

# Innovations

## The Function of Information and Communication Technology (ICT) in Delta State, Nigeria's Secondary School Administration

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**Abstract:** *The study looked at how public secondary school administration in Delta State, Nigeria, was affected by information and communication technology (ICT). The research design used in the study was a descriptive survey. The study's population consisted of all Delta State public secondary school principals and instructors for the academic year 2023–2024. Fifty principals and two hundred and fifty teachers were selected using stratified random sampling. A questionnaire named the Information and Communication Technology and Administration of Secondary Schools Questionnaire (ICTASSQ) was the tool used to gather data. Using the Pearson product moment correlation coefficient, the instrument was validated and found to have a reliability coefficient of 0.81. Three research questions and three hypotheses were presented in order to get responses for the investigation. The obtained data were analysed using the mean and standard deviation, and the hypotheses were examined at the 0.05 level of significance using the Z-test. The application of information and communication technology can improve the delivery of administrative services, improve the teaching and learning process, and have a significant impact on school financial management in Delta State's secondary schools, according to the study's findings. Among other recommendations made by the study were that the government should supply sufficient ICT infrastructure for teaching and administrative purposes in public secondary schools, as well as regular and efficient supervision of these facilities.*

**Key words:** *Secondary School, Administration, Technology, Role, Information, And Communication*

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### Introduction

There are four distinct levels in Nigeria's educational system: pre-primary, primary, secondary, and tertiary. As educational systems at all levels continue to advance, educators—including curriculum planners, evaluators, and teachers—are under increasing pressure to keep up with the rapidly evolving information technology of the twenty-first century (FRN,2004).

Information and knowledge change quickly because the world is changing. Both the methods of instruction and learning as well as school administration must evolve. Information and communication technology (ICT) can increase learning opportunities, raise the standard of education, and make it more widely available. During the 32nd ministerial council meeting of the National Council on Education in 1987, Nigerian educational reforms emphasised the use of computer technology in schools because of these benefits (FRN, 2024).

The Nigerian National Policy on the adoption of Information and Communication Technology (ICT) in Schools was a significant policy in advancing the development of ICT in Nigeria. By strengthening this policy, it made clear how important information and communication technology is to the advancement of the knowledge and abilities required to function well in the contemporary world. Consequently, for the teaching and learning process to be effective in Nigerian schools, ICT integration is required. In September 2001, School Net Nigeria, a program to improve sustainable development in Nigerian schools, was introduced (FME, 2005). In order to support the advancement of education in the nation, School Net Nigeria established learning communities made up of teachers and students.

It is believed that the integration of ICT into school administration is a component of the wider technological modernization of education and administration, as well as the information society's efforts to promote electronic government (e-Government) and electronic learning (e-Learning) Saiti & Prokopiadou, (2009). The job of school administration entails assigning tasks and coordinating material and human resources to achieve predetermined goals. But as ICT has become more prevalent in contemporary society, using cutting-edge technologies to carry out diverse administrative tasks has become necessary throughout the educational system (Adeboye, 2015).

In essence, complete information and communication technology integration is necessary for certain critical areas of school administration in order to improve administrators' performance. They fall into the following categories: general administration, instruction, supervision, financial administration, personnel administration, and student administration (Makewa et al., 2013). Information and communication technologies (ICTs) are essential for strong and effective management in the field of education (Maki, 2008). Computers have large memory capacities, which allow them to store large amounts of data. They allow for speedy data processing with virtually little to no chance of processing errors. ICT improves the efficacy and efficiency of administration and management in education

(Edefiogho, 2005). For the successful execution of managerial functions in schools and other educational levels, high-quality information must be accountable at all levels to facilitate efficient decision-making. ICT has imposed many changes on administrative services, which has led to an increase in changes for administrators regarding leadership expectations, workloads, personal accountability, schools, human resource management, communication in decision-making, power and authority, and planning. Because of these changes, the school administrator will need to be computer literate in order to meet the demands placed on him.

In their analysis of the value of data in the educational system, Adegeni and Olayele (2010) stated that efficient record keeping is essential to the advancement of education. Additionally, they said that if records are not kept, or are kept carelessly or fraudulently, it will be impossible to plan and administer any institution. Therefore, for the purpose of efficiently planning and managing schools, educational planners and administrators require sufficient and precise data regarding student enrolment and school personnel records.

