Re-inventing Stakeholder Approach to ICT Usage in Higher Education Management: Service Challenges and Barriers

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ABSTRACT

Education is the vehicle to unlocking individuals' latent cognitive resource for societal development. To facilitate the process especially in the vast globalising world, ICT has provided the desired indispensable leverage. The paradoxical effect of ICT in reforming learning behaviour in the students inspired this research interest. The study aimed at identifying the negative learning tendencies; identifying intervening variables as well as assessing levels of ICT impact on the development of education in Nigeria. The study critically reviewed extant literature on the subject of study. An assessment of education-aided ICT revealed a new set of teaching and learning behavioural patterns in the Nigerian tertiary education, bequeathing incompatible performance outcomes. Particularly from the learner's spectrum, the emergent negative tendencies have raised nagging questions on the application of the ICT for positive learning behaviour among the students. Other findings of the study showed that in the face of numerous positive outcomes of ICT use in the learning process, the misuse of ICT has also led to school dropouts, poor academic achievement and brain drain among students. Hence, the study recommended ICT funding partnership with external stakeholders as a

panacea to addressing ICT related constraints for effective teaching and learning in higher education.

1. INTRODUCTION

The nature of problems confronting the sustainable education system in Nigeria today demands collaborative efforts in solving them. The use of ICT has undeniably changed the ways in which things are done in every facet of life. Information and Communication Technology (ICT) has become a method of education that makes use of ICT to support, improve, and optimise students' global knowledge. Thus, its integrative technology has a favourable influence on student achievement with increased ICT use in higher education in Nigeria. Effective teaching and learning in higher education is crucial as the key purpose of a teacher (Amaeshi, Ituma & Nwajiuba, 2018) and particularly in achieving student learning outcomes (Ituma & Nwajiuba, 2018). Information and Communication Technologies (ICTs) have impacted and influenced virtually every aspect of life in contemporary times (Ndolo, 2011). In the view of Kalu and Ekwunife (2020), this impact is very evident in the gathering and dissemination of information. This includes the gathering of information with ease, accuracy, and the dissemination of same with the speed of light, particularly in the absence of bureaucracy, checkpoints or gate-keeping (Ekwunife, Robinson, Ukeje & Ojiaku, 2020).

The application of ICTs in different fields has led to an undeniable metamorphosis in different areas to the degree that we live in an era where we cannot do without these internet-enabled technologies. The utilisation of ICTs in meeting the needs of the present age is glaringly noticeable in governance (Nnaji & Nri, 2022; Ekwunife, Ononiwu, Akpan & Sunday, 2021), agriculture, medicine, engineering, journalism, education among others (Oberiri, 2016; Ekwunife, Nwachukwu & Ukeje, 2021; Oyedokun & Aderelu-Akande, 2022).

This no doubt has led to the need to improve service provision world over in a bid to ensure transparency, accountability, efficiency and effectiveness (Nosiri & Ndoh, 2018) in public service delivery. The influence of ICTs on the learning process at all levels is noteworthy. Information and Communication Technologies have changed the pattern and nature of research and documentation in the educational system (Shah & Alam, 2010). Its improvement in the methods of teaching is conspicuous (Oyedokun et al., 2022) as well as the advancement of learning in the use of educational technology to enhance the learning process (National Technical Institute, 2021). There is no doubt that ICTs have aided the quality of education particularly in the tertiary institutions where learning is more research-based. Earlier studies (Shah et al., 2010; Elom, Ekwunife, Ukeje & Ndukwe, 2020) have shown that ICTs have fundamentally changed the way education is ideated and delivered in classroom settings.

All over the world, students tend to find ICT-based learning easier, simpler and more convenient. Nevertheless, there is an increased usage of ICTs for learning in the developed nations of the North than in the developing countries of the South like Nigeria and other countries in sub-Saharan Africa. This is largely due to the economic strengths of such countries, advancement in technology, technical know-how, among other factors.

Globally and in Nigeria specifically, the utilisation of Information and Communication Technologies for learning in the tertiary institution has provided significant opportunities for both learners and lecturers, and this has made learning generally progressive in this information age. In the research of Oyedokun et al. (2020), the migration of the age to the use of the digital media in virtually every field of human endeavour has given prominence to the application of ICTs in education as an increase in this application is eminent.

