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## **Principals' Utilization of Information and Communication Technology (ICT) for Effective Management of Secondary Schools in Awka Education Zone, Anambra State Nigeria**

<sup>1</sup>*Helen. C. Onuorah (Ph. D),* <sup>2</sup>*Nwamaka Regina Chukwu*

<sup>1</sup>Department of Educational Management and Policy, Faculty of Education, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

<sup>2</sup>Department of Educational Management and Policy, Faculty of Education, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

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### **ABSTRACT**

This study sought to investigate the extent of principals' utilization of Information and Communication Technology (ICT) for effective management of secondary schools in Awka Education Zone of Anambra State. Descriptive survey was used and the study was carried out in Awka Education Zone. The population of the study comprised 62 Public Secondary Schools' Principals in Awka Education Zone of Anambra State. 26 structured questionnaires in two clusters was developed by the researcher which was validated by three experts two from Educational Management and Policy, one from measurement and evaluation unit all in faculty of education, Nnamdi Azikiwe University Awka was used for data collection. To establish reliability of the instrument pilot test was conducted and the questionnaire items was administered on 20 Principals in Ogidi Education Zone who were not included in the population of the study. Cronbach Alpha reliability method coefficient data obtained yielded score was 0.75 for the internal consistency which was deemed fit for the study. Data collected from the respondents was analysed using statistical mean. The findings revealed that principals utilized Information and Communication Technology (ICT) features and application in school management to a low extent. Also findings of the study revealed that principals' utilization of Information and Communication Technology (ICT) internet based services for effective secondary school management was to a high extent. The researcher made following recommendations among others, Anambra State Ministry of Education in collaboration with Post Primary School Service Commission (PPSSC) should organize timely workshop, seminars, in-services training on Information and Communication Technology (ICT) for secondary school principals. Hence, this will help them to be acquainted with the use of Information and Communication Technology (ICT) and as well improve on Information and Communication Technology (ICT) utilization in the management of secondary schools. It was also recommended that Anambra State Government through the State Ministry of Education in collaboration with Post Primary School Service Commission (PPSSC) should use Information and Communication Technology (ICT) skills as pre-requisite in the appointment/selection of principals of secondary schools.

**Keywords: Principals, Utilization, Information and Communication Technology (ICT), Effective Management, Secondary Schools.**

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### **Introduction**

Education plays vital roles in the life of individual and the society as a whole. It is a tool for improving the quality of individuals and nation and as well inculcating in individual desirable skills, value and character necessary for the national development and society at large. Education has been acknowledged universally as an instrument for national development. Nigeria as a developing country has adopted education as instrument per excellence for national development (FRN, 2013). Consequently, Nigeria has for decades invested in education to enable her generate qualified and skilled manpower in order to compete and maintain an edge in the international community. In line with the preceding, the educational system in Nigeria has been delineated into different levels mainly pre-primary, primary secondary and tertiary levels (FRN, 2014).

Secondary school education is the form of education students receive after primary school and before the tertiary stage. Udalla (2018) noted that the importance of secondary education lies in its position both as the bridge between primary and tertiary education and the agent for preparing individuals for useful living in the society. As indicated by FRN (2014) in the National Policy on Education, the broad goals of secondary education are preparing people for useful living in the society and for higher education.

The secondary school principal is the administrative and management head of the school. The principal is the chief executive of the school and the key person in ensuring that the students receive quality education and school experiences. Hence, the principals are the managers of the schools. Farmer and Richman in Duze (2012) saw management as a process by which managers create, direct, maintain and operate purposive organizations through coordinated cooperative human efforts to accomplish as effectively and efficiently as could be, set objectives and goals. Babalola (2016) defined management in education as the ability to handle carefully and un-wastefully what happens in the process of educating people so that everything works out according to plan. Management can thus be seen as the ability of the school principal to discover and mobilize available human and material resources at his disposal as well as those he creates, to direct the school in such a way as to achieve & high standard and produce quality students who will be functional members of the society. Today's school principals are expected to be educational visionaries, instructional and curriculum leaders, assessment

experts, disciplinarians, community builders, public relations and communication experts, budget analysts, facility managers, special programmes administrators, as well as guardians of various legal, contractual and policy mandates and initiatives (Williams, 2019.) The continuously changing educational and technological environment demands that the role of the school principal goes beyond the traditional task of supervision of staff and students in schools. These changes demand that the school administrator must be ICT literate in order to effectively carry out their school management and administration of work. Information and Communication Technology (ICT) can be defined as technologies used to communicate in order to create, manage, save, store, retrieve and disseminate information. According to Mueen, Asaduliah, Raed and Jamshed (2013), information and communication technology can be viewed as to include electronic network-embodiment of complex hardware and software-linked by a vast array of technical protocol.

