

Impact of Information Communication Technology on Tertiary Education Administration, Academic Staff Job Performance and Students Academic Performance in Tertiary Institutions in Nigeria

Offia Ogochukwu Judith¹, Bintu Yunisa², Victor Olugbenga Ayoko³

Abstract: This paper examined the impact of information communication technology on university administration, Academic staff job performance and Students Academic Performance in Tertiary institutions in Nigeria. The paper is a review paper. The paper employed secondary data. The sources of the data were online publications and print resources. The paper revealed that information communication technology enhances university administration, academic staff job performance and students' academic performance in tertiary institutions in Nigeria. Based on this findings, the paper recommends that government should increase investment on information communication technology in all the Nigerian tertiary institutions. Students, academic staff and non-academic staff should be given constant training on ICT usage for academic purposes.

Keywords: ICT, University admission, academic staff job performance, students' academic performance, tertiary education.

1.0 Introduction

Tertiary institutions is an organized fraction of the whole society curved out for teaching programme, research and provision of community service. Tertiary institution can also be seen as a subset of the general society that is made of collection of different people, different culture, different life style and different value (Ogunode and Odo 2023). Tertiary education or higher education according to Alemu (2018) covers a wider range of higher learning institutions including the university. These higher learning institutions could be organized in different ways, commonly within a university and in a separate institution as university and other tertiary learning institutions. Tertiary education is the education final stage of education that handles the production of manpower for the social, economic and technological development of a country. Tertiary education is an organized education that deals with intensive teaching, research and provision of community services (Akin-Ibidiran, Ogunode & Ibidiran John 2022).

Tertiary Education is the type of education that a person undergoes after the basic secondary education. It could be in a University, Polytechnic and college of education. Tertiary education is post-secondary and this is where students specialize in the core area of their pursuit which could be sciences, arts and vocational (Johnstone, Arora & Experton, 1998). Ogunode, Edinoh and Okolie (2023) conceptualized tertiary education as a planned and organized educational system designed for the total development of man/woman and for the total transformation of the society through the utilization of teaching, research and provision of community service. Tertiary education constitutes the university, which is a subset of higher education. However, in some contexts, higher education and tertiary institutions are used interchangeably (Assié-Lumumba, 2005).

¹ Science Education Department, Federal University Wukari, Taraba State, Nigeria

² Science Education Department, Faculty of Education, Federal University Wukari, Taraba State, Nigeria

³ Department of Educational Foundations, Faculty of Education, Open University of Faculty of Education, National, Nigeria



According to Ogunode, et al (2023) the goals or objectives of tertiary education includes; to aid production of manpower; to ensure national unity; to ensure technological development; to foster national unity and international peace; to increase production through research; to provide post-secondary school education; to prepare students with quality knowledge and reliable skills for independent living and the world of work. The goals of tertiary education according to the FGN National Policy on Education (2013), shall be to: contribute to national development through high level manpower training; provide accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interests of all Nigerians; provide high quality career counseling and lifelong learning program that prepare students with the knowledge and skills for self-reliance and the world of work; reduce skill shortages through the production of skilled manpower relevant to the needs of the labor market; promote and encourage scholarship, entrepreneurship and community service; forge and cement national unity; and promote national and international understanding and interaction.

The realization of tertiary education goals depends on the availability of material resources like information communication technologies. Information and Communication technology according Dada, Olowonefe & Ogunode (2022) are those technological facilities designed to support delivery of services in educational institutions in the areas of storage of data, transmission of data and data analysis. Ogunode (2024) opined the integration of information and communication technology in many section of the school and higher institutions seems to has brought some positive and monumental school changes that has made the university administration, academic staff job performance and student academic work more easily and it appear to has also brought a lot of transformation into the higher institution system. The transformation in the institutions sector appear have led to improved lecturers' job performance and high students' academic achievement. It is important to examine the impact of Information communication technology on university administration, academic staff job performance and students' academic performance in the tertiary institutions in Nigeria.

