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**Strategic Assessment of Unlimited Resources of Computer System for the Advancement  
of our Society: An Empirical focus on School Administration and Learning**

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**ABSTRACT**

*The study sought to strategically explore the unlimited resources of computer system for the advancement of our society. Ex-post facto research design was adopted for the study. The study was conducted in Akwa Ibom state. The population of the study comprised computer science teachers/lecturers, principals, and Directors in Ministry of Education. Simple random sampling technique was used to select 110 computer science teachers/lecturers, 100 principals, and 10 directors in Ministry of Education, giving a total of 220 respondents constituting the sample size for the study. The Main Instrument used in this study was a Questionnaire titled “Computer and the Society Questionnaire (CSQ)”. Face validation of the instrument was carried out to ensure that the instrument has the accuracy, appropriateness, completeness and the language of the study under consideration. Cronbach Alpha technique was used to determine the level of reliability of the instrument. The reliability coefficient obtained was 0.84 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as descriptive statistics and simple regression. The test for significance was done at 0.05 alpha levels. The study concluded that computer has contributed significantly to effective school administration and learning. In addition, while technology is a wonderful thing, it is almost likely that it can be used in an immoral way but the positive aspects of its usage have remarkably surpassed the negatives. The study therefore recommended that the government and educators should reassess school programs and policies to ensure that latest technology are incorporated into classrooms, to enhance teaching and learning.*

**KEYWORDS: Computer, Society, Education, Business, Government, Advantages, Disadvantages, school administration and learning**

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## **Introduction**

Computers are, perhaps, the best invention by man so far. To understand their impact on society, we will first have to understand their meaning. A computer does not necessarily mean a monitor, keyboard, mouse, and a CPU. It is any machine or device that can compute and execute instructions given to it in the form of programmes. So technically, even a cell phone is a computer. And so are desktops, laptops, tablet PCs, and PDAs. It includes anything that can perform a series of operations on its own. This gives us an idea as to how wide and deep its role is in our lives. We need this device for virtually everything. In the subsequent paragraphs, we will enlist all the applications and uses that these devices have in our society. Brynin, (2006).

Development of science and technology has direct effect on our daily life as well as in our social life. Computer technology has made communication possible from one part of the world to the other in seconds, Selwyn (2003). They can see the transactions in one part of the world while staying in the other part. A computer is an electronic machine designed for the processing and storage of data. All the necessary data can be obtained in a short time such as information about people, services, economic planning, and land development projects and for planning and decision-making. In education, the duties of office automation, processing, scientific research results and exam results are computed with the use of computer. In businesses, the computer system has been used a lot and has replaced filing cabinets as means of storing information, and clerical workers as a means of processing it. By storing and processing information on a computer system, these businesses can function more. The computer is a link to data around the world in a short time. It is obvious that computer also has some disadvantages, such as sitting behind the computer all day, thereby losing reality as far as social activities and learning skills. Computer development is one of the greatest scientific achievements of the 20<sup>th</sup> century.

## **Statement of the Problem**

Computers are now facts of life. Modern society has come to depend very heavily on the use of computer systems. Banks, businesses, government departments, industries, entertainment, shops, people at home and school all rely on computer to play a vital role in their daily activities. Our lives have been permanently altered due to technology especially computers. Everything we do revolve around computers. Our assignments for class are required to be typed whereas in the past they could have been hand written. Instead of people talking to their neighbors in person or even over the phone, they now can talk to them through instant message and ICQ. While technology is a wonderful thing, it is almost likely that it can be used in immoral ways but the positive aspects of its usage have remarkably surpassed the negatives. The study therefore sought to assess the roles of computer in the society.

## **Objectives of the Study**

The main objective of the study was to strategically explore the unlimited resources of computer system for the advancement of our society. Specifically, the study sought:

1. To find out the impact of computer resources on effective school administration in Akwa Ibom State
2. To examine the impact of computer resources on effective learning in Akwa Ibom State.

## **Research Questions**

1. What is the impact of computer resources on effective school administration in Akwa Ibom State?
2. What is the impact of computer resources on effective learning in Akwa Ibom State?

## **Hypotheses**

H<sub>01</sub>: There is no significant impact of computer resources on effective school administration in Akwa Ibom State.

H<sub>02</sub>: There is no significant impact of computer resources on effective learning in Akwa Ibom State.

