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Information and Communication Technology Utilization for Managerial Planning Among Educational Administrators in Secondary Schools in Ilorin Metropolis

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ABSTRACT

This study examines how secondary school administrators in the Ilorin Metropolis use ICT for managerial planning. The principal must effectively and efficiently organize, manage, and supervise the school's business for them to run successfully. This study's design is a survey-style descriptive study to determine how ICT affects principals' administrative performance. The population of this study consisted of 292 participants from all 75 public secondary schools in the Ilorin Metropolis. The instrument for data collection was a structured questionnaire titled "Information Communication Technology and Principal's Administrative Effectiveness Questionnaire" (ICTPAEQ) while reliability coefficient values of 0.85 were obtained. The data gathered from the field was evaluated using pertinent descriptive statistics such as percentages, mean, and standard deviation, while research question 4 was addressed using Pearson Production Moment Correlation (PPMC) statistics. This finding may be explained by the fact that most schools lacked these ICT resources, which may have contributed to the finding. This finding revealed that secondary school principals do better administratively the more they use ICT resources. This further implies that secondary school management effectiveness may be in danger in the absence of ICT. This implied that ICT is a crucial factor in the efficient administration of secondary schools. Based on the findings of this study, the following recommendations were made for secondary school administrators to become more proficient and use ICT technologies to enhance training for school administrators who are not yet ICT proficient.

Keywords: Administrative performance, ICT, School administrator

I. INTRODUCTION

It is now generally acknowledged that information and communication technology (ICT), which is driving globalization, deregulation, and innovation, are the main factors influencing the economic landscape. ICT now serves as the foundation for economic growth that occurs at both the macro and micro levels, thus individuals who choose not to take part in such advances run the risk of becoming more marginalized by others. As a result, the use of ICT and the management of knowledge has advanced learning across a variety of media, which has improved human understanding in the 21st century. ICT is therefore a crucial component in maintaining managerial planning, teaching, and learning. More importantly, education should be highly valued because it can revolutionize any culture. It is the process of acquiring the information and abilities needed to maintain growth in all areas and sectors of life, for individuals, groups, and organizations. According to Egwu (2016), a principal must effectively and efficiently organize, manage, and supervise the school's business for them to run successfully. As the head administrator of the secondary school, he is responsible for making optimal use of all available resources, including ICT, to achieve school objectives.

Leaders at all levels must ensure that people and material resources are managed optimally for the educational system to accomplish its national plans and goals (Nwune et al., 2016). Nkwoh (2011) said that to effectively guide schools toward the achievement of educational goals, school principals must have a broad range of talents and be competent. According to Carol and Edward (2004), competency is the ability to complete a task successfully using knowledge, skills, attitude, and judgment. It is just the capacity and expertise needed to complete a specific task. The ability to successfully manage resources for productivity is referred to as managerial competency. The management of instructional programs, staff and student personnel administration, financial and physical resource management, and community relationship management are among the duties of school administrators as outlined by Heller (2012). The formulation of school action plans and the viability of the institution depends heavily on the efficient management of both human and material resources. Therefore, the teachers must have administrative abilities and demonstrate the to use and integrate technology effectively (Teklemariam, 2009).

The global revolution brought about by ICTs in teaching, learning, innovation, and institutional management must be used immediately (New Media Consortium, 2007).
If the education industry is to fulfil its objectives and effectively compete on the global stage, school managers play a crucial role in the usage and integration of ICT. ICT adoption in schools won't be successful unless the principal fully supports it, acquires the necessary knowledge, and offers staff professional development and encouragement during the transition (Wilmore, 2000).