2.0 Literature Review

Information Communication Technology

Information Technology is a computer-based technology for the storage, accessing, processing and communication of information. In effect, IT involves the devices to capture, process, store and retrieve information. It also involves devices for transmitting the information by digital or analogue means (telecommunications) until the information gets to the end-users. Information Technology encompasses a wide range of technologies like tele-phone, computer word processing applications, web browsers, and servers, and full text document databases and mainframe computers (Okonkwo and Afolabi, 1998). According to Adebayo (2013), information and communication technologies (ICTs) refer to the technology that supports activities involving the creation, storage, manipulation, communication of information using microelectronic and telecommunications tools such as laptops, computers, computer networks, Internet digital printers and mobile technology that are used by the administrator to record, store, process, retrieve and transmit information.

Information and Communication Technology (ICT) creates impact on resource-based learning and access to real world information through the Web, ICT improves poor language skills through word processing, ICT helps to provide reference materials for research work, ICT provides publisher the opportunity to learn from other publisher all over the world, Enables collaborative learning with little indication of the isolated learner, Develops communication skills and awareness of different audiences and gives students more control (Education 2013). United Nation Educational Scientific and Cultural Organization (UNESCO, 2005) viewed ICT as the combination of all the computers, telecommunication and media technologies. They are also electronic technologies used for accessing, processing, gathering, manipulating and presenting or communicating information in the education system. Obanya (2002), defined ICT as a broad term that has to do with the harnessing of process, the methods and the product of electronic communication related technologies and other related resources in today's' knowledge driven society, for enhancing the productivity, the spread and efficiency of set programme activities geared towards the achievement of clearly defined goals.



Tertiary Education administration

Tertiary institutions administration implies the arrangement of resources in a way that will aid the implementation of tertiary institution programmes for the realization of tertiary institution's goals. Tertiary institutions administration covers all activities and programmes of tertiary institutions. Tertiary institutions administration also focuses on teaching, research and community service programmes of tertiary institutions (Ogunode, Edinoh, & Chinedu, 2023).

Administration can simply be referred to as the complex process of formulating and implementing policies for the attainment of public good. Educational administration as a field of study in public administration is the management of any organisation or institution having the purposes connected with the education of the groups of individuals forming that organisation. Universities inclusively educate and transmit knowledge to deserving students and scholars by participating in those activities in the local and international arena that enhance the common good and well-being of all mankind in the sense that they play important roles in modern society and are seen as crucial national assets in addressing many policy priorities (Bamiro, 2012; Kupoluyi, & Awotunde, 2018).

University administration refers to the application of the universities' resources to implement the programme of the universities with the aims of realizing the objectives of the universities. University administration is the mobilization and arrangement of both human and materials resources for the achievement of the university's goals. University administration is the effective use of the resources of the university to implement the teaching programme, research programme and the community service programme of the universities. University administration is the deployment of the universities' resources to accomplish the universities' programme (Ogunode, 2020). University administration is, therefore, the scientific approach to the management of human and material resources such as ICTs, to achieve the goals and objectives even though Nigerian universities are bugged down by the problems of brain drain, infrastructural decay, inadequate funding, shortage of manpower and policy inconsistency (Kupoluyi, 2011). The objectives of university administration include: to implement the programme of the universities as defined; to allocate resources for the implementation of the universities programme; to ensure implementation of teaching programme, to ensure implementation of research programme; to ensure delivery of quality community services programme, to ensure effective staff development, to ensure effective student administration, to ensure smooth implementation of academic calendar and to ensure quality education (Ogunode, 2020).

Academic staff job performance

Academic staff job performance is the total performance of teaching, researching and community services responsibilities an academic staff has carried out and still carrying out in the institutions where he or she work at a particular time. Academic staff job performance is the general record of tasks carried out by an academic staff to be compare to the assigned responsibilities and functions given to them. Academic staff job performance can also be seen as the measuring of a specific and general tasks given to faculty in an institutions and they are expected to carry them out within a specific timeline (Ogunode & Ibrahim, 2023). Ofoegbu & Alonge (2016) defined academic performance as effective teaching and learning that is anchored on developmental resources with a high impact community service, creativity, and innovativeness. Ogunode, ThankGod and Olatunde-Aiyedun (2022) ascertained that the academic staff job performance constitutes all activities and functions it is expected of an academic to execute within a specific time. Academic staff job performance constitutes all activities and functions it is expected of an academic to execute within a specific time. It has to do with the abilities of the academic to fulfil his/her duties in the institutions (Ogunode, & Eimuhi 2023).

