Digital Skills and Tertiary Education in Nigeria, Addressing the Generational Gap Between the Genx and GenZ

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ABSTRACT

Digital skills have come to be indispensable in the creation and dissemination of knowledge and educational materials in our contemporary world. The global community, moving at a very fast pace, has advanced digitally in all spheres of life, and academics is not an exception. Consequently, experienced academicians who are lagging behind in digital literacy face serious difficulty contributing meaningfully to the academic community in this era. This obvious generational gap between our very senior academicians who lack digital skills and this generation of students, many of whom are tech-savvy constitute a challenge to the knowledge industry. It is on account of this that we seek to examine ways of bridging this generational gap, such that the wealth of experience of our very senior academicians could still be of benefits to the academic community. This study therefore focuses on the imperativeness of digital skills to contemporary education in Nigeria with a view to explaining the challenges and finding solutions to the problems. The documentary method of data collection and content analytical method was used for the study. This study recommends practical ways of improving acquisition of digital skills by a larger number of educators in Nigeria.

Keywords: Digital Skills, Digital literacy, knowledge, education

INTRODUCTION

Technology has taken the world by storm on account of digital revolution. The Fourth Industrial Revolution is anchored on the digital technology, which is speedily overtaking analogue mode in the global community. The Fourth Industrial Revolution, sometimes referred to as the digital age, is a time of endemic globalization (UNESCO-UNEVOC; 2022). They explained that the integration of technology in vocational education has provided a shift in the conventional learning paradigm to a more technology-based learning. The world is changing at the speed of lightening and everyone in all sectors must adjust accordingly if one must continue to remain relevant. This is even more important for our tertiary institutions, considering the fact that they essentially produce the human capital necessary for our industrial growth, development and competitiveness. UNESCO-UNEVOC (2022) noted that in order to provide vocational training that can support future human capital needs, to adapt to new technologies in this digital era, TVET teachers need to improve their digital competencies. The global community has become very competitive on account of the digital revolution. To this extent, anyone who is not abreast with the contemporary digital realities and requisite skills would soon be left behind.

Tertiary education in Nigeria aims to contribute to national development through high level manpower training, among other things (FGN; 2013). This was the central goal as clearly enunciated in The National Policy on Education, section 5, sub-section 80. To actualize this goal, tertiary institutions were established to equip members of the society with requisite skills, hard and soft alike, in different spheres of human endeavour, so as to contribute to national development. To this end, programmes were mounted in the various institutions of learning, adopting modes of instructions that are prevalent at the time. These modes and course contents are subject to periodic reviews as time evolves through curriculum development. Most of our tertiary institutions came into being in the late 1950s, 1960s and 1970s (the GenX era). Even the ones that came into existence in the 90s and in the new millennium were all modeled after the earlier ones in the bid to conform to the laid down rules and set standards. These tertiary institutions were also manned by the largely conservative men and women trained before or in the GenX era. These largely conservative and analogue generations were hesitant to

digitization in the academic institutions until it becomes compelling. This explains the slow pace of transition apparent in our tertiary institutions.

The institutions imbibed and continued with programmes, mode of instructions and the curriculum that were relevant to the industry of the time as handed down to them, without doing much to reshape in other to suit the contemporary society. Through deliberate policies, the government had taken steps to ensure the seamless transitioning of all sectors of the economy into the digital mode, and this includes the education sector. The lecturers, who handle these courses, were essentially trained to deliver those set of instructions that were meant to prepare the workforce needed in the pre-digital age industries, hence, the need for retraining. The GenZs who are born into the digital world grow up with reasonable knowledge of the digital skills, such that the lecturers often found themselves chasing from behind, to catch up.

The introduction of computers, the internet and the wave of globalization quickly revealed the need for adjustments in curriculum of our tertiary institutions. With the rapid introduction of computers in industries, basic computer literacy skills became an important condition for employability. Industry operators had to insist that their existing staff got retrained while new entrants must possess basic computer skills as a precondition for employment. Computer training centers sprang up in different corners of the city centers in the country, offering basic computer literacy trainings. Tertiary institutions, whose mandate it was to train high caliber manpower for the industries were cut napping and had to rely on the services of these computer centers for some trainings. The International Labour Organization (ILO) (2020) stated that with digital technology, the role of TVET teachers is increasingly not to deliver information, but to assist in interpreting information (UNESCO-UNEVOC; 2022). The lecturers therefore need a range of technological skills in terms of digital pedagogy, as well as an understanding of how learners are learning more individually or collaboratively, through a multitude of technology-enabled methodologies, including game-like learning environment and simulation.