II. STATEMENT OF THE PROBLEM

Stakeholders in the Ilorin metropolitan have expressed worry over the management situation in secondary schools. This worry has focused on the school principals' failure to successfully perform their administrative tasks as a result of the significant growth in student enrollment, class size, pupils, and teacher data, which is typical of Nigerian secondary schools (Okon et al., 2015). Administrative duties in schools would inevitably be processed using advanced tools and infrastructure, like ICT. What is more important to worry about is whether or not there are adequate Information and Communication Technology (ICT) facilities for effective secondary school administration, and if there are, how well they are being used. This is not unrelated to the government of Nigeria's inadequate funding for the education sector, secondary school administrators' inability to keep up with the rate of ICT development, and the lack of personnel with the necessary skills to manage ICT at all levels of administration. (Muchiri, 2014), the ineffective institutional policies that encourage and regulate the use of ICT, and the intermittent or nonexistent electrical supply in schools. Observations made in our secondary schools indicated that this deficiency can have a significant impact on the managerial efficiency of secondary school principals. This raises the question of how much the availability and use of ICT facilities affect the administrative effectiveness of public secondary school principals in the Ilorin metropolis.

III. PURPOSE OF THE STUDY

This study's primary goal is to examine how secondary school administrators in the Ilorin Metropolis use ICT for managerial planning. In particular, the study looked into:

1. Assess the extent to which secondary schools in the Ilorin metropolitan had ICT facilities.
2. Examined how ICT was used by secondary school principals in the Ilorin metropolis for administrative purposes.
3. Determined the degree of performance of secondary school principals in carrying out their regular administrative duties in the Ilorin metropolis
4. Analyze the association between secondary school principals' administrative effectiveness and the use of ICT facilities in the Ilorin metropolis

IV. RESEARCH QUESTIONS

The following research questions were raised:

1. What degree of ICT infrastructure is present in secondary schools in the Ilorin metropolis?
2. What percentage of secondary school principals in the Ilorin metropolis use ICT resources for administrative tasks?
3. What level of efficiency do the Ilorin metropolis' secondary school principals exhibit when carrying out their regular administrative duties?
4. Does the use of ICT facilities in the Ilorin metropolitan significantly affect the administrative effectiveness of secondary school principals?

V. LITERATURE REVIEW

Conceptualization of Information and Communication Technology

According to reports, the word information and communications technology (ICT) was first used to refer to computers' capabilities for communication around the beginning of the 1990s, replacing the term information technology (IT). Information and communication technology (ICT) is the fusion of communication, information, and technologies that are based on common digital technology, according to Egoeze, Misra, Akman, and Colomo-Palacios (2014). ICT is thus defined as an electronic instrument, equipment, or device that is used to gather, process, store, retrieve, or transfer information. According to Salisu (2014), information and communication technologies (ICTs) include telecom networks as well as related hardware, software, and services. ICT was divided into four (4) different categories by Egoeze et al. (2014): communication technologies, network technologies, computer technologies, and mobile technologies. All forms of media used for transferring voice, video, data, or multimedia are included in communication technologies. Personal Area Networks (PAN), Campus Area Networks (CAN), intranets, extranets, Local Area Networks (LANs), Wide Area Networks (WANs), and the internet are examples of network technology. Computer technologies include all types of removable storage devices, including optical discs, disks, flash memory, video books, multimedia projectors, interactive electronic displays, and modern personal computers that are constantly being developed (PCs).

E-learning also makes use of mobile technology like mobile phones, Personal Digital Assistants (PDAs), palmtops, etc. that contain information as their physical object. ICT was further divided into five groups by Brinda et al. (2016), including computing facilities and services; film/tape-based facilities, such as slide projectors, microfiche readers, micro card readers, and microprint readers; reproduction facilities, such as photocopying and duplicating machines; and telecommunication facilities. The degree to which a

secondary school can offer all the ICT resources required is a reflection of the prestige of the institution. ICT use in Nigerian education is hindered by several variables. These include a lack of finance to support the technology's acquisition, a lack of training, a lack of staff enthusiasm to utilize ICTs as teaching tools in the classroom, and more (Oluwalola, 2017). Arikewuyo (2009) added that the principal's duties include, but are not limited to: managing and allocating school resources effectively; allocating school space effectively; ensuring satisfactory standards of upkeep and cleanliness of school facilities; planning staff development; and directing curriculum change and implementation. According to Adeniyi and Omoteso (2014), in carrying out these duties, principals must show they are capable of leading by showcasing their professional expertise, organizational and managerial skills, and capacity to develop and implement sound school policies.