Is the influence of ICTs on the learning process of tertiary institutions exclusively functional? Researchers like Ekwunife, Agha, Nwachukwu, Ukeje and Anih (2020) have x-rayed the dysfunctional roles of ICTs and other internet enabled media, not just in education but in all facets of the society. This dysfunction has implications for the quality of graduates produced as some lack both employability and entrepreneurial skills (Nwajiuba et al., 2020), particularly in this era of globalisation and sustainable development powered by ICTs. The outcome of the use of ICTs in the learning process of undergraduates has been found to be both positive and negative. As much as research has proven that the strengths of ICT utilisation in the learning process cannot be underscored, scholarly debates have highlighted the ills which these new media have brought, particularly to students and teachers. These include poor reading habits, poor spelling of words which is informed by auto-correct apps and the use of unconventional abbreviations/spellings, increase in plagiarism evidenced in undergraduate works and lecturers' input, among other substandard performances in the learning process. In the view of Short (2020), the use of ICTs in the learning process has led to an abysmal level of linguistic deviation in the use of standard English Language evident in grammatical deviation, semantic deviation, morphological deviation, syntax deviation, phonological deviation, among others. With focus on the functions and dysfunctions in ICT usage among undergraduates in the area of learning process, this study was embarked upon in some selected tertiary institutions in Southeast geopolitical zone Nigeria.

2. LITERATURE/THEORETICAL UNDERPINNING

Understanding the nature of ICT policy dimensions in higher education: implications for sustainable e-governance impact assessment (SEGIA) model

Higher education seems to be undergoing some changes, which have important consequences on the nature of teaching and students' learning experience (Ituma & Nwajiuba, 2018) but not without numerous institutional challenges (Ogbonnaya, et al., 2023). According to Nnaji et al. (2022), incessant strike action caused by bad leadership also undermines sound education in tertiary institutions. The developed countries and societies have appropriated various e-learning technologies to boost teaching in their tertiary educational institution. However, in Nigeria's higher education system, where the core of the nation's bureaucrats and intellectuals are trained, adequate attention has not been paid to e-learning as a mode of instruction (Nnadozie & Nwajiuba, 2018). The consequence is the present deficiency in the density of e-learning technologies, as well as the limited use of these technologies for academic purposes (Nnadozie & Nwajiuba, 2018). According to Yusuf (2005), In order to provide a framework for ICT integration into all elements of society, the majority of countries have developed national information and communication technology policies. African countries, and particularly

Nigeria, are not exceptions to this practice. The digital divide between advanced and developing countries, particularly in Africa, is well established. Like most African countries, Nigeria as a nation, came late and slowly in the use of ICT in all sectors of the nation's life. However, the national policy on telecommunication was a key step in the development of an infrastructural base for ICT. In 2001, the Federal Government approved the Nigerian National Policy for Information Technology (IT), and followed this up with the establishment of the National Information Technology Development Agency (NITDA), which was charged with the implementation of the policy (Ajayi, 2002).

The implications of these inadequacies are that the national policy cannot adequately take care of the needs of the Nigerian education system (Yusuf, 2005). Its educational focus is limited to the market driven goal. The need for integration in teaching and learning, the need for quality professional development programs for pre-service and serving teachers, research, evaluation and development, and the development of local context software are not addressed. These are the major components of quality ICT application in education (Yusuf, 2005). "E-learning is more often than not, given scant attention, especially by professional associations, regulatory bodies educational planners and policy-makers who have failed, so far, to come-up with a comprehensive, implementable and binding policy-document to guide the nations tertiary institutions on its implementation" (Nnadozie & Nwajiuba, 2018, p. 92).

No doubt, ICT as an essential component of today's world has transformed the educational system by replacing traditional ways of teaching and learning with the modern, computer-based. This process became more contingent upon the rising complexity of the modern world's problems and needs. Competent utilisation of ICT to tackle issues and address needs has found expression in developed societies with contestable composite experience in developing ones. Particularly, the experience of ICT in Nigerian universities, which should be the fulcrum of development in the state, suggests serious concerns on the need to x-ray the nature of ICT policy dimensions in higher education and its implications through the prism of sustainable e-governance impact assessment (SEGIA) model (see: figure 1) below. Thus, according to Nnaji and Nri (2022, p.63):

> "…SEGIA draws from a process that starts with the Digital Revolution (DR) coupled with implications of globalisation (G). Attendant to this is the insights by governments and governance systems to harvest the DR and G impacts, which leads to Governance Revolution (GR). The combination of the two brings both benefits and challenges. These act as stimuli on governance to take action. When GR has occurred, there is bound to be transformation in governance systems, that is, Governance Transformation (GT). One of the most viable aspects of GT is Governance Digitalization (GD). At this stage, it is a maturation of GT that brings about certain implications (optimization, technology dominated, systematisation, easy access, central control, and unbiased behaviour), and impacts (service satisfaction, relationship recovery, quality service, digital orientation, citizen trust, digital culture)".