## **Literature Review**

### **Computer and Society**

Computers have become part of our lives. Computers are used in various fields as well as in teaching and learning. Some of the major computer application fields are listed below:

#### ***Roles of Computer in Business***

The use of computers is of maximum practice in the field of business. In fact, small businesses also use the computer as there are now very cheap microcomputers. Business organizations now have a number of facts and a lot of numbers to be processed. So many businesses have started using the computer, for example, to calculate the salary, to identify the goods sold and are still in stock, to issue and send or receive business statements, letters, invoices and more. The use of computers and office equipment to assist other managers, clerks, and the management of the office automation mentioned. One of them is a word processing type of electronic method that enables us to produce and edit letters, reports, documents, and other than work in a few seconds to type manually. In addition, local business organizations use computers to create, save, and send envoys to a particular place. These are the advantages of using computers in this area; clearly it is very important in a business organization.

#### ***Roles of Computer in Banking and Finance***

Processing data involving savings accounts, fixed deposits, loans, investments, profitability analysis, and so on are among the organizations operating budget. The measures used are standard and recurrent, and with that, the financial institution is the first user, aware of the importance of computer to save time. Use in financial institutions including electronic fund transfer activities for example a bank has a terminal in each branch in the country and also in supermarkets, petrol stations, schools, factories, homes, hotels, and so on.

The company will move employees' salary into the account by entering employee identification numbers then pay the money transferred into the account supermarkets, hotels, or gas station when making a purchase. Money transfer facility is referred to the electronic transfer of money, which is very effective, is safe and it is a quick method for financial transactions. With the facility, known as ETC, which also individual can issue, transfer, and include cash of checks to the current balance at any time. Clearly the main purpose of the use of computers in financial institutions include: assist in arranging the affairs of clients and

provide better and more efficient services, reduce fraud in financial transactions, also eliminate cash transactions involving the community with the goal to create a cashless society.

### **Roles of Computer in Industrial Areas**

Industry benefits a lot from the use of computer and the development of a human machine called 'robot'. Industrial production, for example requires a lot of computers to process data collected from employees, customers, sales, product information, production schedules, and so on. Yes, said the computer is used to control the production process. Computer can alert the staff involved if he/she should order the raw materials and when to deliver the goods completed to the customer. Similarly, to store information about the structure of an item, the material requirement planning processes also use computers to facilitate the work. The use of computer in the industry is very broad, and also affects the development of industries in a country.

### **Roles of Computer in Education**

The use of computers is quite necessary because it helps people to maintain the real world opportunities. Computer technology can't be underestimated, as it continues to evolve in schools and workplace. It made the access and the provisions of the education services easier, convenient to handle and cheaper. It also makes the life of the teacher comfortable in handling classes and creating teaching materials. Computers have revolutionized education and it is leading to the bright future. According to Kerawalla & Crook (2002), now exams results are processed by computer. The duties of automation, processing, scientific research and results also use the computer. In fact, cataloging books in libraries also apply to the use of computer. Computer-assisted education is greatly emphasized in the field of education for helping in the administrative process.

### **Roles of Computer in the Medicals**

Hospitals and clinics use computer to store patient records, scheduling doctors, nurses and other personnel, inventory and purchase of machines, medical research and medical diagnosis. Applications of computer-based equipment or use of information technology has helped doctors to diagnose diseases. Microprocessor-based voice systems assist people with disabilities speaking with a terminal that directs the computer to perform a verbal task. Hospital information system that is used can be stored in a centralized patient database. In the use of technology, the computer is programmed to culture and analyze bacteria, viruses, and other infections agents to automatically detect and identify a disease, enabling the hospitals and laboratories to begin treatment. Similarly, computers are used for a patient so as to oversee psychological variables such as blood pressure, body temperature, and ECG (Electro-Cardiograph). Clearly, it was found that the computer has a wide range of accommodation in the medical field.

### **Roles of Computers in Legal**

Computers have been used in the legislative process in recent years. The use of computer accounting legislation also includes processing to produce weekly and monthly reports, keep records of payments consulting, diary for the latest attorney information consumers about the various court procedures and also keep records of users. As this area is very complicated, it is the need to retrieve the required information either on journal of law, an important case,

scale, and statistics or important decisions for the purpose of making the decision to retain legal data bank. Thus, the use of one computer will help lawyers and trainee lawyers and law students find accurate and relevant data without wasting time.

