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EDITORIAL DESK

I wish to express my profound gratitude to Almighty God for the grace to successfully complete the volume 2 of the West African Journal of Educational Administration and Planning (WAJEAP).

The twelve articles were the products of well researched papers that were presented at the international conference held in May 2024 at the Presbyterian University of East Africa in Kikuyu, Nairobi, Kenya. The conference was well attended by over 25 universities across the globe. These published articles have been peer reviewed and plagiarism checks conducted on them before publication.

I, therefore, want to deeply appreciate the management team of the Presbyterian University of East Africa for making this publication a reality. All the writers and authors are congratulated for passing the stringent measures set by the guild of editors.

Congratulations to everyone.

Prof. M. O. B. Mohammed FNAEAP

Head, Editorial Team

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EMBRACING 5TH GENERATION TECHNOLOGY FOR THE SUSTAINABLE TRANSFORMATION OF EDUCATIONAL MANAGEMENT IN RURAL AREAS OF SOUTHERN NIGERIA

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ABSTRACT

Rural areas educational administration requires transformation through the current 5th generation of digital technology. This 5th generation mobile network as a new global wireless allows Internet users to move freely among a variety of devices, applications, sites and purposes. Hence, this has enabled many universities and schools in urban areas to enjoy the privilege of using 5G Technology as it facilitates communication in live stream video and sharing data among students and teachers with its high-speed operation performance. Its availability should not be limited to only the urban areas because most of the useful materials and resources for the development of our nation are obtained from rural areas. Thus, the administrative management managing the educational system needs to fully explore the use of G5 technology to foster sustainable transformation in our schools more so that most of the tertiary institutions established today fall into rural areas of our nation. This is the focus of this paper to transform rural areas so that they will grow sustainably like urban areas so far, we are in the era of solar power as a means of generating the required electric power for the operation and functionality of this G5 technology. Meanwhile, rural areas are the best place for students to maximally concentrate on their studies as they would be exposed to fewer distractions that are common in urban areas. Therefore, both students and educational managers should fully utilize and engraft the benefits of this G5 technology to transform rural areas educational systems.

Keywords: G5 technology, rural areas, educational system, administrative manager, sustainable transformation, solar power.

INTRODUCTION

Educational transformation and development are expected to be the focus of any developing country like Nigeria that is competing with other developed nations. This should not be limited to urban areas but globally spread to rural areas as a source of many resources that have been used in developing urban areas. If this development is realized it is of greater necessity to manage education of rural areas with the current G5 technology due to its tendency and propensity to bring undeniable transformation into our society at large. Meanwhile, quality education is an indicator of the success of educational institutions in implementing the role of education management appropriately (Ibrahim & Mazin, 2017). However, many educationists are yet to realize the transformation potential of ICTs which graduated to the G5 generation (Afariogun & Nwaozor, 2018). According to Oke (2014), it is highly imperative to provide quality education that will be enlisted as one of the best in the world, educational systems that will be able to cope with a very large number of students who are qualified yearly for university admission but could not get being admitted, educational system that will enable the world provide education for their large number of citizen within the limit of small budget and lastly educational system that will produce information technology oriented graduates that will be able to compete with the 21st century information

age standard. Therefore, in the world of education ICTs should be made to become part of the educational system, thus their use in education by both academic and non-academic even students as it is easier and faster to acquire data, store, retrieve, process and disseminate the information. Thus, administrators today must be computer literate and information literate for him to be able to get the required information, process it, use it and disseminate it to the appropriate recipients (Afariogun & Nwaozor, 2018).

Today, 5th generation technology has come onboard with numerous achievements and sustainable transformation in educational management, administratively and all in facet of life. This 5th generation is a new global wireless mobile network standard after 1G, 2G, 3G, and 4G networks which enables a new kind of network that is designed to connect virtually to everyone and everything together including machines, objects, and devices. It is an upgraded wireless network service that is distinguished by its high-speed as compared to 4G (Gao, 2021). 5G service allows internet users to move freely among a variety of applications, sites, and purposes. Universities and schools seem to enjoy the privilege of using 5G because it helps facilitate communication in live stream video, and sharing data among students and teachers. 5G offers a unique opportunity to develop both deep and distance learning within Virtual Reality and Augmented Reality. Both high speed and delay reduction make it possible to combine deep and distance education. This means that teachers and students face less problematic situations and get immediate reactions or assessments (Baratè, Haus, Ludovico, Pagani, & Scarabottolo, 2019a). Similarly, health-care systems seem to be affected significantly by 5G technologies because they help in developing more practical, low-cost and smart systems due to their fast data transmission and reliability (Ahad *et al.*, 2020).

Recent studies (Han & Zhang, 2020) have shown that acceptance of 5G is affected by TAM determinants such as PEOS, PU and PE which control the acceptance and adoption of technologies. (Han & Zhang, 2020) have added other influential factors: Perceived Interaction and Technological Enhancements as additional factors. The TAM model has been used by many researchers to assess technology users' behaviour, namely, Perceived Ease of Use and Perceived Usefulness. They include computer anxiety, self-efficacy, the experience of normative pressure and many other factors (Al-alak & Alnawas, 2011; Liu *et al.*, 2010; Mac Callum & Jeffrey, 2014a). What sets this research apart from previous literature is the addition of essential factors that affect 5G acceptance and adoption in a direct manner which include Perceived Skills Readiness, Perceived Enjoyment and Perceived Resources.