Sooner, digitization of the system became inevitable, and many struggled to cope. Certain aspects of record keeping and management in our tertiary institutions had to be computerized. The internet spread and rapid changes in the information and communication technology developed so fast that the world was practically reduced to a global village. Improvements were made, though quite gradually, in adapting to the fast changing world in most Nigerian tertiary institutions. The digitization processes imbibed by most Nigerian tertiary institutions were process inclined and not pedagogical. This was the reason Nigerian schools, including the tertiary institutions had to shut down completely during the covid-19 lockdown period. The pandemic opened the eyes of many to the depth of opportunities offered by the digital tools for knowledge creation and dissemination. Many tertiary institutions groped in the dark with regards to how to continue educational activities during the pandemic times without bringing people together in one enclosure called classrooms. Online lectures were largely impracticable in Nigeria at the time, owing to a number of factors. This was not the case with tertiary institutions in Europe and America who had established online channels.

The covid-19 lockdown and its impact on education in Nigeria drove home the necessity of improving digital and online environment for educational and industrial purposes in Nigeria. This entails, improving on relevant infrastructures and dismantling the stumbling blocks for massive digital skill acquisitions and online studies for both teachers and students.

The Nigerian government, through Tetfund, has provided a whole lot of support to tertiary institutions in Nigeria, pursuant to this digitization processes and digital skill acquisition for lecturers. Tetfund provides financial interventions for public tertiary institutions in Nigeria for various infrastructural developments, ranging from structures, to equipping digital libraries with servers and internet subscriptions, enrolment of Nigerian tertiary education teachers and students into the ‘Tertiary Education Research Application and Services (TERAS) platform. Tetfund has also sponsored a lot of workshops and conferences aimed at improving the digital skills of lecturers in the Nigeria’s educational environment. However, this does not seem to be matching the huge gap already existing as a result of the generational gap between the GenX and GenZs with regards to knowledge creating and dissemination.

A cursory check at the number of lecturers who have benefitted from these government efforts reveals a rather shocking low number. The reason for this slow pace of transitioning would constitute one of the objectives of this study.

STATEMENT OF THE PROBLEM

Education across the globe has changed from what it used to be (traditional analogue methods) to largely digital and online methods, both in institutional administration and pedagogical approaches. The educational institutions must respond to the demands of the industry and the contemporary society. Every sector of the global economy is yielding to the obviously superior force of technological advancements, and the educational sector, must align. The educational sector produces the workforce for the industries, and even the social structures of the society. The contemporary society has also become very fast as a result of technological advancements, and very competitive. To cope, everyone must therefore be equipped with the requisite technological and digital skills, and this includes the teachers in Nigeria's tertiary institutions.

To this end, the Nigeria's Federal Government came up with policies aimed at equipping the teachers in Nigeria's tertiary institutions with requisite digital skills to promote effective teaching and learning in the Nigeria's tertiary institutions. Through policy actions and financial interventions by the relevant agencies of the government, structures are put in place to facilitate access to digital skill acquisitions by both teachers and students in the Nigeria's tertiary institutions.

The Federal government of Nigeria created, through the Tetfund, the Tertiary Education Research Application and Services (TERAS) platform for the enrolment of all students and researchers, onto the digital platform designed for easy and digital learning. According to Echono (the Executive Secretary Tetfund), the TERAS initiative was developed by Tetfund to address critical challenges faced by students, researchers, and institutions in accessing educational resources and research materials (TETFUND; 2024). Echono explained that the platform provides centralized hubs for tertiary educational services, where tertiary institutions, students and researchers can access world-class educational resources, monitor research for plagiarism, and many other educational activities. He further noted that some of the technologies captured under the platform include the Beneficiary Identity Management Services (BIMS), Aggregated Research Journals (EBSO), EagleScan for plagiarism, Blackboard Learning Management System, and so on. The Tetfund also, in vibrant collaboration with the NBTE, have been organizing workshops and training sessions for lecturers and staff of the Nigerian tertiary institutions.

These are some of the many commendable efforts of government to revolutionize tertiary education in Nigeria through strategic supports to digital learning in the Nigerian tertiary institutions. However, a cursory check reveals that a stunningly low population of the lecturers in Nigeria's tertiary institutions are benefitting from these.