It is impossible to overstate the importance of ICT use in the educational system. According to (Nwosu, 2003), ICT helps school administrators fulfill their management responsibilities in the areas of curriculum and instruction, school-community relations, and school business operations. Mohammed (2006) made the case that integrating ICT into the classroom improves student learning outcomes, program updates, staff development, and problem-solving skills for both individuals and groups.

Again, Sait & Prokopiadou (2009), observed that within school administration ICT is implemented for the development of electronic applications for the management of administrative transactions and records, as well as for the rendering of well organized and prompt information services. These include electronic register, electronic curriculum, digital lesson materials, electronic monitoring of school progress. Haddad and Jurich (2002) asserted that ICT assist schools administrations in the efficient management of official functions, enhance supervision of students' progress, as well as in the improvement of school resources management, contributes to an easier and friendlier management of complicated and multilevel administrative transactions and promotes communication between school units, parents and principal administration and therefore cultivates responsibility on the part of school management, transparency in administrative actions, as well as the interlinking of school networks. Saiti & Prokopiadou (2009) succinctly pointed out that ICT provides the means for administrative transactions to be accompanied with electronic management tools in a digital environment, which is composed of

decentralized, yet interlinked web-based services. Nwosu (2003) highlighted a framework that suggests eight categories of ICT leadership that include: adventurous learning, protective enabling, constant monitoring, networking and challenging. Kearney and McGarr (2009) asserted that leader who is close to the curriculum and teaching are well placed to influence pedagogical change through ICT. School leadership harness commitment to improve teaching and learning through ICTs integration (Hayes, 2007). ICT is an efficient system that can enhance communication and social relationship between principals, teachers, students and supervisors.

Once more, managing school finances is one area of school administration where ICT tools must be implemented to improve administrative effectiveness. ICTs establish a supportive environment that unifies all financial transactions with the aid of accounting software to produce financial reports required to sway the choices of both current and prospective investors (Andrabi et al., 2017). One of the most dependable ways to offer a solid foundation for an efficient internet-based financial reporting control system is through ICT. A strong information and communications technology (ICT) system actually offers a reliable means of delivering financial data that encompasses the school's whole accounting cycle.

It follows that secondary school education has undoubtedly grown more complex, necessitating greater administrative effort in order to manage. School principals now have to manage a lot of data that they must process quickly in order to give the Ministry of Education and Teaching Service Commission the information they need for efficient management and decision-making. This is due to the significant increase in student enrolment as well as the variety of programs offered. Therefore, in the secondary school system, using ICT for administrative purposes is essential. Against this backdrop, the purpose of this study was to investigate how information and communication technologies are used in the management of public secondary schools in Delta State, Nigeria.

### **Conceptual Framework**

#### **Administration of the School**

The goals of education in Nigeria are outlined in the National Policy on Education for all educational levels. The most significant goal that is shared by all educational levels is teaching and learning. Producing knowledgeable, enlightened individuals who can make constructive contributions to the advancement of society is the role of education.

According to Olaniyi (2001), a school is a micro-community that exists within a larger community to shape children's habits, interests, attitudes, and feelings and pass them down from generation to generation. The school employs both teaching and non-teaching staff in addition to the students. The National Policy on Education (2004) states that the goals of the school are to be met through the use of these human resources in conjunction with other resources including equipment, supplies, and money. In order to achieve the goals of the school, administration is crucial. In other words, the way the school is administered has a big impact on the system's performance. To ensure that all parties involved—teachers, support staff, students, and resources—work together harmoniously to accomplish the system's objectives, they must be arranged, monitored, and controlled effectively.

The process of establishing, maintaining, and growing educational institutions in accordance with their objectives involves applying administration principles, techniques, and practices. This process is known as school administration. Facilitating the achievement of objectives through the methodical use of available human and material resources can be the focus of the discipline of administration. School administration involves allocating human, material, and programme resources to education in order to achieve learning goals (Omoregie, 2005). It means that in order to accomplish the goals of education, school administration must systematically use the human and material resources at its disposal to carry out educational programs within the bounds of educational policy.