The utilization of ICT in school management can increase school efficiency and reduce unnecessary bureaucracy reduction of stress and making school administration and management less cumbersome. Through this, much time is saved and utilized in other directions for effective school management. Oboegbulem and Ugwu (2014) observed that ICT can play a major part in reducing the work load of the principals and their staff especially in keeping daily records of students and staff in analyzing students and staff attendance records, and in marking students' answer scripts and computation of results. In this sense, ICT can help the school principal to facilitate and effectively discharge their duties through the use of computers and internet in solving school management and administration problems and in carrying out their day-to-day administration of work. In order to take advantage of these, principals need ICT competency. ICT competence is the ability to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in networks via the Internet (Aribisala, 2016).

Furthermore, Feldman, (2017) postulated that ICT competency involves the possession of technical skills which include: ability to use ICT features and applications, ability to use ICT internet-based services by being able to create an account, compose e-mail, attach and download files, store and retrieve files, participate in discussion for social networking sites and create blogs and ability to collect and process electronic data for immediate or later use. The ability to use ICT features and applications is an important and expected of a school principal. This involves the ability to use ICT tools like mobile phones, cameras, video recorders and players, voice recorders, music players and multimedia services among others in the management of secondary schools in Anambra State.

It appears that some secondary school principals have failed to effectively utilize ICT tools in carrying out their administrative duties. This situation occurs because principals in Nigeria and indeed Anambra State appear not to possess the necessary ICT skills needed for effective school management. That is why Chime (2014) advocated that school principals not only need formal training, but also sustained and ongoing support from their colleagues to help them learn how best to integrate ICT technology in carrying out their school management functions. Ezeugbor (2014) in the same vein called for training of principals in Anambra State to increase their ICT proficiency for effective school management. This study therefore, investigated the extent of principals' utilization of Information and Communication Technology (ICT) for effective management of secondary schools in Awka Education Zone of Anambra State.

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## Statement of the Problem

Utilization of Information Communication Technology (ICT) in school management has been promoted as a key step in bridging digital problems. Advancement in information communication technology has revealed the way of distributing information in the school and it is being used in management of school affairs to change and improve-education outcomes (Cheung & Atjonen 2016).

Despite the gains of the integration and utilization of ICT in school management, it appears that some secondary school principals still do not employ ICT for effective school management. As a result, principals display high level of inefficiency in the discharge of their administrative duties (Eze & Aja 2014). In Nigeria and in Awka education zone in particular, Secondary school principals appear not to be utilizing ICT for effective school management.

However, not much is known about the extent to which principals utilize ICT in the management of school. This study however, investigated the extent of principals' utilization of Information and Communication Technology (ICT) for effective management of secondary schools in Awka Education zone of Anambra State.

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## Purpose of the Study

The main purpose of this study was to investigate the extent of principals' utilization of Information and Communication Technology (ICT) for effective management of secondary schools in Awka Education zone of Anambra State. Specifically, the study investigated the extent to which principals utilize:

1. ICT features and applications for effective secondary school management.
2. ICT internet based services for effective secondary school management.

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## Research Questions

The following research questions guided this study.

1. To what extent do principals utilize ICT features and applications for effective school management?
2. To what extent do principals utilize ICT internet base services for effective school management?

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## Scope of the Study

This study was delimited to extent of principals' utilization of Information and Communication Technology (ICT) for effective management of secondary schools in Awka Education zone of Anambra State. The study was limited to public secondary schools in Awka Education Zone in Anambra state and will cover principals' ICT utilization on features and applications and ICT internet based services.

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## Method

### *Research Design*

A descriptive survey design was used for the study. According to Nworgu (2015), descriptive survey design is one which aimed at collecting data on, and describing in a systematic manner, the characteristics, features or facts about a given population. Based on this, the study fits in into descriptive survey.

### *Area of the Study*

The study was carried out in Awka Education Zone of Anambra State. The zone covers five local government areas – Awka South, Anaocha, Dunukofia and Njikoka Local Government Areas, The zone is well known for civil servants, trading, workers in financial institutions, farming, entrepreneurship among others.

Anambra State is situated on a generally low elevation on the eastern side of the River Niger and shares boundaries with Delta State to the west, Imo State and Rivers State to the south, Enugu State to the east and Kogi State to the north. The choice of the area for the study was informed by the fact that the state had been recognized among the educationally advantaged states in Nigeria and also whose government and people of the state have high value for education as reflected by a good number of federal and state governments and privately owned educational institutions in the stated.