The study therefore seeks to find percentage of lecturers in tertiary institutions in Enugu state participating in this digital platform created by Tetfund to aid research and digital learning. This study equally tried to investigate the reason for low population of teachers of tertiary institutions in Nigeria who are benefiting from the TERAS digital platform made available by the Tetfund.

Objectives of the study

This study has broad and specific objectives. The broad objective of this study is to examine Nigeria's performance in bridging the generational gap between the GenX, who are largely the lecturers and the GenZ, who are predominantly the students of our contemporary society for effective engagement through digital skill acquisition. The specific objectives of the study include to:

a) Investigate the proportion of lecturers of tertiary institutions in Nigeria who are benefiting from the TERAS digital platform made available by the Tetfund for easy learning and researches.

b) Ascertain the reason for the apparent poor enrolment of the lecturers to the TERAS digital platform established by the Tetfund to facilitate digital and easy learning in Nigeria's educational environment.

c) Determine the proportion of lecturers who have basic knowledge of essential digital tools.

d) Make recommendations for improved access to digital skills for both lecturers and students in the Nigerian education environment.

LITERATURE REVIEW

Digital skills and learning processes in the contemporary society (GenZ era)

Digital revolution has become irresistible with the massive technological changes in our contemporary society. Online technology has proven to be very important in generating and disseminating information, and this includes scientific researches. Our world is evolving at a supersonic speed, making it increasingly challenging to continue to rely on the traditional classroom teaching methods. The online and digital technologies provide a wonderful bridge for wider, faster and convenient learning environment, faster assessment and effective engagement. This was not lost by many scholars who had attempted to capture developments in the tech and digital world and how they have impacted our society. Dansca, Stempel'Ova, Takae and Annus (2023) observed that "with smart phones and other wireless technological devices becoming increasingly popular among the general public, it makes sense that schools and educational institutions are making effective use of them by bringing technology into the classroom". The scholars pointed out that educational leaders and policy makers are under pressure to adopt a systematic approach to the transformation enabled by digital innovation, consequent upon which, a wide range of educationally oriented digital materials and activities are becoming available. Some of these include the Learning Management Systems.

A learning management system (LMS) or virtual learning environment (VLE) is a software application for the administration, documentation, tracking, reporting, automation, training programmes, materials or learning and development programs (Ellis, Ryann; 2024). Accordingly, Raza, Qazi, Khan, and Salam (2021) observed that Learning management systems have faced a massive growth in usage due to the emphasis on remote learning during the covid-19 pandemic. Dancsa et al (2023) argued that over the past decades, the demands placed on educational systems have changed. Workers in the labour market need certain competences such as technical, methodological, social and personal competences. They pointed out that the aim of education today is to create a new educational paradigm that prepares the workforce of the future for the new challenges.

For Hargittai (2002), digital skills are defined in different ways, reflecting a lack of common terminology in the area. The varying levels of digital skills have been discussed for over a decade as it keeps evolving. Interestingly, a burgeoning literature largely agrees that the demand for digital skills has been growing and will continue to do so in many occupations, including occupations that traditionally have not involved technology" (Ian Hecker and Loprest; 2019). Ian Hecker and Loprest (2019) noted that "jobs that were before now, middle-level or low digital content, such as teaching, nursing, human resource management and secretaries have all become more digital oriented".

Online tools are now the most important resource for many job seekers, and many even search for jobs on mobile devices (Smith; 2015). Bernstein and Vilter (2018) found that people lacking basic computer skills cannot use online job search and workforce development tools.

Importantly, Ian Hecker and Loprest (2019) insisted that participating in education and training to improve skills may also be hampered for people lacking foundational digital skills. In the traditional model of education, teachers primarily focused on delivering content to students. However, the advent of technology has enabled a paradigm shift. Teachers are now actively involved in designing learning experiences, leveraging various tools and platforms to create engaging and effective educational content.