Students' Academic Performance

Ogunode & Josiah, (2023) defined academic performance of students as the total learning outcome of the students in the educational institutions which includes the knowledge, social and communication skills and ideas acquired and retained through their course of study. Ijaiya (2004) asserted that student academic performance refers to the standard which students should be able to know and be able to do.



Abdul (2002) considered academic performance as the students' level of attainment in the grade point average of courses offered in their yearly examination. In other words, it is the outcome of students' assessment through comprehensive, systematic, diagnostic, progressive, formative, summative and cumulative evaluation of what they had gone through in a school setting. Ogunode & Edet (2023) Students' academic performance is the total sum of student's cognitive, affective and psychomotor achievement in the school. Many factors determine students' academic performance in school. The availability of instructional materials, teaching methods, teachers'

Methodology

3.0 Impact of Information Communication Technology on University administration, Academic staff job performance and Students Academic Performance in Tertiary Education

University administration

ICTs help in providing a good communication system in the university system by providing timely information to all concerned (Magni, 2009) such that the integration of ICTs into general administration has brought about increased efficiency and optimal resource utilisation (Hasan et al, 2007). Maki (2008), maintained that ICT activities relate to the management of university administration through the personnel administration of students, resources, finance and general administration. The integration of ICTs into this process enhances the overall admission activities of universities by making it more accessible to many (Kwaku & Obeng, 2004). Dada, Olowonefa, & Ogunode, (2022) and Kupoluyi, & Awotunde, (2018). Opined that Information and Communication Technologies is use for the administration of universities. Both academic, non-academic staff and students use Information and Communication Technologies to support the administrative, academic and learning programme. Information and Communication Technologies aids effective administration of educational institutions in many ways. Yusuf (2005) and Adewale & Taiye (2018) submitted that the computer-based tool is used for the processing of information and communication needs in the universities that tallies with the objectives of the Federal Government of Nigeria on information technology that are well articulated in terms of making the use of ICTs mandatory at every level of education. Abara, Ogunode, & Olatunde-Aiyedun (2022); Olatunde-Aiyedun, Eyiolorunse-Aiyedun, & Ogunode (2021); Ogunode (2020); Adewale & Taiye (2018) and Okoli, (2007) opined that Universities are functionally required to handle large volume of data that are processed so as to provide information for decision-making as well as meeting the information requirements of the various stakeholders such as students, parents, alumni, government, information community and the general public. Dada, Ishaya, & Ogunode, (2021) and Okon, Ekaette, & Ameh, (2018) concluded that ICT aided effective university' planning, decision making, and policies formulation. ICT has led to effective administration and management in the higher institutions in Nigeria.

Academic staff job performance

Academic staff are employed in the higher institutions to carry out teaching, research and provide community services to host communities. The academic staff are the implementer of the curriculum. In the area of teaching, Ogunode (2023) observed that ICT has helped lecturers to implement curriculum in the higher institutions. Cheung and Huang (2005) emphasized the use of ICT as an effective teaching tool in university education as many university teachers now publish their course materials via the internet. Kupoluyi, and Awotunde, (2018) submitted that the Information and Communications Technology (ICT) is the technology that has brought excitement to teaching, learning and research. It has become a major educational technology. ICT can be used to prepare and reproduce handouts or make presentations of learning materials as slides in lecture rooms. At a higher level, ICT could be used in such instructional modes as e-learning. Ogunode (2024) concluded that ICT aids teacher selection of topic, preparation of lesson plan, selection of instructional material, as well as their effectiveness in the operation of projected equipments to aid teaching and learning in universities. Ogunode, Ohibime, Okwelogu, & Musa, (2021); Okwelogu, Mohammed, & Ogunod (2021); Kpolovie, 2010 (2016); Nwachukwu, (2005); Nwokedi, and Sani, (2009) discovered that ICT aided academic staff in lesson preparation, preparation of note, e-marking, e-evaluation, e-supervision and e-



feedback. The lecturers in tertiary institutions use ICT for teaching and research with additional administrative assignments. ICT adoption has the potentials of lessening the administrative duties. In teaching and learning in a university system, information and communication technologies offer many opportunities in the higher educational system.