This has implication for the enthronement of a sound and practical ICT-driven policy reforms in Nigeria higher education system given the deficiency of the Traditional Governance (TG) model in fostering service delivery with evident challenges of being moribund, human dominated, inefficient, and bottle-necked, access limited, and behaviour biassed, etc.

ICTs refer to the branch of technology that is devoted to the study and application of data and the processing thereof. It enables the automatic acquisition, storage and manipulation of data (Ndolo, 2011). ICTs could as well be seen as technologies which support activities involving creations, storage, manipulation and application (Onwumechili, 2012). Some of these technological tools are mobile phones, teleprompters, cameras, recorders, google classrooms, computers, projectors, among others. In education, these are called educational technologies which primarily aid teaching and learning (NTI, 2021). These educational technologies or ICTs are media through which learning is transferred or acquired by the enablement of the internet (Ekwunife, Ukeje, Eguavoen & Kalu, 2020; Oyedokun et al., 2022). This implies that the tool that powers ICTs is the internet which makes it possible for contents to be gathered and disseminated or for learning to take place. The use of ICTs in the learning process is also a milestone in education as these new media are highly pervasive in nature, hence, aids learning in every nook and cranny, even outside formal classroom. This has both developmental and damning outcomes for learning and behavioural changes.

ICTs are not restricted to hardware. They are a combination of hardware and software such as network, satellite links that enable users to access, analyse, share, collate data and process information in a new way which never existed in the past (Barakabite et al., 2019). In the view of Marshal Luhan as noted in Okunna and Omenugha (2012), the emergence of information and communication technologies, otherwise known as the new media, has miniaturised or shrank the world into a global village with tremendous effect on the overall growth and development of the society. To this end, the impact of ICTs in this age is undeniably evident in institutional changes and transformation. Importantly, institutional transformation and development is predicated on the enthronement of inclusive approach in governance and administration (Idike et al., 2019), political and bureaucratic policy reforms (Ukeje & Chukwuemeka, 2021; Ukeje, 2023), good and sound leadership styles (Ukeje et al., 2015; Ndukwe et al., 2015), models and techniques overtime and innovation for sustainable governance (Nnaji et al., 2022; Ukeje et al., 2023b). It is not out of place to think that the change which ICTs have brought to the educational sector is one of significance as it has absolutely influenced the method, quality and quantity of instruction in the learning system from the cradle to the tertiary institution (Oyedokun et al., 2022).
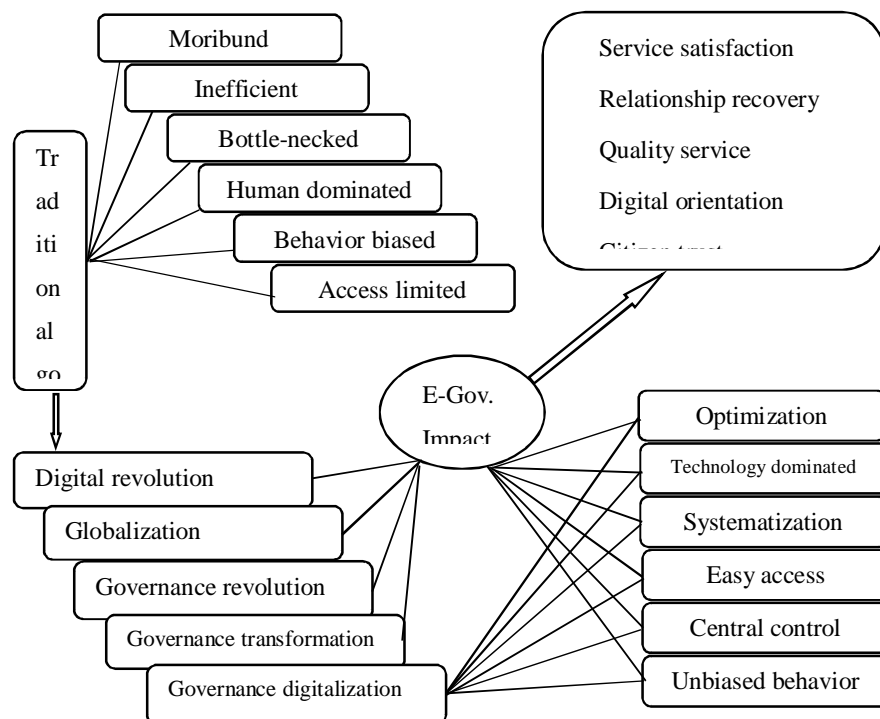
Figure 1: Sustainable E-governance Impact Assessment (SEGIA) model
Source: Adapted from Nnaji & Nri (2022). Effect of electronic governance and public sector service delivery in the Nigerian civil service in south eastern states of Nigeria (2010 – 2021).

