RICHTMANN
PUBLISHING

Research Article

Impact of Electronic-Governance on Students' Management in Environmental Education Department University of Calabar-Calabar, Nigeria

Comfort N. Agbor[1*]

Grace Onya Edu[2]

Etan Michael Obun[1]

Omoogun Remi Modupe[1]

Flora Michael Monity[2]

Joseph Bekeh Undie[3]

[1]*Department of Environmental Education,*
University of Calabar, Calabar, Nigeria
[2]*Department of Curriculum and Teaching,*
University of Calabar, Calabar, Nigeria
[3]*Department of Social Science Education,*
University of Calabar, Nigeria
**Corresponding Author*

Abstract

The paper examined the impact of electronic-governance on students' management in faculties of education, University of Calabar. In order to achieve the aim of this study, three research questions and three hypotheses were formulated to serve as a guide. The study adopted descriptive survey research design. The population of the study consisted of all students of University of Calabar; from where a sample of 400 respondents was selected from faculties of education (Faculty of Vocational and Science Education, Faculty of Arts and Social Science Education and Faculty of Education and Foundational Studies). A structured questionnaire titled, impact of electronic-governance on students' management questionnaire (IEGSMQ) was the instrument used for data collection. The data collected were analyzed using linear regression. The result from the analysis of the three hypotheses showed that there is a significant relationship between quality of ICT infrastructure and students' management; it also showed a strong relationship between the students' ICT utilization and effectiveness of e-governance on students' management; and finally, that the quality of ICT staff significantly affect the effectiveness of e-governance on students' management in University of Calabar. The study concluded that University of Calabar has a well equipped ICT infrastructure and quality ICT staff for effective e-governance on students' management. Based on the finding of the study, the following recommendations were made, the University of Calabar Smartcampus network should be strengthened to enhance internet accessibility in the entire university including staff quarters. This will help lecturers to be able to access information about the students even in their homes. The University should increase the staff strength of the ICT directorate by engaging potential human resources. This will continue to increase the effectiveness of ICT directorate. The University should organized regular training for ICT staff. This will help the staff to be constantly updated on new trends in ICT.

Keywords: Electronic-governance, students' management, faculties of education, University of Calabar

1. Introduction

The rapid increase in technology has resulted to revolution in information and communication (ICT). The world has become a global village whereby information can be gotten at anytime and anywhere provided there is internet connectivity. Massive opportunities brought about by the internet have fundamentally changed human society. In the brief time it has been in use, no other technology in human history has had such a profound impact on so many lives. During the dotcom era, early experiments with related business models and the popularization of technology produced a wealth of information about using the internet for social good (Ikechukwu, Ubochi & Okechukwu, 2017).

The use of information and communication technology (ICT) to facilitate a smooth governance process is known as electronic governance. The usage of ICT-related devices will enable a change in governance from the antiquated approach to providing public services to a more reliable and user-friendly one. The intended goals of governance are significantly advanced by new ICT.

E-government refers to the use of ICTs by the public sector to enhance information and service delivery, promote student involvement in university decision-making, and increase the university's effectiveness, accountability, and transparency. E-government uses state-of-the-art information and communication technology (ICT), particularly web-based internet apps, to enhance the quality of services, raise the likelihood of citizen participation in democracy, and deliver students easy access to university information and services.

It's important to note that e-government technology is making it possible for e-services to be easily accessed over the internet, including digital basic services, e-commerce programs, and university information accessibility. Public engagement in essential activities like voting, e-registration, creating receipts for school fees, uploading results, etc., is increasing as a result of this digital communication (https://www.ao-itc.d/what-is-e-government-and-why-it-is-important/). The university is changing their prevailing ineffective paper-based filing system and lowering the cost of administrative spending on services through the use of e-government technological solutions. As a result, over time, electronic government systems are both economical and environmentally beneficial. Additionally, through improved communication structures, the e-government platforms are expediting and promoting transparency in the provision of university services (Blog series, 2022).

The traditional university students' management is inappropriate because it takes too long and lacks transparency, which makes service delivery feel unsatisfactory. E-government, which makes government services available online, decreases red tape and improves service quality in terms of timeliness, content, and accessibility (Tola, 2020). The public sector saw a glimmer of light as the elevated level of effectiveness and responsibility that the private sector's adoption of ICTs brought about helped to repair its damaged reputation of inefficiency, lack of transparency, and lack of responsibility. As a result, the implementation of e-governance became an unavoidable change in the delivery of public goods and services (Obi, Uzor & Chukwurah, 2020).

