

**ASSESSMENT OF THE AVAILABILITY AND UTILIZATION OF  
INFORMATION TECHNOLOGY (IT) FACILITIES IN BAYELSA STATE  
MINISTRY OF EDUCATION**

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**JANUARY, 2009.**

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## **DEDICATION**

This research work is dedicated to the memory of my Grand mother Late Mrs.  
Timipa Ogidi.

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**Oyadongha, Diseye Juliet**



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## **ABSTRACT**

The study focused on the assessment of the availability and utilization of Information Facilities in the Bayelsa State Ministry of Education. The study utilizes a survey research design. Four research Questions were developed and two hypothesis were tested at 0.05 level of significance and relevant degrees of freedom. The population comprised 300 research subjects made up of Unit directors, supervisors, secretaries and clerks of the Bayelsa State Ministry of Education. The entire population was studied. The instrument used in data collection was a structured questionnaire duly validated by three experts from the Department of Vocational Teacher Education, University of Nigeria, Nsukka. The reliability Coefficient of the instrument for the study was 0.82 which was calculated using Cronbach Alpha Reliability Test. The research questions were answered using mean and standard deviations while the hypotheses were tested using the t-test. It was found that the Information Technology facilities available and utilized in the Bayelsa State Ministry of Education are the Desktop and Laptops Computers, Laser jet printers, Printers, photocopies, telephones, mobile phones and digital cameras. It was found out that media computers, portable projector, electronic binders, power back up for VSAT and Server; microwave radio link were not available and consequently were not utilized. It was also found out that there are some benefits in the utilization of Information Technology facilities, such as it creates job satisfaction, improves employee productivity, enhances speed and accuracy, provided speedy communication and facilitates the storage and retrieval of information technology facilities. It was found out that there are adequate computers, inadequate information technology experts, poor maintenance; irregular power supply among others. It was concluded that the Computer Desktop and its accessories are the most available and most widely used information and technology facility in the Bayelsa State Ministry of Education. It was recommended that Efforts should be made by the Bayelsa State Government towards the procurement of modern information technology facility such as portable digital Assistants (PDA), wireless local area Networks (WLAN), wide Area Network (WAN) and Local Area Network (LAN) for effective data transfer management in the ministry. Also the staff of the ministry should be given some retraining by the Bayelsa State Ministry of Education on the skills involved in the use of these information technology facilities for effective office operations.

## CHAPTER ONE

### INTRODUCTION

#### *Background of the Study*

The impact of current advancement in Information Technology (IT) on the environment is an issue that remains inexhaustible. Information technology has no doubt revolutionized business activities in today's world. It has brought speed, capacity, accuracy, reliability and ultimately the reduction of the world to a global business village (Brightman, 1986).

In the past, information was undervalued, underestimated and underutilized. Today, the accelerating pace of business activity demands greater need for timely and accurate information. Information is of vital importance to any industry be it education, manufacturing, etc, to achieve short or long term goals. Given quality information, management can rely more on deductive and analytical methods than on guesses and intuitive judgment, which it is forced to employ when many of the relevant facts are missing.

Okolo (2006) asserted that modern technology is no doubt a major factor in increasing productivity, speed and accuracy of information and communication process well as improving the quality of work in offices, industries and education. Information technology in office automation has some characteristics that are shaping not only how work is done, but also the work. With information technology, concrete walls or physical spaces no longer define offices but collaborating network.

Obviously, in a society that is in a state of technological flux such as in Nigeria, it is compelling to monitor from time to time, the services and skills that employers of labour want, so as to be equipped with the necessary skills and knowledge. The introduction of new information technology has given rise to new skills, new knowledge and new techniques of managing information. Offices are now faced with the need to constantly update their skills and knowledge in order to cope with the demands of office automation.

Emmanuel (1998), defined information technology as the technology that facilitates the generation, processing, storage and dissemination of information. Similarly, Curtis, Folley, Ses and Morin (1998) viewed information as the act of informing or the condition of being informed, the communication of knowledge and knowledge derived from study, experience or instruction while technology is the application of science, especially to industrial or commercial objectives. He, therefore, referred to information

technology as the creating, gathering, processing, storage and delivery of information and the processes and devices that make all this possible.

Evans, (1986) stated that information technology is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by micro-electronic based on combination of computing and telecommunicating. According to Atueyi, (2001), information technology includes the host of systems, equipment and materials essentially computer based, which is used to achieve the set goals of an organization in relation to the functions of an office. From the foregoing, it is clear that information embraces all sophisticated systems, mechanized equipment, technology, etc, used for processing information in text, data image, voice form, and communicating the information to local and/or international telecommunication network. One thinks of these processes and devices as tools that make life and career better or more efficient. The tasks that are using information technology continue to increase almost on a daily basis. For example, a few years ago, cinematography and photography did not use computers at any point in its process. Now, computers are in cameras, processing laboratories and editing rooms. No matter the field of study or nature of employment, information technology must be involved. Information technology does at least, three things; it processes raw data into useful information; recycles processed information and uses it as data in another processing cycle and it can package information in a new form so that it will be easier to understand, more attractive and useful. Indeed modern offices devote a great deal of attention to how they go about acquiring, storing and processing the information that they use in their operations to make decisions. They have come to rely more and more on information technology. It has become widely accepted that information and the system that handles it, are key resources of an organization and can be used to distinguish success from failure or mere existence. Effective utilization of such resources can provide competitive advantage for successful organizations and offices, thus allowing them to outperform their rivals or raise the level of the quality of their services or products.

Thus, today's offices are characterized by the presence of electronic information system as opposed to the past. Information technology includes the use of Word Processors, Computers and Internet Facilities, which provide more effective and efficient ways of managing information. The advancement in technology has helped to enrich the scope and practices of office personnel in terms of speed, variety, quality and y.

Clearly, there is a decline in educational standards in Nigeria today, the reason could perhaps be that Nigeria cannot adapt to the new information age. Otherwise, as I

earlier, the success of any office (education inclusive) depends amongst others on being adequate information equipment and on utilizing them for optimum performance. This study will attempt to provide answers to the above concerns with the intent of making recommendations where necessary.

### **Statement of the Problem**

Studies have shown that information technology has brought about accelerated growth in office operation (Agumuo, 1998; Osuala, 1998 and Nwosu, 1999). With the advent of information technology, office functions are now experiencing a transition from the traditional (Manual) to the modern (Mechanized) information processing operations. This new information technology is more effective and efficient as an information support service in the office. It has released workers from drudging replaced with machines, and permitted them to go wherever by land, sea or airspace supply the means for creating their own environment, feeds and cloth with increasing better product service (Chatterton, 1992).

The success of office operations depends on what quality and type of information technology is available vis-à-vis the required skill and personnel for its usage. Studies have also shown that without functional information facilities in the offices, staff performance out put will be very low. Besides even when facilities are available and the required skilled personnel are not utilized, it brings about failure in office operations. Hence, it is the aim of this study to assess the degree of availability of information technology facilities and their utilization in the Bayelsa State Ministry of Education. This is so because how well these offices are equipped with information technology facilities and their effective utilization to achieve the desired result will be determined. The problem of this study, therefore, put in question form is how adequate the information technology facilities and how are they being utilized in the Bayelsa State Ministry of Education?

### **Purpose of the Study**

The major purpose of this study is to assess the availability and utilization of information technology facilities in the Bayelsa State Ministry of Education. Specifically, the objectives of this study are to determine the:

- (1) Various information technology (IT) facilities available in the Bayelsa State Ministry of Education.
- (2) Extent to which available information technology facilities are utilized in the Bayelsa State Ministry of Education.
- (3) Benefits of utilization of information technology facilities in the Bayelsa State Ministry of Education.
- (4) Constraints in the effective utilization of the various types of information technology (IT) facilities in the Bayelsa State Ministry of Education.

### **Significance of the Study**

The need for educational development especially in Nigeria cannot be overemphasized. This goal can be attained through the degree to which an office can be adequately equipped with state of the art machines and tools, and how well the appropriate skill can be applied in operating the machines to achieve optimum results or performance.

The findings of this study if adopted will be of immense benefit to the Bayelsa State Ministry of Education, unit Directors, Supervisors, Secretary, Clerks etc of all the parastatals (Niger Delta University, post primary schools board, Universal basic education etc). In the educational sector due to the identification of any gap that exist between equipment availability and adequate personnel to process information. Identification of the gap will create room for solution to be easily proffered.

The findings of the study would be beneficial to the administration of the Bayelsa State Ministry of Education as all the information and communication technology facilities would be identified so as to make procurement of those facilities that can be used for effective administration of the ministry. It would be beneficial in sense that all the constraints militating against the use of these ICT facilities would be identified and solution will be preferred.

The findings of this study will be beneficial to all end users of information chno1ogy e.g. Secretaries, Clarks etc. it will enable employees to cope with a variety of manufacturing system, improve productivity, improve job mobility and educational

standard. Finally, it would create awareness to the office clerks on the extent of availability and utilization of information and communication technology in the Bayelsa State Ministry of Education; this would reveal the gaps that exist in the offices in terms of current trends in ICT worldwide and ways of bridging the gap would be accordingly suggested.

### **Research Questions**

The following research questions will guide this study:

- (1) What are the various information technology (IT) facilities available in the Bayelsa State Ministry of Education?
- (2) How frequently are the information technology (IT) facilities available Bayelsa State Ministry of Education utilized?
- (3) What are the benefits of the utilization of information technology facilities in the Bayelsa State Ministry of Education?
- (4) What are the constraints in the effective utilization of information technology facilities in the Bayelsa State Ministry of Education?

### **Hypotheses**

The following hypotheses are stated to guide the study:

- HO<sub>1</sub>: There is no significant difference in the mean ratings of unit directors and secretaries on the availability of information technology (IT) facilities in the Bayelsa State Ministry of Education.
- HO<sub>2</sub>: There is no significant difference in the mean ratings of unit directors and secretaries on the extent of utilization of information technology (IT) facilities in the Bayelsa State Ministry of Education.

### **Delimitations of the Study**

Although information technology is applied in all organizations both within and outside the country this particular study is delimited to the availability and utilization of information technology facilities by staff of the Bayelsa State Ministry of Education.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

This chapter presents a review of related literature and the review has been organized along the following subheadings:

- 1) Conceptual and Theoretical Framework
- 2) Available Information Technology Facilities
- 3) Extent of Utilization of Information Technology Facilities
- 4) Benefits of the Utilization of Information Technology facilities
- 5) Constraints in the Effective Utilization of Information Technology Facilities in Bayelsa State, Ministry of Education
- 6) Related Empirical Studies
- 7) Summary of Related Literature

#### **Conceptual and Theoretical Framework**

Information is a very important concept in organizations. It is a valuable commodity required by organizations to plan and control their operations. According to, Kast and Rosenzweig (1970) in Usman (2006) contended that information applies to facts that are gathered in anyway, as by reaching, observing, and etcetera. Usman (2006) further argued that information is data that have been processed into meaningful and usable context. It involves the transmission and reception of intelligence or knowledge. Basically, information is viewed as data which can be used by people for effective planning and control of their organizations to achieve the organizations goal or objective (Lucey, 1987). Akporowho (2006) posited that information is data that has a particular meaning, with a context. In the context of business education, information implies additional knowledge relevant to vocational discipline. Undoubtedly, information is the most critical resource that has the capacity to transform people and their circumstances (Macbride, 1972).

Data capture, handling, recording and processing by whatever means incur cost do not produce value. It is only when data is communicated and understood by the recipient, and thus transformed into information that value may arise provided that the information is used to improve decision making (Akporowho, 2006). The information supplied in the opinion of Akporowho should however have the following characteristics. Timing: Information must be produced and communicated to the users at the appropriate time in use. Appropriateness: The information to be used must be a given context and be

appropriate for planning and decision making. Accuracy: For information to be relied upon, it must be accurate. That is, it should be error free as h as possible. Detail and Volume: These refer to the amount and scope of information produced. It should contain the least amount of details consistent degree of detail should vary with the degree of detail required the greater the lower the degree of compression. Frequency: Information should be produced at a frequency which is related to the type of decision or activities involved. Too often reports are produced routinely for example daily, weekly, monthly and so on, without regard to the time cycle of the activity involved. Understandability: The format for presentation must suit the recipient, the data and the actions to be taken. This means that the information producer must be aware of the recipientsö knowledge in technical terms, numeric/literacy levels, individual characteristics, and the characteristics of the group with which he works and so on.