This is very exciting. The incorporation of technology allows teachers to explore innovative ways of presenting their lectures creatively. From interactive presentations to multimedia resources, teachers can utilize digital tools

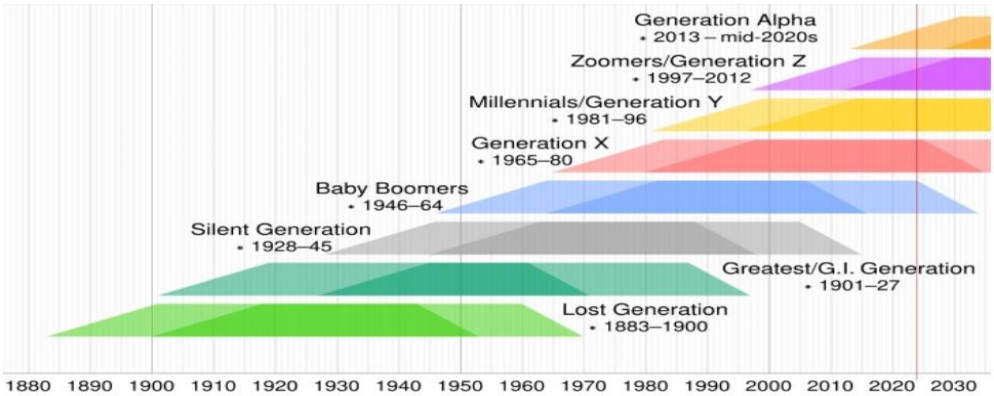
to make learning more interesting and dynamic, reflecting the real life situations. This allows teachers to infuse creativity and innovation into their lessons through the development of multimedia presentations, interactive simulations, or project-based assessments, thereby inspiring in their students to be more creativity.

Theoretical Framework: Theory of Generations

The theory of generations was developed by Karl Mannheim in his 1928 essay "Das Problem der generationen". This essay was translated in English in 1952 as "The Problem of Generations" (Mannheim; 1952). Accordingly, Pilcher (1993) pointed out that this essay has been described as the most systematic and fully developed theoretical treatment of generations as a sociological phenomenon. Mannheim (1952) contended that people are significantly influenced by the socio-historical environment, notable events that involve them actively, of their youth, shared experiences and social that in-turn influence event that shape future generations.

Mannheim defined a generation as a group of individuals of similar ages whose members have experienced a note-worthy historical event within a given period of time. He therefore opined that the social consciousness and perspective of the youths reaching maturity in a particular time and place is significantly influenced by the major historical events of that era. Willis (1977) however added that a key point is that this major historical event has to occur, and has to involve the individuals in their young age, thus shaping their lives as later experiences will tend to receive meaning from those earlier experiences. Mannheim however pointed out that not every generation will develop an original and distinctive consciousness (Pilcher; 1993). The scholar further explained that social change can actually occur gradually, without the need for major historical events.

Accordingly, Edmunds and Tuner (2005) identified the following classifications of generations: the late nineteenth and early twentieth century was the era of international generations, united through print media, and the mid-twentieth century saw the emergence of transnational generations, facilitated by new broadcast communications. The latter part of the twentieth century is the period of global generations, defined by electronic communications technology, which is characterized by increasing interactivities. Edmunds and Tuner (2005) also noted that the 1960s generation was the first global generation, the emergence of which had world-wide consequences. Today, with the technological advancements especially in communications, the world has even become a global village, resulting to the emergence of a global generation.



Timeline of generations in the Western world.

Source: Wikipeadia ...

Interestingly, the Mannheim's theory of generations was used as an attempt to explain how important historical, cultural, and political events of the late 1950, and early 1960s educated the youths of the inequalities in American society. This was manifest with their involvement with other generations in the 'Civil Rights Movements', which gave rise to a belief that those inequalities need to be changed with both individual and collective actions (Willis; 1977).

Critics however contend that this theory focused mainly on the youth experiences from the perspective of the Western society. They argue that the theory of generations centres on western ideas and lacks a broader cultural understanding. Nonetheless, this theory is very relevant in explaining the different generational tendencies with

regards to this study, and would be very useful in understanding the reasons, different generations tended towards addressing the prevalent challenges of their time.

METHOD OF DATA COLLECTION AND ANALYSIS

This study employed mixed methods approach. This implies that both primary and secondary sources of data collection approaches were employed. This was necessary to synchronize the qualitative data with the quantitative data so as to either reinforce or disprove existing thesis. Therefore, apart from generating relevant data from documentary evidences, structured questionnaires and online polls were prepared and circulated to elicit current data, especially as it concerns the state of awareness of digital platforms for those in academia, the level of digital skill acquisitions and enrolment of both staff and students of the tertiary institutions in Enugu state of Nigeria chosen for the study.

We selected one hundred lecturers and students randomly from each of the three selected tertiary institutions in Enugu state of Nigeria, namely – Federal Polytechnic Ohodo, Enugu state; Enugu state University of Science and Technology, and Institute of Management and Technology, Enugu.