### **Roles of Computers in Government**

Government sector is one of the largest users of computer, such as usage practices in implementing administrative matters. All the necessary data can be obtained in a short time such as information about people, services, economic planning, and land development projects and for planning and decision making. Service tax and income tax collection is simplified by using the computer. Keeping records of taxpayers who do it manually and bring many problems have been addressed with the use of computer and service can make the task more efficiently and quickly. Similarly, in the military, computer is used to track and detect the movement of the enemy in the border areas. Traffic flow can be managed effectively by detecting the direction of traffic using the many tools of detection. In this way, if there are more vehicles from one direction, the computer will let the green light goes on for a suitable period of time. Similarly, business owners and vehicle registration can be performed with the use of computers. Many of the all administrative affairs are managed by using the computer. This not only saves time but can do all things more practical.

### **Roles of Computers in Entertainment**

Now the computer can be programmed to play music. Places of entertainment with music controlled by computer are cheaper and can be accessed at any time. Computers are also used to arrange the order of dance and music. Each game requires movement. Movement can be obtained by detailed analysis of physical system. Computers also can be programmed to depict images of high quality. Drawing using the computer speeds up the process of creating. The work of art can be done and made a review in a short time compared with traditional Kedah. Cartoon films produced by computer have grown so widely.

### **How Computers Affect Everyday Life**

Our lives have been permanently altered due to technology, especially computers. Everything we do revolve around computers. Our assignments for class are required to be typed whereas in the past they could have been hand written. Instead of people talking to their neighbors in person or even over the phone, they now can talk to them through instant message and ICQ. They can even make phone calls from the computer instead of the telephone.

Although there is a lot less actual interaction between people because of computers, they are not all bad. They allow people to talk to friends and family that are far away without having to pay the long distance phone bill. Computers also make our lives easier. In the past, grocery store cashier had to memorize all of the prices for the products in their store. Today, the register is computerized and programmed to know the price by reading the bar code. It would be impossible for anyone to know the price of every item in today's stores. Computers also allow people to do their banking and shopping without leaving their home. Almost anything can be bought off of the internet. Colleges also offer classes online so that people do not have to travel all of the way to the school to attend class. Penn State calls this their World Campus and it is located at. Classes that would usually be cancelled because the professor was out of town can be held in chat rooms.

## Advantages of Computers

According to Downes, (1999), the advantages of computer are as follows:

**Disabled:** Computers have changed many disabled people's lives, especially those who are unable to leave their house because of boundaries such as wheelchairs. For people who are confined to wheel chairs, computers give them a chance to experience many things that would not be possible for them otherwise. They can go to a particular museum website and learn about NASA and the space shuttle. These things would not be possible without computers because of their physical disability.

**Elderly:** The elderly also are now able to enjoy different things on the computer. They can research medication they consume, visit a website about travelling or communicate with their family members. Since the elderly many times are barred in transportation, either because they no longer drive, or are no longer permitted to drive, computers allows them to do just about anything from shopping, to traveling, to learning, to e-mailing their long lost friends from years prior. It gives them a new freedom.

**Low Income Families:** Hopefully, many more computers will become available to the underprivileged children from low-income families. Possibly in near future, there will be a scale fee for the people in poverty (or near poverty) to be able to afford purchasing a computer. In many public schools, computers are now available to their students; therefore, the underprivileged now have a chance to keep up with upper to middle class children.

## Computer Resources and Effective School Administration

School administration is a key determinant for the realization of desired outcomes and success in both public and private schools hence is seen as critical by all stakeholders. Gray and Smith (2007) observe that the twenty-first century principal administrator faces numerous challenges emanating from the technology. Information and Communication Technologies (ICT) are increasingly used and viewed as important in all spheres of operation including education. This requires effective and dynamic school administration. Maki (2008) stipulates that ICT plays a vital role in supporting powerful, efficient management and administration in the education sector: technology can be used from student administration (i.e., students' record) to various resource administrations in an education institution. According to Zainally (2008), "ICT provides several facilities and possibilities for educational administrators to perform their tasks"

Computers can help in running of the school administration. It can be used during the admission procedures, storing of officials and students' records etc. The application of computers to student record keeping evolved from simple tabulation and keeping records of registration figures, attendance, grades in examination, admission, registration scheduling, dropouts and additions, class rosters, student aid, fees and scholarship, testing and evaluation, and enrollment. Computers can also be used in educational planning and decision-making, controlling, assisting instruction and simulation. Computers are helpful in administrating aptitude tests and achievement tests at the time of entrance. It may also be used to keep track of appointments and obligations; record notes on conferences and meetings held; produce inter office memos; and execute selective or mass mailings to students, parents, management members, and authorities at district, state or central level.

