

Information and communication technology (ICT) utilization and principals' administrative effectiveness in public secondary schools in Akwa Ibom State, Nigeria

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ABSTRACT

The study investigated the relationship between information and communication technology (ICT) utilization and principals' administrative effectiveness in public secondary schools in Akwa Ibom State, Nigeria. Two hypotheses were formulated to guide the study. Ex-post facto research design was adopted for the research. The population of the study comprised all the 348 public secondary school principals and vice principals in Akwa Ibom State, Nigeria. A sample of two hundred and fifty-five (255) principals was drawn from eighty-five (85) public secondary schools through purposive sampling technique. Two self-structured questionnaires titled "Information and Communication Technology Utilization Questionnaire (ICTUQ)" and "Principals' Administrative Effectiveness Questionnaire (PAEQ)" were used for data collection. The results of the analysis revealed a significant relationship between ICT usage in the communication process and record keeping, and principals' administrative effectiveness. It was recommended that government should reward ICT-compliant administrators in order to stimulate others in ICT usage for more effective administrative ends.

Keywords: ICT utilization, administrative effectiveness, communication process, records keeping.

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INTRODUCTION

Ubani in Njoku (2006) saw ICT in the context of education as the combination of technologies for collecting, storing, processing, communicating and delivery of information related to teaching and learning processes. He identified three categories of ICT to include processed information (that is, computer system), disseminated information (i.e. telecommunication systems), and represented information (that is, multimedia systems). In the same vein, Onuma (2007) saw ICT as a broad term that had to do with the harnessing of the process, the methods, and the products of electronic and communication-related technologies (and other related resources in today's knowledge-driven

society), for enhancing the productivity, spread and efficiency of a set of programmed activities geared towards the achievement of clearly determined goals.

In this age of science and technology, Mbipom (2000:47) articulated that "...the computer would be a very handy tool in the hands of an effective school administrator". This tend to be supported by Onuma (2007) who pointed out that in the school situation, ICT is utilized to improve effective communication. He credited it with being the best educational technology medium for passing on information so far. Lesiker in Edem (2005) asserted that communication is the ingredient which makes organization possible. He added that it is the

vehicle which the best administrative functions are carried out. Idowu (2006) revealed that communication was a vital link between management and employees, because communication enables a principal to apportion what is to be done, how it is to be done and when it is to be done. Idowu (2006) further posited that as teachers received motivation to get things done in the school environment through the principals' good communication channel, so would the principals be realizing the school organizational goals. In other words, communication aided by good communication channel would aid attainment of organizational goals in the school system. Njoku (2006) opined that due to the diffusion of ICT innovations in the education industry, work has radically changed as ICT offers tremendous possibilities in improving and developing administrators' professional capability. This was confirmed by Uko and Okon (2008). The secondary school principal by virtue of his/her position is officially designated as an administrator and leader of the school. The achievement of the goals of education at the secondary school level is dependent, to a large extent, on the principal who is the chief executive officer capable of applying the appropriate administrative processes in school operations (Akinyemi, 1998). The school is an open system that is in constant interaction with the environment. It receives inputs from the external environment in the form of human and material resources, processes them and empties same into the environment. These make the administrative functions of the principal really complex. The functions characteristic of the principal's administrative effectiveness include decision making, planning, communication, influencing, coordinating and evaluation (Mbipom, 2000).

According to Selwood (2005), these functions (decision making, planning, communication, influencing, coordinating and evaluation) are applied in the areas of curriculum development, instructional supervision, staff and student personnel administration, guidance, finance, community relations, construction and maintenance of facilities and special services. There is no doubt, therefore, that secondary education in Nigeria has become more complex over the years with concomitant management demands being exerted on the principal especially in today's Information and Communication Technology (ICT) era. The enormous rise in the number of students in schools as well as the multiplicity of programmes coupled with the complexity of administering a given secondary school have made school principals to handle large volumes of data which they must process speedily to provide information to the Ministry of Education, the school boards, the teaching and learning personnel within the precincts of the school, as well as the general public (Asiabaka, 2010).

School principals in Akwa Ibom State cannot afford to perform their administrative duties without accurate, timely, sufficient and relevant information. The

deficiencies associated with storage, preservation and presentation of large volumes of the information in paper form have made the administrative process rather cumbersome. It is in recognition of this fact that Adeyemi and Olaleye (2010) as well as Ekpe (2009), among other researchers, have focused on information processing as a correlate of principals' administrative effectiveness in secondary schools.

