

**INFLUENCE OF ICT ON THE MANAGEMENT OF SECONDARY
SCHOOLS IN KEFFI LOCAL GOVERNMENT AREA OF NASSARAWA
STATE**

BY

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NSU/IOE/EAP/0019/18/19

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**A PROJECT SUBMITTED TO THE SCHOOL OF POST GRADUATE
STUDIES, INSTITUTE OF EDUCATION, NASSARAWA STATE
UNIVERSITY, KEFFI IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF POST GRADUATE DIPLOMA
IN EDUCATION ADMINISTRATION AND PLANNING.
(PGDEAP)**

DECEMBER, 2019.

DECLARATION

I hereby declare that this research project is written by me and that it is a personal research work which has not been presented in any previous work for post graduate programme.

All questions are indicated and all sources of information are specifically acknowledged by means of references.

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CERTIFICATION

This is to certify that this research project titled “Influence of ICT on the Management of Secondary Schools in Keffi Local Government Area of Nasarawa State” meets the regulations governing the award of postgraduate Diploma in Educational Administration and planning (PGDEAP) Nasarawa State University, Keffi.

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DEDICATION

This research work is dedicated to my husband Mr. Chris Okeke and my Son Somto Okeke.

ACKNOWLEDGEMENT

I wish to express my profound gratitude to this people who assisted me greatly to make sure that this project becomes a success: Dr. (Rev.) M.T. Levi, Dr. K. N. Kpanja- my project supervisor and Dr. Nemo.

Also worthy of mentioning are Dr. Titus lemut, Mr. Shetima, Mrs. Ruth, Miss. Janet, and Mrs. Grace Jummai who willingly assisted me whenever I asked them to may the Almighty God bless you all.

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ABSTRACT

This research is concerned with the influence of information Communication Technology (ICT) in the management of secondary schools in keffi Local Government Area of Nasarawa State.

In the recent years, the used of ICT has become a global practice in the Public Administration.

Infact, ICT is a 21st century weapon for accurate administrative and record keeping. ICT has enhanced the processes of advanced knowledge and skills necessary for effective functioning in the modern world.

It is not an over statement to say that there are increasingly influx in the nominal roll of schools in Keffi Local Government Area which definitely require advance tools for effective administrative management.

This study has really shown the urgent need for the introduction of the use ICT in those schools in Keffi Local Government Areas and other Local Government areas of Nasarawa state should also adopt the use of ICT in the management of their secondary schools

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Information and communication technology (ICT) seems to have found an answer to the endless search for managerial strategies that can make secondary school management meaningful in the minds of principals, teachers, students and the society as a whole. Above all, the Federal Republic of Nigeria (FRN, 2013) states clearly that, the government shall provide necessary infrastructure and training for the integration of information and communication technology (ICT) in school system, in recognition of the role of ICT in advancing knowledge and skills in the modern world. The National Policy on Education (FRN, 2013) also states that in recognition of the prominent role of ICT in advancing knowledge and skills necessary for effective functioning in the modern world, there is urgent need to integrate ICT into education in Nigeria.

Information and communication technology (ICT) is an indispensable part of the contemporary world of the 21st century. In its widest sense are technological tools and resources used to communicate, create, organize, disseminate, store, retrieve and manage information (Obi, 2012; Nwanchukwu, 2014; Edefiogho, 2015; and Chaka, 2014). Due to the fact that today's managerial functions in schools are becoming increasingly large and complex in terms of enrolments, population, mobility, evaluation, social and community problems, the above scenario therefore requires that, urgent attention should be given in order to address these issues, hence, the use of powerful administrative tools resulting in better communication, effective and efficient operations and personal services be adopted, and, the society has to be adjusted to meet the challenges of the 21st century age.