## **Computer Resources and Effective Learning**

Over the past decade the teaching model and learning method has been changed a lot, mostly due to the introduction of information technology, especially in higher education. Computer based education (CBE) is usually used as an assistant education method helping students learning after class. Furthermore, CBE works as a major education method in distance learning and be used to replace conventional classroom teaching (Karsaulidze, 2010). As a result, any educational institutions use the Internet for collaborative learning in a distributed educational process. The students can learn at any time just facing their computer, no matter where they stay. Development has been a major quest of people’s lives for quite some time. Technological developments have influenced all sectors of our lives including communication, transportation, health and education. Through computer and internet, students can interact with other students having same educational issues and can learn from each other (Lawrence, 2001).

According to Chachanidze (2004) Computers have supplied infinite resources for learning and made education more flexible and easy to access. Students can now gain knowledge and information not only from classroom assignments and libraries but also from available online resources. Video tutorials, free or paid e-books and several forums also contribute in the resources that are needed by the students. Huge and organized storage of information is another characteristic of a computer. Teachers and students can download and store large amounts of lecture notes, presentation and other educational materials. Education made readily available to everyone and provided by facilities because people can learn at their convenience.

### **Method**

Ex-post facto research design was adopted for the study. The study was conducted in Akwa Ibom state. The population of the study comprised computer science teachers/lecturers, principals, and Directors in Ministry of Education. Simple random sampling technique was used to select 110 computer science teachers/lecturers, 100 principals, and 10 directors in Ministry of Education, giving a total of 220 respondents constituting the sample size for the study. The Main Instrument used in this study was a Questionnaire titled “Computer and the Society Questionnaire (CSQ)”. Face validation of the instrument was carried out to ensure that the instrument has the accuracy, appropriateness, completeness and the language of the study under consideration. Cronbach Alpha technique was used to determine the level of reliability of the instrument. The reliability coefficient obtained was 0.84 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as descriptive statistics and simple regression. The test for significance was done at 0.05 alpha levels.

### **Results and Discussion**

**Research Question 1:** What is the impact of computer resources on effective school administration in Akwa Ibom State?

**Table 1: Simple Regression Analysis on the impact of computer resources on effective school administration in Akwa Ibom State**

<b>Model</b>	<b>R</b>	<b>R-Square</b>	<b>Adjusted R Square</b>	<b>Std. error of the Estimate</b>	<b>R Square Change</b>
1	0.68a	0.47	0.47	1.60	0.47

**\*Significant at 0.05 level; df= 118; N= 120; critical R-value = 0.197**

The above table 1 shows that the calculated R-value (0.68) was greater than the critical R-value of 0.197 at 0.5 alpha level with 118 degree of freedom. The R-Square value of 0.47 predicts 47% of the impact of computer resources on effective school administration in Akwa Ibom State. This rate of percentage is not highly positive and therefore means that there is low impact of computer resources on effective school administration in Akwa Ibom State. It was also deemed necessary to find out the influence of the variance of each class of independent variable as responded by each respondent (see Table 3).

**Research Question 2:** What is the impact of computer resources on effective learning in Akwa Ibom State?

**Table 2: Simple Regression Analysis of the impact of computer resources on effective learning in Akwa Ibom State**

Model	R	R-Square	Adjusted R Square	Std. error of the Estimate	R Square Change
1	0.80a	0.64	0.63	1.07	0.64

**\*Significant at 0.05 level; df= 118; N= 120; critical R-value = 0.197**

The above table 2 shows that the calculated R-value (0.80) was greater than the critical R-value of 0.197 at 0.5 alpha level with 118 degree of freedom. The R-Square value of 0.64 predicts 64% of the impact of computer resources on effective learning in Akwa Ibom State. This rate of percentage is highly positive and therefore means that there is impact of computer resources on effective learning in Akwa Ibom State. It was also deemed necessary to find out the influence of the variance of each class of independent variable as responded by each respondent (see table 4).