Angie and Ugwu (2013) define school administration as the methodical and methodical utilisation of programmes, personnel, and materials that are made available for instruction in order to accomplish learning objectives. This refers to organising the programs, materials, and human resources that are available for education and using them methodically and carefully to meet learning goals. These three aspects—student personnel management, staff personnel management, and school financial management—are all part of the school administration.

### **Information and Communication Technology (ICT)**

Computers, laptops, computer networks, internet digital printers, and mobile devices are examples of microelectronic and telecommunication tools that are used by administrators to record, store, process, retrieve, and transmit information (Kokt & Koelame, 2013). Adebayo (2013) defines information and communication technology (ICT) as the technology that supports activities involving the creation, storage, manipulation, and communication of information. Similarly, Maki (2008) claimed that ICT activities are connected to the management of school administration regarding student personnel, resources, finance, and general

administration. By making the process more widely accessible, the incorporation of ICT into admissions improves school admissions activities overall (Iyekowa & Obuch, 2005).

The application of information and communication technology in recent years has created numerous opportunities for both human and economic development (Akorunaye, 2015). Technology decentralises authority, democratically disseminates information, and unites people, systems, and organisations more than before (Akpan-Obong & Alozie, 2016). By giving timely information to all parties involved, ICT contributes to a strong communication system in the educational system. As a result, increased efficiency and optimal resource utilisation have resulted from the integration of ICT into general administration (Iredia & Udi, 2020). ICT platforms are also a potent tool for expanding educational opportunities, offering resources for remote learning, and providing a continuously growing array of new services that have a significant financial impact on the standardisation of information in the educational system (Nwafor, 2005). According to Yusuf (2005), the computer-based tool is also utilised to process information and communication technology needs in the educational system, which aligns with the Federal Government of Nigeria's well-articulated information technology goals, which include mandating the use of ICT at all educational levels. Regrettably, the government's efforts to guarantee the use of ICT platforms in the achievement of educational goals are still far from being realised. Using ICT involves a significant time and energy investment to become familiar with the new system, which has expenses. Additionally, it would be useless to invest in ICT if there was no plan to fully integrate it into government in a purposeful and beneficial way (Akpan-Obong & Alozie, 2016).

### **The function of Information and Communication Technology**

Information is viewed as a very valuable resource by organizations, including secondary schools, all over the world. It provides opportunities for risk management, economic prospects, legal, and fiscal aspects as well as a competitive edge. Information and communication technology (ICT) has made organizations significantly different by enabling new ways to disseminate information both inside and outside of the organization (Ugwoke et al., 2015). In order to take advantage of the opportunities presented by the rapid growth of information, knowledge, and technology, ICT use in the workplace helps people develop an enquiring, critical, and creative mind. The technological modernization of educational administration includes the use of ICT in the classroom in the twenty-first century. Using ICT in school administration ultimately aims to achieve efficiency and effectiveness in tasks such as instructional supervision, staff, student, and facility management, community

relations, and school business operations through the devices' ability to automate processes. Thus, ICT (information and communication technology) devices are the catalyst for development and empowerment, and their applications are essential to the efficacy and efficiency of contemporary organizations. Numerous studies look at ICT and school administration from a variety of angles. ICT use improved personnel and financial management of the school's operations, according to Mutisya's (2017) research on public secondary schools in Malaysia. According to a 2009 study by Saiti and Prokopiadou, the use of ICT in Greek secondary schools has streamlined general administrative processes and cut down on pointless red tape. In a similar vein, Atsu (2014) claimed that the integration of ICT into the educational system enhanced the oversight of the curriculum, online results printing for students, and external exam registration. ICT also made record keeping, school grading, and student academic progress tracking more efficient (Okon et al., 2018).