5G in Education

5G is the promised 5th generation wireless network that could hypothetically hit the 1 GB per 8 seconds transmission speed, which makes it extra-fast compared to the currently used 4G network. (Gao, 2021) reports that the 5G network is viewed as providing high data rates, reducing latency, saving energy, lowering costs, increasing system capacity and large-scale connectivity. This revolutionary development in network technologies will undoubtedly optimize education by enhancing the ability of education systems to create, upload and download content faster. It will also help educators Use Augmented Reality and Virtual Reality more to enrich the learning experience and bring more meaning to content. Such technology-enriched education will help educational systems reserve their resources, increase effectiveness and offer students the opportunity to take charge of their learning.

Lee and Kim (2020), point out different factors that impact the adoption of 5G in university-level education. These factors are the devices used in the learning/ teaching process and its characteristics, the learning environment, what is learnt and taught in the process and cost.

They argue that both cost and the learning environment play a major role in determining users' intentions towards using 5G in university-level education. The least effective factor is the device used in the learning/ teaching process. In a study conducted by (Huang *et al.*, 2020) to judge whether it is possible to depend on 4G LTE technologies and 5G LTE technologies in education, the findings emphasize that education can depend on both technologies for the presentation of clear, almost high-quality educational pre-recorded and live-stream videos. Moreover, adopting 5G technologies in schools and universities will enable teachers and students to create high-quality videos simultaneously. According to Li (2021), simulated teaching can also benefit from the adoption of 5G, where students English are provided with software that supplies them with clips and videos, and a web-based system through which students can use what they learned in the software to respond in virtually real dialogues. Such a combination of software and system will require a much faster, more dependable, and very secure internet connection to keep the simulation going, and this is exactly where 5G technologies fit in.

Liu *et al.* (2010) state that 5G can offer education a unique chance to develop both deep learning and distance learning by enhancing the learning/ teaching environment and equipping it with more "Artificial Intelligence, Interaction Mechanism, Virtual Reality and Augmented Reality", all of which require a dependable connection. 5G technologies provide such reliability in the form of speed and delay reduction, and ultimately help create a new type of education that is more hybrid, combining deep learning, distance education and online education. 5G is a set of promising technologies when it comes to music education. It provides an opportunity to improve the currently existing e-learning music education (Baratè, Haus, Ludovico, Pagani, & Scarabottolo, 2019b) and limitless possibilities of using Virtual Reality and Augmented Reality to teach regular online courses or hold large-scale online concerts and operas, (Baratè, Haus, Ludovico, Pagani & Scarabottolo, 2019). 5G technologies present a solution to a reoccurring problematic situation in music education.

Teachers and students alike face difficulty synchronizing performances and getting immediate or even fast-enough reactions or assessments, especially in classes or events that take place in different locations (i.e. distance education environment, online events or online performance) during which the need for synchronized visual-auditory content is pressing. 5G technologies are highly regarded where infrastructure is considered, especially if compared to high-tech devices. However, one must understand the importance of a wide and comprehensive process of actually building the necessary infrastructure that 5G technologies require, (Baratè, Haus, Ludovico, Pagani, & Scarabottolo, 2019b). Xu *et al.* (2019) pointed out that educational systems are now under much pressure to accommodate their online/ distance program infrastructure to the rising demand. This in turn will add to the data traffic load on the network which requires an adequate solution in the form of 5G technologies adoption in their infrastructure. In a study conducted by (Akbari, Rezvani, Shahriari, Zúñiga, & Pouladian, 2020) students' opinions are investigated regarding the level to which 5G technologies can be easily learnt, utilized and effortlessly used. It sets out to highlight that Perceived Usefulness indicates the degree of confidence on behalf of students when using 5G technologies can enhance their performance and effectiveness in classes.

Significance of the Study

The relevance of education in national development is encompassing as it results in political, economic, social and administrative transformations. Thus, there is a need to embrace and engage in the usage of the latest technology that will bring the expected and sustainable transformation to our education as the source and ladder through which other aspect of life

develops. Meanwhile, this 5G technology has been recognized and discovered as the only technology to provide high data rates at low cost and increase system capacity with large-scale connectivity coupled with high speed of performing operations. This revolutionary development in network technologies will undoubtedly optimize education by enhancing the ability of education systems to create, upload and download content faster than the previous generations of technology. This study therefore serves as an eye-opener to see the necessity of integrating technology into our daily activities for better achievement.