In general sense, ICT include the use of communication satellites, radios, television, videos, tape recorders, compact discs, floppy discs and the personal computers, and this is referred to as information superhighway (Internet). These are the parts of the system that has compacted the world into a global village and has been well recognized as vital tool for solving communication problems. According to Olalusi (2012), information and technology (IT) is concerned with the aspect of managing and processing information through the use of electronic computers and computer softwares in order to convert, store, protect, process, transmit and retrieve information. ICT is indispensable in the management and administration of secondary schools. It is technology based and knowledge driven. Its application in all spheres of human activities has changed the face of the earth. It is used in health delivery, engineering, industry, business, agriculture, military, education, all aspects of arts and sciences, maintenance of law and order amongst others.

The evolution of computers and its capabilities to handle complex and diverse problems has made easy the mounting challenges created by the staggering development on secondary education in the state. The secondary school principal is the administrative head of the institution and the position is so challenging such that it involves the control of human, material, financial and the precious time resources of the school as an organization, the principal in the process of harnessing his administrative functions of planning, administrating, organizing, supervising, budgeting etc, involves himself carrying out most of these functions manually with a lot of file and paper work, therefore the secondary school manager needs to be well informed on ICT application for effective management of the school. This is necessary in the area of proper bookkeeping, budget preparation, collection of students' data, financial forecast, recording of results, effective keeping of school records and time saving. Adeyemi and Oladeye (2010)

maintains that data of various types could be programmed into the computer. Data on staff, teaching and learning could also be done through the effective use of ICT in schools. The introduction of information and communication technology (ICT) in the management of education has become an antidote in providing effective solutions to educational problems that would have been difficult, if not impossible to solve through human natural efforts.

Education is an instrument per excellence for national development, it is very important in the growth and development of any nation because the socio-economic, political and technological advancement of any nation depends greatly on its educational system. Budgetary allocation is voted into it for the provision of human, material, financial and time resources that are needed for the effective management of the system towards achieving its stated goals.

There is no general agreement as to the definition of the concept 'Management', it is seen from different perspectives by different scholars, and each scholar turns to define it from his or her own point of view. However there is a variety of popular views as to the meaning of the concept of management. Stonner, Freeman and Gilbert (2010:9) asserts that "management is the principal activity that makes a difference in how well organizations serve people affected by them". They see management as the key factor activity that results to organizational effectiveness.

Thus, management involves a person or a manager, making use of resources (both human, physical or material) in achieving the goals of an organization through effective planning, organizing, directing, motivating, controlling and budgeting (Alebiosu,2014; Nwadiani,2010; Ajobor,2016). Management is therefore the effective allocation and utilization of scarce resources to achieve predetermined results; these scarce resources include human,

material, financial and time resources that are needed for the effectiveness of the management of the educational system. Of all these resources, human resources are the most important since the effectiveness to which they are used determines the quality of results produced by other resources.

ICT has increased school efficiency and reduced unnecessary bureaucratic bottleneck in secondary schools management. Ugwu and Oboegbulem (2010) maintains that with ICT, the secondary school head can discharge his or her duties by using computers and internet in solving school general problems and in carrying his day to day assignment especially as it relates to having reliable information in a laptop (computer). ICT can play a major part in diminishing the work load of the school manager and his staff especially in keeping daily records of students, analyzing student attendance record and marking students' script and recording results. Through this, much time is saved and utilized in other directions for effective school management.

The roles played by ICT in everyday activities of school management cannot be overemphasized. Nwosu (2003) noted that ICT assists the school administrator to meet the tasks of school management in the area of curriculum and instructions, school community relationship and business operations. It enhances the daily school routine programme, updating the evaluation of school programmes, solving individuals or group problems as well as staff development.

1.2 Statement of the Problem

The educational system in Nigeria is faced with some challenging issues which are multi-dimensional, which range from the enormous increase in student enrolment, improper bookkeeping, poor storage of information, communication, students poor performance, decision making and the general day to day management of the secondary schools. searching for a tactical

approach in managing the scarce human and material resources available within the secondary school system, and attempt to solve these afore-mentioned problems in the management of education with the right step in the right direction will net in huge success and positive result. In order to adopt an effective, efficient and human friendly approach in handling these complex educational enterprise calls for the use of sophisticated equipment and facilities of ICT for the processing of data and information within the framework of the school.

