IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON THE MANAGEMENT OF SECONDARY SCHOOLS IN ZONE C SENATORIAL DISTRICT OF BENUE STATE

EMMANUEL ADIKWU ABAH
*Department of Educational Foundations,
Benue State University, Makurdi,
Benue State.*

FRANCISCA ITODO
*Department of Educational Foundations,
Benue State University, Makurdi,
Benue State.*

And

DR. ROSE OKA ODU
*Department of Educational Foundations,
Benue State University, Makurdi,
Benue State.*

Abstract

The study determined the impact of information and communication technology (ICT) on the management of secondary schools in zone 'C' Senatorial District of Benue State. The survey design was used to investigate the impact of the utilization of ICT facilities like the computer, the internet or online instruction and the e-mail on the management of secondary schools. Three research questions and three research hypotheses were formulated to guide the study. The basic instrument used for collecting data was a questionnaire. The results of the study revealed that the utilization of computers, internet, e-mail has a positive impact on the effective management of secondary schools in Zone 'C' senatorial district of Benue State. Based on these findings, it was recommended that machinery should be developed by the government on ICT software application packages for use in all secondary schools. Government should provide a policy document on the use of computer in the nations secondary schools and all management staff are to be trained and workshop be organized for them on the use of computer and e-mail.

The world has grown to become a modern society with remarkable changes in all spheres of life; notable among the many changes of our time is modern communication technologies. Communication has witnessed rapid changes in structures and function in recent times due to the advent of information and Communications Technologies (ICTs). With the new information technologies, the world is said to be a "global village" since one can access information in any part of the world wherever he is. The technology has come to irreversibly change the work environment. This is because it has brought with it a great measure of speed, efficiency, organization and in many instances, cost-effectiveness. The general belief of the impact of modern technologies has been that it enhances productivity and profit.

The information and communication technologies have created a new widow for the management of education. Educationists are increasingly discovering that new technologies have great job-enhancing features and are improving everyday on the job using ICTs. These new technologies create a tremendous opportunity for excellent practice, present a lot of choices and offer challenges for intelligent judgment. Education has been the best legacy a nation can give her citizens more especially the youths. This is simply because the development of any country, state and society depends largely on the quality and accessibility of educational opportunities it offers to her citizens. The basis for any genuine development must commence with the development of her human resources. The impact of ICT in this development will greatly improve the training of human resources. It is also believed that the very basis of the educational foundation starts with secondary school level hence the usage of information and communications technology plays a great role in this level of education.

Akpakwu (2008) defines management "as process of planning, coordinating, controlling, leading and organizing the efforts of organizational members and using other organizational resources to achieve the set goals".

Information and communication technology are educational tools which can be used to enhance and complement teaching and learning in schools. Ajagun (2003) refers to information and communication technology as "a whole range of technologies involved in information and processing and electronic communications". Information and communication technology includes the computers, internet or online instruction, radio, e-mail, videos, television, interface boxes, satellite connections and all the software and materials which are employed by principals and teachers for teaching and learning. Anekwe (2008) simply refers to information and communication technology as "all that is involved in gathering and processing information using modern communication technologies such as computers and other related equipments so that the services (output) generated can reach all that desire them at reasonable cost and in good time to

the overall benefit of mankind".

Information and communication technology in education provides educational policy makers, planners, school administrators and practitioners with a systematic process to formulate, plan and evaluate education development programs. The principal is the manager in secondary school. This position involves the control of human and material resources of the school as an organization. The principal is involved in planning, supervising various aspects of the school. Hitherto, these were manually done with a lot of file and paper work. Therefore, it becomes imperative that secondary school principals and teachers need skills not only in computer literacy but also in computer application.

Timothy (2015:136) define "computer as an electronic machines capable of solving problems or manipulating data, performing prescribed operations on this data and supplying the result of these operations".

Awake (2007) states that internet is just a room filled with many spiders, each spinning its own web. The webs are so interconnected that the spiders can travel freely within the maze. It is a global collection of many different types of computers and computer networks that are linked together.

According to Blumn (2014), the E-mail, an internet based electronic substitute for the conventional post office.