On the other hand, technology is the instrumental foundation of every society. Polynter (1982) argued that every society has a technological system by which it utilizes the physical and biological environment of humans to solve the most fundamental problems of human survival and to achieve some degree of physical an1brt and well-being of its members.

Technological ventures are generally associated with the commercial development of a novel idea resulting in a new product, process or service, spawned by scientific breakthroughs. Bahrarni and Evans, (1987) defined technology as the systematic application of scientific knowledge in a device, process or concept, with commercial, competitive or socially desirable value. Technology is a perishable resource comprising knowledge, skills, and the means of using and controlling factors of production for the purpose of producing, delivering to users, and maintaining goods and services for which there is an economic and/or social demand. The definition includes the knowledge, skills and other means for the distribution of goods and vices, as well as their production. The capacity to create new technology and to in existing technology is also included.

Similarly, Onojaife (2006) defined technology as the technical means people use to improve their surroundings. It is the knowledge of using tools and machines to perform tasks effectively. He further stated that technology is used to improve the ability to do work, and that building is better through the use of technology. In the same vein, Oyedele (2002) defined technology to mean the systematic application of scientific or their organized knowledge or practical tasks. Technology consists of materials, tools, systems,

techniques processes and knowledge aimed at producing results (Osuala, 2004; Njiro, 2003; and Homby, 2002).

Indeed, Appleton and Scott (1994) stated that technology consists of four aspects namely:

- Physical artifacts (tools and equipment) often referred to as hardware.
- Skills and knowledge that enable artifacts to be used and production carried out.
- The forms of organization (social and directly related to production) needed to make software.
- The product itself, which has direct relationship with the techniques and skills required in producing it.

Therefore, information technology refers to the creation, gathering, processing, storage, and delivery of information and the process and devices that make all these possible. (Curtic et. al, 1998). Also Homby (1995) state that information technology is the study or use of electronic equipment for storing, analyzing and distributing information of all kinds, including words, numbers and pictures. However, on his part, Boritz (2000) opined that information technology is the fusion of information processing techniques and the means by which information is distributed. In other words, information technology has to do with the acquisition, storage, processing and distribution of information usually through the use of radio, television, telephone, computer, etc. The Nigerian National Policy on Information Technology described IT in two perspectives:

1. It means computer ancillary equipment software, firmware (hardware) and similar procedures, services (including support services and related resources).
2. It means any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, management, movement, control, display, switching interchange transmission or reception of data or information.

Furthermore, Ekruyota (2005) explained information technology as a medium that permits the requisition of a vast array of information, ideas, concepts and messages. According to Ekruyota, having adequate knowledge of information and communication technology implies effectively exploring the expressive power that enables someone to accomplish a variety of different tasks, and about developing different ways of accomplishing given assignment. O'Brien (2003) also defined ICT as any computer-based in that people use to work with information and support information processing needs of an organization. In short, the concept of IT covers a wide range of technology. It covers the tasks performed, procedures followed and devices employed in gathering,

manipulating, transforming, storing, retrieving and disseminating information, and also other ranges of technologies that include computer and micro-processor technology, communication satellite technologies and networking technologies.

According to Boritz (2000), the current globalization and the development of information technology has introduced an unprecedented degree of competition among nations and business organizations. Information technology is also vital to any human organization, especially the timely and appropriate ones. Application of information technology is important and has the capacity to process speed and reliable information across the nations of the world, distance notwithstanding. Boritz further explained that availability of information technology is initial aspect for achieving a competitive edge among the nation. Therefore, to survive or grow in business in the current global market the utilization of such equipment should be put into consideration.

Osuala (2004) stated that theory of information technology is a better explanation of the reason for the introduction and the development of information technology. This view of information technology regards it as a means to secure information for managing the contractual and administrative arrangement within an organization. Information technology also highlights the incentive problem that is; organizational structures need to ensure constructural and administrative arrangement with available equipment which must deliver derived outcome. Osuala (2004) noted that organizations systems must provide appropriate incentives to those who operate the system such that the outcomes are satisfactory in the terms of goals of their organization. Osuala further explained that information technology may be seen as development of new resources to obtain better performance than competition. Hence the benefits of using information technology may be seen as being in accord with the resources base view of the firm.

Information and communication technology has become the bedrock of globalization in social, economic, political and educational development of the world. These developments which emanated from the use of pen and ink from 1980 to date have witnessed tremendous changes and innovations (Lumberg, 1975). Lumber, further explained that the past decades have brought significant changes and development in information technology, writing process, and therefore, transformed the mere use of pen and ink to the use of computers through the keyboard manipulating, and word processing. Word processing is the creation, edition, saving, retrieving, formatting and printing of a document. Zanker (2000) explained that all information, be it word or data must be processed or keyed into the computer through the keyboard. Therefore, the role of the

keyboard in computing cannot be over emphasized. The equipment of information technology has shifted from mere computer to the internet. Etim (2000) reiterated that the internet is basically a network of people and information linked together by telephone lines, which are connected to the computers. In fact more than 100,000 independent networks (public and private) are currently connected to form this vast global communication system.

Oborah and Obi (2000), Eze (2000), Nwosu (1999), and some other experts shares the same view that the present curriculum as it affects business courses is outdated. They called for changes of curriculum, for information technology. Ahukannah (2000) added that teachers of information and communication technology related courses should be computer literate, so as to impact current knowledge. Communication technology is a new addition to information technology but many writers hold the view that communication technology like information technology should be infused into the curriculum not only for secondary but also for institutions of higher learning. Atueyi (1999) stated that information technology is the list of systems equipment and materials essentially computer based which is used to achieve the set goals of an organization in relation to the functions of an office. The above statement accepts that information technology involves the activities of acquisition, processing, storing, retrieving, disseminating and presenting information using computer to achieve organizational and individual objectives. On the other hand, communication helps an individual to use the computer to exchange data with other remote computers located anywhere in the world.

An office would be run effectively and efficiently depending on the resources that are available and utilized, (Oyim, 2004). The resources here are the physical information technology facilities. According to Oyim (2004) availability is the degree to which a system, subsystem or equipment is accessible and in a committable state at the start of a mission, when the mission is called for at an unknown that is, random time. Simply put, availability is the proportional time of a system in a functioning condition. Also Hornby (2000) explained availability as that which one can get, buy or find.

Utilization connotes the use of services and supplies, or putting something to a useful purpose, (Hornby, 1995). In the context of information technology utilization refers to the implementation of all the devices artifacts (machines), software, hardware and all other facilities of information technology.

## **Available Information Technology Facilities in the Bayelsa State Ministry of Education**

The invention and practices of information technology in the world today has more or less made the world a global village, alleviating the world's problem, bringing easy survival and development in a rapid manner from one part of the world to another. It is obvious that, the traditional information system in the offices has been dependent to a large extent on manual processing and procedures. The advent of information technology is playing a very important role in virtually all aspects of human endeavor including offices and education industry. (Ajileye, 2006). According to Eardly (1989) information technology activities and operation in the offices will bring about the following:

1. Helping in increasing the type of services offered by the offices.
2. Improved efficiency in terms of time, human resource usage and cost in all stages of data processing and transmission from the data source to the users.
3. Improved quality of information, for example in terms of accuracy, level of details, timeless and so on.
4. Greater flexibility and responsiveness to particular user needs, that is, information system may more readily be tailored towards user needs.
5. Increased efficiency through the sharing of common data base either within the same ministry by using external base sources.
6. Enhanced degree of user interaction to specific information and processing needs, and to review and modify the needs as the problem situation develops or unfolds.

Based on these, the Bayelsa State Ministry of Education deemed it necessary to bring about innovation in its information and communication system. The facilities available include computers, photocopies, and printers etc. in the ministry to promote efficient and effective office management, and set up advisory standard of Education. Chapman and Oliver (1990) stated that this innovation in information technology was brought within such by the use of computers, fax machines, telecommunication printers, and other technological resources available in modern offices.

A vivid understanding of this ICT facilities available and how they have helped promote to ease and improve working condition from the old traditional ways of the manual typewriter is seen from the individual components characters and functions they perform as concerning information technology. The available information technology facilities include: The Computer: The computer according to Lorimer (2000) is defined as device capable of accepting information, applying prescribed processes to the

information, and supplying the result of these processes. Lorimer further defined the computer as a machine capable of accepting information, processing it, and providing the result of the processes. Also Osuala (2004) defined computer as a machine that can be programmed to accept data (input) process it into useful information (output), and store it away (in a secondary storage device) for safe-keeping or later reuse. He further stated that, to function, a computer system requires four main aspects of data handling, which are, input, processing, output, and storage.

Most computers cannot accept data in forms customary to human communication such as speech or hand written documents. They accept data or command in a form that the computer can use, they send the data or command to the processing unit. The processor is formally known as the central processing unit, (CPU). It has electronic circuit that manipulates inputs data into the information people want. The central processing unit actually executes computer instruction. Output devices show the processed data information in understandable and usable form. The storage means secondary storage which consists of secondary devices such as disk, hard disk or diskettes or some other kind of disk ñ that can store data and programme outside the computer itself. These devices supplement memory or primary storage; which can hold data and programmes only temporary. Results are taken from main storage and fed to an output device. This may be a printer, in which case the information is automatically converted to a printed form called hard copy.

Obarah (2002) stated that are three types of computers, namely the analogue, digital and hybrid. Analogue Computers: are the kinds of computer that work with analogue value. They make calculations based on measurements and they are made on real-time. Analogue computers can be used for controlling machinery or chasing information on dial chart of graph. They are limited to specialized tasks. Digital computers are called digital because they process data that is presented in the form of discrete values (e.g. 0, 1, 2, 3, --) by operating on it steps. Discrete values occur at such step in the operation. It can further be explained as a computer that store and process information in the form of number as listed above. Also the Hybrid Computer as the name suggests, are computers that have the combined features of digital and analogue computers. Hybrid computers are rare they are sometimes used for weather forecasting, and also have both analogue and digital functions. Furthermore, Faphunda (1997) classified computers separately based on their sizes, cost of purchase, memory capacity mainframe and super computers.

The bulletin Board Service (BBS) is the electronic equivalent of the notice board found in schools and public places, like the notice boards, some BBS are non-commercial, while other charge some fees and also have E-mail facilities. It enables the users to call using a modem without any prior arrangement. Such information as oncoming conferences, new resources or products, books, journals or even selected articles could be placed on the electronic notice board. The users can also read and take part in conferences, which range from technical discussions of the latest technology to work of art or any subject of interest, (Fapohunda 1997)

Internet is the abbreviation form of international communication (computer) Network. It means a network of computers linked to a big central processing unit in the same way telephone lines in homes are linked to one central communication equipment in NITEL (Nweke, et. Al 1999). This enables the users are served by such carriers as CompuServe, World Wide Web, and TELNET, etc. internet information flow through many interconnected computer networks and is growing in popularity worldwide.

Writing about the telecommunication equipment, Mills and Standingford (1978), In Obora (2001) stated that telecommunication embrace communications over telephone and telegraph circuits and by radio. They may convey speech, handwritten material, facsimile drawing, pictures, etc, or television image telephone and the teleprinters have been identified as the major equipment under the telecommunication.

Francis (1998) defined the telephone as an instrument used for the purpose of converting sound waves into electrical impulses which can be transmitted over long distances and reconverted into sound. The Telephone also provides a means of sending verbal messages. The advancement in technology has brought about improvement in the telecommunication equipment. Harrison (1990) identified the following types of telephone-voice mail, mobile telephone, cordless telephone, videophones and loud speaker telephones. The voice mail use computerized "mail box" for recording spoken messages when staff are not available to receive calls. The mobile telephones consist of cellular telephones and radio, which could be used to called ordinary telephone are available "mobile" (i.e. those permanent in the vehicles), portable (those that could be used in any situation) and transportable (those used or out of a motor vehicle).