Eyo (2012) illustrates how information and communication technology (ICT) will play a bigger part in the management of schools in the future by describing how using digital libraries, e-mail, the internet, and other e-learning resources can help achieve efficiency in secondary education's educational goals. ICT also makes it easier and possible for schools to keep adequate and accurate records and to make them available upon request. With the media that is electronic, the development, planning, and execution of educational policies and programs, as well as their evolution, are made more effective and efficient. According to Yusuf (2005), information and communication technology (ICT) has the power to support teaching and school reform while also accelerating, enriching, and deepening learning as well as motivating and engaging students to help connect academic experiences to real-world applications and practice. By using ICT in school administration, principals can, among other things, store permanent data on staff and student personal information, search the internet for current information, write marks or returns, register students online for WASSCE/NECO examinations, present engaging papers in workshops and seminars using power point displays, communicate with colleagues across the globe, and retrieve information for quick decisions (Oboegbulem and Ugwue, 2008). To improve their performance in this era of information explosion and technological advancement, administrators who play important roles in implementing the country's educational policies must be well-informed and have access to sufficient ICT facilities.

### **Problem Statement**

In order to achieve broad socio-economic goals in employment, health care, education, and social development, as well as to boost economic productivity through digital economies, information and communication technology, or ICT, is

essential (UNESCO, 2004). Actually, secondary school administrative services like purchasing, registration fee payment, and admissions have been more impacted by ICT. Students' learning experiences are being altered by it because of the limitations of time and space, in addition to making information more easily accessible. Consistent with the utilitarian goals of ICT in education, it is important to emphasise that for ICT to truly have an impact on secondary school administration, it must play an active role in school management. Principals are frequently overburdened with generous duties that call for constant attention. School principals now have to manage massive amounts of data that they must quickly process through the use of ICT due to the sharp increase in the number of students enrolled in schools, the multiple programmes offered, and the complexity of running a particular secondary school. In order to better understand how information and communication technologies are used in Delta State, Nigeria, public secondary school administration, this study will look into this topic.

### **The Study's Objectives**

The major objective of this study is to examine the role of Information and Communication Technology (ICT) in the administration of public secondary schools in Delta state, Nigeria. Specifically, the study sought to:

1. Examine the roles of Information and Communication Technology (ICT) on students' administration in public secondary schools in Delta state, Nigeria.
2. Determine the roles of Information and Communication Technology on financial administration in public secondary schools in Delta state, Nigeria.
3. Identify the roles of Information and Communication Technology (ICT) on supervision of instructions in public secondary schools in Delta state, Nigeria.

### **Research Questions**

The study specifically sought answers to the following research questions

1. What are the roles of Information and Communication Technology (ICT) on students' administration in public secondary schools in Delta state, Nigeria?
2. What are the roles of Information and Communication Technology on financial administration in public secondary schools in Delta state, Nigeria?
3. What the roles of Information and Communication Technology (ICT) on supervision of instructions in public secondary schools in Delta state, Nigeria?

### **Hypotheses**

The following hypotheses were formulated for the research and tested at 0.05 level of significance:



1. There is no significant difference between the mean ratings of principals and teachers on the roles of Information and Communication Technology (ICT) on students' administration in public secondary schools in Delta state, Nigeria.
2. There is no significant difference between the mean ratings of principals and teachers on financial administration in public secondary schools in Delta state, Nigeria.
3. There is no significant difference between the mean ratings of principals and teachers on supervision of instructions in public secondary schools in Delta state, Nigeria.

### **Methodology**

The survey-style descriptive research design was used in this study. The study's population consisted of all Delta State public secondary school principals and teachers. Based on the three senatorial districts in Delta State (Delta North, Delta Central, and Delta South), 50 principals and 250 teachers were chosen using a stratified random sampling technique. The study employed the "Information and Communication Technology and Administration of Secondary Schools Questionnaire (ICTASSQ)" as the data collection tool. The survey was divided into two sections: A and B. Respondents' personal information was solicited in part A, and each research question was thoroughly addressed in part B's itemised questions. Test and measurement and educational management specialists assessed the instrument's content validity. Before the instrument was given to the respondents, the items were corrected based on their feedback. Using test-retest reliability techniques, the instrument's reliability was established. Twenty principals and teachers who weren't in the study area were given the questionnaire in this manner. The identical instruments were given to the same respondents again after a two-week interval. The pearson product moment correlation coefficient was used to analyse the gathered data. The instrument was deemed reliable for the study based on its reliability coefficient of 0.81. Three research assistants assisted with the administration of the device. The data collected from the respondents was analysed using the statistical tools of mean and standard deviation. A criterion mean value of 2.50 was established for the decision of acceptance or rejection because four point rating scale instruments were used in the data collection process. This suggests that when an item's mean response was greater than 2.50, it was accepted, and when it was less than 2.50, it was rejected. At the 0.05 level of significance, the null hypotheses were tested using the Z-test.