In the school, there are various day-to-day activities that take place demanding for record keeping, retrieval, decision making and re-assessment of results and re-planning. Principals can use computers in school management to prepare budget, to check inventory, student's records, communications, library circulation and library public access catalogue. Through the use of internet, the principal can inspect various areas of the school such as teachers and students' academic progress within and outside the school. For instance, internet can be used in checking results, sending and receiving mails (inbox and draft). Adam (2006) states that a principal at his desk can easily access information on both students and school personnel that have been collected and stored in the computer. If the school library has been computerized, the principal from his desk can also check which books are available and which are not in the library. In the area of finance, the principal can browse through to know the state of school finances right from his desk, as well as information on school balances in the bank.

Statement of the Problem

Principals and teachers of secondary schools do not seem to be aware of the use of information and Communication Technology as a tool for effective management of their schools. It is to noted that being aware of what computer and internet application are, can limit most principals and school administrators' abilities to desire the use of ICTs even when they have serious problems beyond the competence of conventional techniques".

Principals and teachers do not seem to be aware of the use of internet technology as tool

for effective management of their schools. Some schools which are situated in the rural areas do not have electric power supply to the internet and due to constant power failure; operation of internet cannot be enhanced as required. Moreover, services are not available in many towns or cities for effective operation of this device.

It is also observed that most principals and teachers may not be used to sending and receiving e-mail messages, as such most of the messages are delayed. Sending and receiving messages requires an internal connection as well as an e-mail account provided by internet service provider (ISP).

Principals may not be used to computer in the management of secondary schools in zone C, while with modern information and communication technology the computer helps principals much in achieving a high degree of accuracy, timeliness precision and minimization in wastage of resources.

Purpose of the Study

The purpose of this study is to examine the impact of ICT on the management of secondary schools in zone 'C' Senatorial district of Benue State. Specially the study was to:

i.   find out the extent to which computer service impact on the management of secondary schools.

ii.   determine how the use of internet service impact on the management of secondary schools.

iii.   assess if e-mail services have impact on the management of secondary schools.

Research Questions

The following research questions guided the study:

i.   to what extent does computer impact on the management of secondary schools?

ii.   how does the use of the internet impact on the management of secondary schools?

iii.   how does e-mail impact on the management of secondary schools?

Research Hypotheses

The following null hypotheses are formulated and tested at 0.05 level of significance.

i.   Computers have no significant impact on the management of secondary schools in zone C

ii.   Internet have no significant impact on the management of secondary schools in zone C

iii.   E-mail have no significant impact on the management of secondary schools in zone C

Significance of the Study

The result of this research may be of benefit to the school principals, students, teachers and the government.

The school principals through the effective use of ICT facilities might be efficient in the management of their schools. The principals may then become facilitators, a guide and supervisor of instructions in their schools.

Students shall be trained on the use of ICTs facilities such as the computers thereby enhancing academic activities. The students shall offer ICT as a course of study in schools. The study shall help students to use ICT to create access, retrieved and transmit information.

Teachers with adequate knowledge and competence in ICT shall import sound knowledge to their students with accuracy and speed. Teachers shall communicate and update their knowledge through interactions with outside world on educational issues.

Government shall benefit from ICT by having trained staff who shall meet global trend in ICT. Through well-equipped ICT teachers shall handle new ICT facilities. It is expected that this study will spur government to set up machinery to develop school information system (SIS) that will support a full range of secondary schools' administration**.**

Scope of the Study

The study is de-limited to the impact of information and communication technology on the management of secondary schools in zone C senatorial district of Benue State. The study centered on the impact of computer, internet and the use of e-mail on the management of secondary schools.

Research Design

The survey design was used for the study. A survey design involves collection of data, often using questionnaire for interpreting existing conditions or qualities or perceptions about a given population.

Population

The population for this study was 800 management staff (Principals, Vice Principals, Heads of department and Dean of studies). The sample for the study comprised of 320 management staff in secondary schools in zone C senatorial district of Benue State. The purposive sampling technique was adopted to select the management staff as respondents of the study (Benue State Teaching Service Board (TSB) Makurdi, 2018).