E-governance within public sector's use of information and communication technology to enhance the provision of services and information, promote student involvement in the decision-making process, and increase the effectiveness, accountability, and transparency of government. New leadership philosophies, methods for discussing and choosing investments and policies, methods for getting education, methods for listening to students, and methods for planning and distributing information and services are all part of e-governance (Onuigbo & Eme, 2015). Because it has the potential to change how students communicate with governments and each other; e-governance is commonly understood to be a more inclusive phrase than e-government. New ideas about studentship—concerning the needs and obligations of students—can arise from e-governance. Its goal is to involve, empower, and enable citizens. (www.unesco.org).

Significant technological improvements in the 21st century have a significant impact on how all sectors are managed and administered, but particularly the education sector. Information and communication technology (ICT) use, or electronic governance, must be embraced and integrated by academic institutions in all administrative domains with the primary goal of enhancing the provision

of public services. It tackles the issues related to the conventional approach of handling day-to-day administrative and ancillary tasks. E-government, as a substitute for traditional management frameworks, can lower administrative costs, increase speed and transparency, maximize the institution's goal function, and facilitate community access to data and information (Abdulkadir, 2017).

Ayo (2014) described e-governance as using ICT to run a country. According to this definition, the use of technology improves information exchange's efficacy, effectiveness, responsibility, and openness. As per the previously mentioned details, e-governance entails including students in the policy-making process process and utilizing technology to manage university activities in the economic, political, administrative, and social domains.

Higher education institutions around the world are crucial to the development of human capital. These are settings where students acquire cutting-edge skills necessary to succeed in the rapidly changing globalized world and to successfully run the country's affairs later on. Institutions of higher learning are essential because they supply the planning, teaching and research that are sorely lacking. The calibre of graduates produced by postsecondary schools determines how far a country may go scientifically and technologically. Additionally, tertiary institution services can boost indigenous technological development and capacities in agriculture, health, security, and other areas. According to Shrivastava, Raizada, and Saxena (2014), they provide opportunities for lifelong learning, allowing people to regularly refresh their skills and knowledge in response to societal demands. An alternative and more effective means of providing services is now necessary due to the complexity and intricacy involved in operating postsecondary schools. The electronic governance makes ensuring that services are provided in the most accessible, economical, and efficient way possible.

Electronic government (e-government) has grown to be a vital tactic for Nigerian higher education institutions that provide a cheap, effective, and adaptable learning environment for quickly expanding. E-government is essentially the transition of the 21st-century information, communication, and technical environment from the traditional administrative context. The administration of information has taken on a new dimension thanks to ICT. It is imperative that academic administrators in post-secondary educational establishments in Nigeria are proficient in electronic literacy. In order to find or share information that will boost organizational productivity and efficiency, modern administrators should be conversant in information technology and be able to use the internet within their sphere of influence. Administrators must also be familiar with the many software programs that are available, such as Microsoft Word, Microsoft Word Excel, databases, etc., in order to process data or manage information technology in their particular fields. Therefore, e-government helps university administrators to effectively run and manage the university.

Students' management is a skill that a school, college or university have to hone over time. Student management system is all about information. It simplifies information tracking and improves communication by making data easily accessible to all stakeholders in the student's educational journey (www.teachmint.com>glossary>stud...). ICTs have the potential to impact students' management in the universities.

The mission statement of University of Calabar is to produce high quality graduates and scholars in focal areas of learning with theoretical, practical ad entrepreneurial skills for the world of work in conducive environment through quality of research and teaching (www.unical.edu.ng). For this mission to be achievable, the university has to flow with the current trend of e-governance in students' management. University of Calabar uses a wide range of ICT technologies for information creation, management, sharing, and communication. This has increase digital culture among the students. The issues of admission, students' registration, course registration, hostel accommodation and result have been digitally taken care off. E-governance on students' management has the capacity of enhancing service delivery in the university. The accomplishment of performance, output, and productivity goals for the tasks given to companies within a set time frame is known as service delivery. It entails carrying out obligations imposed by duly elected officials that one has vowed to

fulfill in order to meet the organization's predetermined objectives. Consequently, the level of service delivery—whether it is successful or inefficient, frugal or not, or fruitful or not —is determined by how well an organization carries out its obligations and activities in order to meet predetermined goals (Ezekwesili, 2010). Acceptance and integration of the e-government platform into the operations are required of Nigerian universities in order to guarantee that they carry out their core missions of teaching, research, and community service in an efficient and economical manner. This can only be achieved by increasing staff and student proficiency with ICT in addition to other tools of e-government (Ikechukwu, Ubochi & Okechukwu, 2017).