In the area of research, Ogunode and Hayab, (2021) maintained that academics get increased access to the Internet, ways to communicate with peers, other experts in their fields and colleagues have grown. There are many networked services such as electronic mail (email), distribution lists, bulletin boards and newsgroups which extend the invisible college of academics and researchers to anywhere in the world, whereas communication is almost instantaneous. Abels, Liebscher and Denham (1996) say networked services can benefit smaller institutions in particular, because academics and students have access to peers worldwide. They also have access to news and discussion groups, library catalogues of large research libraries, datasets (aggregated services) and databases and even public domain software packages for teaching and research. Idowu and Esere, (2013) noted that ICT allows Nigerian academics to participate actively in global research networks. As at today, 84% of journal articles and 97% of patents currently come from industrialized countries (Massaquoi, 2006). By making use of the internet to conduct research, publish articles, and exchange ideas, Nigerian faculty will be better able to apply up-to-date approaches and findings toward local development challenges (Idowu, et al 2013). Victorand Faga (2015); Nwokede and Sani (2009) and Hennessy, Harrison & Wamakote, (2010); Ogunode, Okwelogu, & Olatunde-Aiyedun, (2021); Ogunode, Jeged & Musa (2020) agreed that ICT enables the researcher to have a discussion group with other researchers in his chosen area of study. Once a group is formed, all that the researcher needs to do is to post plea for ideas on his or her research topic on a “notice board” on the website. Having so many people out there, you will be surprised at the different ideas and suggestions that will come your way within split second. Hence, the internet has become an invaluable tool for learning, teaching and research.

In the areas of community services provision, Ogunode (2020); Ogunode, Abubakar, Abashi, Ireogbu & Longdet, (2021) noted that ICT have assisted lecturers to carried out community based projects and enable them to publish the result and disseminate the finding to various government and international institutions to aid addressing the problems. Ogunode, Babayo, Jegede & Abubaka (2021); Ogunode, Adamu & Ajape (2022) noted that deployment of ICT for community services provision has supported fast data collection, analysis, computation and interpretation. Education (2013) submitted that Information and Communication Technology (ICT) creates an impact on resource-based learning and access to real world information through the Web, ICT improves poor language skills through word processing, ICT helps to provide reference materials for research work, ICT provides publisher the opportunity to learn from other publisher all over the world, Enables collaborative learning with little indication of the isolated learner, Develops communication skills and awareness of different audiences and gives students and community members more control.

Students' Academic Performance

ICT have supported academic works of students in the various higher institutions in Nigeria. ICT opens up opportunities for learning because it enables learners to access, extend, transform and share ideas and information in multi-modal communication styles and format. It helps the learner to share learning resources and spaces, promote learner centered and collaborative learning principles and enhance critical thinking, creative thinking and problem solving skills (Kupoluyi, et al 2018). The integration of computers and communications offers unprecedented opportunities to the education systems with its capacity to integrate, enhance and interact with each other over a wide geographic distance in a meaningful way to achieve the learning objectives. The growth of these communication and computer systems, their ease of use, the power and diversity of information transfer allow teachers and students to have access to a world beyond the classroom. It has the potential to transform the nature and process of the learning environment and envision a new learning culture. Interactivity, flexibility and convenience have become the order of the day in the ICT supported environment (Khan, Khan, Din, Ismail, Khattak, & Jan, 2015; Ogunode, Lawal, & Olubunmi, 2021).



3.1 Findings

The paper showed that information communication technology enhances university administration, academic staff job performance and students' academic performance in tertiary institutions in Nigeria.