Instrument for Data Collection

The instrument to be used to collect data for this study was a structured questionnaire titled "Impact of Information Communication Technology on secondary school management questionnaire (IICTSSM Q). The modified four point rating scale

with the response mode of: Very High Extent (VHE), High Extent (HE), Low Extend (LE) and Very Low Extent (VLE). A total of 320 copies of the questionnaire were administered and all collected.

Reliability/ Pilot study
The study was carried out to establish the reliability of the instrument for the study. The researcher administered the questionnaire to 20 management staff (respondents) drawn from four secondary schools in the area which are outside the schools to be used in the main study. A trial testing using Cronbach alpha method was adopted to measure the consistency. The result obtained from the analysis showed the reliability coefficient alpha of 0.75. This proved that the instrument is reliable and valid to be used for the study.

Method of Data Analysis
Data generated for the study were analyzed using mean scores and standard deviations to answer the research questions and chi-square (X^2) was used to test the research hypotheses at 0.05 alpha level of significance .A cut off point of 2.50 and above was taken as positive response while less than 2.50 as negative response.

Results
Research question I: To what extent does computer impact on the management of secondary schools?

Table 1: Mean Scores and Standard Deviations of the Impact of Computer Usage on the Management of Secondary Schools

Item No	Item Description	VHE	HE	LE	VLE	$\overline{X}$ Mean	S. D.	No of resp.	Decision
1	The use of computer has impacted strongly on students' admission and registration process.	680	378	40	4	3.44	0.95	320	Accepted
2	Computer helps you in producing students enrolment information to the Ministry of Education /Teaching Service Board	920	195	40	5	3.62	0.89	320	Accepted
3	The use of computer facilitated the compilation of your financial report	316	639	16	20	3.10	0.90	320	Accepted
4	Computer has aided you in preparing a comprehensive report on students examination	392	612	20	8	3.22	0.73	320	Accepted
5	The use of computer has helped you in monitoring staff performances and to prevent	716	270	40	31	3.30	0.90	320	Accepted

6	Computer has brought about principal's capabilities.	320	672	12	10	3.16	0.98	320	Accepted
7	Computer aides you in the maintenance of good school relationship	788	267	70	17	3.56	0.93	320	Accepted
	Cluster mean					**3.34**	**0.90**		

Item I which states that computers aid in maintaining good relationship has a mean score of 3.56 and standard deviation of 0.93. Item 2 which state that computer helps you in producing students' enrolment information have a mean score of 3.62 and standard deviation of 0.89. Item 1 which state that computer have impacted on students' admission and registration process has mean scores of 3.44 and standard deviation of 0.95. While Item 5 which states that computer has helped in monitoring staff performance has a mean score of 3.30 and standard deviation of 0.90. Item 4 which states computer aid you in preparing a comprehensive report has a mean score of 3.22 and standard deviation of 0.73. Item 6 which states that computer has brought about principal's capabilities have a mean score of 3.16 and standard deviation of 0.98. Item 3 which state that the use of computer facilitated the compilation of financial report have a mean score of 3.10 and standard deviation of 0.90. The cluster mean 3.34 and standard deviation 0.90 was above 2.50 cut off point. The implication is that computer usage has impacted positively on the effective management of secondary schools.

Research Question 2: How does the use of internet affect the effective management of secondary schools?

Table 2: Mean Scores and Standard Deviations of the Effect of the Use of Internet on the Effective Management of Secondary School

Item No	Item Description	VHE	HE	LE	VLE	X mean	S. D.	No of Resp.	Decision
8	The internet helps management to get information about other schools	1204	51	0	2	3.92	0/90	320	Accepted
9	Internet facilities assist the school management in publishing students' admission list.	396	630	4	9	3.25	0.83	320	Accepted
10	Secondary school management uses the internet to advertise for vacancies in the school	588	372	80	9	3.28	0.24	320	Accepted

11	The school management uses the internet to register students for WAEC/NECO	952	159	54	1	3.64	0.79	320	Accepted
12	Internet enables the school to send information (financial report) to the Ministry of Education/Teaching Service Board	784	267	26	22	3.44	0.94	320	Accepted
13	Internet facilities has brought improvement in the management of students	388	600	6	20	3.17	0.79	320	Accepted
14	The school management uses internet facilities to score students.	572	510	14	0	3.42	0.84	320	Accepted
	Cluster mean					**3.44**	**0.76**		