Another type of telephone is the cordless. This works with radio transmission between the cordless handset and base unit. The videophones on the other hand, are devices that connect to phone to a television to enable the callers to see each other, while talking. The loud speaker telephone can be connected to the exchange lines and most

types of extensions. The microphone and loudspeaker are built into the equipment so that the user does not have to hold a handset and both hands are free for taking notes, and searching through files etc.

Teleprinters provide a quick means of communicating in printed form among subscribers, combining the speed of the telephone with the authority of the printed word. Harrison (1990) stated that the modern electronic teleprinter uses microprocessors that have "memories" so telex messages can be stored and sent automatically at fast speeds when required. The Teletext is a new device for transmitting text or data directly from its source to a word processor or computer. It does not use the postal services but is very much faster than the telex. Datel Service provides a means of transmitting over telephone lines. It is used to communicate between computers or between terminals and a central computer.

Telecopiers are also known as the Fax machine. It is used to transmit any form of printed, typed or handwritten matter, drawings, diagrams or photographs from one location to another. It sends the replica of the documents. Other Miscellaneous Information Technology Equipment: There is a number of other information technologies used for information processing. Some of these include, the electric typewriters (the typewriters with memory for storing texts and allows for automatic error corrections). It is activated by electricity (Anekene, 1996). The word processor is another equipment, which is an advancement on the electronic typewriter. International Business Machine (IBM) (1995), in Obora (2001) stated that the word processor (stand alone) allows you to create, revise, save and print a wide variety of documents you need in your daily works. This is a stand alone hardware, which should be distinguished from the processor (software) run on the personal computers.

Reprography is the process of making copies or duplicating of documents for circulation. This equipment includes duplicators and copiers. The offset lithographic machines could form part of these machines as they are used to reproduce copies of documents.

For handling mails electronically, certain equipment must be available. These include, letter-opening machine, automatic time and date stamping machine, addressing machine, folding machine. Others are, envelope sealing machines and the franking machine, (Harrison, 1990). Austin (1980) listed other machines as dictating machines, adding and calculating machines and microfilming machines. All these equipment serve

die information processing needs of an organization in one way or the other. They all combine to make the office operations easy and thereby increase office productivity.

### **Extent of Utilization of IT Facilities in Bayelsa State Ministry of Education**

This involves the use of general or practical application of IT facilities. Staff operating these facilities should be able to use the main functions of the system software environment and to utilize its features in relation to the main applications software being used (UNESCO, 2002).

The office worker (staff) operating the facilities in the ministry of Education should be able to show competency in using IT facilities. According to Osuala (1996) the office is any room in which a particular kind of business is transacted or a service is provided, a place in which the functions such as consulting, record keeping, clerical work, etc of a public or private functions are performed. Obiora (2001) listed the office purpose is used to:

- Receiving and dispatching mail
- Sorting, storing and retrieving document
- Recording information by manual or machine processes (both statistical data and non statistical information)
- Preparation of correspondence, reports etc, in manuscript, by dictation and or on the typewriter.
- Reproducing of documents by duplicating or copying process
- Handling of capital
- Telephoning and fax machine operating
- Extracting, collecting data and information
- Storing and retrieving information by electronic process.

Furthermore, the term office has been commonly defined as any place (room) where clerical work or paper work is usually carried out. Also Laswal (2001) describes an office as a place in which the business of an individual, corporation, government bureau, etc is carried out. He also maintains that an office is a place where information are received, sorted, acted upon, passed on, filed and kept, a place where administrative, clerical and financial duties in an establishment are executed. It is not an overstatement to say that the office is the nerve center of any organization.

Therefore, the office of the Ministry of Education should be an information processing center for pre-nursery, post primary, tertiary and other institutions for learning

for important productive carryout unit. This is because information (the timely and appropriate one) is very vital for decision making and overall attainment for effective office management.

The purpose of the office of ministry of education is the production of services and the overall success of schools and other institutions of learning. The Bayelsa state ministry of education is a system that had various departments. Therefore the office workers should be able to make effective utilization of ICT facilities to achieved organizational goal. Osuala (1996) classified five functions of the office as follows:

- To receive letters, information concerning prices and pricing policies, quotation and offer.
- To record information pertaining to stock price of commodities, and personal inventory.
- To organize information in costing, book-keeping and accounting
- To furnish customers with information regarding sales involves, quotations and shipping plans, and
- To protect available assets such as taking care of cash, stocks and bonds.

However, it has been observed further that these functions are basic to any organization, be it civil or private and are still being performed in today's office. Again, Oborah (2001) noted that just as new inventions have changed household operations, so as information technology brought changes in the way work is done in offices today, several machines now exist in the offices that did not exist several years ago, e.g. the present use of computers to store information that are numerous and will still stay instant, rather than files that might be eating by insects. These machines have now widened the scope of the operation of the office function and tasks of the office employee.

It is usual to classify the application of information technology into the common and specific application. Fundamentally, the Bayelsa State Ministry of Education is made up of nine departments using various information technology facilities. There departments are highlighted below:

1. **Personnel Management Department:** This department stores and retrieves information of all personnel matters, such as appointments, promotion, training and welfare functions. Minutes of meetings on management issues can be stored and retrieved from this department. They mostly do these with the aid of computers and minutes are taken with tape recorders etc.

2. **Examinations and Records Department:** This department conducts examinations such as WAEC, 1t School Leaving Certification examination etc. these information are stored in computers for reference purposes.
3. **Inspection Department:** This department inspects the administration of schools regularly; make provision for facilities that are needed. Computers are used in filing items purchased at a particular year and printed out for reference purposes.
4. **Higher Education Department:** It is the function of this department to oversee the tertiary institutions of the state. It also ensures qualified indigenes benefit from policies enunciated for programme within and outside Nigeria, in respect to scholarship.
5. **Secondary Education Department:** The general supervision of post-primary institution is in the hands of this department. It is also the link between government and the state post-primary education board. They communicate and relate information through fax machines and telephone usage.
6. **Science and Technical Education Department:** This department is specifically in charge of the administration of science and technical schools in the state.
7. **Primary Schools Department:** This department caters for the development policies of the primary schools, teachersö data, reading materials, and writing material. Data of first school leaving certificates are all stored in the computer for record purposes. There stored data of staff in primary school are always being used when there is an identification routine.
8. **Planning Research and Statistics Department:** They arrange for trainer programme of the ministry for efficiency. It also researches into the operational methods of the ministry, present an annual report to the commissioner through the directors of department. It has a project unit that caters for projects such as the Education Trust Fund (ETF) and preparation of the department budgets.
9. **Financial Department:** All staff nominal rolls for salaries are been prepared by this department. They approve money to other departments for projects to be carried out, control finances which come to the ministry, make sure all records of money received and given out are stored in computers for reference purposes and give annual budget reform to the state treasury.

Ovbiagele (2006) stated that there are facilities that aid the production of text. They include document preparation software that can be used in micro computers or

special purpose micro-computers called word/text processors, there software are also available as large mainframe computers which operate through terminals. These terminals include: word-text processing: part of the work done manually in an office would include the preparative memoranda, letters, proposals and reports, but now most of these documents can be prepared using word processing software available in most computers. Some of these documents can be printed and mailed in hard copies while others can be sent electronically as soft copies over a network that connects the entire organization. According to Senn (1998), offices are currently extending their word processing capabilities to include desktop publishing the business and the services to offers. Such published materials may include photographs and graphic illustrations printed in colour. While in processing a text, a user can rely on the sophistication of these systems to work on two or more documents at the same time in different parts of the screen. A word processor could optionally justify the right margin of a text and allow hyphenation of words based on predetermined logic or set of words, automatic spelling checks is a new feature of most word processors, there are predetermined dictionaries of about 50,000 words or more that can be easily augmented with a user's defined dictionary of special terms, most word processors have capabilities for checking grammar and their usage. Senn (1998) stated other functions such as database management which usually contains a great deal of information. The data base can hold information on managers and staff members (address and employment histories etc), it is also used to store and retrieve schedules of ministry activities, attending, planning meeting, or traveling on behalf of the ministry. He further explained that information is needed in virtually every field of human thoughts and actions. It is needed to plan meals purchase etc, at the personal level, while the ministry needs information to make decisions. Information is the result of processed data. It has meaning and can be communicated in form of news and knowledge to users.

### **Benefits of the Utilization of Information Technology in the Bayelsa State Ministry of Education**

Information and communication technology has contributed immensely and productively, thus making accessibility of information easy for quick decision making especially to office workers in organizations. This new age of information technology has led to and improvements in the way and manner secretaries carry out their responsibilities. It has led to an increase in the capacity, utilization, productivity and efficiency of work.

The use of information and communication technology is central to the growth and survival of any business organization. In fact, Ovbiagele (2004) describes information as the greatest assets of any organization. The overall function of an office in any organization can be summarized as information management.

Ekruyota (2005) outlined the benefits of information and communication technology as follows

- It enables employees to cope with a variety of manufacturing system.
- It can improve the standard of employee's productivity.
- It can create job satisfaction and improve job mobility
- It helps to keep contact with friends, families and business associates via the internet and using e-mail.
- It provides facilities for managing personal finances with the use of spreadsheet packages and online, real- time banking.
- It is helpful in pursuance of hobbies with specialized software packages.
- It enables hands- on activities, real time data collective in the internet.
- It provides a medium to. develop and exercise critical thinking ability.
- Information technology would enable the student to know many new types of educational opportunities available elsewhere.

The computer and information technology can be a conduit for powerful ideas and the feed of cultural changes, helping people from new relationships with knowledge that out across the traditional lines separation humanities from science and knowledge of the self. Also, Obadaike (2006) listed the following benefits of information and communication technology. They include, economic benefits, social benefits, cost benefit, education benefits etc.

The economic benefits according to Obadaike (2006), it greatly increase the volume of money circulating through the bank thus, through central bank, therefore better control, management and planning are possible on the national currency.

- Cases of armed robbery on our highway are reduced because customers can withdraw money at any branch through electronic means similarly case of frauds in banks and other organizations are reduced since most transactions are by electronic means.
- With an effective and efficient banking system, the economic development of a nation is ensured, thereby attracting foreign investors.

- Government use computers in budgeting, planning of both human and material resources which enhance equitable distribution of resources.
- Information technology has also created a job opportunity which means that more money has been injected into the economy.

The social benefits aspect of information technology is multidimensional because it pervades almost all aspects of our lives. Good telecommunication network will definitely bring about closer ties amongst families, relations and business associates. Obadaike (2006) further stated that these contacts are maintained through telephone, e-mail, and the Internet facilities and of course the cellular phones. Individuals are motivated by having access to time-sensitive information such as market prices or travel conditions, the availability of government and private sponsored assistance programs and therefore boost their morals, thereby enhancing to high productivity. Information technology also have a lot of educational benefits such as is in research which is the pipe line to any development, thus, the academic and research institutions are at advantage because virtually every bit of information can be sourced easily from the Internet.

According to Obadaiki (2006), the information technology offers great deal of accuracy benefits after any initial bugs have been ironed out, accuracy is one of information technology greatest benefits. Commercial and industrial systems do not make mistakes as long as the user enters the right data or information. Thus mistakes are eliminated from records which enhance decisions makings. Information technology is also used improved or lower cost of many existing products. Reducing cost means making goods cheaper for manufactures to produce for commercial organization to buy and sell. These lower costs boost the company's profit; and as such investment is expanded and more job opportunities created speed and efficiency benefits. Efficiency means production of goods effectively with minimum waste and minimal effort, telecommunication is a clear example of how information technology has dramatically increased speed and efficiency. Telecommunication can transfer voices or words or pictures or even music to the other side of the nation in a few seconds.