Data generated were distilled and analyzed with the use of content analysis and percentage as may be applicable.

Empirical studies

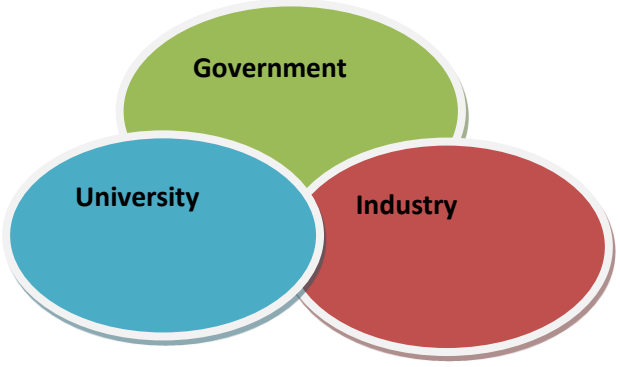
Here, attempt was made to examine empirical data as they relate to the subject matter. The Fourth Industrial Revolution, also known as 4IR or 4.0 refers to the fusion of the physical, digital and biological worlds (Ndungu & Signe; 2020). The influence of Industry 4.0 (4IR) on every aspect of lives is growing and the skills needed to experience its benefits are also changing (Isa; 2022).

The covid-19 pandemic significantly increased the adoption of digital platforms, leading to an urgent need to bridge the tech skills gap across the globe (Isa; 2022). He explained that Microsoft Corporation launched a global skills initiative to provide digital skills to 25million people around the world, as part of its corporate social responsibility (CSR). This programme provided beneficiaries with free access to content on various platforms such as LinkedIn Learning, Microsoft Learn, and the GitHub Learning Lab.

Skills, especially digital skills, are very important for success in the Fourth Industrial Revolution (4IR), and it is worth noting that knowledge institutions are a primary platform for providing skills (Isa; 2022).

As part of the industry-academia partnership, the world renown university of Cambridge partnered with the industries in its environs to establish a science park (Isa; 2022). He explained that this park has made the innovation ecosystem in the region very successful, with over 1000 technology and biotechnology companies emerging.

The triple helix model is also encouraged for promoting innovation that is based on the interactions between government, industry and academia, mostly represented by the University (Etzkowitz & Leydesdorff; 1995).



Source: Isa (2022)

Under the triple helix model, the government usually provides seed funding, policies, strategies, share experiences, infrastructure and other incentives to stimulate research and innovations. The academia carries out the research that underpins innovation. The interactions with government and industry increases their likelihood of receiving support to sustain their research on one hand while ensuring that the research focus is in alignment with the needs of the society and relevant industry on the other (Isa; 2022).

Basic computer literacy skills for effective engagement, knowledge creation and dissemination

Knowledge of basic computer literacy skills is essential for effective engagement, knowledge creation and dissemination in this digital era. Knowledge has essentially gone digital, and only those who can navigate the digital world can fit into today's knowledge industry. In essence, one cannot function effectively as an educator in the contemporary times without having basic computer literacy skills.

Some of the very important computer literacy and digital skills that have become compelling to function effectively in our tertiary institutions for which the study tries to ascertain the level of competencies among lecturers include:

a) Basic knowledge of word processing, example – Microsoft word

b) Basic knowledge of presentation packages, example – Powerpoint

c) Basic knowledge of graphic design packages, example – Corel Draw

d) Basic knowledge of data processing packages, example – Microsoft Excel

e) Basic knowledge of internet access, e-mail, e-books, e-journals, e-library

f) Basic knowledge of online resources and platforms that facilitates learning and researches

g) Understanding and taking advantages of the existing online Learning Management Systems, such as the TERAS, Blackboard and the Moodle LMS.

h) Taking advantage of other internet enabled platforms such as LinkedIn and Google scholar to explore, showcase and interconnect with contemporaries across the globe.

Interrogating the extent to which lecturers in the sampled tertiary institutions in Nigeria are equipped with the above mentioned skills, the result showed abysmally poor performances in all of the indicators mentioned above.

Of the three hundred (300) lecturers sampled across the three selected tertiary institutions in Enugu state of Nigeria, only twenty-nine lecturers have enrolled into TERAS platform, and know little about Blackboard and Moodle LMS (ie 9.7%).