4.0 Conclusion and Recommendations

This paper examined the impact of Information Communication Technology on University administration, Academic staff job performance and Students Academic Performance in Tertiary institutions in Nigeria. The paper indicated that information communication technology enhances university administration, academic staff job performance and students' academic performance in tertiary institutions in Nigeria.

Based on this findings, the paper recommends that government should increase their investment on information communication technology in all the Nigerian tertiary institutions. Students, academic staff and non-academic staff should be given constant training on ICT usage for academic purposes.

References

1. Abels, E.G., Liebscher, P. and Denman, D.W. (1996). Factors that influence the use of electronic networks by science and engineering faculty at small institutions: part 1- queries. *Journal of the American Society for Information Science* Vol. 47, 2: 146
2. Abara L., N. Ogunode, N. J, Olatunde-Aiyedun T.G. (2022). Assessment of Information and Communication Technology (ICT) Usage for School Administration in Early Child Care Centre in Gwagwalada Area Councils, FCT. *Spanish Journals of Society and sustainability* (2),1-9.
3. Adewale K. K & Taiye A. A (2018) Enhancing University Administration Through ICTs In Nigeria. *Journal of Research In Business, Economics And Management (JRBEM)*.10 (4), 67-84
4. Akin-Ibidiran T. Y, Ogunode, N. J. & Ibidiran, A (2022) Analysis of Factors Responsible for Poor Curriculum Implementation in Tertiary Institutions in Nigeria. *Electronic Research Journal of Social Sciences and Humanities*, 4 (5), 1-11
5. Alemu S., K. (2018). The Meaning, Idea and History of University/Higher Education in Africa: A Brief Literature Review. *Forum for International Research in Education*. 4 (3), 210-227
6. Bamiro, O. A. (2012). "The Nigerian university system and the challenge of relevance". A lecture delivered at the Convocation Lecture, University of Lagos, Akoka, Lagos, January.
7. Dada, M. S., Ishaya, S. A, Ogunode, N. J. (2021). Deployment of information communication technology for universities administration in Nigerian public universities: challenges and way forward. *Middle European Scientific Bulletin* (19), 163-175.
8. Dada, M. S., Olowonefa, J., A. & Ogunode, N. J.(2022).Deployment of information communication technology (S) for educational planning in Nigeria: problems and way forward. *International Journal on Integrated Education*, 5(3), 195-203.
9. Education., 2013. Encyclopaedia Britannica. Chicago, : Encyclopaedia Britannica.
10. Hasan, et al (2007), CIT reflections, Annual Magazine of the FTK-Centre for Information Technology, Jamia Millia Islamia, New Delhi, Issue 1 April 2007.
11. Hennessy, S., Harrison, D., & Wamakote, L. (2010). Teacher factors influencing classroom use of ICT in Sub-Saharan Africa. *Itupale online journal of African studies*, 2(1), 39-54.
12. Idowu, A. & Esere, M. (2013). ICT and higher educational system in Nigeria. *Educational Research and Reviews*, 8(21),2021-2025.
13. Ijaiya, N. Y. S. (2004). Agents of examination malpractice in Nigerian public examinations: The strongest links. *Nigerian Journal of Educational Research and Evaluation*, 5(1), 55-62.
14. Kupoluyi, A. K. (2015). "Before engaging jobless graduates as teachers", *The Punch*, December 21, p.6.