2. Statement of the Problem

E-governance was introduced when the National Policy on Information Technology was unveiled in year 2000 by the administration of then-President Olusegun Obasanjo, it entered the Nigerian administrative lexicon. With this action, information technology was able to be planned, developed, and promoted by the public sector in its never-ending quest to enhance the provision of its troublesome services. (Olatokun & Adebayo, 2012). Among other things, the main goals were to make public administration more accessible to all citizens, increase the transparency of governmental procedures, and, by making use of ICT opportunities, reorganize the government, citizenry, as well as commercial interaction for improved efficacy and governance (FRN, 2001). The power equation for information and knowledge access and control must be changed for electronic government. Digital government, sometimes referred to as e-government, will make sure that employees are no longer passive in the performance of their jobs but rather actively participate in decision-making, claim Osakede, Ijimakinwa, Arijeniwa, Adesanya, and Ojo (2017). It will be a vital tactic used by postsecondary educational institutions to provide a flexible, effective, and reasonably priced learning environment for quick expansion. E-government improves service delivery efficiency and organizational productivity. It provides the gateway to accessing effective governance. It can increase employees' and the involvement of different interest groups at all tiers of the governance process.

Most of the universities and other higher institutions within Nigeria have adopted the electronic government in their administration. The University of Calabar is not left out of this innovation. Admission process for enrolment of prospective candidates has now been done online, students registration and printing of fees payment receipt and also uploading of results has been done digitally. There have been records of online meetings through zoom. Paper work has been drastically reduced in the University, while online messages and interactions have been taking the place of hard copy memos. The role of e-government software is to simplify administrative tasks such as student registration, financial aid management, human resource management and more through the cloud. Despite the above benefits, there have been noticeable challenges like poor network, inadequate internet facilities, poor power supply, etc. It on this note the researchers intend to study the impact of e-government on students' management in the faculties of education, University of Calabar.

3. Research Objectives

This research focuses on examining the impact of electronic government on students' management in faculties of education in the University of Calabar. Thus, the specific objectives of the study are to:
- ascertain the quality of ICT infrastructure and its effect on students' management in University of Calabar;
- Examine the level of students' ICT utilization and its effect on students' management in University of Calabar; and
- Determine the quality of ICT staff and its effect on students' management in University of Calabar.

3.1   Research questions

1. To what extent has the ICT infrastructure affected students' management in University of Calabar?
2. What is the level of students' ICT utilization and what are its effects on student management in University of Calabar?
3. What is the quality of ICT staff and how has it affected students' management in University of Calabar?

3.2   Statement of hypotheses

The following hypotheses were formulated to guide the study
- The quality of ICT infrastructure does not significantly affect students' management in University of Calabar.
- The level of students' ICT utilization does not significantly affect students' management in University of Calabar.
- The quality of ICT staff does not significantly affect students' management in University of Calabar.

4. Literature Review

4.1   Quality ICT infrastructures

According to Bwalya, DuPlessia, and Rensleigh (2014), information and communication technology infrastructures (ICTs) comprise all of an organization's hardware, software, firmware, networks, and corporate websites. ICT infrastructure sectors are increasingly suitable to support education, learning, evaluation, and administration in educational institutions. (Lomos, Luyten & Tieck, 2023). ICT is said to consist various subsystems that make it a whole. From these subsystems however, the infrastructure component is widely adjudged to be the most important. Literally and from a general perspective, infrastructure according to the National Information Technology Development Agency (NITDA, 2014) refers to the fundamental installations, services, and facilities required for a system to operate. The agency defines infrastructure as all information technology (IT) assets, components, and resources that are handled as a general role when it comes to ICT. This conception by NITDA appears defective as it fails to provide details on the assets, components and resources of an ICT infrastructure. In his contribution Katz (2002) sees ICT infrastructure as the hardware, network, leadership, skills, budgets and policy. He further describes budget life-cycle funding; and policy to do with information access, privacy, security and ownership.

Along this line, NITDA (2014) provides a more elaborate definition from its earlier submission. Accordingly, ICT infrastructure is understood as the combination of network services, hardware, software, and regulations that direct how data is altered while being sent or stored via these components. Therefore, ICT infrastructure involves the assets (software and hardware), components, systems, strategies, policies and resources necessary for the access and utilization of data. Sodiya (2008) submit the following as the key pillars of ICT infrastructure:

1. ICT hardware: This includes desktop computers, laptops, thin client components, interactive white board, data projectors, digital cameras, printers etc.
2. ICT software: These could be in the form of staff and student management systems, finance and asset management systems, learning management systems, assessment and reporting systems, and content management systems.
3. Connectivity: These are infrastructures that connect the hardware components to the required tools, services and digital resources. Examples are: telecommunication equipment (bandwidth, satellite equipment etc), network equipment and environmental management

equipment.