An international notion of utmost significance is administration. Adeniyi and Omoteso (2014) define administration as the process of coordinating people and resources within a company to achieve predetermined goals. Additionally, the term "administration" refers to tasks like carrying out organizational objectives and choices as well as doing in-depth research on these tasks. Performance is a difficult concept to define and comprehend. Effectiveness is frequently used as a synonym for other words including effectiveness, efficiency, productivity, and competency. According to Okon et al. (2011), performance is the degree of accomplishment given the time, resources, and circumstances. As a result, performance refers to a principal's execution of statutory tasks or functions that are directed at achieving goals established by the school. Accordingly, achieving daily management goals that are both feasible and of the utmost importance to the school constitutes efficient administration. As a result, a proactive secondary school principal's duties include organizing the available material and human resources and applying them consistently to the fulfilment of educational goals. The methodical coordination of human, material, and financial resources for the resolution of ongoing administrative issues to realize the planned objectives of secondary education is the principal's administrative performance.

Studies on ICT and principal's administrative performance

In recent years, several surveys have been developed to gather data on the degree to which schools are building their capacity to integrate ICT into learning, teaching, and management operations. Oboegbulem and Ugwu (2013) examined 30 schools in the southeastern states, including Abia, Anambra, Ebonyi, Enugu, and Imo, which had access to ICT and the Internet. The results demonstrated, among other things, the need of using ICT in school administration. especially during the current globalization period. However, due to school administrators' inability to manage ICT equipment in schools properly, secondary schools only use ICT to a very limited extent. Ex-post facto research (Okon et al., 2015) among 255 principals from 85 public secondary schools in Akwa Ibom State, Nigeria, found a substantial correlation between the use of ICT for record-keeping and communication, as well as the administrative performance of principals. Results from a related study conducted by Oyedemi (2015) on the opinions of 120 administrators regarding the use of ICT for efficient school management in the Ilesa Local Government area of Osun State showed that school principals have a favourable reaction to the usage of ICT tools.

According to Subair and Bada (2014), who conducted a similar study in Osun State with 100 principals of public secondary schools, school administrators are aware of the value of ICT in school administration, but the main challenge is a lack of the necessary skill and knowledge to use these resources. Additionally, it was discovered that the majority of schools lack the necessary ICT resources and those very few principals can use the ICT tools at their disposal for administrative functions. The study also discovered that the majority of principals used print technologies for a variety of administrative tasks. In Nigeria's Akwa Ibom State, Etudor-Eyo, et al. (2012) researched 396 secondary school administrators' use of ICT and communication efficacy. The results showed that administrators' use of ICT and their effectiveness in communication are both high; there is a significant positive relationship between administrators' use of ICT and their effectiveness in communication, and the use of ICT significantly predicts secondary school administrators' communication effectiveness. A little body of knowledge about ICT and administrative performance in the research area (Ilorin metropolis) and the geopolitical region (North-Central geopolitical zone), both of which are located in Nigeria, is known as a result of the aforementioned empirical review.

The topic coverage of these studies is one of the primary constraints of current research, which justifies the necessity for additional study. Additionally, the literature review reveals that despite a large number of studies on this research project, the findings do not demonstrate any consistency in the relationship between the variables under examination. These findings point to a glaring vacuum in the literature that this current study aims to remedy.

VI. METHODOLOGY

This study's design is a survey-style descriptive study to determine how ICT affects principals' administrative performance. According to Atunde (2011), descriptive research allows the researcher the chance to sample the opinions of a sizable number of samples from the study population to draw conclusions and make generalizations based on the replies received. The study area is the metropolis of Ilorin. Principals and vice-principals of secondary schools in the Ilorin Metropolis

participated in the survey. Ilorin West, Ilorin South, and Ilorin East are the three Local Government Areas (LGAs) that make up the Metropolis. There are 75 public secondary schools in the Ilorin Metropolis overall (Kwara State Ministry of Education and Human Capital, 2018). The population of this study consisted of 292 participants from all 75 public secondary schools in the Ilorin Metropolis, including 75 principals and 217 vice-principals. 45 of the 75 public secondary schools in Ilorin Metropolis were sampled using the stratified random sampling technique (15 schools were chosen from each of the LGAs). Additionally, from each of the 45 public secondary schools used for this study, the principal and two vice-principals were chosen. This increased the number of responders who were used to 135 in total.