For the basic knowledge of word processing packages, one hundred and ninety-eight lecturers affirmed ability to use word processing software to prepare notes (ie 66%). However, only one hundred and six of them (about 35%) do personally prepare lectures and deliver same through this means on account of some other factors which include availability of necessary infrastructure and tools. This allows the skills to get rusty.

Of the three hundred lecturers sampled, only ninety-two (92) can use Power-point packages to create learning materials and slide presentations aimed at disseminating knowledge (ie 30%). Many of them would rely on paid computer operators to prepare their slide presentations. This does not allow their personal touches. It also limits same to only when they have papers to present in workshops/conferences, and not as a regular means of engaging with the students.

Graphic designs help to engage the students, enhance creativity and ensure rapt attention and graphic illustrations to drive home messages and deepen understanding of both abstract and concrete concepts. The ability of the lecturers to make effective uses of graphic designs to enhance understanding of concepts cannot be over

emphasized. Unfortunately, our findings reveal that only twenty-seven (27) of the three hundred lecturers can work with graphic design packages such as Corel Draw (ie 0.9% of the sampled population).

The Microsoft Excel is an application that aid data presentation and analysis. It enables good uses of some calculation tools through its formula bar. Only one hundred and four (104) of the lecturers of the three institutions sampled were able to show knowledge of this application (ie 34%). Seventy-four (74) of them have not used this application for the past one year, suggesting rustiness. Only thirty (30) lecturers confirmed to using this application in the past one year (ie 9.9%). This is abysmally poor. This application makes it easier to create tables and carry out a lot of calculations with ease.

Basic knowledge of the internet and online resources enjoyed fairly good showing from the responses generated. Of the three hundred lecturers sampled across the three tertiary institutions, two hundred and six (206) have a reasonable knowledge of the internet and some online resources (ie 68%). This represents sixty-eight percent of the population sampled. However, this knowledge of the internet, for about one thirty-two (132) of them does not go beyond sending and receiving e-mails, browsing and conducting nominal researches with their electronic devices and face-booking and marginal social media activities. They practically have no idea of delivering lectures with Podcast, and other forms of digital platforms and content creation. This still leaves the population with the vital digital competence to about twenty percent (24%).

CONCLUSIONS

Acquisition of digital skill by practitioners in the academia has become more compelling now than ever. The world is increasingly going digital, and competitively so. The global economy is becoming more and more digitized. Industries and government sectors are getting increasingly digitized. Learning and research, irrespective of the disciplines, is increasing getting digitized. The Nigerian government has also been coming up with policies and programmes, through relevant agencies, to facilitate digitization across all sectors, and that includes the educational sector. The TETFund, the NBTE and other relevant agencies of government have been vigorously pursuing the transitioning and integrating the Nigerian educational system fully into the digital world. The results, though not impressive at the moment, is promising.

A number of reasons were found to be behind the apparent poor statistics of lecturers who could boast of sufficient digital skills and access to the available online resources. Part of this reasons include infrastructural deficiencies in most of the institutions and lack of awareness. Access to stable internet facilities and the costs of maintaining same was pointed as a factor. To remedy this, we commend the efforts of the TETFund in trying to support public institutions in Nigeria to provide these necessary infrastructures. There is however a huge gap to be covered in this regard.

Secondly, the level of awareness and utilization of the online resources and digital platforms created with the aid of government to facilitate learning and research is poor. A good number of the lecturers and students engaged do not even know of the existence of TERAS platform, Blackboard and the Moodle Learning System.

Many of the lecturers within the ages of 60years and above are reluctant to learning new digital skills. Interestingly, these categories of lecturers that are finding it extremely difficult to take to new skills belong to the early phase of GenX, whose retirement ages have come quite close. They therefore have very little motivations to take to new skills. The younger lecturers, who have more years ahead of them in the academic environment, have shown eagerness to rise to the challenges of the digital skill acquisition. This gives us the courage that the aggressive efforts of government in this direction will yield the desired result in no distant time.

RECOMMENDATIONS

This study recommends relentless efforts of government in the drive to support digitization of the educational system, and that includes the pedagogical approaches.

It also recommends the involvement/sensitization of the corporate giants who must see the need to strengthen the educational system through vigorous campaigns, partnership and investments in training the lecturers to up-skill and in-turn become more effective in training the workforce for the industries.

It finally recommends that heads of tertiary institutions must find ways to ensure rapid trainings of more numbers of their lecturers to acquire the basic digital skills in the overall interest of the society.

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