The school is a formal organization, it needs accurate, timely, sufficient and relevant information which are kept in the form of record. They provide information on the past, present and anticipated future programmes and activities of the school. The traditional methods of gathering, processing, preserving, presenting and disseminating large volumes of information in prints, files and media has failed to facilitate work in the school system because of its of losing important information. Modern technology has therefore freed office work from its focus on the flow of paper between people and allowed a free flow of information through internet or intranet.

It is said that modern technological gadgets (computers), which are distributed to some schools are only kept in principals offices and are not used for computer application which is their primary function, because there is no good source of power or generating sets ever provided for their operations, poor funding, lack of maintenance culture and above all the low level of computer literacy of the school principals is yet another factor. Despite these laudable roles ICT can play for the secondary school managers, it is however been observed that in many public secondary schools in Keffi Nasarawa State, ICT facilities and tools like computers, internet and other telecommunication gadget that can aid teaching/learning and administrative process are hardly utilized or not available at all. It is against this worrisome scenario that the researchers

intend to examine the role of Information and Communication Technology ICT on the management of secondary schools in Keffi Local Government Area of Nasarawa State

1.3 Objective of the Study

The main **objectives** of this study was to investigate information and communication technology (ICT) and the management of secondary schools in Nasarawa South Senatorial Zone of Nasarawa State. Specifically, the study sought to;

- i. Investigate the influence of information and communication technology (ICT) usage on record-keeping in secondary schools in Keffi L.G.A of Nasarawa State.
- ii. Establish the influence of information and communication(ICT)on decision making in secondary schools.
- iii. Assess the influence of information and communication technology (ICT) on effective communication in secondary schools.
- iv. Examine the influence of information and communication technology (ICT) on the administration and management of secondary schools.
- v. Ascertain the influence of information and communication technology (ICT) on the financial management in secondary schools.

1.4 Research Questions

The study will be guided by the following research questions:

- i. How does the use of ICT influence the records keeping in secondary schools in Keffi Local Government Area of Nasarawa State?

- ii. To what extent does the use of ICT influence decision making in secondary schools?
- iii. How does the use of ICT influence effective communication in secondary schools?
- iv. To what extent does the use of ICT influence administrators' access in the management of secondary schools?
- v. What is the influence of the use of ICT on financial management in secondary schools?

1.5 Hypotheses

The following null hypotheses will guide the study

- H₀₁. The use of ICT has no significant influence on recording keeping in secondary schools in Keffi Local Government of Nasarawa State.
- H₀₂. The use of ICT has no significant influence on decision making in secondary schools.
- H₀₃. The use of ICT has no significant influence on effective communication in secondary schools.
- H₀₄. The use of ICT has no significant influence on administrators' access in the financial management of secondary schools.
- H₀₅. The use of ICT has no significant influence on financial management in secondary schools.

1.6 Significance of the Study

This study is hoped to be valuable and of great significance to educational policy planners, school managers, educational supervisors, curriculum planners and a knowledge bank for enhancing effective and efficient management of secondary schools.

The educational policy planners shall discover the relative impact of the application of ICT on the entire teaching and learning process and management of secondary schools in particular, consequently, policies and efforts shall be geared towards planning the curriculum and management in such a way that information and communication technology (ICT) will be fully incorporated into the secondary school curriculum and management.

School managers shall discover from this research work the extent to which information and communication technology (ICT) facilitates the managerial functions of planning, organizing, staffing, controlling, coordinating, and budgeting, motivating, evaluating and staff development towards achieving the educational goals. With this scenario, they will be encourage to become computer literate through short term courses, seminars and workshops in order to meet the global trend in information and communication technology..

Teachers as very important facilitators of learning shall also discover through this study the significance of ICT in the teaching and learning process within the framework of the classroom in the school by using computer assisted instruction (CAI) machines which ease teaching and learning situations.

The government shall also benefit from this research work by discovering the place of ICT infrastructure/facilities and training of the staff to manned such facilities, hence, it improve the management of secondary schools.