The instrument for data collection was a structured, validated, and pretested questionnaire titled "Information Communication Technology and Principal's Administrative Effectiveness Questionnaire" (ICTPAEQ) (reliability coefficient values of 0.85, 0.74, and 0.71 were obtained for sections B, C, and D, respectively). There are two sections to the questionnaire: parts A and B. The questions in Part A ask respondents for personal information. Part B is divided into four sections (A to D). The 15 items in Section A were used to determine if there was ICT equipment in the schools. Ten questions make up Section B, which is meant to gather data on how extensively principals use ICT. Questions in Section C ask respondents to provide information on how successfully they use ICT tools to carry out their administrative responsibilities. Items in Section D are included to help you learn more about the barriers to effective ICT use in secondary schools. The questionnaire has parts A and B with options such as "Available" and "Not Available," "Frequently Used," "Occasionally Used," "Seldom Used," and "Not Used," and sections C and D with options such as "Strongly Agree," "Agree," "Disagree," and "Strongly Disagree." The questionnaire was given to the subjects by the researcher with the assistance of three research assistants.

The straightforward method allowed for prompt completion and return of the questionnaire copies. 96.3 per cent of those who completed the survey were responsive (that is 130 out of 135 administered questionnaires were returned and filled correctly). To address research questions 1, 2, and 3 respectively, data gathered from the field was evaluated using pertinent descriptive statistics such as percentages, mean, and standard deviation, while research question 4 was addressed using Pearson Production Moment Correlation (PPMC) statistics.

Research question 1. What degree of ICT infrastructure is present in secondary schools in the Ilorin metropolis?

When interpreting respondents' responses to questions about availability, a response with an overall percentage score between 75 and 100 per cent is considered high, a response with an overall percentage score between 50 and 74 per cent is considered moderate, and a response with an overall percentage score of less than 50 per cent is considered low. According to each of the specific research topics, the findings of this study were displayed in tables.

Table 1. The level of availability of ICT facilities in secondary schools in the Ilorin metropolis

S/N	Items	Available	n = 130
		F & %	Not Available
			F & %
1.	Computer (Desktop)	84(64.6%)	46(35.4%)
2.	Printer	78(60.0%)	52(40.0%)
3.	Internet Services	72(55.4%)	58(44.6%)
4.	Projector	24(18.5%)	106(81.5%)
5.	Projector Screen	24(18.5%)	106(81.5%)
6.	Photocopying devices/Xerox machines	70(53.8%)	60(46.2%)
7.	Scanning Machine	48(36.9%)	82(63.1%)
8.	Computer Accessories	79(60.8%)	51(39.2%)
9.	Software	33(25.4%)	97(74.4%)
10.	Radio	104(80.0%)	26(20.0%)
11.	Television	37(28.5%)	93(71.5%)
12.	Satellite Disc	31(23.8%)	99(76.2%)
13.	Handset/Mobile Phone	130(100.0%)	-
14.	Laptop	38(29.2%)	92(70.8%)
15.	Fax Machine	-	130(100.0%)
	Overall	**43.7%**	**56.3%**

Table 1 shows that the sampled secondary schools had a poor availability of information and communication technology (ICT) facilities (43.7 per cent). The majority of secondary schools lacked the majority of ICT resources. The shortfall ranged from 0% for a fax machine to 18.5% for a projector and projector screens, 25.4% for software, and 23.8% for a satellite disc. 35.4 per cent of secondary schools lacked a desktop computer set, which ought to be a standard component of all administrative offices. However, the cell phone (130 or 100.0%) and radio (80.0%) were the most accessible ICT resources in public secondary schools in Ilorin city.

Research Question 2. Examined how ICT was used by secondary school principals in the Ilorin metropolis for administrative purposes.