4. ICT support services: People and skills, procedures, externally supplied services, and financial resources are a few examples of support services.

Digital government will guarantee that employees are no longer passive in carrying out their responsibilities but rather have the ability to take a leading role in selecting the services they desire and the organizational structure that would best deliver them (Eneh, 2015). According to research by Eneh (2015), a number of Nigerian universities are currently adopting information and communication technology (ICT) as a means of delivering services electronically in an effective and efficient manner. Additionally, the author stated that decision-makers' understanding of this body of knowledge is a prerequisite for efficient and effective administration. Digital governance is made possible by the digitization of this body of knowledge inside a network that connects all people, including decision-makers, allowing anybody to freely access and utilize it. According to the study's findings, the power of the equation based on information and knowledge access and control is being altered by e-administration, or governance.

According to Ugbo and Chukwuemeka (2020), the registration process is now less difficult and time-consuming thanks to the automated admissions processes.. Online payments for school fees are made using e-transact, course registration, and exams are mostly given through computer-based testing, or CBT. This allows students to evaluate their performance in the lecturer's office without assistance (Osakede, Ijimakinwa, Arijeniwa, Adesanya & Ojo, 2017).

4.2 ICT utilization

It is a fact that ICT infrastructures deployed by an organization would only be useful when put into proper utilization. In other words, it would amount to a futile organization effort to only deploy ICT infrastructure and management without ensuring their utilization. Of course, ICT leads to the increase in the dissemination and access to information but, as observed by Kyakulumbye et al (2013), only when such information is appropriated by the population that informed decisions would be made at the micro and macro levels. Kyakulumbye et al (2013) viewed ICT utilization as the provision, access, assimilation, understanding and application of technology powered information by identified beneficiaries. Coleman (2008) point that, apart from raising citizen awareness and expectation, ICT utilization ensures participation in election process and spread of democratic ideas. On the whole however, the dimensions of ICT utilization are; information generation, storage, dissemination and application (Kyakulumbye, 2013).

ICT utilization is able to increase organization performance. Innovative educational settings are enhanced by the use of new technology, which also makes processes more automatable, increases student attention, and speeds up information conveyance. ICT utilization improves students' concentration and comprehension. Digital tools have become a fundamental support for universities, as they allow them to store, process and share information through multiple electronic devices, and even create new content in much more attractive way when effectively utilized (Hailegebreal, Sedi & Mengiste, 2022).

4.3 The quality of ICT staff

Interestingly, even as organisations are getting more and more automated, the relevance of staff, workers or human resources is gaining momentum. Their physical and mental skills are crucial in determining the effectiveness of an organization against its goals. In the ICT sphere, staff are otherwise called ICT management or ICT infrastructure management. Highlighting their relevance, Murata (2006) points that they have power over the public's quality of life in an information technology society. Sodiya (2008) opine that the ICT management handles the specification, procurement, setup, testing, support, operating system, network operations and telecommunication in an organization. According to NITDA (2014), best practices for an ICT infrastructure's requirement

analysis, planning, design, deployment, continuous management of operations, and technical support are advised by the ICT infrastructure management. ICT management takes the following forms according to Sodiya et al (2008).

a. ICT design and planning: This is the process of developing and maintaining strategies and processes for the deployment and implementation of appropriate ICT Infrastructure In an organization.
b. ICT deployment: This entails the actual implementation and roll out of appropriate ICT infrastructure or solution as designed and planned such that there is minimum disruption to installation processes or activities.
c. ICT operations: This involves tasks like time management, backup and restoration, network monitoring, system monitoring, database monitoring, and storage monitoring. It is the daily technical oversight of the ICT infrastructure.
d. ICT technical support: This is the development of standards for the evaluation, support and proofing of all current and future ICT infrastructure.