**Presentation of Results**

**Research Question 1**

What are the roles of Information and Communication Technology (ICT) on students' administration in public secondary schools in Delta state, Nigeria?

**Table 1:** Mean and standard deviation of respondents on the roles of ICT on students' administration in school.

S/N	Items	Principals (N=50)		Teachers (N=250)		
		X	SD	Decision	X	SD
<b>Decision</b>						
1.	Management of students personal needs Agree	3.20	0.44	Agree	2.42.	0.17
2.	Measurement of performance metrics and grading Agree	3.24	0.46	Agree	3.24	0.20
3.	Communication from teachers to students Agree	3.24	0.44	Agree	3.27	0.20
4.	Time table scheduling Agree	3.34	0.46	Agree	3.29	0.20
5.	Tracking of student enrolment record Agree	3.22	0.44	Agree	3.12	0.17
<b>Grand Mean &amp; SD</b>		<b>3.26</b>	<b>2.24</b>	<b>3.16</b>	<b>0.94</b>	

When it comes to the use of information and communication technologies (ICT) in students' administration in Delta State's public secondary schools, principals and teachers' mean scores and standard deviations are shown in Table 1. The average answers above the criterion mean value of 2.50 showed that information and communication technology (ICT) makes it easier to manage student personal records, measure performance metrics, communicate with students, schedule timetables, and keep track of enrolment records. Additionally, the responses were clearly acceptable, as evidenced by the grand means of 3.26 and 3.16 for principals and teachers, respectively. Additionally, they showed a distinct deviation from the statement and convergence, with a standard deviation ranging from 2.34 to 0.44.

**Research Question 2**

What are the roles of Information and Communication Technology on financial administration in public secondary schools in Delta state, Nigeria?

**Table 2:** Mean and standard deviation of respondents on the roles of ICT on financial administration in school.

S/N Items (N=250)	Principals (N=50)			Teachers	
	X	SD	Decision	X	SD
<b>Decision</b>					
6. Payment of Teachers' salaries and Allowances Agree	3.28	0.45	Agree	3.16	0.17
7. School financial report Agree	3.24	0.44	Agree	3.22	0.20
8. Preparation of school budgets Agree	3.22	0.46	Agree	3.12	0.17
9. Proper keeping of accounting record Agree	3.34	0.44	Agree	2.13	0.17
10. Documentation and calculation of operational findings Agree	3.24	2.24	Agree	3.31	0.20
<b>Grand mean &amp; SD</b>	<b>3.26</b>	<b>2.24</b>	<b>3.18</b>	<b>0.91</b>	

Table 2 displayed the respondents' mean and standard deviation regarding the roles of ICT in financial administration in public secondary schools in Delta State, Nigeria. As a consequence, every item in the table of participant responses scored higher than the 2.50 criteria mean, according to the results, and all of the items were approved. This suggests that ICT assists in the following areas: creating school budgets, paying teachers' salaries and other operational findings; maintaining accurate account records and documentation; and computing operational findings. Furthermore, the responses were found to be highly acceptable, as indicated by the grand means of 3.26 and 3.18 for principals and teachers, respectively. Their standard deviation fell within the range of 2.24 to 0.91, suggesting a closer deviation and convergence with the statement.

**Research Question 3**

What the roles of Information and Communication Technology (ICT) on supervision of instructions in public secondary schools in Delta state, Nigeria?

Table 3: Mean and standard deviation of respondents on the roles of ICT on supervision of instruction in school.