Apart from helping to understand and maintain environment generally, information technology can have a direct environmental benefit, for example, it has reduced the amount of paper stored in the offices. These therefore will be the benefits in the utilization of information technology facilities in the Bayelsa State ministry of education.

## **Constraints in the Effective Utilization of IT Facilities in Bayelsa State Ministry of Education**

There are a lot factors that could influence the need and use of information technology. Zeffane and Check (1995), In Obora (2001) gave some determinant factors which include the following: Demographic effect, user's requirement, structural effects, organizational size, type etc. according to Obora (2001) information technology utilization will enhance demographic effectiveness as to revealing the demographic characteristics such as census returns and records of birth, death, marriages age, gender, and the length of time taken to affect the information technology usage. A study by Lowe and Krahn (1998) reveals that there is lower usage of information technology among older people. One user's requirement, Obora (2001) noted that an insufficient understanding of the particular requirement of the organization could affect the effectiveness of information technology. The result of the study of Goldstein and Zaik (1998) revealed that affective utilization of information technology involves filling the characteristics of information supply and distribution mechanism to user's requirement. Structurally, the organization effect is an important factor in the determination of need and utility of information technology. This revealed the varying degree of participation and decision implying that the different structures if aloud could affect the nature of information processing need (Lal, 1999). Furthermore, there are factors which could influence the utilization of information technology, Kivijan and Saarineen (1995) In Obora (2001) identified the size, type and financial costs as very influential factors. The size of organization has been wisely acknowledged as a factor that could affect the use of information technology. According to Obora (2001) larger organizations are more likely to acquire for use information technology (facilities) than small and medium size organizations. Thereby enable the organization access the sizes in terms of net sales and number of personnel. The type of organization implies the volume of information that the organization handles. Kivijarvi and Saarineen (1995) in Obora (2001) gave indication that the type of the organization is reflected in the information intensiveness. The need for information technology, is therefore, determined by intensiveness of information. Financial cost which is investment in information technology are often very large. Obora (2001) asserted that it is needful to priorities investment decisions because of the need to manage scarce resources, especially the finance. Obora (200 1) therefore advised that before an investment in information technology is considered, its cost benefits analysis over the traditional information system should be considered.

There are more factors which could influence the utilization of information technology, Ogalanya (2005) identified poor knowledge and skills about ICT facilities; that there is no doubt that the parentage of Nigerians that are computer illiterate and are unskilled is as high as 9%. The implication that a large population of Nigerians is not computer literate, also Obagah (2000) and Osuala (2003) identified low level of mobilization of the schools as one factor that must be addressed because only 6% of tertiary institutions, 1.8% of secondary schools and 0.7% of primary schools uses ICT facilities. They also stated that information and communication technology is a relatively new discipline.

Lack of needed information technology equipment training/retraining of instructional personnel and scarcity of fund for effective equipment maintenance and provision of necessary supplied and consumables are problems which should be addressed (Nwadukwe, 2006). He further highlighted that;

1. Knowledge and skills required in processing information changes particularly when new information technology is introduced
2. Improper management of information processing in the office may lead to resistant behaviour which takes variety of forms such as aggression, withdrawal, hostility etcetera at the workplace.
3. Absence of adequate information technology oriented courses hampers information technology utilization.
4. Absence of highly skilled information technologist to put information technology innovation into practice is an impediment to the utilization of information technology.
5. The utilization of information technology facilities is hampered by limited library resources.
6. The high cost of installation of information technology facilities affects its effective utilization.

Furthermore, (Meredith, 1981 and Thierauf, 1994) in Nwachukwe (2006) identified constraints of ICT facilities which include

- **Technological Problem:** A major technological barrier is the lack of consistent technological standards. Different manufacturers of computers and communication equipment may use different technological standards. These make it difficult to integrate various machines into a seamless computer network, and machines designed according to

different standards may find it difficult to talk to one another.

- **Resistance from Individual Users:** Most worker fail to fully exploit an organization's information systems. One study found that many managers failed to use the decision and executive support systems at their disposal (Ater, 1980). Their primary reason included fear of the technology (technophobia) failure to appreciate power of technology, and lack of in house staff support.
- **Political Opposition:** Because information systems changes the way in which an organization is managed by flattening its hierarchy and encouraging horizontal cross functional information flows, many managers find these changes threatening, particularly if they suspect that their power and authority, or even their job security, may be impacted negatively by such changes (Davenport, Eccles and Prusak, 1992).
- **Economic Factors:** Cost and resources securities are important factors that guide the adoption and growth of communication technology in a country. Even the most developed countries cannot allocate sufficient amount of their budget for meeting the increasing demand in education. Developing countries often lack the initial allocation as well as matching funds to make feasible investment in ICTs. Many countries often require costly technology without making provisions for building sufficient infrastructure to run them.

### **Related Empirical Studies**

Considerable empirical studies have been conducted in the area of the present study.

Ohakwe (2001) conducted a study on the manual office skills in an information technology era. The study examined the place of manual office skills in a computer age and called for emphasis of information Technology in Secretarial curriculum to bridge the gap. The population of the study consisted of the 148 personnel who worked with secretaries in Imo State Civil Service. The questionnaire which sought to determine the relevance of shorthand, typing and office machines operating skills were formulated to guide the study. Standard deviation, mean score and z-test statistical tools were used in analyzing the data collected. Results of data analyzed showed that while shorthand skills, and office machines operating skills were considered not important for today's business, typing skill are. The study, therefore, called for emphasis on skills of typing and office machines operating skills with office information systems. This was suggested against the

backdrop of our state of technology and readiness to office computerization. The present study is an assessment of the availability and utilization of information technology facilities in Bayelsa State Ministry of Education.

Kanu and Ohiri (2005) conducted a study on the status of information communication technology in secondary schools business education curriculum. The purpose of the study was to identify the aspect of information and communication technology that were incorporated in the current business education secondary school curriculum. The population of the study consisted of all business educators in all private and public secondary school targeted in the study. There were 150 at the time of the study. They found that disturbing constitution of the school leavers who majored in the business education may not possess the competencies to operate, such equipment as the computers and other word processors. The study recommended that modern aspect of information and communication technology should be incorporated into the secondary school business education curriculum. The present study determines the utilization and availability of information and communication technology in Bayelsa State Ministry of Education.

Onyemchukwe, (2005) conducted a study on the information and communication equipment in Nigeria polytechnics (Neuder analysis). The purpose of the study was to find out the opinion of male and female business educators regarding the availability and adequacy of equipment for teaching/learning of information and communication technology in. the polytechnics of Nigeria. It was found that men in Nigeria accepted the situation more readily than women seem to be justified in view of the fact that it was only in two out of the 21 items of equipments tested that women satisfaction levels exceeded Onyemchukwu study in that both are concerned with the information and communication technology. However, the scope of Onyemchukwu concentrates on the availability and utilization of information technology in Bayelsa State Ministry of Education.

Agumuo (2005) conducted a study on the business Education graduates assessment of ICT skills needed in Business Teacher Education programmes. The purpose of the study was to identify the skills in selected areas of information and communication technology. The population of the study comprised of 66 graduates teachers of business education from various Universities in the south-Eastern States of Nigeria that offer business education programmed. The study found that information and communication technology skill acquisition puts only education programmed at the centre

of the world and door of ever-widening career opportunities. The present study deals with the availability and utilization and skills of information technology while Agumo's study is concerned with the information and communication technology skills. But the present study deals with availability and utilization of information technology.

Another study conducted by Maureen (2005) on information technology and job prospects of business education graduates. The purpose of the study was to determine the challenges business education graduates face as it relates to information technology. The population of the study consisted of 36 employed and 62 unemployed in Port-Harcourt Metropolis. The study found that all graduates should embrace the information technology age, with IT information can be accessed online through the internet and this reduces man-hour and creates opportunities to view the world and learn about it. The present study is related to Maureen's focus on information technology and job prospects of business education graduates, the present study covers the availability and utilization of information technology in Bayelsa State Ministry of Education.

### **Summary of Related Literature**

Since the world is in the information age, where most things are no longer done in the traditional ways, the world has changed into the technological age. The use of information technology embraces more than computers, but also telecommunications equipment and other automated machines. The use of these machines is very vital to the productivity of office workers in the ministry of education.

There are a lot of information technology equipments and facilities some of these include computers, E-mail, internet, telephones, teletex, telecopier and other miscellaneous equipments used for information processing. Some of these include the electronic typewriter, International Business Machine (IBM), duplicators and also dictating machines. All these equipment serve the information processing needs. The information processing needs of an organization in one way or the other all combine to make the office operations easy and thereby increase office productivity.

Information technology is useful in many areas of office operation especially in information processing. It is used to prepare staff payroll and to make payments as well as handling other financial transactions of the organization. It is also applied by office workers, to prepare correspondence through its word processing programme it is also used to prepare documents for printing through the desktop program. The manual filing and indexing is also giving way for the storage capabilities of information technology.

The use of information technology is central to the growth of any organization, it enables employees to cope with variety of manufacturing systems, and it creates job satisfaction. Information technology is beneficial economically, socially, educationally and there is accuracy. The use of this equipments is determine by factors such as finance, demographic factors, economic factors and poor knowledge and lack of skills in the effective utilization of information technology facilities. Information technology is an enabler of many new types of educational opportunities, lecturer students and educational administrators can access and arrange educational resources that were not previously accessible to them. The versatile application of information technology facilities in the Bayelsa State Ministry of Education is a challenge to staff.

## **CHAPTER THREE**

### **METHODOLOGY**

The chapter presents the methodology used in carrying out this study. These include: the design of the study, area of the study, population of the study, sample of the study, description of the instrument used, validation and reliability of the instrument, questionnaire method of data collection and methods of data analysis.

#### **Design of the Study**

A survey design was adopted for the study. A survey research design is considered most appropriate for the study, according to Osuala (2005), a survey research focuses on people and their beliefs, opinions, attitudes, motivations and behavior. In this study questionnaire was the main instrument used to gather information from respondents on an Assessment of the Availability and utilization of information technology facilities in Bayelsa State Ministry of Education.

#### **Area of the Study**

The study was carried out in Bayelsa State of Nigeria. This state is located in the rain forest of the Southern Basin of Nigeria, with an area of 21,110 square kilometers, with more than three quarters occupied by water. It has a network of various creeks, rivers, and tributaries which empty into the Atlantic Ocean. These rivers are San Bartholomew, Brass River, and River run. (Bayelsa Government gazette, 2002). The state is surrounded in the North and West by Delta State; in the East by Rivers State, and in the South by the Atlantic Ocean. Bayelsa State has a population of 1,208,086 according to the 2006 population census. Bayelsa State consists of eight local government areas, and 24 local government development centres.

#### **Population of the Study**

The population of this study was 300 research subjects, made up of 80 directors, 80 supervisors, 60 secretaries and 80 clerks of the Ministry of Education, Bayelsa State. This number is based on the available data from the Department of Planning, Research and statistics of the Ministry of Education.

### **Strongly Agreed/Highly Available/Very Large Extent**

The instrument for data collection was the structured questionnaire. The questionnaire was structured using the five point Likert scale, shown below,

#### ***A practical application of the Likert scale***

|                                                    |   |             |
|----------------------------------------------------|---|-------------|
| Strongly Agreed/Highly Available/Very Large Extent | 5 | 4.50 - 5.00 |
| Agree/Available/Large Extent                       | 4 | 3.50 - 4.49 |
| Undecided                                          | 3 | 2.50 - 3.49 |
| Disagree/Least Available/Low Extent                | 2 | 1.50 - 2.49 |
| Strongly Disagree/Unavailable/Very Low Extent      | 1 | 1.00 - 1.49 |

Section A dealt with general information.

Section B dealt with research question one.

It covers items 1 ñ 15 and was used to ascertain the various information technology facilities available in the Bayelsa State Ministry of Education.

Section C dealt with research questions 2. It covers items 16 - 30 and was used to ascertain the extent to which information technology facilities were utilized in the Bayelsa State Ministry of Education.