5. Conceptual Framework
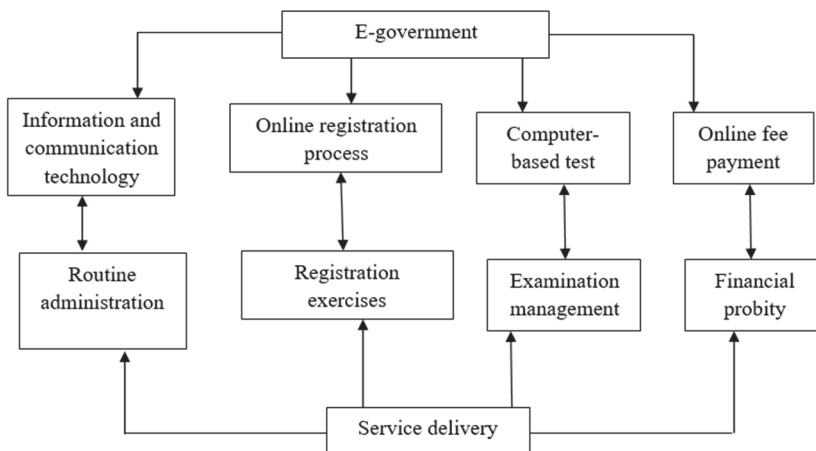
Figure 1: Conceptual framework of e-government and service delivery
Source: (Ugbo & Chukwuemeka, 2020)

6. Theoretical Background

The theories used in this study are:

6.1 Technology Acceptance Model (TAM) by Fred Davies (1989)

The Technology Acceptance Model (TAM) was put forth in 1989 by Fred Davies. The Technology Acceptance Model (TAM) places emphasis on the acceptability of an information system. The goal of this model is to predict a tool's acceptability for usage and identify the system modifications that are required before users deem the tool acceptable. This paradigm (Venkatesh, Morris, Davis, and Davis, 2003) states that perceived utility and perceived usability are the two main factors that affect how acceptable an information system is. Perceived utility and perceived ease of use, according to TAM, determine an individual's intention, which serves as a mediator of actual system use.

Technology Acceptance Model (TAM) presented perceived utility and perceived ease of use, two

new terms. According to Shih, Shing, and Chien (2011), according to the first construct—perceived usefulness—using an application would boost output, and according to the second—perceived ease of use—using an application would lessen stress at work.. In his work, Ducey (2013) provided a clearer explanation of the significance of the two TAM constructs in determining consumers' behavior and technology acceptance. The ability to provide an explanation for the factors influencing technology acceptance in general is one of the objectives of the technology acceptance model. This objective can be used to explain user behavior for a broad demographic. Therefore, the primary goal of the Technology Acceptance Model (TAM) is to provide a framework for tracking how external events affect internal beliefs, attitudes, and organizational intentions.

The theory can be used to explain how e-governance is implemented in Nigerian higher education institutions. The Technology Acceptance Model is relevant to Nigerian universities because it explains how self-efficacy, perceived cost, technology infrastructure, power supply, and internet facilities aid in the adoption of e-governance. The predictability and ease of use of the Technology Acceptance Model (TAM) enhance its application in a variety of scenarios. The acceptance, applicability, and effectiveness of modern technologies in relation to citizen information sharing, literacy rates, and their capacity to encourage the provision of public services are all clarified by the use of the Technology Acceptance Model. The implementation of TAM in this study reveals consumers' actual and behavioral usage of technology. Based on the unit of analysis and its underlying assumptions, the Technology Acceptance Model (TAM) is pertinent and applicable to the topic of e-governance's impact on student management.

6.2 Modernization theory by W.W. Rostow (1953)

Modernization theory describes and explains the processes that lead from traditional or impoverished societies to contemporary ones. Modernization theory provides an explanation of how cultures modernize. Modernization is a model of a slow transition from a "pre-modern" or "traditional" to a "modern" civilization. The theory looks at a country's internal dynamics and makes the assumption that, with the right support, "traditional" countries can advance in a manner similar to that of more developed ones. By identifying the social variables that contribute to social development and advancement, modernization theory seeks to explain the process of social evolution. People who adhere to socialist and free-market ideologies, as well as academics who study globalization, dependency, world systems, and related topics, are among the critics of modernization theory. Modernization theory emphasizes both the changing process and the responses to it. It examines not only social and cultural frameworks, but also internal procedures and the uptake of new technology. Modernization theory predicts that traditional civilizations will advance as they take up more contemporary practices. Modern states are stronger and wealthier, according to modernization proponents, giving their citizens more freedom to enjoy an improved standard of living.. Modernization theory's assumptions about the underlying causes of poverty and underdevelopment are a major source of concern. Modernization theorists contend that "traditional" social institutions and insufficient economic expansion are the main causes of poverty. modernity theorists also assert that prosperity creation necessitates economic modernity, and that as advantages "trickle down" via society, poverty would eventually decline. This theory is acceptable because it clearly illustrates the underlying causes of poverty and underdevelopment and describes or explains the processes of moving from traditional or underdeveloped civilizations to contemporary societies. The proposal outlines a gradual transition from a "pre-modern" or "traditional" society to a "modern" one, whereby "e-governance is part and parcel in providing effective service to the people," as stated in the statement.