Management and Educational Management with G5 Technology

Management, according to Afariogun and Nwaozor (2018), is a difficult concept to explain because it is a way of life, with an essential ingredient for efficient production and a necessity for organized private life. Management is a concept where a group of people at the highest World level of an institution or organization plan, organize, communicate, co-ordinate, control and direct the actions and activities of people who work for the organization toward the achievement of organizational objectives. Prominent among them are Looniz and Resser as quoted by Ibukun (2004) who described the role of management as a process of designing and maintaining a conducive atmosphere for members of an organization who are working together towards the realization of set objectives as planning, organizing, staffing, leading and controlling to reach the end; and as utilizing the physical and human resources through co-operative efforts. Afariogun and Nwaozor (2018) further explained management as an act of managing people and their work, for achieving a common goal by using the organization's resources. This implies that management creates an environment under which the manager and his subordinates can work together for the attainment of group objectives. Dubrin (2010) conclusively saw management as a body that brings together 5M's of the organization, that is, Men, Materials, Machines, Methods, and Money to achieve the desired output.

To attain school objectives, develop school qualities, maintain school culture, and create a positive environment, mutual communication needs to be increased, an effective education depends on the responsibilities of the educational manager who should communicate robustly with his/her staff, as well as members of parent-teacher associations, parents, bus drivers, and so on (Laudon, Kenneth, Laudon and Jane, 2010). Effective management is crucial for creating an educational environment that nurtures intellectual growth, fosters innovation, and prepares students for the challenges of the future.

Here are some reasons highlighting the importance of management in educational institutions according to Deepak (2022).

1. **Strategic Planning:** Management is responsible for developing and implementing strategic plans for the institution. This involves setting long-term goals, defining the mission and vision, and outlining strategies to achieve academic excellence.
2. **Resource Allocation:** Efficient management ensures optimal allocation of resources, including financial resources, faculty, infrastructure, and technology. This helps in creating an environment conducive to learning and growth.
3. **Quality Assurance:** Management is instrumental in ensuring and maintaining the quality of education. This includes developing and implementing policies, procedures, and systems to monitor and enhance academic standards.
4. **Faculty Development:** Management plays a role in recruiting and retaining qualified faculty members. It also supports faculty development programs, research initiatives, and creates an environment that fosters continuous learning.

5. **Student Services:** Management oversees the delivery of student services, including counselling, career guidance, and support for extracurricular activities. A well-managed institution creates an inclusive and supportive environment for students.
6. **Infrastructure Development:** The planning and development of infrastructure, including classrooms, laboratories, libraries, and other facilities, fall under the purview of management. Adequate infrastructure is crucial for a positive learning experience.
7. **Admission and Enrollment Processes:** Management is responsible for designing admission processes, ensuring transparency, and attracting a diverse and talented student body.
8. **Financial Management:** Managing the financial aspects of the institution is critical for sustainability. This includes budgeting, financial reporting, and ensuring that the institution operates within its financial means.
9. **Accreditation and Compliance:** Management works towards obtaining and maintaining accreditation from relevant accrediting bodies. It also ensures compliance with regulatory requirements and standards set by educational authorities.
10. **Stakeholder Engagement:** Engaging with various stakeholders, including students, parents, alumni, and the community, is a key responsibility of management. Building positive relationships contributes to the overall success of the institution.
11. **Adaptation to Changing Trends:** The education landscape is continually evolving. Management is responsible for staying informed about emerging trends, technology advancements, and changing educational paradigms, and adapting the institution accordingly.

Educational management is all about the factual application of management principles in education fields (Hermania & Vinsensius, 2023). In educational management, decision-making for the present and future is very crucial to have a sustainable educational transformation. Therefore, for effective decision making, data and information to be timely, up-to-date and accurate, there is a need to embrace the latest technology due to its capability and ability to disseminate information at a very high speed with low network failure and wider coverage even to the rural areas. They are current tools that have the capability for information gathering, storage, processing, retrievals, and communication. These capabilities are developed into various systems for effective planning and administration of education. It is thus noteworthy according to Afariogun and Nwaozor (2018), that the technology has provided a paradigm shift to the age and manual methods of educational management as a must- to-implement for any education institution that is concerned to attain greater height globally and ready to compete among the equals in this dispensation of jet age. Thus, according to Deepak (2022), effective management plays a key role in shaping the overall environment, quality of education, and success of the institution provided such management embraces the use of modern 5G technology.

CONCLUSION

Having discovered the necessity of embracing G5 technology in the management of education most especially in rural areas, all hands must be on deck towards the computerization of schools and offices, towards the globalization of education and networked educational management. This networked educational management would only be practicable with the provision of the necessary latest technology (G5), computer training, appropriate database and internet connectivity. It is therefore apparent that good modern technologies are very

essential in our institutions because they will assist in meeting the high demand for timely and up-to-date needed information.

RECOMMENDATIONS

1. Sensitizing the educational managers on the importance of G5 to education for sustainable development.
2. G5 technology should be fully integrated into the process of educational management in our institutions.
3. Training and re-training of educational managers in the use of this technology is necessary for them to be conversant in its usage.
4. The Federal and State governments need to make useful policies and provide enough funds to the institutions in rural areas for them to possess modern technology.
5. The stakeholders of our institutions should ensure a National Internet Broadband connectivity policy to reach rural area locations easily via the Internet.

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