Analysis of research question 2 made use of mean computation. This led to the classification of a mean score of above 2.5 as an acceptable response and a mean score of below 2.5 as a non-accepted response (rejected). The following was the interpretation of the individual and grand mean scores: High Extent (HE) was defined as 3.25 to 4.00, Moderate Extent (ME) as 2.50 to 3.24, and Low Extent (LE) as mean values below 2.50. (LE).

Table 2 shows how much ICT is used by secondary school principals in the city of Ilorin for administrative purposes.

S/N	Items	n = 130		
		Mean	**S. D**	**Decision**
16.	A device that processes and stores data for efficient management	3.30	0.78	HE
17.	Equipment for printing documents	2.75	0.75	ME
18	Internet browsing services	2.64	0.73	ME
19.	Handset for communicating the most recent information about school-related concerns to staff, parents, and students.	3.96	0.94	HE
20.	Scanners for scanning documents, such as passports.	2.19	1.12	LE
21.	Radio for monitoring the most recent and relevant events or information worldwide	3.50	0.85	HE
22.	Flash drives are a type of computer accessory used for data and information storage.	2.89	0.78	ME
23.	Satellite disc for remote viewing of international programming	2.46	1.03	LE
24.	Reproduction of staff, student, and school documents using a photocopier	3.27	0.85	HE
25.	For writing and designing, use programs like Microsoft Office and Corel Draw.	1.98	1.07	LE
	Overall Mean	**28.95**	**8.90**	
	Grand Mean	**2.90**	**0.89**	**Moderate Extent**

The amount of ICT used for administrative purposes by secondary school principals in the Ilorin metropolitan is shown in Table 2. The table demonstrates that the mean scores on items 19, 21, 16, and 24 are respectively 3.96, 3.50, 3.30, and 3.27, indicating that principals use their cellphones to communicate with staff, students, and other principals as well as with students and staff; radios to keep up with global news; computers to type, process, and store data for effective management; and photocopiers to make copies of documents. Additionally, the mean values on items 22, 17, and 18 of 2.89, 2.75, and 2.64, respectively, show that principals use computers and computer accessories to process data, printers to print documents, and internet services to browse. However, a limited percentage of exindicatecipals employ software of various types, scanners for scanning passports, documents, etc., and satellite discs for viewing foreign programs remotely, as indicated by mean values of 2.46, 2.19, and 1.98 on items 23, 20, and 25, respectively. As a result, the grand mean value of 2.90 indicated modest ICT use for administrative purposes by principals in public secondary schools in the Ilorin metropolitan.

Research Question 3. What level of efficiency do the Ilorin metropolis' secondary school principals exhibit when carrying out their regular administrative duties?

Mean computation was used to analyze research question 3. Accordingly, a mean score of above 2.5 was considered an appropriate response, whereas a mean score below 2.5 was considered an unacceptable response (rejected). The scores, both individual and overall, were interpreted as follows: Highly Level (HL) values ranged from 3.25 to 4.00, Moderately Level (ML) values ranged from 2.50 to 3.24, and Low Level (LL) values ranged from mean values below 2.50.

Table 3 shows the level of principals' performance in carrying out their standard administrative responsibilities in secondary schools in the city of Ilorin.

S/N	Items	n = 130		
		Mean	**S. D**	**Decision**
26.	preserving data that can be updated on personnel or student data.	2.60	0.81	ML
27.	composing and sending mail	3.09	0.60	ML
28.	preserving an updated inventory of the school's assets	3.29	0.74	HL
29.	Keeping an updated inventory of the school's assets in storage	1.75	1.04	LL
30.	design and printing of student evaluations and testimonies.	2.42	0.91	LL
31.	admission of new students and registration of current ones.	2.95	0.69	ML
32.	Online registration for public exams is available for students.	2.64	0.71	ML
33.	early budget planning for the school.	2.56	0.73	ML
34.	Keeping and accessing student disciplinary records.	2.80	0.82	ML
35.	creating internal school memos	2.63	0.78	ML
36.	preparing the workload of teachers	2.75	0.75	ML
37.	creating a school schedule	2.70	0.81	ML
38.	spreading information both inside and outside of the school.	2.85	0.78	ML
39.	compiling academic performance data for students	2.66	0 .77	ML
40.	keeping reliable records of students' academic progress.	2.24	1.02	LL
	Overall Mean	**39.79**	**11.26**	
	Grand Mean	**2.65**	**0.75**	**ML**

Table 3 results showed that the grand mean value of 2.65 is higher than the 2.50 criterion limitations. This suggests that secondary school principals performed their usual administrative duties at a somewhat high level.