Section D dealt with research question 3. It covers item statements 31 - 40 and was used to ascertain the benefits in the utilization of information technology facilities in Bayelsa State Ministry of Education.

Section E dealt with research questions 4. It covers items 41 - 50 and was used to determine the constraints in effective utilization of various forms of information technology facilities in the Bayelsa State Ministry of Education.

### **Validation of the Instrument**

The questionnaire was subjected to face validation by three experts in the Department of Vocational Teacher Education, University of Nigeria, Nsukka. Their observations, suggestions and comments were used to redefine the final copy of the questionnaire.

### **Reliability of the Instrument**

Cronbach Alpha Reliability test was used to determine the internal consistency of the instrument. According to Uzoagulu (1998), Cronbach Alpha reliability test is based on the fact that the questionnaire is of multiple response type and it provides for a Description of the Instrument used more stable measure of homogeneity. The instrument was administered on 20 respondents in the Ministry of Education in Enugu State. This was to ensure that the subjects used in the reliability were excluded from the study. Their responses were used to calculate the reliability coefficient. A reliability coefficient of 0.82 was obtained which implied that the internal consistency of the instrument was high.

### ***Method of Data Collection***

The instrument for data collection was administered to the subjects personally by the researcher. Two research assistants from Bayelsa State College of Arts and Science (BYCAS) also assisted in the data administration and collection. Completed copies of the instrument were collected after four weeks of their distribution.

### **Method of Data Analysis**

Both descriptive and inferential statistical tools were used to analyze data collected for the study. Research questions were analyzed using mean score, frequency count, and percentages. The -mean score for each item statement was computed by multiplying its frequency count by the corresponding value of the respondents' category and dividing it by the number of response to each question. The formula for calculating the mean is shown in Appendix C. The null hypothesis was tested using t-test statistic at 0.05 level of significance. (Appendix E).

### **Decision Rule**

Based on the calculation of the mean for the research questions, any of the item statements with mean value of 3.50 and above was categorized agreed/available/Utilized while any item statement with scores below 3.50 was categorized disagree/not available/not utilized.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND ANALYSIS**

This chapter described and analyzed the data collected for the study. The presentation and analysis were organized based on the research question and hypothesis formulated for the study.

#### **Research Question 1**

What are the various information technology (IT) facilities available in the Bayelsa State Ministry of Education?

The data for answering this question were presented in Table 1.

**Table 1:** The Mean (5E) ratings and standard deviations (SD) of responses on the Information technology available in the Bayelsa State Ministry of Education

| S/No | Items Information Technology Facility    | $\bar{x}$ | SD   | Remark        |
|------|------------------------------------------|-----------|------|---------------|
| 1    | Desk top and Laptops computers           | 4.00      | 1.07 | Available     |
| 2    | Laser jets printers                      | 3.56      | 1.02 | Available     |
| 3    | Media computers portable                 | 3.00      | 1.20 | Not Available |
| 4    | Photocopiers                             | 4.01      | 1.21 | Available     |
| 5    | Electronic binders                       | 1.66      | 1.04 | Not Available |
| 6    | Fax machines                             | 3.56      | 0.94 | Available     |
| 7    | Microwave Radio link                     | 1.58      | 0.76 | Not Available |
| 8    | Portable digital Assistants              | 1.16      | 1.01 | Not Available |
| 9    | Telephones                               | 3.39      | 1.23 | Available     |
| 10   | Mobile phones                            | 4.12      | 1.07 | Available     |
| 11   | VCD/DVD players                          | 4.00      | 1.10 | Available     |
| 12   | 12 Television                            | 4.01      | 0.98 | Available     |
| 13   | 13 Digital cameras                       | 3.58      | 0.76 | Available     |
| 14   | 14 Power back up for vast and the server | 1.17      | 1.02 | Not Available |
| 15   | 15 Voice message systems                 | 1.17      | 1.11 | Not Available |

**Key:**  $\bar{x}$  Means; SD Standard Deviations;

The data presented in table 1 above revealed that Nine (9) out of Fifteen (15) items were available IT facilities in the Bayelsa State Ministry of Education. Six (6) items including items 3.5.7.14 and 15 were not available. These items had a mean range of 1.16 ñ 3.00. These means were below the cut of point of 3.50 indicating that the respondent considered these IT facilities as not available in the Bayelsa State Ministry of Education.

However, items 1, 2, 4, 6, 10, 11, 1 and 13 had their means ranged from 3.56 ñ 4.01. This showed that the means were above the Cut ñ off point of 3.50; indicating therefore that respondents considered those items as the IT facilities available in the Bayelsa State Ministry of Education.

The table showed that the standard deviations (SD) of the items ranged from 0.76 ñ 1.23, indicating that the respondents were too far from the mean and from the opinion of one another.

### **Research Question 2**

To what extent are available information technology facilities utilized in Bayelsa State Ministry of Education?

The data for answering this question were presented in Table.

**Table 2:** The Mean  $\bar{x}$  ratings and standard deviations of Responses on the extent of utilization of Information technology facilities in Bayelsa State Ministry of Education

| S/No | Information Technology Facility       | $\bar{x}$ | SD   | Remark       |
|------|---------------------------------------|-----------|------|--------------|
| 1    | Desk top and Laptops computers        | 3.69      | 0.82 | Utilized     |
| 2    | Laser jets printers                   | 3.70      | 0.91 | Utilized     |
| 3    | Media computers portable              | 2.57      | 1.02 | Not Utilized |
| 4    | Photocopiers                          | 4.00      | 0.87 | Utilized     |
| 5    | Electronic binders                    | 1.17      | 0.77 | Not Utilized |
| 6    | Fax machines                          | 3.87      | 0.69 | Utilized     |
| 7    | Microwave Radio link                  | 2.11      | 0.96 | Not Utilized |
| 8    | Portable digital Assistants           | 1.89      | 0.73 | Not Utilized |
| 9    | Telephones                            | 4.01      | 1.11 | Utilized     |
| 10   | Mobile phones                         | 4.01      | 1.12 | Utilized     |
| 11   | VCD/DVD players                       | 3.87      | 0.98 | Utilized     |
| 12   | Television                            | 3.91      | 1.00 | Utilized     |
| 13   | Digital cameras                       | 3.78      | 0.32 | Utilized     |
| 14   | Power back up for vast and the server | 2.76      | 1.01 | Not Utilized |
| 15   | Voice message systems                 | 2.11      | 0.94 | Not Utilized |

Key:  $\bar{x}$  Means; SD Standard Deviations;

Table 2 showed that 9 of 15 (fifteen) items had their means ranged from 3.69 to 4.01. This indicated that the means of the 9 items were above the cut off point of 3.50. This observation implies that the 9 items were the information technology facilities utilized in the Bayelsa State Ministry of Education. However, 6 items had their mean ranged from 1.17 to 2.76. This is below the cut off point of 3.50 indicating that the respondents considered those items as the information technology facilities not utilized in the Bayelsa State Ministry of Education.

The standard deviations of the items ranged from 0.73 ñ 1.12. This showed that the respondents were close to one another in their responses and that they were not very far from the mean.

### Research Question 3

What are the benefits in the utilization of information technology facilities in Bayelsa State Ministry of Education?

The data for answering this research question is presented in Table 3.

Table 3: The Mean (x) ratings and standard deviations of Responses on the benefits in the utilization of Information technology facilities in Bayelsa State Ministry of Education

| S/No | Benefits in the Utilization of I.T. Facilities          | $\bar{x}$ | SD   | Remark |
|------|---------------------------------------------------------|-----------|------|--------|
| 1    | IT facilities improves accuracy                         | 4.00      | 0.78 | Agree  |
| 2    | It creates job satisfaction                             | 3.59      | 0.75 | Agree  |
| 3    | It improves employees productivity                      | 3.76      | 0.75 | Agree  |
| 4    | It enhances speed and efficiency                        | 3.90      | 0.66 | Agree  |
| 5    | It exposes available opportunity                        | 3.76      | 0.63 | Agree  |
| 6    | It provides modem ways of organizational management     | 3.87      | 0.61 | Agree  |
| 7    | It stimulates good telecommunication network            | 3.96      | 0.76 | Agree  |
| 8    | It increases information in the educational sector      | 3.77      | 0.88 | Agree  |
| 9    | It provides speedy communication systems                | 3.96      | 0.71 | Agree  |
| 10   | It facilitates the storage and retrieval of information | 3.80      | 0.80 | Agree  |

**Key:**  $\bar{x}$  Means; SD Standard Deviations;

The data presented in table 3 revealed that all the 10 items had their means ranged from 3.76 ñ 4.00. This showed that the means were above the cut ñ off point of 3.50, indicating therefore the respondent agreed that all the items were the benefits in the utilization of information technology in Bayelsa State Ministry of Education.

The table also showed that the standard deviation (SD) of the items ranged from 0.61 ò 0.88 indicating that the respondents were not too far from the mean and from the opinion of one another.

#### Research question 4

What are the constraints in the utilization of information technology facilities in the Bayelsa State Ministry of Education?

**Table 4:** The Mean (X) ratings and standard deviations of Responses on the constraints in the utilization of Information technology facilities in Bayelsa State Ministry of Education

| S/N | Constraints in the Utilization of IT Facilities           | $\bar{X}$ | SD   | Remark |
|-----|-----------------------------------------------------------|-----------|------|--------|
| 1   | There are inadequate computers                            | 3.89      | 0.78 | Agree  |
| 2   | There are not enough photocopiers                         | 3.58      | 0.85 | Agree  |
| 3   | Inadequacy of IT expert operators                         | 3.78      | 0.75 | Agree  |
| 4   | Staffs are not computer literate                          | 4.00      | 1.01 | Agree  |
| 5   | No modem IT facilities for staff                          | 3.96      | 0.96 | Agree  |
| 6   | Poor level of maintenance                                 | 3.86      | 0.99 | Agree  |
| 7   | Irregular power supply                                    | 4.01      | 0.87 | Agree  |
| 8   | High lost in the installation of IT facilities            | 4.11      | 0.76 | Agree  |
| 9   | Lack of funds for I.T facilities                          | 3.91      | 0.88 | Agree  |
| 10  | Lack of good training and re-training programme for Staff | 3.96      | 0.91 | Agree  |

**Key:**  $\bar{X}$  Means; SD Standard Deviations.

Table 4 showed that all the 10 items had their mean ranged from 3.58 ñ 4.11. This indicated that the means of all the items were above the cut ñ off point of 3.50. This observation implied that all the items were agreed to as the constraints in the utilization of information technology facilities in Bayelsa State Ministry of Education.

The standard deviations of the items ranged from 0.75 ñ 1.01. This showed that the respondent are close to one another in their responses and that they were not very far from the mean.

**Hypothesis 1**

HO<sub>1</sub>: There is no significant difference in the mean ratings of unit directors and secretaries on the availability of information technology facility in the Bayelsa State Ministry of Education.

The data for testing the hypothesis were presented in Table 5.