The implication of this theory to the study is that on a larger scale, the modernization theory acknowledges the necessity of bridging the divide between macro policies and micro realities, paying particular attention to the state government's responsibilities at the macro level. Technology understands that greater e-governance will occur when technology is "demand-led" and integrated

into initiatives to increase governmental efficacy.

7. Methodology

The research design used for the study was descriptive survey. Survey research uses statistical models to analyze data and theories to support the study, as well as questionnaires to extract pertinent information from a subset of respondents.

The study was carried out in the University of Calabar, which is one of the federal universities in Nigeria, established in 1975. The University of Calabar is located in the Calabar metropolis, which is the capital city of Cross River State. The University of Calabar has 1 Postgraduate school, 1 college, 20 faculties, 3 academic centres, 3 institutes and 116 departments that offer high quality academic programmes designed to train students to acquire relevant skills and develop experience needed to become responsible leaders.

The population of the study is the entire students of the University of Calabar, which stands at 40,645 (uncial.edu.ng>page-about-style1). The sample of the study consists of ten per cent (10%) of students in three faculties, namely; Faculty of Vocational and Science Education, Faculty of Arts and Social Science Education and Faculty of Education and Foundational Studies. This gives a total of 400 students (respondents), which form the sample of the study. A structured questionnaire titled, impact of electronic-governance on students' management questionnaire (IEGSMQ) was the instrument used for data collection. This was used to get information from the respondents.

8. Result

8.1 Hypothesis One

The quality of ICT infrastructure does not significantly affect the effectiveness of e-governance on student management in University of Calabar. The independent variable here is quality of ICT infrastructure` while the dependent variable is students' management. This hypothesis was analyzed using linear regression analysis. The finding is stated within table 1 and 2.

Table 1: Linear regression result (model summary) of quality of ICT infrastructure and students' management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	Durbin-Watson
1	.798a	.636	.635	.62439	717.243	.000b	.189

The result in table 1 showed that the quality of ICT infrastructure accounts for 63.5% (adj. r = 0.635) of the effectiveness of e-governance on students' management in University of Calabar. This implies that, the remaining 63.5% of the e-governance effectiveness on students' management in University of Calabar can be explained by other factors outside the model. It also showed a strong correlation between the quality of ICT infrastructure and effectiveness of e-governance on students' management. Also, the F = 717.243 value is significant hence the p-value of .000 is less that .05 indicates the correlation of the model while Durbin-Watson statistics is 0.189 indicating non serial auto-correlation.

Table 2: Linear Regression Result (Coefficients[a]) between quality of ICT infrastructure and students' management

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant	.780	.113		6.898	.000	.558	1.002
Quality of ICT infrastructure	.742	.028	.798	26.781	.000	.688	.797

Table 2 showed the total outcome of the first hypothesis's analysis. The model adds roughly 63.5% of the ICT infrastructure quality to the efficiency of e-governance on University of Calabar student management. With a positive connection (Beta = 0.798) and significance at the 1% level (P = 0.000), this indicates that the P value is below the level of significance. The null hypothesis is therefore rejected while the alternate is accepted. This implies that the quality of ICT infrastructure does affect the effectiveness of e-governance on students' management in University of Calabar. This further proved that there is a significant relationship between `quality of ICT infrastructure and students' management. It therefore means that the higher the quality of ICT infrastructure, the higher the effectiveness of e-governance on student management.

8.2   Hypothesis two

The level of student ICT utilization does not significantly affect the effectiveness of e-governance on students' management in University of Calabar. The independent variable is `students' ICT utilization while the dependent variable is the students' management. Linear regression was use to analyze the hypothesis. The result is presented in table 3 and 4.

Table 3: Linear Regression Result (Model Summary) between student ICT utilization and students' management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	Durbin- Watson
1	.770[a]	1.593	.44195	596.295	.592	.000[b]	.161

The result in table 3 indicated that students' ICT utilization account for 59.2% (adj. r = 0.592) of the effectiveness of e-governance on students' management in University of Calabar. The implication is that, the remaining 40.8% of the effectiveness of e-governance on students' management in can be explained by other factors outside the model. It also showed a strong relationship between the students' ICT utilization and effectiveness of e-governance on students' management in University of Calabar. Also the F value= 596.295 is significant hence the p-value of .000 is less that .05, fitness of the model while Durbin-Watson statistics is 0.161 indicating absence of serial auto-correlation.