3. METHODOLOGY

The methodology of this paper is anchored on the theoretical framework. For the purpose of clarity, this work triangulated the theory of constructivism and the technological determinism theory. The technological determinism theory finds expression in this study. The theory was postulated by Marshall McLuhan in the year 1964, and it posits that our lives are shaped in one way or the other by the media. The theory explains the impact of any media technology at any given period. Today, the gathering and dissemination of information has gone beyond the traditional means to the new media - a development which has greatly impacted the life of the present generation in all spheres as well as determining, shaping and reshaping virtually all their activities. The outcome is both functional and dysfunctional. Nwanne (2016) explains that the communication technology prevalent in any era has a profound effect on the perception and belief of the people. Therefore, technological change determines social change in a specified manner'. Under this theory, emphasis is placed on the autonomous shaping of the society by technology. This study hinges on this theory as it explains the pervasiveness of the new media upon which educational technology is precipitated, and also how information and communication technologies are utilised in the learning process to advance research and participation for effective learning without necessarily converging in real time classes - a feat which was impossible in the era of reliance on traditional approach**.**

3.1. Constructivism Theory

According to constructivism theory in the field of education, people do not acquire knowledge and understanding by passively receiving it through a process of knowledge transmission. Instead, they create new understandings and knowledge through experience and social interaction, fusing it with what they already know (Nola & Gurol, 2006). In the views of Steffe and Jerry (2012), epistemology, a theory of knowledge in philosophy is concerned with the logical categories of knowledge and its justification basis is the foundation of constructivism in education. Corroborating earlier assertion, Mascolo and Fischer (2005) opine that the learning theory known as constructivism holds that knowledge is best acquired through a process of reflection and active mental building.

The social constructivist approach states that instructors must adjust to playing the role of facilitators rather than teachers (Bauersfeld, 1995). This means that instead of merely teaching a concept, a facilitator assists the learner in developing his or her own comprehension of the material. While the student is actively engaged in the former case, the learner does not participate in the latter one. So, the objective is to shift the focus from the teacher and the material to the student (Gamoran et al., 1998). The facilitator must behave differently than a teacher would as the focus shifts to a more active teaching process, Brownsten (2001) avers.

From the foregoing, it is evident that the relevance of ICT to constructivism cannot be over emphasised. This is because ICT offers teachers and students a variety of information resources for the creation of knowledge. ICT is used in constructivist teaching and learning to facilitate learning rather than just provide information. Also, it fosters in students a self-study habit that is crucial to the process of building knowledge.

In addition, collaborative learning opportunities using constructivism are made possible by ICT integration tools. By encouraging group work and the exchange of ideas in the classroom, constructivism fosters social and communication skills. This theory is attributed to Jean Piaget, a Swiss psychologist.

Stakeholder Approach to Sustainable Education: a Case for SDGs

One of the enduring challenges of the social and management sciences scholarship is consensus over definition of their concepts. However according to Ukeje, Nwangbo, Nnaji, Umoke and Nwosu (2023), stakeholders are those who influence activities in the system as well as those that its activities in the university influence. This has strong implications for the attainment of ICT related policy dimensions for effective teaching and learning in the system and as well in meeting to goals of SDGs. No doubt, attainment of sustainable and sound policy processes in developing societies has been challenged by contending political and administrative factors (Ukeje et al., 2023b; Ukeje et al., 2023c) affecting the goals of development. For instance, Idike et al. (2020) asserts that the SDGs declaration by world leaders on 25th September 2015 seems unattainable in many developing countries like Nigeria where poverty growth rate is high due to lack of effective and dynamic public service for successful implementation (see Table 1 below). Thus, proper application of ICT infrastructure offers an innovative and pragmatic approach to achieve the SDG 4 targets and policy indicators aimed at ensuring quality education through its underlying principles of access, equity and inclusion. It will also enhance classroom participatory-based training materials, building on the learning indicators of SDGs 4 and also provide an effective roadmap for ensuring that university lecturers particularly in Nigeria have the necessary ICT skills to meet the ICT-driven constraints and challenges to educational delivery and effective learning behaviour.