### *Population*

The population of the study comprised 62 principals of public secondary schools in Awka education zone of Anambra State. This number was based on data collected from the Post-Primary Secondary Schools Services Commission (PPSSC), Awka, Anambra State as at February, 2022.

### *Sample and Sampling Techniques*

The entire population was used for the study, as such there will be no sampling. According to Gay, Mills and Airasian (2016), if the population is small or manageable, the entire population can be studied.

### *Instrument for Data Collection*

The instrument for data collection is a questionnaire developed by the researcher based on the reviewed literature and consultations with experts. The instrument is titled "Principals Information Communication Technology Utilization Questionnaire (PICTUQ)" and has two main sections- A and B. Section A contains information on respondents' bio data. Section B contains a total of 26 items arranged in two clusters of B1 and B2 according to the two research questions. Section B1 has 14 items on Principals' utilization of ICT internet features and application, B2 is made up of 12 items on Principals' utilization of ICT based services. All the items were structured on a four point rating scale of VHE (Very High Extent), HE (High Extent), LE (Low Extent), VLE (Very Low Extent).

### *Validation of the Instrument*

The face validity of the instrument was determined by administering copies of the questionnaire, purpose of the study and research questions to three experts. Two of the experts are lecturers in the Department of Educational Management and Policy and one lecturer from Measurement and Evaluation Unit of the Department of Educational Foundations, all in the Faculty of Education, Nnamdi Azikiwe University, Awka.

### *Reliability of the Instrument*

The reliability of the instrument was determined using Cronbach's Alpha method. The choice of Cronbach's alpha is in line with Odera (2016) who recommended Cronbach's Alpha as proper statistical tool for determining the internal consistency of an instrument for a descriptive survey. The data used for computing the reliability indices were obtained from the copies of the questionnaire administered to 20 secondary school principals in Enugu state which the researcher randomly sampled and were not included in the population of the study. Enugu state was chosen because it has similar characteristics with the area of study.

The internal consistency reliability coefficients obtained for each of the two parts of the instrument are as follows: part B1 .89 and B2 .79. The overall reliability of the instrument stood at 0.82. The reliability index of 0.82 was considered adequate for the study.

### Method of Data Collection

Copies of the questionnaire were administered directly to the respondents by the researcher together with three graduate research assistants who were briefed by the researcher on the procedures for the administration of the questionnaire. This was to enable them to explain to the respondents where necessary as well as collect the instrument after completion. The distribution and retrieval of copies of the instrument lasted for two weeks and was used for data analysis.

### Method of Data Analysis

The data collected for the study were analysed using mean. In interpreting the results, mean scores from 2.50 and above were interpreted as high extent while mean scores less than 2.50 were interpreted as low extent.

## Results

**Research Question 1:** To what extent do principals utilize ICT features and applications for effective school management?

**Table 1: Respondents mean ratings on the extent of utilization of ICT features and applications for effective school management**

S/NO	Items	Means	SD	Remark
1.	Using Printers to produce hard copy documents	2.77	.69	High extent
2.	Using the photocopying machine to make extra copies of office documents.	1.71	.45	Low extent
3.	Using graphic tablet to map out business strategies	2.54	.50	High extent
4.	Using speech recognition devices to record information	2.16	1.01	Low extent
5.	Using automated teller machines to make cash transactions	2.29	.63	Low extent
6.	Using the light pen to input information into the computer system.	2.66	.48	High extent
7.	Assessing information with the computer touchpad	2.05	.39	Low extent
8.	Inputting information in the computer system through the keyboard	1.87	.74	Low extent
9.	Locating documents on the computer	2.44	.60	Low extent
10.	Using screen resolution of the Video Display Unit (VDU) to adjust computer monitor	2.24	1.02	Low extent
11.	Using Point-of Sale (POS) Devices for school fees collection	2.98	.39	High extent
12.	Using the Universal Serial Bus (USB) to receive and transfer office information.	2.07	1.00	Low extent
13.	Using the Universal Serial Bus (USB) to receive and transfer office information.	2.79	.69	High extent
14.	Projecting information from the computer.	2.32	.67	Low extent
14.	Using the scanner to process information	1.93	.73	Low extent
	<b>Cluster Mean</b>	<b>2.32</b>	<b>.67</b>	<b>Low extent</b>

As shown in table 1, out of the 14 listed items on the extent of utilization of ICT features and applications, principals agree they utilize five to a high extent, namely; using the light pen to input information into the computer system (Mean = 2.66) using graphic tablet to map out business strategies. (Mean = 2.98), using speech recognition devices to record information (Mean = 2.54), using screen resolution of the Video Display Unit (VDU) to adjust computer monitor (Mean = 2.70) and Projecting information from the computer (Mean = 2.77). Principals however utilize the remaining nine areas to a low extent.

