging technologies predict effective management of tertiary education in the Covid-19 era in Cross River State.?

Table 1: Simple Linear Regression for the extent to which emerging technologies predict effective management of tertiary education in the Covid-19 era in Cross River State.

Variables	R	R Square	Adjusted R	St Err of Est
Emerging technologies				
	.178	.032	.029	8.675673
Effective management				

Entries in Table 1report the extent to which emerging technologies predict effective management of tertiary education. The R coefficient (.178) is the linear correlation (regression) between emerging technologies and effective management of tertiary education. The coefficient of determination (.032) shows that decision making contribute to (32%) variation in effective management of tertiary institutions in Cross River State.

HO: Emerging technologies does not significantly influence effective management of tertiary education in the Covid-19 era in Cross River State.

Table 2: Simple Linear regression of the prediction of emerging technologies on effective management of tertiary education

Variables	Sources of Variation	Sums of Squares	df	Means Squares	F-Cal	Decision at P<.05
Decision	Regression	803.360	1	803.360	10.673	Sign.
making	Residue	24687.673	328	75.257		
Job Perform	Total	25491.033	329			

*p<.05 significant

The result in Table 1 shows that the calculated F-value of 10.673 is greater than the p<.05 level of significance with 1 and 378 degree of freedom. With this result, the null hypothesis which states that Emerging technologies does not significantly influence effective management of tertiary education in the Covid-19 era in Cross River State. and the alternate hypothesis accepted. The result means that emerging technologies significantly predicts effective management of tertiary education.

Discussion of findings

Statistical analysis of research question and the hypothesis formulated to guide the study, showed that emerging technologies significantly predict effective management of tertiary education in Cross River State Nigeria. This result is related to that of Edeh , Sharma, Nwafor, Fyneface, Sen, and Edeh (2020) who in their study found that emerging technologies facilitates online education, easy access to information, research development and administrative effectiveness in tertiary institutions. Also support the outcome of this result is Bozalek (2011) who observed that emerging technologies has brought about a paradigm changes to the management and operation of tertiary institutions. In the same vein, Onyema (2019) maintained that emerging technologies has brought tremendous changes in teaching and learning. Due to this changes educators and administrators of education are now moving towards technology-driven teaching and management processes.

This result has shown that there are so much benefits that can be derived from the application of emerging technologies in the management of tertiary education. Some of such benefits include: efficiency, accuracy, accountability and unhindered access to information and dissemination of information. Akbulut (2010) stressed that contemporary workplace practices entail that administrators acquaint themselves with skills in the use of Information and Communication Technology (ICT) so as to improve efficiency and effectiveness in service delivery. Onyema (2019) viewed that managers of educational organisations globally

now adopt different technological platforms to disseminate information to students, staff, parents and the general public and also receive feedback. In today corporate world, different kinds of technological platforms, gargets and applications are deployed in the management of tertiary institutions. Some of them include biometric device used to detect fraud, CCTV cameras used in monitoring access, Zoom used for video conferencing and many others. One of the ways to guarantee quality in service delivery and effective management of human and material resources within an institutions is the application of technology. It is believed however that as tertiary institutions managers begin to adopt technological approach in their daily operations, issues of ineffectiveness, battle-neck leucocratic practices, corrupt practices, delay in service deliver and other negative narrative which characterise management of tertiary education will be a thing of the past.

Conclusions

Based on the result of this study, it was concluded that emerging technologies significantly predicts effectiveness, efficiency and productivity in tertiary institutions. Thus, the need to embrace technological innovation in the implementation of policies and programmes of tertiary institutions is inevitable.

Recommendations

The following recommendation were made:
1. Tertiary institution managements should encourage the use of innovative technology for the effective service delivery
2. One of the ways to combat Covid-19 is to maintain social distancing and to avoid crowded places, this can only be guaranteed by the use of technological tools such as e-learning
3. Management should provide ICT facilities so that teaching and learning activities can take place online without physical contact
4. To improve efficiency in the institution, management should ensure most administrative processes are computerized or automated

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