**Table 5:** The t-test Analysis of the mean ratings of response of unit directors and secretaries on the availability of information technology in the Bayelsa State Ministry of Education

| S/N | Information Technology facilities     | Unit Directors<br>N=80 | Secretaries<br>N = 60 | t-cal | Remark |
|-----|---------------------------------------|------------------------|-----------------------|-------|--------|
| 1   | Desktop and laptop computer           | 4.32                   | 4.46                  | 0.76  | NS     |
| 2   | Leserjets printers                    | 3.51                   | 3.80                  | 0.98  | NS     |
| 3   | Media computer portable projector     | 3.71                   | 3.51                  | 1.31  | NS     |
| 4   | Photocopier                           | 3.70                   | 3.11                  | 1.4   | NS     |
| 5   | Electronics binders                   | 3.82                   | 3.63                  | 0.96  | NS     |
| 6   | Fax machines                          | 2.52                   | 2.53                  | 1.21  | NS     |
| 7   | Microwaves radio link                 | 1.91                   | 1.82                  | 1.20  | NS     |
| 8   | Portable digital assistant            | 3.42                   | 2.99                  | 1.41  | NS     |
| 9   | Telephones                            | 3.72                   | 3.53                  | 1.31  | NS     |
| 10  | Mobile phones                         | 2.63                   | 2.67                  | 1.50  | NS     |
| 11  | VCD/DVD Player                        | 3.36                   | 2.67                  | 1.50  | NS     |
| 12  | Television                            | 3.80                   | 3.63                  | 1.40  | NS     |
| 13  | Digital cameras                       | 3.52                   | 3.47                  | 0.96  | NS     |
| 14  | Power back up for vast and the server | 3.52                   | 2.93                  | 1.4   | NS     |
| 15  | Voice message system                  | 2.2                    | 2.17                  | 1.31  | NS     |

Degree of freedom (dl) = na + nb - 2

Na = 80

nb = 60

Df = 80 + 60 - 2

= 138.

t table = 1.96 at 0.05 level of significance

NS = Not Significance

The t-test analysis in table 5 showed that the calculated t-values were less than the critical values of 15 items. The null hypothesis was therefore, upheld for 15 items.

The t-test analysis in table 5 showed that each of the 15 items has a calculated t-value less than the table t-value of 1.96 (two tailed test) at 0.05 level of significance and 138 degree of freedom. This shows that, there was no significant difference in the mean ratings response of unit directors and secretaries on the availability of information technology facilities in the Bayelsa State Ministry of Education. Since the t-calculated is less than the t-critical for all the items, the null hypothesis therefore, was upheld for all the 15 items.

## **Hypothesis 2**

**H<sub>02</sub>:** There is not significant difference in the mean ratings of unit director and secretaries on the extent of utilization of information technology facility in the Bayelsa State Ministry of Education.

The data for testing the hypothesis were presented in table 6.

Table 6: t-test analysis of the mean ratings of response of unit directors and secretaries on the extent of utilization of information technology in the Bayelsa State Ministry of Education

| S/N | Information Technology facilities     | Unit | Directors | Secretaries | t-cal | Remark  |
|-----|---------------------------------------|------|-----------|-------------|-------|---------|
| 1   | Desktop and laptop computer           | 3.33 | 0.96      | 3.11        | 0.96  | 0.45 NS |
| 2   | Leserjets printers                    | 4.01 | 1.56      | 3.67        | 1.0   | 0.01 NS |
| 3   | Media computer portable projector     | 4.32 | 0.68      | 4.30        | 0.68  | 0.01 NS |
| 4   | Photocopier                           | 2.92 | 1.43      | 2.87        | 1.37  | 0.22 NS |
| 5   | Electronics binders                   | 4.02 | 1.00      | 3.86        | 1.03  | 0.58 NS |
| 6   | Fax machines                          | 2.62 | 1.52      | 2.62        | 1.57  | 0.00 NS |
| 7   | Microwaves radio link                 | 2.86 | 1.32      | 2.74        | 0.88  | 0.29 NS |
| 8   | Portable digital assistant            | 3.11 | 1.11      | 2.94        | 1.47  | 0.44 NS |
| 9   | Telephones                            | 2.63 | 1.53      | 2.47        | 0.99  | 0.55 NS |
| 10  | Mobile phones                         | 3.71 | 1.32      | 2.83        | 1.33  | 0.87 NS |
| 11  | VCD/DVD Player                        | 3.51 | 1.20      | 3.51        | 1.20  | 0.00 NS |
| 12  | Television                            | 4.42 | 0.96      | 3.36        | 0.96  | 0.30 NS |
| 13  | Digital cameras                       | 4.12 | 0.97      | 4.07        | 1.02  | 0.29 NS |
| 14  | Power back up for vast and the server | 3.90 | 1.26      | 3.82        | 1.41  | 0.23 NS |
| 15  | Voice message system                  | 4.00 | 1.02      | 4.00        | 1.02  | 0.00 NS |

Degree of freedom (df) = na+nb ñ 2

Na = 80

nb = 60

Df = 80 + 60 - 2= 138

t= table = 1.96 at 0.05 level of significance

NS = Not Significance

The t-test analysis in table 6 showed that calculated t-value was less than the critical values in all the 15 items. The null hypothesis was therefore upheld for all the 15 items.

The t-test analysis in table 6 showed that each of the 15 items has a calculated t value less than the table t-value of 1.96 (two tailed test) at 0.05 level of significance and 138 degree of freedom. This shows that, there was no significant difference in the mean ratings responses of unit directors and secretaries on the extent of utilization of information technology facilities in the Bayelsa State Ministry of Education. Since the t-calculated is less than the t-critical for all the items, the null hypothesis therefore, was upheld for all the 15 items.

#### Findings

The findings of the study were organized based on each purpose of the study and presented accordingly.

#### **A. The various information technology facilities available in the Bayelsa State Ministry of Education.**

The respondents agreed that the following were the various information technology facilities in the Bayelsa State Ministry of Education.

1. Desktops and laptops computers
2. Laser jets printers
3. Photocopiers
4. Telephones
5. Mobile phones
6. VCD and DVD players
7. Television
8. Digital cameras

However, the respondents disagreed on the following being available.

1. Media computer portable projector
2. Electronic binders
3. Microware radio link
4. Portable digital assistants
5. Voice message systems

**B. The extent of utilization of information technology facilities on the Bayelsa State Ministry of Education**

The respondents agreed that the following information technology facilities were utilized in the Ministry of Education, Bayelsa State.

1. Desktops and laptops computers
2. Laser jets printers
3. Photocopiers
4. Telephones
5. Mobile phones
6. VCD and DVD players
7. Television
8. Digital cameras

However, the respondent considered the following items as not being utilized in the Bayelsa State Ministry of Education.

1. Media computer portable projector
2. Electronic binders
3. Microware radio link
4. Portable digital assistants
5. Voice message systems

**C. Benefits in the utilization of information technology facilities in Bayelsa State Ministry of Education**

The respondents agreed that the following were the benefits in the utilization of information technology in Bayelsa State Ministry of Education.

1. Information Technology facility improves accuracy
2. It creates job satisfaction
3. It improves employees productivity
4. It enhances speed and efficiency
5. It exposes available opportunity
6. It provides modern ways of organizational management
7. It stimulates good telecommunication network
8. It increases information in the educational sector
9. It provides speedy communication systems
10. It facilitates the storage and retrieval of information

#### **D. Constraints in the utilization of information technology facilities in Bayelsa State Ministry of Education**

The respondents agreed that the following are the constraints on the utilization of information technology facilities on Bayelsa State Ministry of Education.

1. Inadequate computers
2. Not enough of information technology experts
3. Inadequacy of information technology experts
4. Staffs are not computer literate
5. No modern information technology for staff
6. Poor level of maintenance
7. Irregular power supply
8. High cost in the installation of information technology facility
9. Lack of funds for information technology facilities
10. Absence of good training and re-training programmes for staff.

#### **Hypotheses**

Findings pertaining of the Hypotheses revealed:

**H0<sub>1</sub>:** There was no significant difference in the mean ratings of responses of unit directors and secretaries on the various information technology facilities in the Bayelsa State Ministry of Education.

**H0<sub>2</sub>:** There was no significant difference in the mean ratings of responses of unit directors and secretaries on the extent of utilization of information technology facilities on Bayelsa State Ministry of Education.

#### **Discussions of Findings**

The findings of this study revealed that there are various information technology facilities that are used for day to day running of the ministry of Education in Bayelsa State. These items were Desktop and Laptops computers, Laser jet printers, Photocopiers, Telephones, Mobile phones, VCD/DVD players, Televisions and Digital cameras.

The findings were in agreement with the opinion of Chapman and Oliver (1990), who stated that for efficient and effective office management, there are certain level of innovations on information technology and which should be as a result of the use of computers, fax machine printers and other technological resources available in modern offices.

The findings of the study were also in consonance with the opinion of Harrison (1990) and Fapohunda (1997), that for effective information processing needs of an organization, all the various information technology facilities shall combine in one way or other to make the office operations easy and thereby increase office productivity. The opinion of the above authors therefore helps to validate the findings of this study on the various information technology facilities in the Bayelsa State Ministry of Education. The findings of the study on hypothesis revealed that there was no significant difference in the mean ratings of responses of unit directors and secretaries on the various information technology facilities available in Bayelsa State Ministry of Education. The implication of this study is that it helps to confirm the findings in table 1, also the administrative positions and experience of the respondent had no significant influence on their response on the items.

It was found out from the study that the following information technology facilities are being utilized in Bayelsa State Ministry of Education. They include Desktops and laptops computers, laser jet printers, photocopiers, telephones and mobiles and digital cameras.

These findings of the study were in consonance with Obora, (2001) that certain office functions such as, Recording and dispatching mail, storing and sorting and retrieving documents, recording and sorting information by manual or machine processes, preparing of correspondences report, manuscript reproducing of documents by duplicating or photocopying process, telephoning and fax operating are all indicative of the functions of information technology facilities.

The findings of the study were also in agreement with Osuala, (1996) who stated that for the five functions of an office such as to receive letters, to record information, to organize information, to furnish customers with information and to protect available assets to be achieved, there should be some level of information technology facilities utilization. The findings of this study on hypothesis revealed that there was no significant difference in the mean ratings of responses of unit directors and secretaries on the extent of utilization of information technology facilities in Bayelsa State Ministry of Education. The implication of this finding is that the technical competence and civil service experience of the respondent had no influence significantly in the opinion of the respondents.

The review of the above authors helps to validate the findings on the extent of utilization of information technology facilities in Bayelsa State Ministry of Education.

It was found out from the study that the respondents agreed that the following are the benefits from the utilization of information technology on Bayelsa State Ministry of Education. They were

- Ç Improves accuracy
- Ç Creates job satisfaction
- Ç Improve employees productivity
- Ç Enhances speed and accuracy among others.

The findings from the study on the above were in harmony with the opinion of Ekruyota (2005) who out lined the benefits of information and communication technology, as central to the growth and survival of any business organization.

The findings from the study was also in consonance with Obadaiki, (2006) who listed some benefits of information and communication technology as economic benefits, social benefits, cost benefits and education benefits all gearing towards effective management.

The view of the above authors helps to validate the findings on the benefits from the utilization of information technology facilities in Bayelsa State Ministry of Education.

The findings of the study revealed that the respondents agreed that there are some constraints to the utilization of information technology facilities in Bayelsa State Ministry of Education. Such as: Inadequate computers.

Lack of IT experts operators, staff are not computer literate inegular power supply, lack of funds among others.

These findings from the study were in consonance with Nwadukwe, (2006) who highlighted that some factors or impediments are responsible for the utilization of information technology facilities such as high cost of installation of information technology facilities. Absence of highly skilled information technologist, absence of adequate information technology oriented courses for staff, and so on. The findings of the study were also in agreement with Nwachukwe, (2006) who identified constraints of information technology facilities as technological problems, resistance from individualö users (Technophobia), political oppositions and finally economic factors.

The view of the above authors helps to validate the findings on the constraints to the use of information technology facility in Bayelsa State Ministry of Education.

## **Hypotheses**

**H0<sub>1</sub>:** The findings of the study revealed that there was no significant difference in the mean ratings of responses of unit directors and secretaries on the various information technology facilities available on Bayelsa State Ministry of Education. The implication of this study is that of helps to confirm the findings in table 1, also the administrative positions and experience of the respondent had no significant influence on their response on the items.

**H0<sub>2</sub>:** The findings of this study revealed that there was no significant difference in the mean ratings of responses of unit directors and secretaries on the extent of utilization of information technology facilities on Bayelsa State Ministry of Education. The implication of this finding in that the technical competence and civil service experience of the respondent had no influence significantly in the opinion of the respondents.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter presented the summary, conclusions and recommendations of the study.

