

**INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AS A DRIVER OF
ADMINISTRATION AND ACADEMICS IN TERTIARY EDUCATION SYSTEM IN NIGERIA**

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Abstract

In the modern era, Information and Communication Technology (ICT) has remained the driver of quality processes, systems and growth indicators in virtually all kinds of organizations. The level of appreciation and commitment to the use of this essential cum critical instrument differs from organization to organization. The paper investigates ICT and tertiary education system in Nigeria. It evaluates the prospects and challenges of improving academics and administration in tertiary education system using ICT. The objectives of the study include to examine the applications of internet and e-learning for improved academics and administration in tertiary education system in Nigeria; to evaluate the challenges of ICT usage in academics and administration in the tertiary education system; and to assess the prospects of ICT usage in academics and administration in tertiary education system in Nigeria. Three research questions were also raised based on the objectives of the study. The study employed the Fred D. Davis' Technology Acceptance Model for the theoretical framework. The research questions were answered with extant literature approach which formed the methodology of the study. It was found that there were various applications of internet/e-learning that were used for improved academics and administration in tertiary education system in Nigeria - the applications include computer-based teaching, virtual classroom, video-conferencing and digital collaborations, e-library and online exams among others; there were challenges of ICT usage in academics and administration in tertiary education system including erratic power supply, computer illiteracy and funding inadequacies among others. Also, the prospect of ICT usage in academics and administration in tertiary education system in Nigeria is bright and high. The research concludes that ICT is a viable, reliable, formidable and potent tool for improving academics and administration in tertiary education system. The study recommends that management of the Nigerian tertiary institutions should always develop policies that may add value to the use of ICT for improved academic and administrative practices in the institutions.

Keywords: *ICT, Administration, Tertiary education system, Academics Challenges, Prospects.*

Introduction

Background of the Study

Any tertiary institution that aspires to improve significantly on its academic and administrative system, no doubt, ought to sincerely embrace the instrumentality of Information and Communication Technology (ICT) so as to actualize its dreams. This is particularly the situation in this twenty-first Century when ICT drives all sectors of the global economy.

Rouse (2023) defines ICT as the use of computing and telecommunication technologies, systems and tools to facilitate the way information is created, collected, processed, transmitted and stored. It comprises computing technologies such as servers, laptop computers, software applications, wired and wireless communication technologies that support telephones and the internet. ICT improves access to information and makes human-to-human, human-to-machine and machine-to-machine communication easier and more efficient.

Despite the enormous scope of ICT and its applications, this paper focuses on the use of ICT in the tertiary education system in Nigeria and very peculiar ways of using the tool of ICT in improving academics and administration in the said system while eliciting the prospects and challenges of achieving these awesome goals. Youssef, Dahmani and Ragni (2022) maintain that today's student population is composed of "digital natives" who have grown up under the ubiquitous influence of digital technologies and for whom the use of ICT is common and whose daily activities are structured around media use. Bibi, Ayub and Ismail (2023) discovered that the use of ICT in education, especially at the tertiary level has made the learning process more active by using new, innovative ways to deal with and share information and ways of teaching and learning (from teacher-focused to student-focused), such as by integrating communicative (interactive) classrooms, motivation, engagement, personalized, collaborative, and creative learning. This is also the view of Siddiquah and Salim (2017). The ICT facilities, skills, usage, and the problems faced by the students of higher education. Oyedokun and Adeolu-Akande (2022) are of the view that ICT has transformed the educational system by replacing the traditional ways of teaching and learning with modern, computer-based processes. This study examines in part, how academics have or may be improved by applications of e-learning in the tertiary education system. It examines issues like the use of computer-based learning, virtual classrooms, video-conferencing and webcam, digital collaboration, online exams, e-library etc in improving academics in Nigerian ivory towers.

Indeed, the application of ICT in administrative practices is also the concern of this essay. Anikeze, Abonyi, and Okafor (2023) discover that mobile phones, e-mail, video and web conferencing communication have significant relationships with organizational decision making in tertiary institutions. This essay on ICT and the tertiary education system in Nigeria is an empirical effort that investigates the link between ICT and both academic and administrative improvements in Nigerian tertiary institutions with a view to determining the prospects and challenges of ICT usage in the tertiary institutions.

Statement of the Problem

The researcher has observed that many a time, the tertiary education system in Nigeria is bedeviled by inabilities of the system drivers to employ the instrumentality of ICT to improve both

academic and administrative functions of the citadels of learning. This ugly development may have been caused by poor funding of ICT projects in tertiary institutions, erratic power supply and corporate poverty while the situation may have been further aggravated by corruption in the system and issues of human capital development in the use of ICT infrastructures by administrators.