Finally, the findings of this research will also serve as source of information based on and invaluable literature that students of educational management, present and future scholars might find quite useful in the area of ICT in the management of secondary schools.

1.7.1 Scope of the Study

The study was limited to information and communication technology (ICT) and the management of secondary schools in Nasarawa South Senatorial Zone of Nasarawa State. The variables of study included records keeping, decision making, effective communication, administrators' access to ICT and financial management. The study geographically covered all secondary schools in Nasarawa South Senatorial Zone of Nasarawa State.

1.8 Operational Definition of Terms

The following terms have been operationally defined as they are used in this study.

Information and Communication Technology (ICT): The processes, by which information are managed, processed, stored, transmit and retrieved by using electronic and computer based devices.

Management of Secondary Schools: The effective allocation and utilization of scarce resources towards the achievement of educational goals at the secondary school level.

Record Keeping: The process of carefully writing down of necessary events, information and transactions of a school for future use, using computers and other ICT facilities.

Decision Making: Is the process of choosing from among alternatives in order to make informed decisions based on an up to date situation for the effectiveness of the secondary school management.

Effective Communication: The process of passing and receiving of signals from one person to another using ICTs for effective management of secondary schools.

Administrators' Access to ICT: Awareness of secondary school principals on ICTs, their literacy level and availability of ICT facilities in terms of acquisition of hardware and software to increase effective and efficient school leadership.

Financial Management: The judicious, effective, efficient and prudent allocation, utilization and application of scarce financial resources (funds) within the framework of secondary school management.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

.2.1 Conceptual Framework

Under this section, the concepts of Information and Communication Technology (ICT), concept of management, ICT and secondary school management; as well as the influence of information and communication technology on record keeping, decision making, effective communication, administrators' access to ICT and financial management were also reviewed.

2.1.1 Concept of Information and Communication Technology (ICT)

The innovative system in educational management called Information and communication Technology (ICT) has received different definitions from different scholars and writers. Gusen (2009) defines information and communication technology as the combination of computer and telecommunication system to process, store, retrieve and communicate information with texts, images and sound. Eze (2007) sees it as various ways the computer works, together with other telecommunication equipment which are needed in data processing and information transmission to solve different aspect of human endeavor. Ijeoma (2004) viewed ICT as technology that acquires, process, store, retrieve at will, disseminates, vocal, pictorial, textual and numerical information by combining data processing and telecommunication technique.

Information and communication technology (ICT) is defined as the term used to describe the tools and processes to access, retrieve, store, organize, manipulate, produce, present and exchange information by electronic and other automated means(UNESCO, 2002). These according to UNESCO include hardware software and telecommunication in the form of

personal computers, scanners, digital cameras, handhelds/PDAs, phones, faxes, modems, CD and DVD players and recorders, digitized video, radio and TV and programs like database system and multimedia applications. This according to UNESCO has caused significant changes within the framework of the educational sector in form of gaming tools, administrative and management tools, teacher tool, communication tool, research tool, training tool for respective task, teaching tool for the development of intellectual and thinking skills and teaching tool for computer use.

Nnajiofor (2017) divided ICT into two groups; Traditional which he cited the example as radio, television and the new ICT such as computer and internet technologies, which are used as administrative tool to explore, reflect, reason, communicate and learn many concept in educational management. ICT, therefore uses modern day technological devices, mostly computers and relevant software package to store and retrieve information needed in instructions, corporations and organizations. Dauda (2018) asserted that principals use ICT to govern or manage their schools through the use of electronic devices which help them to learn how to keep records on management issues, teacher and students. It is also an excursion into management, learning and research on and other areas of computer appreciation that can enhance education where the principals can improve their performance as leaders and heads of their schools.

In a similar view Mhuene (2012) stressed that the use of ICT in secondary school management is inevitable because the cycle of planning, implementation and evaluation, that is the essence of management requires repeated human inputs and cannot be automated. However, it is clearly helpful in providing educational managers with accurate and up to date information so that their actions would be based on facts and figures.