S/N	Items	Principals (N=50)		Teachers (N=250)		
		X	SD	Decision	X	SD
<b>Decision</b>						
11.	Monitoring teachers compliance to Agree school policies	3.28	0.45	Agree	3.24	0.20
12.	Observation of teachers performance Agree	3.34	0.46	Agree	3.12	0.17
13.	Improving teachers competence for Agree modern teaching	3.22	0.44	Agree	3.29	0.20
14.	Bringing teachers to minimum standard Agree for effective teaching	3.34	0.46	Agree	3.13	0.17
15.	Management of human and material Agree resource	3.32	0.46	Agree	3.22	0.20
<b>Grand Mean &amp; SD</b>		<b>3.28</b>	<b>2.27</b>		<b>3.20</b>	<b>0.94</b>

The table displays the average evaluations and standard deviations provided by educators and principals regarding the impact of Information and Communication Technologies (ICT) on the oversight of teaching in public secondary schools located in Delta State. The table showed how ICT supports the monitoring of teachers' adherence to school policies, performance evaluations, enhancing teachers' proficiency with contemporary teaching methods, raising teachers' bar for effective instruction, and managing personnel and material resources for instruction. All of the items had scores higher than the 2.50 criteria mean. Additionally, the responses

were found to be highly acceptable based on the grand means of 3.28 and 3.20 for principals and teachers, respectively. Their standard deviation fell within the range of 2.27 to 0.94, suggesting a closer deviation and convergence with the statement.

**Hypothesis 1**

There is no significant difference between the mean ratings of principals and teachers on the roles of Information and Communication Technology (ICT) on students’ administration in public secondary schools in Delta state, Nigeria.

**Table 4:** Z-Test analysis on the difference between principals and teachers on the roles of ICT on students’ administration in schools.

Variables	N	X	Std	df	z-cal	z-crit	Remark
Principals	50	3.26	2.24	298	0.31	1.96	Accepted
Teachers	250	3.16	0.98				

Significant at 0.05 level Alpha level

Table 4 reveals z-test analysis on the roles of Information and Communication Technology (ICT) on students’ administration in public secondary schools in Delta state, Nigeria. The table indicated that principals have mean and standard deviation scores of 3.26 and 2.24, while teachers have mean and standard deviation of 3.16 and 0.94, respectively. At 0.05 Alpha level and 2.98 degree of freedom, the z-calculated value (1.96), thus the hypothesis was not rejected. Hence, it was concluded that the opinion of principals and teachers on the on the roles of Information and Communication Technology (ICT) on students’ administration are not significantly different to each other.

**Hypothesis 2**

There is no significant difference between the mean ratings of principals and teachers on financial administration in public secondary schools in Delta state, Nigeria.

**Table 5:** Z-Test analysis on the difference between principals and teachers on the roles of ICT on financial administration in schools.

Variables	N	X	Std	df	z-cal	z-crit	Remark
Principals	50	3.26	2.24	298	0.25	1.96	Accepted
Teachers	250	3.18	0.91				

Significant at 0.05 level Alpha level

Table 5 showed that teachers had mean and standard deviation scores of 3.18 and 0.91, respectively, while principals had mean and standard deviation scores of 3.26 and 2.24. The z-calculated value of 0.25 is less than the z-critical of 1.96, indicating that the hypothesis was not rejected at the 0.05 Alpha level and 2.98 degree of freedom. Consequently, when it comes to the means of principals and teachers regarding the contributions of Information and Communication Technology (ICT) to financial administration in public secondary schools in Delta State, Nigeria, there is no discernible difference.

**Hypothesis 3**

There is no significant difference between the mean ratings of principals and teachers on supervision of instructions in public secondary schools in Delta state, Nigeria.

**Table 6:** Z-Test analysis on the significant difference between the mean ratings of principals and teachers on the roles of ICT on the supervision of instruction in in schools.

<b>Variables</b>	<b>N</b>	<b>X</b>	<b>Std</b>	<b>df</b>	<b>z-cal</b>	<b>z-crit</b>	<b>Remark</b>
Principals	50	3.28	2.27	298	0.25	1.96	Accepted
Teachers	250	3.20	0.94				

Significant at 0.05 level Alpha level

Teachers have mean and standard deviation scores of 3.20 and 0.94, respectively, while principals have 2.27 and 3.28, as shown in Table 6. The hypothesis was not rejected because the z-calculated value of 0.25 is less than the z-critical of 1.96 at the 0.05 Alpha level and 2.98 degree of freedom. Consequently, there is no discernible difference in the average evaluations given by principals and teachers regarding the functions of information and communication technology (ICT) in overseeing instruction in public secondary schools located in Delta State, Nigeria.