#### **Restatement of the Problems**

The advent of information technology has brought about accelerated growth in office operations. Office functions are now experiencing a transition from the traditional to modern (Mechanized) information processing operations. For optimum benefits from information technology, certain level of facilities are required, most office operations functions on information technology facilities. Without functional information technology facilities in the offices, staff performances output will be very low, and even when these facilities are provided and made available and the required skilled personnel are not utilized, it brings about failure in office operations.

In Bayelsa State Ministry of Education, has been observed that most of the office operations are carried out manually, i.e. without the basic information technology facilities. Atuenyim, (1999), Oyebisi, Ilori, Adagundodo and Ugwu, (2000), confirmed that information technology has played a significant role in the re-engineering the manufacturing and serviced and educational sector of the Nigerian economy. Therefore availability of these ICT facilities will bring about efficient and effective way of carrying out office tasks.

It is important to note that if the level of utilization and availability of the information technology facilities in the ministry of education in Bayelsa State could be ascertained and adequately incorporated into the day to day activities in the ministry, it will go a long way in achieving the desired level of output and efficiency of the staff. It will also expose the extent to which these offices are equipped with information technology facilities and their effective utilization to achieve the desired result

#### **Summary of Procedures Used**

Four research questions were developed and answered while two null hypotheses were formulated and tested.

Relevant literatures were reviewed to generate questionnaire items for the study. The study made use of the survey design for collecting data. The population of the study

consisted of 300 respondents made up of 80 directors, 80 supervisors, 60 secretaries and 80 clerks of the Ministry of Education, Bayelsa State.

Three experts validated the questionnaire. The reliability was determined using the Cronbach Alpha reliability Coefficient, and a reliability Coefficient of 0.82 was obtained. The questionnaire was administered by the researcher on 140 respondents and were retrieved and analyzed. The means and standard deviations were used in answering the research questions while the t-test statistics was used to test the hypothesis at  $P = <0.05$  level of significance at the relevant degrees of freedom. The analysis helped to generate findings that were discussed.

### **Summary of Findings**

Based on the data analysis the following items were found, Desktop and laptop computers, laser jet printers, photocopiers, telephones mobile phones etc were available at the Bayelsa State Ministry of Education. However, the respondents disagreed on the following items that, media computer portable projector, electronic binders, power back up for vast and the server etc were available.

On the extent of utilization of information technology facilities in the Bayelsa State Ministry of Education, the respondents agreed on the following items as been utilized; Desktop and laptop computers, laser jet printers, digital cameras among others were considered as the items being utilized. Media computers, microwave radio link, electronic binders and power back ups for vast and the server being utilized.

On the benefits in the utilization of information technology facilities in the Bayelsa State Ministry of Education, the respondents agreed that the utilization of information technology creates job satisfaction, improves employee productivity, enhances speed and accuracy, provides speedy communication system, facilitates the storage and retrieval of information etc.

On the constraints in the utilization of information technology in the Bayelsa State Ministry of Education, the respondents agreed that the constraints in the utilization of information technology in the Bayelsa State Ministry of Education includes; inadequate computers, inadequacy of information technology expert, poor level of maintenance, irregular power supply, lack of fund for IT facilities etc.

It was found out that there was no significant difference on the mean ratings of responses of the respondents on the various information technology facilities and on the

extent of utilization of these information technology facilities on the Bayelsa State Ministry of Education.

### **Conclusion**

Based on the data analyzed and the findings made, the following conclusions were drawn:

The desktops and laptops computers and their accessories are the most available and widely used information technology facility used in the Bayelsa State Ministry of Education.

Microwave Radio Link, Portable Digital Assistants and Power back up and VSAT servers are not available and consequently are not utilized in the Bayelsa State Ministry of Education and the bane of the modern information technology depends on these facilities.

Voice Message Systems which could be used to send and save voice messages for use later are not available and are not utilized in the Bayelsa State Ministry of Education.

It was found out that inadequate computers, irregular power supply, lack of IT personnel and fund are constraining the utilization of IT facilities in Bayelsa State Ministry of Education. It was found out that many staff in the Bayelsa State Ministry of Education are of the opinion that if all the major information technology facilities are provided, it will go a long way in increasing their productivity and output and enhance job satisfaction.

### **Implications of the Study**

The findings of this study had some implications for the Unit directors, secretaries, supervisors, and clerks in the Bayelsa State Ministry of Education. If information technology facilities are provided for staffs in the ministry such as, unit directors, secretaries supervisors, and clerks it will help to enhance job satisfaction and increase productivity of the employers of the ministry of smooth running of the ministry.

### **Recommendations**

Based on the findings of this study the following recommendations were made.

1. The staff in the Bayelsa Ministry of Education should be given some training and re-training of the skills involved in the use of these information technology facilities for effective office operations by the Bayelsa Ministry of Education.

2. Efforts should be made by the Bayelsa State government towards effective funding of information technology facilities and also towards the procurement of information technology facilities for effective office operations.
3. Efforts should be made by the state government towards the requirement of modern information technology facilities such the portable digital assistant, wireless local area networks (WLAN) and wide area network (WAN) local area network (LAN) for effective and transfer with the various, departments in the ministry.
4. The issue of irregular power supply should be addressed by the State Ministry of Education, but in the time being, generators should be provided to supplement the power provided by the power holding company of Nigeria.
5. The ministry of education should train IT experts especially in office education who will work in partnership with the staff in the ministry towards imparting the IT skill to their staff.
6. The federal government of Nigeria should redevelop and reinforce the Nigerian policy of IT in Nigerian ministries.
7. Attitudinal Reorientation of expected users of IT facilities should include new IT innutritious such as access to reunite resources, collaborative between individual groups and group of people on more widely diverse geographic locations, so that the society should be in a position to adopt it.

### **Suggestions for further Studies**

1. A study should be carried out on the skills required in the utilization of information technology facility by the staff of the Bayelsa State Ministry of Education.
2. A study should also be conducted on the identification of management responsibilities required of staff in the Bayelsa State Ministry of Education for effective management of information technology facilities in Bayelsa State.
3. A replication of this study should be made in other states ministries of education in Nigeria.

## REFERENCES

- Abimbola, A. (1996) Computer Literacy and the Nigeria School System. *Journal of Computer Literacy* 1 (1), 1-9.
- Aduda, K., & Kaane, H. (1999). Technology policies and strategies. In A. Wulla, and C. Bokea (eds). Micro and Small Enterprises in Kenya. Agenda for Improving Policy Environment. Kenya: (pp 54-61) *International Center for Economic Growth*.
- Agumuo, E.E (2005). Business Education Graduate Assessment of ICT skills weeded in business teacher education programme. *Journal of Business Education* 5 (1) pp 111-120.
- Agumuo, E.E. (1997). Administrative office management. In B.O. Nwosu (Ed) *Management an introductory survey Owerri*: CIDA Organizations.
- Ahukannah, (2000) The need for a new programme structure for secretarial studies in the year 2000, *Business Journal* 3. (3) pp 143-157.
- Akprowho, F. (2006). Effect of modern information and communication. Technology on secretaries and general worker: *Journal of office management and Tech* (1) pg 65-75.
- Alogie, A.N. (1998). The changing office environment and need for office education. *Business Education Journal* (1) 14-18.
- Anekene, J.W.M. (1996). *Electronic word processing 1*. Port Harcourt: J.T.C. Publishers.
- Appleton, H. and Scott H. (1994) *Gender issues in agricultural technological development* London: intermediate technology development group (ITDG).
- Atuenyi, N.C. (2000). Integrating information into business education. *Business Education Journal*. 3 (3) 24-28.
- Bayelsa, State Planning Commission (2006) *Bayelsa state year book*. Yneagoa: Government Press.
- Boritz, J.E. (2000). The accounting curriculum and IT. *The Nigeria Accountant*. 33 (2) 26-34.
- Brightman, R.W. (1956), *Using computers in an information age*, New York: Diema Publishers Ince.
- Chapman, R.J & Oliver, E.C. (1993). *System management and information*. California: Cliff Publishers.
- Chatterton, P. (1992) *Technology tools for your home office*. London; Kogan Page Ltd.
- Clark, M. Rose, J.R. & Shackleton, M. (1994) *Computer for an Information Age* New Jersey: Prentice Hall Inc.

- Curtis, D.P, Folley, K. Ses & Morin, C. (1998). *Information Technology. The breaking wave*. New York: McGraw Hill Company.
- Ekruyota, O.G. (2005) *Fundamentals of computer application*: Cighelli: Eregha Publishers.
- Emmanuel, L.O. (1998) Improving the flag of information through the Internet Paper Presented at 33<sup>rd</sup> *Annual Bankers Seminar at IITA*, Ibadan.
- Etim, F.E.E. (2001). *Scientific and technological information utilization and industrial development in Nigeria*. Lagos: Heinemann Educational Books Plc.
- Evans, D.W (1986). People and communication, London; Pitman Publishing Limited.
- Evgeuni, K. et al (2002). *Information and communication technology in education. A curriculum for schools and programme of teacher development*. France UNESCO <http://www.UNESCO.org/science>.
- Eze, I. (2000). *Skills and competences in word processing*. Onitsha: Generations Publishers Ltd.
- Falake, S.O. (2000). Information technology in Nigeria now or never *Inaugural lecture series 29*. Federal University of Technology Akure.
- Fapohunda, A.M 91997) *Basic of comparative and international management*. Lagos: Pankes Publishers Inc.
- Francis, T.G. (1998) *Electrical installation work*: London William Clowes Limited.
- Harrison, J. (1990) *Secretarial duties*. (8<sup>th</sup> ed) London: pitman publishing.
- Hornby, A.S. (ed) (2000), *Oxford Advanced Learners Dictionary of Current English* (6th ed) New York: Oxford University Press.
- Ikekeonwu, G.A.M. (2003). *Computer application*. Lagos: Ephrata publication.
- Iredia, B.E. (2006). The need for curriculum review in polytechnics in the face of information and comm. Technology *Journal of Office Management and Technology* 1 (1)pg 115-121.
- Kanu, I. N. & Ohiri A.B. (2005). The status of information technology in secondary schools business education curriculum. *Journal of Business Education* 5 (1) PG 3040.
- Drippendoiff, A. C. (2002) Using information technology N & Q Level 2 *Student Handbook* Oxford: Heimemann educational publishers.

- Lawal, L.O.B (2001) *Office information system of technologies in office management and administration*. Oyo lay Blessing Publisher.
- Lorimer, L.T. (2000). *The new Webster's dictionary*. New York: Lexicon publication Inc.
- Lucey, T. (1987) *Management information system*, London: DP Publication.
- Macbride S. (1972). *Many Choice, One World: Communication Society*. UNECO Report of the Commission for communication problem, London: Kegan Paul p.20.
- Mbaezue, A.N.C. (1998). The place of typewriting in the current computer applications in Nigeria schools. *Business and Office Education Journal* 1 (1) 31.
- Moran, R.T. & Riesenbergen J.R. (2001) *The global challenge*. England: McGraw Hill Companies.
- Nwadukwe, U. (2006) Effect of information and communication technology on managerial efficiency *journal of office management and technology*. (1) pg 180-187.
- Nwafor, A. (1999). Missing dimensions in business teacher education; implications for curriculum reform. *Busiliess Education Journal*. 2 (2) 73-78.
- Nweke, M.M., Umezurike, S.C & Nnannedu, C.E. (1999). *Know computer now*. 2<sup>o</sup>ed). Onitsha: scholars books Co.
- Nworgu, B.G. (1999). *Educational research basic issues & methodology*. Obatra: Wisdom Publishers Ltd.
- Nwosu, A.A. (2003) Integrating ICT into STU Classroom: Status and Implication Annual Conference Proceedings 44th STAN, 58-60.
- Nwosu A.N. (2000) An evaluation of business education programme of private vocational schools for better performances in the 21st *Business Education Journal* 3 (2) 33-39.
- Nwosu, B.O. (1999). An Appraisal of information technology as a strategy for achieving the mission of business education in the 21<sup>st</sup> century. *Business Educational Journal* 111 (2), 31-39.
- O'Brien, J.A. (2002). *Management information system*. New York: McGraw-Hill Inc. (lithed).
- O'Brien, J.A (2003). *Introduction to information system essential for E-Business* (1<sup>st</sup> Ed) New York: McGraw Hill Inc.
- Obagah, 3. (2000). *Networking challenges the case of Nigeria*. London: New World Press.