Item 8 which state that the internet helps management in getting information has a mean score of 3.92 and standard deviation of 0.90. Item 9, which state that school management use the internet to register students has a mean score of 3.64 and standard deviation of 0.79. Item 10 which state that internet enables the school to send information has a mean score of 3.44 and standard deviation of 0.94. Item 11 which state that school management uses internet facilities to grade students has a mean score of 3.42 with standard deviation of 0.84. Item 12 which state that secondary school management uses the internet have a mean score of 3.28 and standard deviation of 0.24. Item 13 which state that internet assist the school management in publishing students' admission has a mean score of 3.25 and standard deviation of 0.83. While item 14 which states that internet brought improvement in the management of student has a mean score of 3.17 and standard deviation of 0.79. Infact all the items on table 2 have mean scores above the cut-off point of 2.50. Cluster mean of 3.44 and standard deviation 0.76. The implication is that internet has indeed influence the effective management of secondary schools.

Research Question 3: How does e-mail has impact on the management of secondary schools?

Table 3: Mean Scores and Standard Deviations of the Influence of E-Mail on the Effective Management of Secondary Schools

Item No	Item Description	VHE	HE	LE	VLE	X̄ mean	S. D.	No. of Resp.	Decision
15	E-mail assists management in communicating with other schools in or outside the school environment.	276	645	60	6	3.08	0.84	320	Accepted
16	The use of E-mail helps the school in taking decision about students or staff for the external examination bodies.	1120	54	40	2	3.80	0.96	320	Accepted
17	The use of e-mail helps the school in taking decision about students or staff from the external examination bodies	356	537	100	2	3.11	0.87	320	Accepted
18	E-mail usage enables the school to store full information about students.	800	294	40	0	3.54	0.07	320	Accepted
19	E-mail usage help the school manager in better performance	1200	60	0	0	3.94	0.07	320	Accepted
20	E-mail has improve the grading system in school	304	729	2	0	3.23	0.81	320	Accepted
21	The use of e-mail has improved principals' capabilities.	900	234	20	7	3.63	0.98	320	Accepted
	Cluster mean					**3.47**	**0.65**		

Item 15 which states that e-mail help principals in better performance has a mean score of 3.94 and standard deviation of 0.70. Item 16 which states that the use of e-mail help the school in taking decision has means score of 3.80 and standard deviation of 0.96. Item 17 which states that the use of e-mail has improved principals capability has mean score of 3.63 and standard deviation of 0.98. Item 18 which state that e-mail enables the school to store information have a mean score of 3.54 and standard deviation of 0.70. Item 19 which state that e-mail has improved the school grading system have a mean score of 3.23 and standard deviation of 0.81. Item 20 which state that the use of e-mail helps the school in taking decisions has mean score of 3.11 and standard deviation of 0.87. While item 21 which states that e-mail assists management in communicating with other schools has mean score of 3.08 and standard deviation of 0.84. All the items in table 3 have mean scores above the cut-off point of 2.50. cluster mean of 3.47 and standard deviation of 0.65. The implication is that e-mail usage impact on the management of secondary schools in the areas of communication, records of students, decision making, grading of students and improvement of principals' capabilities.

Research Hypothesis 1: computers has no significant impact on the management of secondary schools.

Table 1: Chi-square test of Impact of Computers on the Management of Secondary Schools

Opinions	Observed frequency	Expected Frequency	Expected Frequency	X^2 Cal	X^2 Tab	Sig.	Level of Sig	Decision
No impact	50(16%)	160(50%)	3	1850.69	7.82	0.00	0.05	Significant
Impact	270(84%)	160(50%)						
Total	320(100%)	320(100%)						

Results from the tested hypotheses on table 1 above reveal that 270 (84%) of the respondents accepted that computer usage has impact on the management of secondary schools, whereas 50 (16%) of the respondents rejected it.

In addition, the table shows that chi-square calculated value of 1850.69 is greater than 7.82 table value at 3 degrees of freedom at 0.05 level of significant. The null hypothesis is not accepted while the alternate hypothesis is accepted.