**Hypotheses 1:** The null hypothesis states that there is no significant impact of computer resources on effective school administration in Akwa Ibom State. In order to test the hypothesis, regression analysis was performed on the data, (see table 3).

**Table 3: Analysis of variance of the impact of computer resources on effective school administration in Akwa Ibom State**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	265.44	1	265.44	103.63	.000b
Residual	302.26	118	1.56		
Total	567.70	119			

a. Dependent Variable: school administration

b. Predictors: (Constant), Computer

The above table presents the calculated F-value as (103.63) and the P-value as (000). Being that the P-value (000) is below the probability level of 0.05, the result therefore means that there is significant impact of computer resources on effective school administration in Akwa Ibom State. The significance of the result is in agreement with the findings of Maki (2008) stipulates that ICT plays a vital role in supporting powerful, efficient management and administration in the education sector: technology can be used from student administration (i.e., students' record) to various resource administration in an education institution. The significance of the result caused the null hypothesis to be rejected while the alternative one was accepted.

**Hypotheses 2:** The null hypothesis states that there is no significant the impact of computer resources on effective learning in Akwa Ibom State. In order to test the hypothesis, regression analysis was performed on the data, (see table 4).



**Table 4: Analysis of variance of the impact of computer resources on effective learning in Akwa Ibom State**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	236.47	1	236.45	205.9	.000b
Residual	135.53	118	1.15		
Total	372.	119			

a. Dependent Variable: learning

b. Predictors: (Constant), Computer

The above table presents the calculated F-value as (205.9) and the P-value as (000). Being that the P-value (000) is below the probability level of 0.05, the result therefore means that there is significant impact of computer resources on effective learning in Akwa Ibom State. The significance of the result is in agreement with the findings of Chachanidze (2004) that computers have supplied infinite resources for learning and makes education flexible and easy to access. The significance of the result caused the null hypothesis to be rejected while the alternative one was accepted.

### Conclusion

The rapid development of science and technology has changed the pattern of life now. Computers are used in all spheres of human life. Covering the use in various fields including business, financial institutions, industry, education, administration and other fields have the desire to realize develop each country. The fact is, computers have become the heart and backbone of society today. In line with globalization and the borderless world, the computer is a machine in the information society, and also the main artery of all machinery administration in any field. The study also concluded that there is significant impact of computer resources on effective school administration and effective learning in Akwa Ibom State.

### Recommendations

1. The government and educators should reassess school programs and policies to ensure that latest technology are incorporated into classrooms, to enhance teaching and learning.
2. It is imperative that school administrators, as key educators, embrace including computers as educational tools for effective administration.
3. Students must thrive to use the computer for learning purposes alone, since they can be easily distracted by other sites that are not applicable to learning.

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## REFERENCES

- Brynin, M (2006) '*The Neutered Computer*' in Kraut, R, Brynin, M. and Kiesler, S. (eds) *Computers, Phone and the Internet. Domesticating Information Technology*, Oxford University Press, Oxford, pp.84-96.
- Dilaver, O. (2014) 'Making sense of innovations: A comparison of personal computers and mobile phones', *New Media & Society*, 16(8) 1214-1232.
- Downes, T. (1999) 'Children's and Parents' Discourses about Computers in the Home and School', *Convergence: The Journal of Research into New Media Technologies*, 5(4), 104-112.
- Kerawalla L. & Crook C. (2002) 'Children's Computer Use at Home and at School: Context and Continuity'. *British Educational Research Journal* 28(1), 751-771.
- Nissen, J. (1989) '*Computer Captivated Youth: A Swedish Picture*'. Paper presented at the conference 'Children in the Information Age' Sofia, May.
- Norman, D. (1998). *The Invisible Computer*. Why Good Products can Fail, the Personal Computer is so Complex, and Information Appliances are the Solution, MIT Press, Cambridge, Mass.
- Selwyn N. (2003). 'Doing IT for the Kids': Re-examining Children, Computers and the 'Information Society'. *Media, Culture and Society*, 25(1), 351-378.
- don/16-january-2020-novel-coronavirus-japan-ex-china/en