Table 4: Linear Regression Result (Coefficients[a])   between students' ICT utilization and students' management

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant	2.807	.062		45.168	.000	2.685	2.929
Students' ICT Utilization	.388	.016	.770	24.419	.000	.357	.420

Table 4 displayed the whole outcome of the hypothesis that was tested. The model plays a part in about 59.2% of the students' ICT utilization to the effectiveness of e-governance on students'

management in University of Calabar. The hypothesis which states that the level of students' ICT utilization does not significantly affect the effectiveness of e-governance on students' management is significant at the 1% level (P = 0.000) and exhibits a positive correlation (Beta = 0.770), indicating that the P value is below the significance level. Thus, the research rejects the null hypothesis and accepts the alternate that, the level of students' ICT utilization does significantly affect the effectiveness of e-governance on students' management. This demonstrated even more the strong correlation between the dependent variable, students' management, and the independent variable, {students' ICT utilization}. That is, the higher the level of students' ICT utilization, the higher the effectiveness of e-governance on students' management.

8.3 Hypothesis Three

The quality of ICT-staff does not significantly affect the effectiveness of e-governance on student management in University of Calabar. The independent variable is the quality of ICT-staff while the dependent variable is students' management in University of Calabar. For cross tabulation, the responses from respondents in table 5 and 6.

Table 5: Linear Regression Result (Model Summary) between quality of ICT-staff and students' management in University of Calabar

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	Durbin- Watson
1	.976[a]	1.952	.952	.31652	819.583	.000[b]	.144

The result in table 5 showed that the quality of ICT staff accounted for 95.2% (adj. r = 0.952) of the students' management in University of Calabar. The remaining 4.8% of the effectiveness of e-governance on students' management can be explained by other factors outside the model. It also showed a strong relationship between the quality of ICT-staff and effectiveness of e-governance on students' management in ABU (r2= 0.952). The F = 819.583 indicated the fitness of the model while Durbin-Watson statistics 0.144 indicated absence of serial auto-correlation.

Table 6: Linear Regression Result (Coefficients[a]) between quality of ICT staff and students' management

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant	.089	.041		2.152	.032	.008	.169
Students' ICT Utilization	.987	.011	.976	90.552	.000	.966	1.009

The result in table 6 displayed the whole outcome of the hypothesis that was tested. The model aided in 95.2% of the quality of ICT staff to the effectiveness of e-governance on students' management in University of Calabar. The null hypothesis which states that the quality of ICT-staff does not significantly affect the effectiveness of e-governance on students' management in University of Calabar is significant at the 1% level (P = 0.000) and exhibits a positive correlation (Beta = 0. 976), indicating that the P value is below the significance level. Thus, the research rejects the null hypothesis and accepts the alternate that, the quality of ICT-staff does significantly affect the effectiveness of e-governance on students' management in University of Calabar. This revealed a significant correlation between quality of ICT staff and students' management in University of Calabar. This means the higher the quality of ICT-staff the higher the effectiveness of e-governance on students' management.

9. Conclusion

From the presentation and analyses of data as well as tests of hypotheses, it was concluded that the ICT infrastructure needed for e-governance has positive effect on students' management in the faculties of education, University of Calabar. Secondly, there is a significant effect of students ICT utilization on students' management. This is revealed in $R^2 = 760.593$ indicating a strong relationship between students' ICT utilization and effectiveness of e-governance on students' management in the faculties of education, University of Calabar. Also, quality of ICT staff significantly affects the effectiveness of e-governance on students management in University of Calabar. This therefore means that University of Calabar has a well equipped ICT infrastructure and quality ICT staff for effective e-governance on students' management. Information about every student in the University can be easily tracked and accessed with the use of ICT facilities.

10. Recommendations

1. The University of Calabar Smartcampus network should be strengthen to enhance internet accessible in the entire university including staff quarters. This will help lecturers to be able to access information about the students even in their homes.
2. More network bandwidth should be procured, and existing ones upgraded and properly maintained by the University. This will solve the problems of poor internet reception and server response.
3. The University should increase the staff strength of the ICT directorate by engaging potential human resources. This will continue to increase the effectiveness of ICT directorate.
4. The University should organized regular training for ICT staff. This will help the staff to be constantly updated on new trends in ICT.

References

Abdulkadir, A.I. (2017). Management of electronic records generated/received by federal universities in Nigeria. *International Journal of Applied Technologies in Library and Information Management*, 3(2), 106 -121.