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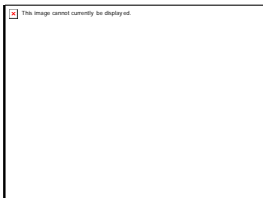
4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities,

indigenous peoples and children in vulnerable situations

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

Source: United Nations General Assembly 2015, page 14; UNDP 2018

Table 1: Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Linking ICTs and the Learning Process: A Higher Education Perspective

There is no gainsaying that ICTs have introduced a new era in the educational system (Shah et al., 2010). This is made manifest in the utilisation of Information and Communication Technologies to increase learning, both quantitatively and qualitatively. All over the globe, the amount of information on a subject sourced by a researcher at a given material time is a huge progress compared to the past (Ndolo, 2018). In many situations, a click or touch of the finger brings more than the needed information to the user. Just like in governance, the applications of ICTs at workplaces such as the school system has brought much coloration to the learning process (Idike et al., 2019). The implication of this coloration is multifarious as it touches every other part of the society since education is judged to be the bedrock of every development.

In the education sector, the application of ICTs has effectively and efficiently changed the nature of service delivery as the nature of service delivery in one sector has interconnectedness with other sectors as a result of the larger society being a microcosm of different parts (Ukeje et al., 2019). Emphasising the place of efficiency in service delivery, these scholars (Ukeje, Onele, Okezie, Ekwunife, Ogbonnaya & Nwangbo, 2020) have observed that efficient service delivery in both public and private establishments is a product of many factors including job ethics and working tools. These working tools could be hardware or software which greatly determine speed, modus operandi, efficiency and even the structure of the entire administration.

Many years ago, distant education would not be possible as the tools were lacking. Today, the emergence of ICTs has significantly aided distant learning as many courses are taken in correspondence. Elom et al. (2020) noted that the utilisation of ICTs in special learning centres like the prisons has brought quality education to the door post of the incarcerated and other learners in closed door settings. The application of ICTs in education is believed to deliver service at reduced cost as the use of ICTs in workplaces has proven to be instrumental in curbing criminality such as official embezzlement, corruption and dereliction of duty (Ekwunife, Kalu & Ukeje, 2020). In the same vein, the practice of public relations has been found to be instrumental for organisational performance and productivity. To practise public relations optimally in all settings including the school system, the application of the new media powered by the Information and Communication Technologies through the internet is a great advantage as this has unequal comparative advantage over the traditional media in terms of reach, speedy dissemination of information, target audience (especially the young population), freedom of use and personalization of content, among others (Ekwunife, Kalu, Ukeje & Eguavon, 2020). These advantages are prominent in the learning process among undergraduates at a global level, evident in speedy delivery of lessons in the aspect of real time interface, a welcome development by the young population and researchers, creation and sharing of personal content as well as making learning very personal for users.

Researchers believe that one of the strongest positive outcomes of the use of ICTs in the learning process is the aspect of virtual learning which is wide spreading from the developed nations to the developing ones. Ike (2020) argued that virtual learning is yet to gain ground in a developing country like Nigeria as the Covid-19 lockdown showed that there was no prior framework for virtual learning, hence, no public tertiary institution engaged in learning throughout the period in a developing country like Nigeria, and only about 20% of private tertiary institutions engaged in online learning throughout the period, to beat the constraints of institutional lockdown as a result of the ravaging pandemic. Shah et al (2010) underscored the difference in the use of ICTs for virtual learning in both the developed nations and the developing countries, hence, "In developed countries, people are more interested in learning through virtual campuses than that of a brick-and Mortar Campus. Virtual campus is nothing but ICTs enabled campus…" (p. 2). The use of ICTs all over the world for virtual learning has facilitated attendance to classes, interaction with facilitators, availability of learning materials, sitting for exams, submission of assignments, among many other learning activities without real-time interface between learners and facilitators. This also has huge implications on successful service delivery in the society, (Okechukwu, Ukeje & Ekwunife, 2016), and in the education sector in particular (Ogunniran, Edet-Utan & Bakara, 2016).