Table 2: Chi-Square Test of Impact of the Use of Internet on the Management of Secondary Schools

Opinions	Observed frequency	Expected Frequency	Degree of freedom	X^2 Cal	X^2 Tab	Sig	Level of Sig	Decision
No impact	73(23%)	160(50%)	3	1765.14	7.82	0.00	0.05	Significant
Impact	247 (77%)	160(50%)						
Total	320(100%)	320(100%)						

Results from the tested hypotheses on table 2, reveal that 247 (77%) of the respondents accepted that internet or online instructions have impact on the management of secondary schools whereas 73 (23%) of the respondents rejected it. Furthermore, the table shows that chi-square calculated value of 1765.14 is greater than 7.82 table value at 3 degrees of freedom at 0.05 level of significant. The null hypothesis is therefore not accepted while the alternate hypothesis is accepted.

Research Hypothesis 3: The use of e-mail has no significant impact on the effective management of secondary schools.

Table 3: Chi-square test of Impact of the Use of E-Mail on the Management of Secondary Schools

Opinions	Observed frequency	Expected Frequency	Degree of freedom	X^2 Cal	X^2 Tab	Sig	Level of Sig	Decision
No impact	63 (20%)	160(50%)	3	1878.84	7.82	0.00	0.05	Significant
Impact	257 (80%)	160(50%)						
Total	320(100%)	320(100%)						

Results from the tested hypothesis on table 3 reveal that 257 (80%) of the respondents accepted that e-mail has impact on the management of secondary schools, whereas 63 (20%) of the respondents rejected it. In addition, the table shows that chi-square calculated value of 1878.84 is greater than 7.82 table value at 3 degrees of freedom at 0.05 level of significant. The null hypothesis is therefore rejected while the alternate hypotheses are accepted.

Discussion of Findings

The management of secondary schools through the use of computers in the areas of recording information about students, admission and registration process and student enrolment which are sent to the Ministry of education or Teaching Service board (TSB) is made possible through the use of computer. The impact of computer is being felt in the management of secondary schools in the preparation of students' examination reports, monitoring staff performances. Maintenance of good relationship between the school and the outside world thereby creating good relationship and improved principals' capabilities; The above views were conceived by Aduroye (1991) who stated that the use of computer systems has brought a lot of improvement and efficiency in education in the areas of payroll processing, students enrolment and many more.

The result of the study has revealed that the use of computer in carrying out managerial tasks has a significant impact on the effective management of secondary schools. This implies that the computer, which is the nerve centre of ICT, has a positive impact in the effective and efficient management of secondary schools in Zone "C" senatorial district of Benue state. Further improvement in computer usage can greatly aid school managers in fulfilling their tasks.

The s hypothesis revealed that the use of the internet has no significant impacts on the effective management of secondary schools are rejected. It is worthy of note that the internet has also contributed to scoring students' academic activities and thus improved the management of schools.

The e-mail usage has greatly influenced the management of secondary schools. This may be seen from the responses got from the questionnaire. That the e-mail has assisted management in the area of effective communication within and outside the

school environment; through e-mail decisions can be taking and quick dissemination of such decisions to the relevant authorities

Conclusion

From the fore-going it can be concluded that the application of ICT has an impact on the effective management of secondary schools in Zone 'C' district of Benue State. Where some of the ICT packages are in place and are used, there is evidence to show its usefulness. The recent trend of events shows that parents, teachers, managers of schools, students alike must begin to get interested in ICT; otherwise they would cease to be relevant in the very societies they live in. Even if school managers or government fail to work on the recommendations above the ICT is a force propelling users to adapt to new innovations and be compelled to implement them.

Recommendations

Based on the findings of this study the following recommendations were made. Government should provide a policy document on the use of computer in the nation's secondary schools.
All management staff should be trained and workshop organized for them on the usage of e-mail and computer. Machinery should be developed on ICT software application packages for all secondary schools.
Finally, secondary school management staff should take the initiative to acquire training in the knowledge of proficiency in application of ICT to enhance their leadership style sex post decision making.

Suggestions for Further Study

The researcher thereby suggested the following topics for further research.
i.   Assessment of the application of ICT on the management of public schools in Zone "A" local government area of Benue State.
ii.   Problems of the application of ICT in secondary schools in Zone "B" local government area of Benue State.

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