Indeed, the researcher has observed enormous research gaps in the relationships between use of ICT and improvement of academic and tertiary institutions in Nigeria as previous studies accessed by the researcher did not simultaneously show how ICT improved academics and administration in the Nigerian ivory towers including the prospects and challenges of ICT usage. It is this research gap that constitutes the major problem of this study.

Objectives of the Study

The major objective of this study is to investigate the relationship between ICT and improvement of academics and administration in tertiary education system in Nigeria. The specific objectives of the study include to:

- i) examine the applications of internet/e-learning for improved academics and administration in tertiary education system in Nigeria.
- ii) evaluate the challenges of ICT usage in academics and administration in tertiary education system.
- iii) assess the prospects of ICT usage in academics and administration in tertiary education system in Nigeria.

Research Questions

In alignment with the objectives of the study, the researcher developed the following research questions:

- i) In what ways do Nigerian tertiary education system apply internet/e-learning for improved academics and administration?
- ii) What are the challenges of ICT usage in academics and administration in Nigeria's tertiary education system?
- iii) What are the prospects of ICT usage in academics and administration in tertiary education in Nigeria?

Theoretical Literature

The researchers used the Fred D. Davis Technology Acceptance Model to handle the theoretical framework.

Fred D. Davis Technology Acceptance Model (1989)

Fred D. Davis Technology Acceptance Model is an extension of the theory of Reasoned Action. This model has two major aspects that influence an individual/s intention to use new technology: perceived ease of use and perceived usefulness. Perceived usefulness describes the degree to which people believe that their work performance can be increased by using the system for example as it relates to whether the system can help them to complete a task more quickly. Perceived ease of use refers to the extent to which a person has to move a mental or physical effort to use the technology (Njoku, Ayozie and Ohiri, 2023).

Methodology

The researchers employed extant literature approach by using various empirical findings to answer the research questions. Therefore, extant literature methodology was adopted in the study.

Focus on the Research Questions

In what ways do Nigerian tertiary education system apply internet/e-learning for improved academics and administration?

Applications of e-learning for improved academics and administration in Nigeria tertiary education system takes the form opined by Oyedokun and Adeolu-Akande (2022). It includes computer-based learning, virtual classroom, video-conferencing and webcam, digital collaboration, online examinations and e-library. Egbo, Ukhurebor and Bayonle (2023) did a study on the impact of internet use on tertiary institution students' academic performance: an exploratory study. They found that internet usage improved the academic performance of students in tertiary institutions. This accounts for the reason why Jacob (2023) opine that computer-based learning is a term that can be used to describe virtually any kind of learning programme using computers as a central staple. Bubou and Job (2021) in a study on benefits, challenges and prospects of integrating e-learning into Nigeria's tertiary institutions: A mini review, used extant literature method to establish that e-learning aids teaching and learning in tertiary institutions while transforming educational technology, providing easy access to education for many, who hitherto was unable to go to school before the transformation; it enhances knowledge retention while maximizing academic achievement.

Nwachukwu, Usman, and Bitrus (2023) handled a study on virtual classroom proficiencies required by business education lecturers in Colleges of Education in North East Nigeria. They used survey research method to discover that lecturers in the area lacked proficiency in the use of available participant panel features in a virtual classroom as well as in the use of video play features of the virtual classroom. Nwachukwu et al (2023) maintain that virtual classroom is a necessary technology and assert that individuals in the previous millennium were regarded educated if only they could read and write. In the current millennium, people are considered educated if they can read, write, and communicate using computer tools and devices hence IT becomes a crucial tool to face the challenges of the Nigeria education system. Haleem, Javaid, Qadri and Suman (2022) did a study on understanding the role of digital technologies in education. They also used extant literature methodology to find that digital technologies have shown a powerful impact on education system. The technologies aid in increasing interest in research.

Bakare, Orji, Wogu and Ogbonna (2018) did a study on effectiveness of teleconferencing in Nigerian universities. They used the survey research design to find out that undergraduates use teleconferencing and they benefit from using teleconferencing tools for educational purposes. In fact Egoeze, Misra, Maskeliunas and Damasevicius (2018) investigated the impact of ICT on universities administrative services and management of students' records. They used the survey research method to find out that ICT produces effective, efficient, and excellent services in university administration and management of students' records. Computers were found to be extremely used for computer-related, clerical and general administrative duties in tertiary institutions.

There could also be predictors and moderators of ICT use by registry staff of tertiary institutions. Claudius and Wole (2023) examined the predictors and moderators of ICT use by registry staff of Nigerian tertiary institution. They used the survey research design to reveal that social influence and the behavioural intention to use ICT among registry staff of tertiary institutions; and was a significant relationship between facilitating conditions and use behavior among registry staff of tertiary institutions. Also, it was found that there existed a significant relationship between the behavioural intention to use ICT and use behavior among Registry staff of tertiary institutions.