The wonders of the new media technologies in virtually all aspects of the society were rightly captured in the works of Ekwunife, Robinson, Ukeje and Ojiaku (2020) when they observed that these new communication technologies connect users all over the world in a twinkle of an eye and enable them to share ideas and learning without restriction, checkpoints or bureaucratic bottlenecks. This is particularly in the less developed nations where censorship of online materials and contents is not prominent.
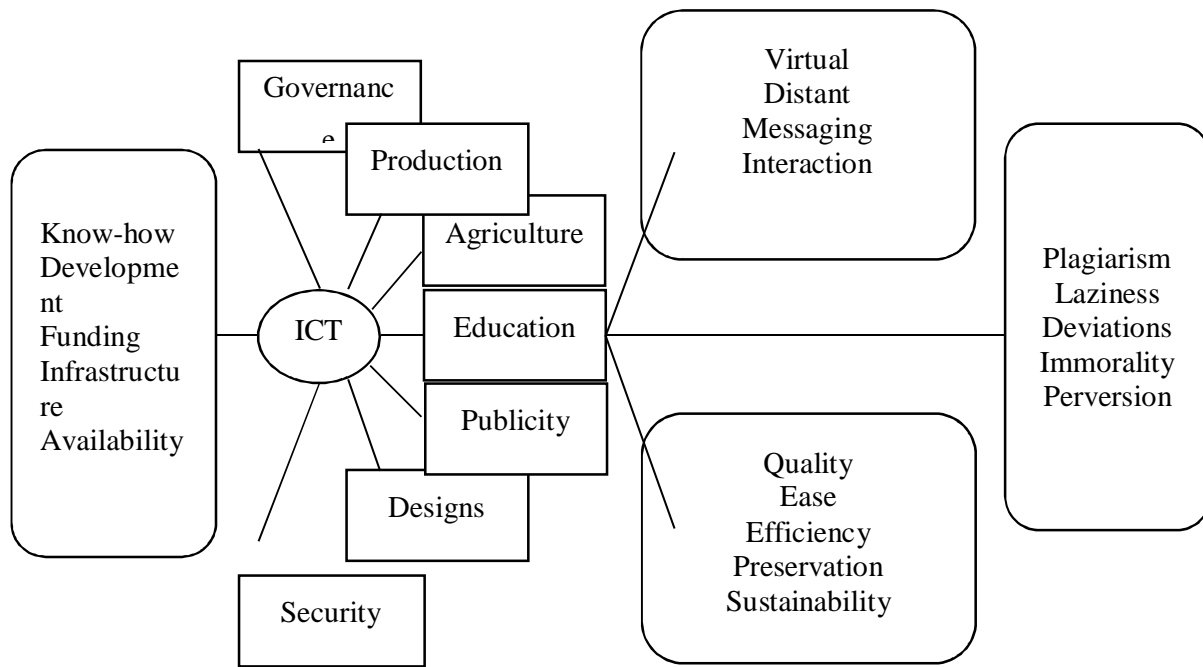
Figure 2: Conceptual model linking the ICT Policy Framework, Application Reality and Effective Learning Behaviour

This model explains the reality of ICT challenges, opportunities, processes, impacts and implications. The first interface from the left reveals the challenges and demands of ICT such as know-how, development, funding, infrastructure and availability. These are required to have a successful ICT implementation in any country. In developed states, their progress and improvement in ICT is an indication of the availability of these factors while in developing countries, they struggle with them and that is the reason for their stagnated ICT. Moreover, the third interfaces linked to ICT in the diagram showing governance, production, agriculture, education, publicity, designs, and security are possible areas among others where application of ICT can be made. Particularly, in this study, our interest is the application of ICT in education. In education, there are three focal things in the application of ICT namely: process, impacts and implications. Through ICT application in education via virtual learning, distant studies, messaging and interactive tools among students and scholars, there are impacts such as quality education and improvement in teaching and learning, ease of educational processes, efficiency in academic activities, preservation of knowledge and information, and sustainability of academic processes and strategies. In these, there are tendencies of implications such as academic crime like plagiarism, laziness among students due to easy life created through ICT applications, deviation from the standard of education, immoral behaviour through online interfaces, and eventual perversion of the purpose of education through ICT.