In the area of this study, administrative ineffectiveness of the school principal has been attributed, partly, to lack of motivational indices such as poor remuneration, lack of adequate facilities and poor work environment. Considering the important role that the school principal plays in the instructional process, it stands to be argued that the more knowledgeable, skillful and up-to-date a principal is in the utilization of ICT, the more likely he/she will achieve the objectives of education while running his/her school. It is in consideration of this that this research conceived utilization of ICT as possible principals' administrative effectiveness enhancer. The indices of principals' administrative effectiveness in the context of this work include goal attainment, budgeting and interpersonal relationship based on the utilization of ICT.

Furthermore, Nwosu in Atsu (2014) noted that the use of ICT facilities for record-keeping assisted the school administrator to meet the task of school management in the areas of curriculum and instruction, school community relationship and school business operations. But with the use of the computer, which could store up thousands of files in its memory, it only requires the utilization of ICT resources to boost administrative effectiveness. With the diffusion of ICT innovations in educational institutions which has radically changed how work is done, ICTs have offered tremendous possibilities in improving and developing administrators' professional capability (Njoku, 2006).

This study intends to examine the relationship between Information and Communication Technology (ICT) utilization and principals' administrative effectiveness in public secondary schools in Uyo Senatorial District, Akwa Ibom State, Nigeria.

Statement of the problem

The state of administration in secondary schools in Uyo Senatorial District of Akwa Ibom State has been a source of concern to its educational stakeholders. It is often believed that school principals are on the frontline of the battle to create an environment for quality education at the secondary school level. However, some school administrators (principals precisely) in Uyo Senatorial district of Akwa Ibom State Nigeria in particular, work under difficult conditions and are often not well prepared for the tasks they must undertake routinely. There

appears to be an increase in school population, complex goals/objectives, resources and programmes within a given public secondary school in the area of the study. This seems to have contributed to the inability of the school principal to carry out their duties effectively.

Innovative use of ICT in the administration process in most secondary schools in Uyo Senatorial district seems not to be widespread. This appears to be made difficult by several constraints which include lack of funds to sustain ICT infrastructure, the inability of secondary school administrators to keep up with the pace of development in ICT, the lack of the staff with appropriate skills to manage ICT both at the strategic and operational levels, epileptic electricity supply or complete absence of it in schools, weak institutional policies to support and guide the use of ICT. This therefore, attracts the question, "To what extent does ICT utilization influence principals' administrative effectiveness in public secondary schools in Uyo Senatorial District of Akwa Ibom State?"

Purpose of the study

The purpose of the study is to find out the relationship between ICT utilization and principals' administrative effectiveness. Specifically, the objectives are to determine:

1. The relationship between ICT usage in communication process and principals' administrative effectiveness; and,
2. The relationship between ICT usage for record keeping and principals' administrative effectiveness.

Hypotheses

1. H₀: There is no significant relationship between ICT usage in communication process and principals' administrative effectiveness.

H₁: There is significant relationship between ICT usage in communication process and principals' administrative effectiveness.

2. H₀: There is no significant relationship between ICT usage for record keeping and principals' administrative effectiveness.

H₁: There is no significant relationship between ICT usage for record keeping and principals' administrative effectiveness.

METHODOLOGY

The ex-post facto research design was adopted for the study. Ex-post facto research design is a systematic empirical inquiry in which

the researcher does not have direct control of the independent variables because their manifestations have already occurred or manifested. Purposive sampling technique is used for the study. The population of the study comprised all principals in public secondary schools in Uyo Senatorial District of Akwa Ibom State, Nigeria. These were made up of 348 principals (principals and vice principals) in 85 public secondary schools. The sample of 255 principals (principals and vice principals – in charge of administration and academics) was drawn from 85 public secondary schools through purposive sampling technique. The instrument used for this study is a 24-item, four-point Likert scale (questionnaire) titled "Information and Communication Technology Utilization Questionnaire (ICTUQ)" and another 20-item "Principals' Administrative Effectiveness Questionnaire (PAEQ)". The instruments were validated using the face validity method. The instruments were also subjected to test-retest reliability method which gave the reliability indices of .70 to .75 for ICTUQ and .70 to .82 for PAEQ. The questionnaires were administered to the respondents personally by the researchers along with their trained research assistants. Responses to the questionnaires were scored as follows: Strongly Agree = 4 points; Agree = 3 points; Disagree = 2 points; Strongly Disagree = 1 point for all positively worded items in the questionnaires; and vice versa for negatively worded items. All filled questionnaires were returned completed without any attrition. Pearson's Product Moment Correlation analysis (r) was used for data analysis.

RESULTS

Hypothesis one

H₀1: There is no significant relationship between ICT usage in communication process and principals' administrative effectiveness.