- Obi, C and Obarah J.O. (2001). Information technology skills required by business office workers. *Journal of business and office education* 1 (2) pg 5-14.
- Oborah, J.O (2001). Determining the information technology needs of office workers in business organization in Kogi state. Unpublished M.Ed. project. Department of vocational teachers education.
- International Business machine (IBM) (1995). *IBM Wheelwriter 7000 by Kexmark: user's guide*. Lexinton: Lexinton: Lexmark International Inc.
- Oborah, J.O (2001). Determining the information technology needs of office workers in business organizations in Kogi state. Unpublished M.Ed project Department of vocational teachers education.
- Mills, G. & Standingford, A. (1978). *Office organization and method: a manual of administrative management*. London: Pitman publishing Ltd.
- Oborah, J.O. (2001). Determining the information technology needs of office workers in business organization in Kogi State. Unpublished M.Ed Project. Department of Voc/Teachers Education U.N.N.
- Ogalanya, G.A. (2005) Information technology an effective tool for empowering Nigeria children for sustainable national development *international journal* 3 (1) pg 22-32.
- Ogunsda, L.A. (2003) Information and communication in Nigeria: Revolution in evolution. *Journal of social sciences* 11(1) pg 7-14.
- Ohakwe, S .N. (2001) Office technology skills required by secretaries in managing information *journal of business education* (3) pg 7-19.
- Okolo, A.N. (2006). Effects of modem information and communication technology in secretarial workers. *Journal of office management and technology*. Pg 155-159.
- Oluwalola, F.K. (2006). The effect of modem information and communication technology on secretarial workers. *Journal of Office Management and Technology* 1 (1) pg 44-100.
- Onojaife, A. (2005) Effect of modem information and communication technology on secretarial works: *Journal of Office Management and Technology* (1) pg.
- Onyemechukwe, R.C. (2005) Information and communication equipment in Nigeria polytechnics. A gender analysis. *Business Education Journal* 5 (1) pg 167-177.
- Osuala E.C. (2005) *Introduction to research methodology* Enugu: Cheston Agency Publication.
- Osuala, E.C. (2006) *Administrative and office management in Nigeria*. Enugu: Cheston Agency Publishers.

- Osuala, E.C. (1998) Automation and its impact on the office: Journal of Business and Office Education 1 (1), 25-30.
- Osuala, E.C. (2006) Business management: Onitsha. African Publishing Company.
- Osuala, E.C. (2004) Foundations of vocational education. Enugu: Cheston Agency Limited.
- Ovbiagele, A.O. (2004) Office administration and management for higher education, Warn: Kuba Publishing Company.
- Ovbiagele, A.O. (2006). Common uses of modem information and communication technology in organizations. Journal of Office Management and Technology I (1) pg 34-45.
- Oyebisi, T.O., Iloni, M.O. Adagunodu, E.K. and Ugwu L.O. (2000). The assimilation of information technology in selected banks and issuances firms in Nigeria. Nigeria Financial Review 9 (1), 57-69.
- Oyedele, J.F. (1999). Research in business education. Business education journal 111 (2) 57-65.
- Oyim, C. (2004). A survey of the availability and utilization of information technology system in studying biology in secondary schools in Afikpo educational zone of Ebonyi state. Unpublished PGDE Project: Dept of Educational Foundation. U.N.N.
- Polynter, A. (1982) Word processing and information processing, New York; Santa Barbare Para Publishing CO.
- Ralston, A. and Keilly, E.O. (1995). Encyclopedia of computer sciences (3<sup>rd</sup> ed) ITP.
- Sayles, & Straves (1998) Information technology; tomorrow advantage today. New York: McGraw Hill Company Inc.
- Senn, J.A. (1998). Information technology in business principles, practices and opportunities. New Jersey: Prentice Hall Inc.
- Tiffin, S. (1994). The key profit a practical guide to managing science and technology. Ottawa, Ontario, Canada: International Development Research Centre.
- Ukon, M.O. (2006). Dynamics of mass media development in Nigeria: Enugu: Rhyce Kerex Publisher.
- Usman, H.N. (2006) Effect of modem information and communication technology journal office management and technology 1 pg 82-88.
- Zanker, P.C. (2000). Information management for education sub-sector in Nigeria. Information technology in Africa. 17 (3).



## **APPENDIX A**

### **Letter to the Respondents**

Department of Voc/Teacher  
Education,  
Faculty of Education  
University of Nigeria,  
Nsukka.  
Enugu State.  
21<sup>st</sup> January, 2008

Dear Sir/Madam

#### **LETTER OF APPEAL TO RESPOND TO A QUESTIONNAIRE**

I am a postgraduate student in the above named institution. This questionnaire is designed to elicit information that will be useful for carry out a study titled. An Assessment of the Availability and Utilization of Information Technology facilities in the Bayelsa State Ministry of Education.

You are please, requested to respond to the times as objectively as possible. Every information will be treated as confidential and will be used strongly for academic purpose therefore, appeal to you to kindly spare part of your time and complete the questionnaire.

Thanks.

Yours faithfully,

Sign  
**Oyadongha J. D.**  
**Researcher**

## APPENDIX B

### Questionnaire

#### General information

##### Position occupied

- (a) Director ( )  
(b) Unit supervisor ( )  
(c) Secretary ( )  
(d) Others.....  
.....

##### Sex

- Male ( )  
Female ( )

##### Qualification

- (a) OND ( )  
(b) HND ( )  
(c) B.ED ( )  
(d) B.SC ( )  
(e) M.ED ( )  
(f) M.SC ( )  
(g) PGDE ( )  
(h) PH.D ( )  
(i) Others (please specify) .....

## SECTION B

Please tick (â) the response option that best represents your opinion on the availability and utilization of information technology (IT) facilities in the Bayelsa state ministry of education in the following questionnaire items.

Key                      HA     =     Highly available  
                             A       =     Available  
                             U       =     Undecided  
                             LA      =     Least available  
                             NA      =     Not available

### Research question 1

What are the various information technology (IT) facilities available in the Bayelsa ministry of education?

| S/N | ITEM STATEMENT                       | HA | A | U | LA | NA |
|-----|--------------------------------------|----|---|---|----|----|
| 1   | Computers(desk and lap top           |    |   |   |    |    |
| 2   | Laser jet printers                   |    |   |   |    |    |
| 3   | Media computers portable projector   |    |   |   |    |    |
| 4   | Photocopies                          |    |   |   |    |    |
| 5   | Electronic binder                    |    |   |   |    |    |
| 6   | Fax machines                         |    |   |   |    |    |
| 7   | Micro wave radio link                |    |   |   |    |    |
| 8   | Telecommunications                   |    |   |   |    |    |
| 9   | Telephone                            |    |   |   |    |    |
| 10  | Voice message systems                |    |   |   |    |    |
| 11  | VICE-DVD player                      |    |   |   |    |    |
| 12  | Televisions                          |    |   |   |    |    |
| 13  | Digital camera                       |    |   |   |    |    |
| 14  | Video conferencing                   |    |   |   |    |    |
| 15  | Power backup for vast and the server |    |   |   |    |    |

## Research question 2

To what extent are these information technology (IT) facilities utilized in the Bayelsa State ministry of Education

Please tick (å) the response option that best represent your opinion

Key: VLE = Very Large Extent  
LE = Large Extent  
UD = Undecided  
LE = Little extent  
VLE = Very little extent

| S/N | ITEM STATEMENT                                         | VLE | LE | UD | LE | VLE |
|-----|--------------------------------------------------------|-----|----|----|----|-----|
| 16  | Computers(desk and lap top                             |     |    |    |    |     |
| 17  | Laser jet printers                                     |     |    |    |    |     |
| 18  | Media computers portable projector                     |     |    |    |    |     |
| 19  | Photocopies                                            |     |    |    |    |     |
| 20  | Electronic binders                                     |     |    |    |    |     |
| 21  | Fax machines                                           |     |    |    |    |     |
| 22  | Micro wave radio link                                  |     |    |    |    |     |
| 23  | Telecommunications                                     |     |    |    |    |     |
| 24  | Telephone                                              |     |    |    |    |     |
| 25  | Voice message systems                                  |     |    |    |    |     |
| 26  | VICE-DVD player                                        |     |    |    |    |     |
| 27  | Televisions                                            |     |    |    |    |     |
| 28  | Digital camera                                         |     |    |    |    |     |
| 29  | Video conferencing                                     |     |    |    |    |     |
| 30  | Power backup for vast and the server                   |     |    |    |    |     |
| 31  | It provides speedy communication system                |     |    |    |    |     |
| 32  | It facilities the storage and retrieval of information |     |    |    |    |     |

The following are the constraints in the utilization technology (IT) facilities in the Bayelsa State Ministry of Education.

VLE = Very Little Extent

| S/N | ITEM STATEMENT                                               | SA | A | U | D | SD |
|-----|--------------------------------------------------------------|----|---|---|---|----|
| 33  | There are inadequate computers                               |    |   |   |   |    |
| 34  | There are not enough computers                               |    |   |   |   |    |
| 35  | Inadequacy of IT expert operators                            |    |   |   |   |    |
| 36  | Staffs are not computer literate                             |    |   |   |   |    |
| 37  | No modern IT facilities for staff                            |    |   |   |   |    |
| 38  | Poor level of maintenance                                    |    |   |   |   |    |
| 39  | There is irregular inadequate power supply                   |    |   |   |   |    |
| 40  | There is high cost of installation of ICT facilities         |    |   |   |   |    |
| 41  | Lack of fund for IT facilities                               |    |   |   |   |    |
| 42  | Absence of good training and retraining programme for staff. |    |   |   |   |    |

### Research question 3

Please check (â) response option that best represent your opinion.

What are the benefits of the utilization of Information facilities in the Bayelsa State

Ministry of Education

Key: SA = Strongly Agree  
A = Agree  
U = Undecided  
D = Disagree  
SD = Strongly disagree

The following are the benefits in the utilization of information technology facilities in the Bayelsa State Ministry of Education.

| S/N | ITEM STATEMENT                      | SA | A | U | DA | SDA |
|-----|-------------------------------------|----|---|---|----|-----|
| 43  | ICT improves accuracy               |    |   |   |    |     |
| 44  | It creates job satisfaction         |    |   |   |    |     |
| 45  | It improves employee's productivity |    |   |   |    |     |
| 46  | It enhances speed and efficiency    |    |   |   |    |     |
| 47  | It enables students to know new     |    |   |   |    |     |

|    |                                                         |  |  |  |  |  |
|----|---------------------------------------------------------|--|--|--|--|--|
|    | educational opportunities available                     |  |  |  |  |  |
| 48 | It provides modern ways of<br>organizational management |  |  |  |  |  |
| 49 | It stimulates good<br>telecommunication network         |  |  |  |  |  |
| 50 | It increases information in the<br>Educational Sector   |  |  |  |  |  |

## APPENDIX C

The formula for calculating the mean is as follows

$$\text{Mean} = \frac{\sum fX}{\sum f}$$

$$= \frac{\sum X5 + \sum X4 + \sum X3 + \sum X2 + \sum X1}{N}$$

$$= \frac{25 + 24 + 23 + 22 + 21}{8} = 15 = \frac{3.00}{5}$$

X

Where  $\bar{X}$  = Mean  
 $\sum$  = Sum of  
 $f$  = Frequency  
 $N$  = Number of respondents

## APPENDIX D

The formula for calculating the Cronbach Alpha was calculated as follows

$$= \frac{2}{2-1} \left( 2 - \frac{\sum_{i=1}^2 \frac{2^2}{2} \right)$$

## APPENDIX E

According to Nwosu (2006), the t-test ratio is calculated using the formula:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_p^2}{n_1} + \frac{s_p^2}{n_2}}}$$