4. RESULTS/FINDINGS

Constraints to Effective Utilisation of ICTs for Sustainable Higher Education
 Emphatically, ICTs are technological tools that facilitate learning and make other classroom activities lively. Kishore (2003) argues that technological visual aids stimulate thinking and understanding. The utilisation of visual aids in the teaching and learning process has multiple

benefits (Mohanty, 2001). It is an impediment to the learning process that visual aids in teaching and learning, especially ICTs, have not been hitch-free in third world countries. This suggests that there are contending factors that interplay to ensure the ineffective use of ICTs for engendering sustainable higher education in Africa, especially Nigeria. Therefore, this study examined the very constraints to effective use of ICTs in teaching and learning towards sustainable higher education.

High cost of purchasing and installing information and communication technologies is one of the major constraints to effective use of ICTs in Nigeria. Imperatively, high cost of ICT facilities is part of the emerging challenges in application of ICTs to Nigerian educational assessment (Aworanti, 2016) which negates the sustainability of higher education.

There is a dearth of adequate ICT-based training for lecturers in underdeveloped countries in Africa, Nigeria to be precise. Corroborating this, Ekpenyong, Ogbeide and Robinson (2012) noted that there is a shortage of trained personnel in the application of software, operating systems, network administration and technicians that service and repair computer facilities. There is improvement in the level of computer literacy as a result of the introduction of computer studies into school curriculum in Nigeria and the enrollment of students into computer training institutes. The inadequacy in computer skilled labours is capable of constraining the effective use of ICT for sustainable higher education in Nigeria. In Nigeria, studies have equally confirmed that lack of ICT literacy among educators affects its use in schools (Aworanti, 2016). Similarly, Shabiralyani, Hasan, Hamad and Iqbal (2015) corroborate the foregoing by observing that there are few educators that are trained in the utilisation of ICTs across the globe. The implication of this is that there are teachers who are not able to discuss the types of software packages needed for effective learning (Shabiralyani et al., 2015). In Nigeria, university management hardly organises ICT training for the teeming population of academic staff who are saddled with the responsibility of teaching and conducting all kinds of research for the benefit of the learners and the polity at large. Given this, integration of technology into the classroom for teaching and experience has not been effective in the country owing to the high cost of ICT infrastructure. ICT application in the classroom as opined by Ranasinghe and Leisher (2009) starts at the point of lesson preparation where technology is utilised in meaningful dimensions. Integrating technology into curriculum, according to Koç (2005), enhances higher-order thinking skills of the students. Sequel to the inadequate training of the academic staff, sustainable higher education in Nigeria has become a wild goose chase.

Corruption is one of the glaring issues in Nigeria that manifests in different forms with damaging effects. One of the forms of corruption is academic corruption which is evident in Nigeria's education sector. Examples of academic corruption are: mismanagement of fund, inadequate release of running cost, inadequacy of teaching materials and so on (Chioke, 2021; 2022a). Academic corruption entails corrupt practices done by corrupt stakeholders in education sector that include maladministration, ghost teaching, property tort like conversion of teaching aids, favouritism in allotment of marks, sexual abuse of learners, embezzlement, misappropriation of fund, mismanagement of education funds and other related practices (Chioke, Agbodike & Nnaji, 2021, p. 111). Hence, by definition, academic corruption is the abuse of authority for both personal and material gain (Pierre, 2014). This has far reaching implications on development and societal transformation in Nigeria (Chioke et al., 2023). However, in the writing of Ekwunife et al. (2020), proper application of ICT infrastructure can be instrumental to checking the prevalence of criminality and corrupt practices in public/private sector organisations. Mismanagement of public funds in Nigeria, and not lack of funds is often claimed by the federal government as responsible for the inability of the government to

properly fund tertiary institutions (Dike, 2003). Academic corruption affects Nigeria in terms of educational development (Chioke, Agbodike & Nnaji, 2021). Mismanagement of education funds and inadequate release of running costs have hugely contributed to the inability of public schools to effectively utilise ICTs in teaching and learning processes. Given this, higher education has witnessed serious setbacks and therefore sustainability of higher education has been eroded. Corruption especially in higher education deserves serious attention (Jordan, 2016), because of its impact on sustainable higher education. As a result, corruption has been Nigeria's childhood threat (Chioke, 2016), even as the federal state was conceived through corruption by her corrupt parents (Chioke, 2021). Given the origin of this menace, "the rich and the poor see corruption as a means to various ends" (Chioke, 2020, p. 50), and this adds to the problems associated with using information communication technologies/education technologies in teaching to enhance sustainable education. Nigerian higher education has suffered non-availability as well as non-utilisation of ICTs-based teaching aids crafted for ensuring and enhancing the development and sustainability of higher education as a result of high rate of corruption in the country.