15. Kupoluyi, A. K. (2011). "To avert another ASUU strike", *The Guardian*, November 16, p. 51.
16. Kupoluyi, A., K. & Awotunde, T., A. (2018). Enhancing University Administration through ICTs in Nigeria. *Journal of Research in Business, Economics and Management (JRBEM)*. 10, (4), 4026-4056
17. Khan, S. M., Khan, I., Din, S., Ismail, M.H., Khattak, R., & Jan, R. (2015). The Impacts of ICT on the Students' Performance: A Review of Access to Information. *Research on Humanities and Social Sciences*, ISSN 2224- 5766. Retrieved from www.iiste.org.
18. Ladipo, M. (2012). "The registry as the lifeline of the University: Past, present and future". A lecture delivered at the Registry Day, University of Port Harcourt, November 9.
19. Lawal M.K. (2012). *Electronic Information System and Administrative Effectiveness of Federal Polytechnics in the South-West, Nigeria*. Unpublished paper. PGDE Project, National Teachers Institute at Kaduna.
20. Magni, M. (2009), "ICT usage in higher education", International Technology and Education and Development Conference, Spain March 9-11, 2009.
21. Maki, C. (2008). "Information and communication technology for administration and management for secondary schools in Cyprus". *Journal of Online Learning and Teaching*, 4(3): 18-20.
22. Massaquoi JG (2006). Trends and advances in Engineering education in Africa. Retrieved from <http://www.Imillionpaper.com> on 28/1 0/2006.
23. Nwokedi, V. C; & Sani, A. U.(2009). Use of search engines for academic activities by the academic staff members of the faculty of natural science, university of Jos. *The Information Technologist: An International Journal of Information And Communication Technology*, (ICT) 6 (2): 129-137.
24. Nwachukwu, V. N. (2005). Computer skills competence among academic librarians: An imperative for computerization of Nigerian university libraries. *A journal of Library and Information Science*. 111 (1/2), 97-105
25. Nwafor, S. O. (2005). "Information Technology: A modern tool for the administration of universities in Rivers State". *Nigerian Journal of Educational Administration and Planning*, 5(2), 184-188.
26. Obanya, P. A. (2009). *Dreaming, Living and Doing Education*. Ibadan: Educational Research and Study Group.
27. Ogunode N., J. & Hayab, F, J (2021). Perception of secondary school teachers on the factors responsible for inadequate information communication technology facilities in gwagwalada, fct, abuja. *Zaria Journal of Empirical Studies in Education* 1(1),1-6
28. Ogunode, N., J. Lawal, M, M. & Olubunmi, A. (2021). Inadequacy of information communication technology(S) in Nigerian public primary schools. *Central Asian Journal of Social Sciences and History*, 02(12) 104-110
29. Ogunode, N, J (2024). Information communication technology, school administration, teachers' job performance and students' academic performance in public secondary schools, North-central, Nigeria. Unpublished PhD Thesis of University of Abuja.
30. Ogunode, N.J., ThankGod, P. & Olatunde-Aiyedun, T.G. (2022). Impact of supervision on teachers' job performance in secondary schools in Nigeria. *International Journal of Inclusive and Sustainable Education*, 2(11), 33-44. <https://inter-publishing.com/index.php/IJISE/article/view/2852/2427>
31. Ogunode N, J. & Josiah, H., F. (2023). Deployment of Instructional Materials in Basic Schools in Nigeria: Impact, Challenges and Implications for Decision Making By School Administrators. *International Journal of Inclusive and Sustainable Education*, 2 (1), 118- 12