The above shows that with the use of internet and e-learning indices of computer-based learning, virtual classroom, video-conferencing, digital collaboration, e-library and online examinations, use of Zoom and social media for teaching, learning and administrative meetings in tertiary institutions, there was improved academics and improved administration in the citadels of learning.

What are the challenges of ICT usage in academics and administration in Nigeria's tertiary education system?

There could be various challenges of ICT usage in academics and administration in Nigeria tertiary education system. Musa, Mahmud and Jalil (2018) did a review of obstacles of ICT usage in Nigeria tertiary educational institutions. They used extant literature method to discover that inconsistent electricity supply, computer illiteracy, high cost of internet data and electronic services, fear of change, fear of redundancy, lack of adequate facilities and the issue of internet electronic security were all challenges of ICT usage in the tertiary institutions.

Indeed, Bubou and Job (2021) used extant literature approach to discover that the challenges of using ICT in tertiary institutions includes erratic power supply and lack of computing skills to undertake e-learning modes of study.

What are the prospects of ICT usage in academics and administration in tertiary education in Nigeria?

Bubou and Job (2021) used extant literature approach to discover that the prospects of integrating e-learning into tertiary institutions in Nigeria and beyond remain robust. E-learning remains a veritable platform for human capacity both in formal and informal settings especially at the higher education sub-sector.

Bisong, Nkanu, Imoke and Akpo (2023) examined challenges and prospects of using Information and Communication technology (ICT) in instructional delivery in Cross River State. They used extant literature to find out that ICT has very great prospects for the improvement of education in schools.

Summary of Findings

Based on the empirical review of literatures with which research questions were answered and findings made, the researcher summarized the findings as follows:

- i) Internet and e-learning are significantly applied for improved academics and administration in tertiary education system in Nigeria.
- ii) There are various challenges that bedevil ICT usage in academics and administration in tertiary education system.

- iii) The prospect of ICT usage in academics and administration in tertiary education systems is very bright and high.

Discussion of Findings

The fact that internet and e-learning are significantly applied for improved academics and administration in tertiary education system in Nigeria implies that the management of the education sector in Nigeria is poised to adjust to global best management practices in education business. It further shows that the productivity of administrators in the sector is already positioned to consistently improve. This indicates that Oyedokun and Adeolu-Akande (2022) are in order as they assert that applications of e-learning for improved academics and administration in Nigeria tertiary education takes the form of computer-based learning, virtual classroom, video-conferencing and webcam, digital collaboration, online examinations and e-library. This revelation by Oyedokun and Adeolu-Akande (2022) agrees with the findings in this study.

Given that there are various challenges of ICT usage in academics and administration in tertiary education system, it implies that every milestone achieved comes with its own inconveniences. The good news is that the challenges are surmountable. In fact, the findings by Bubou and Job (2021) as well as the revelation by Musa, Mahmud and Jalil (2018) that erratic power supply standstill in the challenges of ICT usage in tertiary institutions agrees with the submissions of this study. This shows that a lot is expected from both the public and private sectors over erratic power supply in the most populous black nation. This is because inconsistencies in power has continued to bedevil not only the education sector but all components of the supply Nigerian socio-economic system over the years. This is despite the fact that the public authorities claim of improvements in power supply in 2023. Ariemu (2023) cites the National Bureau of Statistics (NBS) as stating that there is an increment in electricity supply in the most populous black nation (Nigeria) to the tune of five thousand, eight hundred and fifty-two gigawatt hours in the last first quarter of Buhari's Administration, 2023. However, as at September 14, 2023, Akpan (2023) laments a blackout decrying a situation whereby the power supply drops by 93.5% as a result of total system collapse which emanates from 'equipment failure or grid disturbance in the sector'. Dropping to 273 megawatts (MW) is unhealthy for management of the education sector. This agrees with the submissions of this study.

The fact that the prospects of ICT usage in academics and administration in tertiary education system is very bright and high as shown in this present study is a testimony that the management of the institutions have done well to invoke hope and bright future on ICT usage in the ivory towers. This agrees with the views of Bisong, Nkanu, Imoke and Akpo (2023) who describe the prospects of ICT as great for the improvement of education in academic institutions.

Conclusion

The researcher concludes that ICT is a viable, reliable, formidable and potent tool for improving academics and administration in tertiary education system. The researcher infers that despite enormous challenges that bedevil the use of ICT for improving academics and administration in the citadels of learning, the prospect of its usage is bright and high.

The study therefore submits that every tertiary institution that relegates ICT to the background risks poor academic and administrative performance. Despising the use and efficacy of ICT also practically invokes stunted growth and corporate failure in this 21st Century.