5. DISCUSSION

There is no gainsaying to the fact that Nigeria is battling with the issue of inadequate ICT training equipment and facilities. In a study, Aworanti (2016) discovered the prevalence of inadequate ICT training facilities for educational assessment in Nigeria. This current study perceives that this appears to be part of the persistent challenge constraining sustainable higher education in Nigeria as a result of the expensive nature of these visual aids coupled with the menace of poor implementation of anti-graft laws. In fact, the Economic and Financial Crimes Commission (EFCC) saddled with the responsibility of fighting against economic crimes has underperformed its anti-graft mandates of waging war against fraudulent practices in public organisations (Chioke, 2022b), and this has contributed to encourage inadequacy of training equipment for learners and students at all levels. Poor training equipment has therefore marred educational development, teachers' creative output and academic performance of students thereby leading to underdevelopment in the country. Given the fact that ICTs are enabling tools for educational reform (Ekwunife, 2022) in open and closed door settings, and the fact that different ICTs could help in expanding access to education, add to the significance of education to the workplace as well as increase educational quality when used properly (Aworanti, 2016), ICT has made provisions for a new practical and participatory approach in the learning process and for the attainment of sustainable higher education in Nigeria policy goals and objectives.

Epileptic power supply and high cost of surfing the internet add to the ruinous constraints to effective use of ICTs in engendering sustainable higher education. The findings of the research by Adomi, Omodeko and Otolo (2004) supported the foregoing that being a developing country, electricity failure has been a reoccurring constraint militating against the application of ICT in Nigeria. Despite several policy reforms in the Nigeria's power sector, the sector has not improved as the country still battles with the problem of epileptic power supply (Nnaji et al., 2023) and the problem of unstable electricity power supply affects the use of ICT.

The nature of issues portrayed in this study shows that there are associated implications. Nwaokugha and Ezeugwu (2017) contend that no one can say that corruption does not have negative implications on Nigeria's management of education. First, the study on its own has shown the need for a paradigm shift vis-à-vis the country's public policy and implementation thereof in the education sector, especially in the area of management. For its practical implication, the study illuminates the hitherto unclear paths and constituents of constraints

hindering effective utilisation of ICTs towards the attainment of a sustainably developed higher education in Nigeria. Considering this, the study implies that without mitigating the constraints to effective utilisation of ICTs, Nigeria will not record effective teaching and learning for sustainable higher education.

6. IMPLICATION TO RESEARCH AND PRACTICE

This article offered additional insight into the relationship that exists between ICT utilisation, policy challenges and effective teaching and learning in this era of globalisation. By implication, sound ICT usage and application results in successful or sustainable education management as it brings into dialogue stakeholders and by so doing pre-empt utilisation challenges or constraints and build policy sustainability. Thereby leading to funding partnership with external stakeholders as panacea to addressing ICT related constraints and challenges.

7. CONCLUSION

In lieu of the interplay of these constraints to effective utilisation of ICTs for sustainable higher education, it is certain that the end products of these issues include but are not limited to high rate of school dropouts due to wrong use of ICTs, poor academic achievement evident in high rate of plagiarism at all levels in the learning process and brain drain that are now prevalent in Nigeria.

To ensure adequate provision of sophisticated ICTs, this paper recommends that public-private partnership should be encouraged and adopted in equipping higher institutions in Nigeria with ICTs in the classrooms, libraries, offices, among others. Funding through public-private partnership will help tertiary institutions in the acquisition of ICT infrastructure such as VSAT installatio, purchase of alternative power supply such as lister, solar, etc, and provision of ICT capacity training, among others. Thus, there should be a paradigm shift in the implementation of educational administration and management in matters regarding funding and provision of teaching and learning aids. In the face of a society driven by ICTs, users (particularly students) should be guided on media use patterns so as to use technology in the best productive way instead of the misuse of ICT which leads to school drop-out and other ICT-aided scams. Tertiary institution management should also take into consideration the implications of ICT application that has an impact on both negative and positive aspects of educational life among students and scholars. This is to orchestrate remedy for arresting the ills and promoting the benefits of ICT application in the study area and beyond.

8. FUTURE RESEARCH

It is suggested that future researchers should undertake of the following:

- The moderating role of ICT application in tertiary institutions on effective teaching and learning behaviours.
- Overcoming constraints to effective teaching and utilisation of ICTs for sustainable higher education

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