32. Ogunode, N, J & Ibrahim, G., F. (2023) Impact of motivation on academic staff job performance in tertiary institutions in Nigeria. *Analytical Journal of Education and Development* 3(11), 336-345
33. Ogunode N., J, Okwelogu, I, S, & Olatunde-Aiyedun, T.G (2021) Challenges and Problems of Deployment of ICT Facilities by Public Higher Institutions During Covid-19 in Nigeria. *International Journal of Discoveries and Innovations in Applied Sciences*1 (4),30-37
34. Ogunode, N.J., Jeged, D. & Musa, A. (2020). Administration of Information Communication Technology (ICT) in Nigerian secondary schools: Challenges and the ways forward. *Electronic Research Journal of Engineering, Computer and Applied Sciences* www.erjscienc.es.info Volume 2 (2020), 49-62
35. Ogunode N, J. (2020) An Investigation into the Challenges Preventing Students of Educational Administration and Planning from Using ICT for Learning in Nigeria Higher institutions. *International Journal of Business and Management Research (IJBMR)* Volume 8,(1) Pages 20-27 .
36. Ogunode N, J. & Josiah, H., F. (2023). Deployment of Instructional Materials in Basic Schools in Nigeria: Impact, Challenges and Implications for Decision Making By School Administrators. *International Journal of Inclusive and Sustainable Education*, 2 (1),118- 127
37. Ogunode, N., J & Ibrahim, G., F. (2023) Impact Of Motivation on Academic Staff Job Performance in Tertiary Institutions in Nigeria. *Analytical Journal of Education and Development* , 3(11), 335-344
38. Ogunode, N., J & Inemesit N., E. (2023). Students' Academic Performance in Schools. *AMERICAN Journal of Public Diplomacy and International Studies*, 01, (08),80-92
39. Ogunode, N.J., ThankGod, P. & Olatunde-Aiyedun, T.G. (2022). Impact of supervision on teachers' job performance in secondary schools in Nigeria. *International Journal of Inclusive and Sustainable Education*, 2(11), 33-44. <https://inter-publishing.com/index.php/IJISE/article/view/2852/2427>
40. Ogunode N.J., Abubakar, M., Abashi E., Ireogbu A. & Longdet, J.(2021). Investigation into the challenges preventing academic planning officers from effectively using ICT in Federal University Wukari, Nigeria. *Journal of Science, Computing and Engineering Research*, 2(1), 147-154,
41. Ogunode N, J, Babayo I, B, Jegede D & Abubakar M (2021) Challenges preventing non-academic staff of Nigerian Universities from using ICT effectively and ways forward. *Electronic Research Journal of Engineering, Computer and Applied Sciences* www.erjscienc.es.info Volume 3 (2021). P:39-50
42. Ogunode N., J. Adamu D., G. & Ajape T., S. (2022). Challenges Preventing Academic Staff from using Information and Communication Technology (s) for teaching in the Nigerian Public Universities and the way forward. *Pindus Journal Of Culture, Literature, and ELT*,(8), 15-20
43. Ogunode N, J. (2020) An Investigation into the Challenges Preventing Students of Educational Administration and Planning from Using ICT for Learning in Nigeria Higher institutions. *International Journal of Business and Management Research (IJBMR)* Volume 8,(1) Pages 20-27.
44. Ogunode N., J, Ohibime E. O., Okwelogu, I. S & Musa, A. (2021). Deployment of information communication technology (ICT) for effective security management in Nigerian educational system. *Middle European Scientific Bulletin*(19), 136-146.
45. Ogunode, N., J., Edinoh, K. & Chinedu, O., R (2023). Artificial intelligence and Tertiary Education Management. *Electronic Research Journal of Social Sciences and Humanities*, 5, (IV), 18-31
46. Ofoegbu, F. & Alonge, H. (2016). Internally generated revenue and effectiveness of university administration in Nigeria. *Journal of Education and Learning*, 5(2), 25-32.



47. Okwelogu, I. S., Mohammed, U & Ogunode N J (2021). Implementation of National Policy on Information Communication Technology (ICT) in Public Secondary Schools in Nigeria: Problems and Solutions. *Middle European Scientific Bulletin*, (19),147-157
48. Okon, I., Ekaette, S. & Ameh, E. (2018). *Information and communication technology (ICT) utilization and principals' administrative effectiveness in public secondary schools in Akwa –Ibom state, Nigeria, Africa Educational Research Journal*, 3 (2), 131-135.
49. Olatunde-Aiyedun, T.G., Eyiolorunse-Aiyedun, C.T. & Ogunode, N.J. (2021). Post covid-19 and digitalization of University lecturers in Nigeria. *Middle European Scientific Bulletin*, 11(1). <http://cejsr.academicjournal.io/index.php/journal/article/view/488>
50. UNESCO, (2005). Information and Communication Technology in Schools. A Handbook for Teachers.
51. Victor. N. N and Faga A (2015). Utilization of Computer Technology For Academic Work By Lecturers of University of Jos – Nigeria. *International Journal of Library and Information Science Studies*.1(2),14-22.
52. Yusuf, M. O. (2005a). “Integrating information and communication technologies in Nigerian tertiary education”. *The African Symposium*, 5(2), 2005: An On-line Educational Research Journal: A publication of the African Education Research Network. <http://www2.ncsu.edu/ncsu/aern/INDEX.HTML>.