The analysis of this hypothesis is captured in Table 1.

The results in Table 1 showed a significant relationship between ICT usage in communication process and principals' administrative effectiveness in terms of goal attainment ($r = .430$), budgeting ($r = .478$), and interpersonal relationship ($r = .343$) at .05 level of significance and with 253 degrees of freedom. This is because the calculated r -values were greater than the critical r -value of .133. With these results, the null hypothesis was rejected. This means that, ICT usage in communication process has a significant relationship with principals' administrative effectiveness. It signified that the higher the level of principals' ICT usage in communication process, the better the principals' administrative effectiveness in terms of goal attainment, budgeting and interpersonal relationship in public secondary schools.

Hypothesis two

H₀ II: There is no significant relationship between ICT usage for records keeping and principals' administrative

Table 1. Pearson's product moment correlation analysis (r) of the relationship between ICT usage in communication process and principals' administrative effectiveness (n = 255).

Variables	Σx Σy	Σx^2 Σy^2	Σxy	r
ICT usage in communication process (X)	3759	57897		
Goal attainment Y ₁	11657	558769	175285	0.430*
Budgeting Y ₂	11854	575660	178477	0.478*
Interpersonal relationship Y ₃	12000	590550	179638	0.343*

*Significant at .05 level, critical r = .133, df = 253.

Table 2. Pearson's product moment correlation analysis of the relationship between ICT usage for record keeping and principals' administrative effectiveness (n = 255).

Variables	Σx Σy	Σx^2 Σy^2	Σxy	r
ICT usage for record keeping (X)	3823	59999		
Goal attainment Y ₁	11657	558769	178561	0.456*
Budgeting Y ₂	11854	575660	182018	0.529*
Interpersonal relationship Y ₃	12000	590550	183014	0.373*

*Significant at .05 level, critical r = .133, df = 253.

effectiveness.

The analysis of this hypothesis is captured in Table 2.

The results in Table 2 revealed a significant relationship between ICT usage for records keeping and principals' administrative effectiveness in terms of goal attainment (r = .456), budgeting (r = .529), and interpersonal relationship (r = .373) at .05 level of significance and with 253 degrees of freedom. This was owing to the critical r (r = .133) being less than the calculated r-values as shown in Table 2. With these results, the null hypothesis was rejected. This means that, ICT usage for records keeping has a significant relationship with principals' administrative effectiveness. It implied that, the higher the level of principals' ICT usage for record keeping, the better their administrative effectiveness in terms of goal attainment, budgeting and interpersonal relationship in public secondary schools.

DISCUSSION

The findings from Table 1 (that is, hypothesis one) revealed that ICT usage in communication process is significantly related to principals' administrative effectiveness. Supporting the above is the view of Mbipom (2000) who articulated that the computer would be a very handy tool in the hands of an effective school administrator. Also, Onuma (2007) pointed out that in a school situation, ICT is utilized to enhance effective

communication. It is so far the best educational technology medium for passing on information. The findings of this study is in consonance with Idowu (2006) who revealed that communication was a vital link between management and employees, for it is that which enables a principal to apportion what is to be done, how it was to be done and when it was to be done. However, Okon (2008) notes that if perpetual, linguistic, and environmental barriers are not drastically reduced, the principal's communication process effectiveness could be hindered.

The findings from Table 1 (that is, hypothesis two) revealed that there is a significant relationship between ICT usage for records keeping and principals' administrative effectiveness. Nwosu in Astu (2014) noted that the use of ICT facilities for records keeping assisted the school administrator to meet the task of school management in the areas of curriculum and instruction, school community-relations and school business operations. It is in the light of this that Anuma (2011) noted that with the use of computer which could store up to thousands of files in its memory; it only requires its utilization to enhance administrative effectiveness.

Conclusion

There is an increasing evidence of how ICT utilization has bridged the gap in the communication process within the schools system. Records' keeping as well as access

to data in school administration is made easier as a result of technological advancement. Utilization of ICT in school greatly facilitates the acquisition of knowledge and offers school principals unprecedented opportunities to optimize their administrative effectiveness in more ways than one.

RECOMMENDATIONS

In view of the conclusion of this study, the following recommendations were made:

1. Government should ensure that every school principal has access to ICT for the effective administration of communication and records keeping in secondary schools.
2. Government should ensure that electricity supply is constantly available and should put measures in place to outages which may cause a breakdown in ICT equipment and engender hitches during instructional use.
3. Principals should embrace ICT utilization in the school system in order for the enhancement of their general administrative effectiveness in terms of goals attainment, budgeting and interpersonal relations.

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