**Research Question 2:** To what extent do principals' utilize ICT internet based services for effective school management?

**Table 2: Respondents mean ratings on the Extent of Principals' utilization of ICT internet based services for effective school management**

S/NO	Items	Means	SD	Remark
1.	Creating an online community for the school through Facebook where students, staff and parents are informed on upcoming school activities	2.89	.87	High extent
2.	Setting up internet telephone for office correspondence	2.21	.85	High extent

3	Using chat system for office communication	2.72	.45	High extent
4.	Using hyperlink systems for school communication	2.53	.55	High extent
5.	Using the internet search to search for information online	2.26	.67	High extent
6.	Using email to send out information to parents/guardians	2.32	1.02	Low extent
7.	Organising an online forum for the school academic staff	2.82	.70	High extent
8.	Sending school reports and memos to teachers via email	2.50	1.13	High extent
9	Using online processing systems to carry out office tasks	2.65	.49	High extent
10.	Sharing information through the school website	2.16	1.01	Low extent
11	Using personal blog to correspond and exchange information with fellow principals and educationist	3.13	.82	High extent
12.	Updating school information through social networking sites like twitter and Instagram	2.76	.68	High extent
	<b>Cluster Mean</b>	<b>2.58</b>	<b>.77</b>	<b>High extent</b>

The analysis in table 2 shows that the mean responses of principals on the extent to which they utilize internet based services for effective school management. The mean ratings shows that out of the 12 items listed, principals agree they utilize nine to a high extent which include; Organizing an online forum for the school academic staff (mean = 2.82), Sending school reports and memos to teachers via email (mean = 2.50), Updating school information through social networking sites like twitter and Instagram (mean 2.76), Creating an online community for the school through facebook where students, staff and parents are informed on upcoming school activities (mean = 2.89), Using personal blog to correspond and exchange information with fellow principals and educationist (mean 3.13), Using the internet search to search for information online (mean = 2.26), Using hyperlink systems for school communication (mean 2.53), Using chat system for office communication (mean = 2.72) and Using online processing systems to carry out office tasks (mean = 2.65). They however identified they utilize the remaining three items to a low extent.

## Discussion

The findings of this study shows that principals utilize ICT features and applications in school management to a low extent. The finding of this study is consistent with the findings of Seyal (2014), who made similar findings indicating that school administrators are aware of the importance of ICT applications in school administration, but the major challenge is the lack of the required skill and knowledge to use these applications. They went further to highlight that majority of the schools lacked the required ICT applications hence very few principals could use them for administrative purposes. The findings is also in line with Ihuoma (2016), her findings revealed that majority of the principals never used ICT features and applications such as audio-visual and communication applications for administrative purposes due to that they are not computer literate.

The findings of this study shows that principals utilize ICT internet based services for effective school management to a low extent. The study of Government of Western Australia (2005) found that more than 56% of teachers use ICT to communicate with colleagues and to access online research and best practices. This study also found accessing online research and best practices as the second top most needed teaching professional ICT competency. With mass information available online, the ability to access, select and administer relevant data is considered a key competence. Familiarity with text messaging, electronic mail, internet search engine and chat rooms is a vital competence. Gaps in online access and inadequate ICT competence in part of the population could have serious repercussions for social cohesion by creating digital divide (Amara 2016).

## Conclusion

This study investigates extent of principals' utilization of information communication technology for effective secondary school management. This section therefore draws a number of relevant conclusions that principals utilizes ICT features and applications in school management to a low extent and also principals utilizes ICT internet based services for effective school management to a high extent.

## Recommendations

Based on the findings, the following recommendations were made among others:

1. Anambra State Ministry of Education in collaboration with Post Primary School Service Commission (PPSSC) should organize timely workshop, seminars, in-services training on Information and Communication Technology (ICT) for secondary school principals. Hence, this will help them to be acquainted with the use of Information and Communication Technology (ICT) and as well improve on Information and Communication Technology (ICT) utilization in the management of secondary schools.
2. It was also recommended that Anambra State Government through the State Ministry of Education in collaboration with Post Primary School Service Commission (PPSSC) should use Information and Communication Technology (ICT) skills as pre-requisite in the appointment/selection of principals of secondary schools.

3. It was also recommended that Anambra State Government through the State Ministry of Education in collaboration with Post Primary School Service Commission (PPSSC) should use Information and Communication Technology (ICT) literate before occupying such position.
4. Moreso, state government should ensure that internet links like wifi network, communication, generator set are install in secondary schools so that principals can easily go online to do their work whenever it is needed. As when there is network problem, it will definitely affect the utilization of ICT in secondary school management by principals.

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