Recommendations

In alignment with the findings, the study recommends that:

- i) Management of tertiary institutions in Nigeria should always develop policies that may add value to the use of ICT for improved academic and administrative practices in the institutions.
- ii) The challenges that bedevil ICT usage in tertiary institutions should be identified by management and treated with expertise and proficiency.
- iii) The prospects of ICT usage, though bright, should not mean that management should rest on its oars over ICT improvements in the tertiary education system.

Contribution to Knowledge

This work contributes to knowledge by providing empirical literature on the instrumentality of ICT for improving both academic and administrative functions of the citadels of learning. It bridges research gaps identified earlier in the study. It therefore contributes to the body of knowledge in use of ICT for administrative management and education business.

References

- Akpan, U. (2023). "Blackout as Nigeria's electricity generation drops 93.5% to 273MW" from vanguardngr.com. Retrieved 27/9/2023.
- Anikeze, N.H., Abonyi, J.U., and Okafor, I.C.(2023). Information Communication Technology (ICT) and organizational decision making of federal parastatals in Nigeria. *World Journal of Advanced Research and Reviews*, 18(01):1061-1071. <https://doi.org/10.30574/wjarr.2023.18.1.0716>.
- Ariemu, O. (2023). "Electricity power supply increases to 5,852Gwh in Q1 2023 – NBS" from dailypost.ng. Retrieved 27/9/2023.
- Bakare, J.,Orji, C.T., Wogu, J.O., and Ogbonna, C.A.(2018). Effectiveness of teleconferencing in Nigerian universities: A descriptive e approach. *International Journal of u- and e-Service, Science and Technology*, 11(3):27-38. <http://dx.doi.org/10.14257/ijunesst.2018.11.3.03>.
- Bibi, H.J., Ayub, A., and Ismail, I. (2023). Impact of ICT on the progress and productivity of students at the university level. *Journal of Social Sciences Review(JSSR)*, 3(1):270-282. <https://doi.org/10.54183/jssr.v3ii.155>.

- Bubou, G., and Job, G. (2021). Benefits, challenges, and prospects of integrating e-learning into Nigerian tertiary institutions: A mini review". *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 17(3):6-18.
- Claudius, A.I., and Wole, O. (2023). Predictors and moderators of ICT use by Registry staff of University of Ibadan, Nigeria. *Library Philosophy and Practice(e-journal)*. 7495.<https://digitalcommons.uni.edu/libphilprac/7492>.
- Egbo, P.E., Okoza, J., Ukhurebor, K.E., and Bayonle, F. (2023). The impact of internet use on tertiary institution students' academic performance: An exploratory study. *Cypriot Journal of Educational Sciences*, 18(1): 253-267. *Doi:10.18844/cjes.v18il.8144*.
- Egoeze, F., Misra, S., Maskeliunas, R. and Damasevicius, R. (2018). Impact of ICT on universities administrative services and management of students' records: ICT in university administration. *International Journal of Human Capital and Information Technology Professionals*, 9(2):1-15.*Doi: 10.4018/IJHCITP.2018040101*.
- Haleem A., Javaid, M., Qadri, M.A., and Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3:275-285.
- Jacob, Q. (2023). "What is computer-based learning?" from practicaladultinsights.com. Retrieved 4/8/23.
- Musa, U., Mamoud, R., and Jalil, H.A. (2018). A review of obstacles of ICT usage in Nigeria tertiary educational institutions. *International Journal of Human Resource Studies*, 8(4):169: *Doi:10.5296/ijhrs.v8i4.13831*.
- Njoku, K.C., Ayozie, E.A., and Ohiri, I.F. (2023). "Technological innovation and job satisfaction of Managers and Accountants in Owerri". Conference Paper Presented to the Centre for Sustainable Development, Nnamdi Azikiwe University (NAU), Awka – First South East Summit on SDGs, August 31 – September, 3.
- Nwachukwu, C.L., Usman, M.J., Bitrus, F.L. (2023). Virtual classroom proficiencies required by business education lecturers in Colleges of Education in North East Nigeria. *Jurnal Fenesis Indonesia*, 2(2):83-94.
- Oyedokun, G.E., and Adeolu-Akande, M.A. (2022). Impact of Information Communication Technology(ICT) on quality education in Nigerian tertiary institutions. *Himalayan Economics and Business Management*, 3(2):49-58.
- Rouse, M. (2023). Information and Communication Technology(ICT)" from technopedia.com. Retrieved 11/8/2023.

Siddiquah, A., and Salim, Z. (2017). The ICT facilities, skills, usage, and the problems faced by the students of higher education. *Eurasia Journal of Mathematics, Science, and Technology Education*, 13(8):4987-4994.

Youssef, A.B., Dahmani, M., and Ragni, L. (2022). "ICT use, digital skills and students' academic performance. Exploring the digital divide". *Information*, 13(3):129 from <https://doi.org/10.3390/info13030129>. Retrieved 11/8/2023.