Ayo, C. K. (2014). Information and Communication Technology as a Lever for Innovation in Leadership. In T. Abioye, C. Awonuga, & Amuwo, A. (Eds.). *Leadership and Innovation in Africa's Development Paradigm*. Ota: Covenant University Press.

Blog Series (2022). Improving Africa's service delivery through e-government. *www.nepad.org*.

Bwalya, J. C., Du Plessis, C, & Rensleigh, C. (2014). E-government implementation in Zambia: Prospect. *Transforming Government: People, Process and Policy*, 8 (1), 101-130.

Coleman, S. (2008). Foundation of digital government. In H. Chen, L. Brandt & V. Gregg (Eds.). *Digital government: E-government research, case studies, and implementation*. New York. Springer Science & Business Media.

Ducey, A. J. (2013). Predicting tablet computer use: An extended technology acceptance. A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts Department of Psychology College of Arts and Sciences University of South Florida.

Eneh, M. I. (2015). E-administration implementation in Nigerian universities: Prospects and challenges. *DOI:10.12816/0018250*.

Ezekwesili, N. C. (2010) National information technology development agency (NITDA), Information Communication Technology Baseline Study.

Federal Republic of Nigeria (2001). Nigerian National Policy for Information Technology (IT). *www.nitda.gov. ng/nigeriapolicy.pdf.madu2000andfapothunda1999*.

Hailegebreal, S., Sedi, T. T. & Mengiste, S. A. (2022). Utilization of information and communication technology among undergraduate health science students: A cross-sectional study. *BMC Medical Education*, 22 (215). *bmcmededuc.biomedcentral.com*.

https://www.ao-itc.d/what-is-e-government-and-why-it-is-important/

https://www.ao-itc.d/what-is-e-government-and-why-it-is-important/).

Ikechukwu, E. O. E., Ubochi, E. I & Okechukwu, E. U (2017). Effect of e-government on service delivery in Federal University Ndufu- alike Ikwo, Ebodnyi State. *Review of Public Administration and Management*, 5 (1), 1-8.

Katz, R.N. (2002). The ICT infrastructure: a driver of change. *EDUCAUSE review*, 50-61.

Kyakulumbye, S. (2013). Information communication technology (ICT) utilization in private universities in Uganda: exploring strategies to improve. *Journal of Technology and Investment*, 4, 22-29.

Murata, K. (2006). ICT workers and professional attitudes: Construction of an appropriately working environment. *www.kisc.meiji.ac.jp*

National Information Technology Development Agency (NITDA, 2014). *nitda.gov.ng.*

Obi, H. O., Uzor, O. A. & Chukwurah, D. C. (2020). E-governance and service delivery in the Nigeria civil service. *World Journal of Innovative Research (WJIR)*, 9 (3), 49-59.

Olatokun, W. M. & Adebayo, B. M. (2012). Assessing e-government implementation in Ekiti State, Nigeria. *Journal of Emerging Trends in Computing and Information Sciences*, 3(4), 497-505.

Onuigbo, R. A. & Eme, O. I. (2015). Electronic governance & administration in Nigeria: Prospects and challenges. *Arabian Journal of Business and Management Review*, 5 (3), 18-26.

Osakede, K. O., Ijimakinwa, S. O., Arijeniwa, W., Adesanya, T. O. & Ojo, A. D. (2017). The impact of e-administration on service delivery in Adekunle Ajasin University Akungba-Akoko, Ondo State, Nigeria. *Management Studies and Economic Systems (MSES)*, 3 (3), 173-182.

Shih, C. C., Shing, H. L. & Chien, Y . L. (2011). Recent related research in technology acceptance Model: A literature review. *Australian Journal of Business and Management Research*, 1(9), 124-127.

Sodiya, A.S (2008). Managing ICT Infrastructure in Higher Educational Institutions. Proceedings of the Third Conference on Science and National Development, July, 11 .

Tola, A. (2020). Effect of e-government based service delivery on customers' satisfaction: The case of Addis Ababa city administration vital event registration agency. Unpublished Masters thesis.

Ugbo, I. E. & Chukwuemeka, E. E. O. (2020). Electronic administration and service delivery in selected public tertiary institutions in Anambra State. *International Journal of Academic Accounting, Finance & Management Research,* 4 (2), 06-121. uncial.edu.ng>page-about-style1

Venkatesh, V., Morris, M. G., Davies, G. B. & Davies, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.

www.teachmint.com>glossary>stud...

www.unical.edu.ng