**Discussion of Results**

In addition to using pertinent literature to support the study, the researcher adhered to the data arrangement. Information and communication technology is helpful in managing students' personal records, measuring performance metrics and grading, communicating from teachers to students, scheduling time slots, and keeping track of students' enrolment records, according to the study's findings for research question one. The efficient administration of students' affairs is actually made possible by ICT. According to hypothesis one, there is no statistically significant variation in the average evaluations given by principals and teachers regarding the

impact of information and communication technology (ICT) on student administration in public secondary schools located in Delta state, Nigeria. This aligns with the findings of Okon et al. (2018), who claimed that ICT improves efficiency in student academic progress tracking, grading, record management, and school systems. Similarly, (Oboegbulem & Ugwu, 2008) pointed out that principals in school administration have access to a variety of information retrieval and storage tools, including the ability to store permanent information on students' personal data, search the internet for current information, compose and return letters, register students online for WASSCE/NECO examinations, deliver engaging papers in workshops and seminars using power point displays, coordinate with colleagues across the globe, and retrieve information for quick decision-making. Research question two also demonstrated the effects of ICT on financial management in Nigeria's Delta state public secondary schools. The study discovered that ICT aids in the payment of teacher salaries and other benefits, the preparation of school budgets, the preparation of financial reports for the school, the accurate maintenance of account records and documentation, and the computation of operational funding. Furthermore, according to hypothesis two, there is no discernible difference in the average evaluations of principals and teachers regarding the utilisation of Information and Communication Technology (ICT) in financial administration in public secondary schools located in Delta State, Nigeria. The results of Mutisya (2017), who claimed that ICT use improves staff and financial management of the schools as well as record keeping of all aspects of the school activities, are consistent with this. To support this claim, Andrabi et al. (2017) found that ICT creates an environment that integrates all financial transactions with the use of accounting software to produce financial reports that are necessary to sway the decisions of both current and potential investors.

Once more, research question three demonstrated the effects of information and communication technology (ICT) on teaching supervision. The results of the study showed that ICT supports the maintenance of teachers' performance, raising their effectiveness to the bare minimum required for efficient use of both human and material resources. According to hypothesis three, there is no discernible difference in the average evaluations of principals and teachers regarding the functions of information and communication technology (ICT) in overseeing instruction in public secondary schools located in Delta State, Nigeria. This is consistent with the theory put forth by Hayes (2007), according to which school leadership can use commitment to enhance teaching and learning through ICT integration. Additionally, Atsu (2004) claimed that the use of ICT in the educational system enhanced online printing of student results, supervision of the curriculum, and registration for outside exams. Using ICT in school administration is ultimately driven by the devices' ability

to automate procedures and achieve efficiency and effectiveness in tasks like community relations, staff, student, and facility management, instructional supervision, and school business operations.

### **In conclusion**

There are countless advantages to using information and communication technology (ICT) to improve both the volume and quality of instruction in our secondary education system. Actually, secondary school administration services can be provided more effectively with the use of ICT. In this enlightened age, the growing trend of technology that facilitates information sharing has a significant impact on every aspect of society. Thus, the use of developing information and communication technologies created specifically for this purpose can greatly accomplish a variety of administrative tasks in the school system at a higher level of accuracy. Put simply, the integration and complete implementation of ICT in secondary education will guarantee a sophisticated administrative structure that synchronises school management with the information society's tenets and tactics.

### **Guidelines for Action**

The recommendations listed below were suggested in light of the findings:

1. The government should assume full accountability for funding secondary education by allocating funds to enable ICT facilities in classrooms.
2. To promote connectivity between parents, teachers, and students, school administrators should receive training on how to use social media networks and other ICT resources.
3. The government ought to make it mandatory for all secondary public schools to employ cutting-edge technology for both instructional and administrative purposes. Students and other academic staff will be able to learn about the latest technological trends thanks to this.
4. The ministry of education should oversee ICT facilities in public secondary schools on a regular and efficient basis.
5. Enough computers and ICT resources should be provided by the government to public secondary schools for both instructional and administrative needs.

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