Research Question 4. Does the use of ICT facilities in the Ilorin metropolitan significantly affect the administrative effectiveness of secondary school principals?

Table 4. The use of ICT resources and administrative effectiveness are correlated

Descriptive Statistics			
	Mean	**Std Deviation**	**N**
Usage of ICT	28.9523	8.90304	130
Administrative Performance	39.7853	11.25708	130
Correlations			
		Usage of ICT	**Administrative Performance**
Usage of ICT	Pearson Correlation	1	631
	Sig. (2-tailed)		000
	N	130	130
Administrative Performance	Pearson Correlation	631	1
	Sig. (2-tailed)	000	
	N	130	130
Correlation is significant at the 0.05 level (2-tailed).			

As seen in table 4, the calculated r-value (0.631) is greater than the critical r-table value (0.195) at 0.05 significance levels for 128 degrees of freedom. Hence, the null hypothesis is rejected. This demonstrates that there was a strong positive correlation between secondary school principals' administrative effectiveness in the Ilorin metropolis and their use of ICT facilities.

VII. DISCUSSION OF FINDINGS

According to the study's findings, there were few information, communication, and technology (ICT) facilities available in public secondary schools in the Ilorin metropolitan. This result was in line with a previous study by Adeyemi and Olaleye (2010), who discovered that secondary schools in Ekiti State had limited access to ICT equipment. This finding is in line with that of Subair

and Bada (2014), who claimed that only a small percentage of Osun State's public secondary schools have the necessary ICT resources, making it difficult for principals to use those resources for administrative functions. Results from the second research question showed that secondary school principals in the Ilorin metropolitan used ICT to a modest degree for administrative purposes (grand mean value of 2.90). This finding may be explained by the fact that most schools lacked these ICT resources, which may have contributed to the finding. The conclusions of this study are refuted by Adeyemi and Olaleye's (2010) study, which found that secondary school principals in Ekiti State used ICT equipment at a low rate. The current study also found that principals performed only moderately in carrying out their designated administrative obligations.

This finding might not have been unrelated to the issue of a lack of ICT resources in the schools as well as their sparing use of those resources. This result, however, contradicts that of Adeyemi and Olaleye (2010) who noted that the level of management of secondary schools in Ekiti State, Nigeria, was low. It is therefore consistent with other researchers' findings (Makewa et al., 2013). Further research revealed a substantial correlation between the use of information and communication technology (ICT) resources and secondary school administrators' administrative performance. This revealed that secondary school principals do better administratively the more they use ICT resources. This further implies that secondary school management effectiveness may be in danger in the absence of ICT. This result is consistent with that of Oboegbulem and Ugwu (2013), who reported that the use of ICT in school administration is essential, particularly in this era of globalization, but that the extent of their application in secondary schools is very low because school administrators in the South Eastern states of Nigeria lack the skills to manage ICT facilities for the efficient administration of schools. This result was in line with that of Etudor-Eyo et al. (2012), who claimed that ICT had a significant impact on the efficient operation of secondary schools.

VIII. CONCLUSION AND RECOMMENDATIONS

According to the study's findings, information and communication technology (ICT) significantly affects secondary school principals' administrative performance in the city of Ilorin. This implied that ICT is a crucial factor in the efficient administration of secondary schools. However, the researcher concluded that secondary schools in Nigeria are not yet prepared for technological progress because of the moderate availability and usage of ICT facilities. Based on the findings of this study, the following recommendations were made

1. For secondary school administrators to become more proficient and use ICT technologies, the government should make them available in all secondary schools (principals).
2. Governments and NGOs (Non-Governmental Organizations) could occasionally offer enhanced training for school administrators who are not yet ICT proficient.
3. The principals should be encouraged to bring laptops to such workshops/seminars to facilitate hands-on learning and skill development.

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