Generally, ICT revolutionizes teacher's methods of teaching, pedagogical strategies, access to quality teaching and learning materials competency in the management of educational resources, preparedness for instructional delivery of lessons and ability to communicate and exchange information with other teachers in different schools for performance enhancement across the globe (Ramzam, 2014).

2.1.2 Concept of School Management

The term 'management' itself comes from the verb to "manage" which can mean to handle, to control, to make and keep submissive, to organize, to alter by manipulation and to carry out for a purpose (Akpakwu, 2008:132). Akpakwu further adds that management is the judicious application of the human, material, financial and time resources towards the attainment of the objectives of an organization, this means that before management takes place in any organization, there are common characteristics or conditions that must prevail., For example, there must be an organization, that organization must have aims and objectives, the services of human resources must be required, materials and resources or facilities has to be provided, money must be made available, time resources must also be provided.

Adeyemi (2017) regarded management as the process of utilizing human and material resources in accomplishing designated objectives. This could be done by organizing; directing, co-coordinating and evaluating programmes in a bid to achieve goals and objectives, in such a social process, there is always a structural hierarchy comprising the sub-ordinates and super-ordinates. According to Young and Dulewicz (2008: 1) management involves "organizing, planning, staffing, directing and controlling, where the aim of the manager is to maximize the output of the organization through administrative implementation". Management is an executive

function which does things right and put into action the policies, plans and decisions within the framework set by the administration (Brennen, 2017).

In our context, management of secondary education is the performance of these activities that enhance effective utilization of the available resources towards the achievement of educational goals at the secondary school level, these activities amongst others include, planning, organizing, directing and controlling. Today management is summed up in the acronym “POSDCORB”. Planning, Organizing, Staffing, Directing, Coordinating, Reporting/Evaluation, and Budgeting.

2.1.3 Concept of ICT and Secondary School Management

In this world of wide knowledge, education is regarded as an instrument per excellence and the means of achieving growth and development of any nation; this is because the socio-economic, political and technological advancement of any nation depends on its educational system. This underscores the value being placed on the quality and standards which encompasses quality learning, resources inputs, instructional process, teacher capacity development, effective management, monitoring and evaluation, and quality learning outcome in secondary schools by huge amount of money vested into the system through budgetary allocations year in year out for the effectiveness of the educational system. Therefore the Nigerian institutions of which secondary education is one, must become active member of this global movement in order to meet the challenges of this modern era.

The success of any system of education is hinged on proper planning, adequate financing and efficient administration (FRN, 2013). Without effective and efficient school management, the aims and objectives of any education system cannot be achieved. As ICT is sweeping through

the global world, secondary school managers must keep abreast with the principles and application of ICTs for effective management of the system, he or she must be up to date in the provision of the right information and enhancement of teaching and learning. All these are required to ensure a complete well-rounded education and production of quality students from the secondary school system as contained in the national policy of the Federal Republic of Nigeria (FRN, 2013) which states the broad aims of secondary education in Nigeria as follows;

- i. Preparation of students for useful living within the society, and
- ii. Preparation of students for higher education.

Specifically, the secondary school system is geared towards, providing trained manpower in the applied science, technology and commerce at sub professional grades; inspiring students with a desire for self improvement and achievement of excellence; providing technical knowledge and vocational skills necessary for agriculture, industrial, commercial and economic development; providing all primary school leavers with the opportunity for education of higher level, irrespective of sex, social status, religion or ethnicity background; offering diversified curriculum to cater for the differences in talents opportunities and future roles; developing and promoting Nigerian language, art and culture in the context of world's cultural heritage; fostering national unity with an emphasis on the common ties that unite us in our diversity; and, raising a generation of people who can think for themselves, respect the views and feelings of others, respect the dignity of labour, appreciate those values specified under our broad national goals and live as good citizens (FRN. 2013). These aims and objectives make it clear that the ultimate goal of secondary school education is to develop the individual's mental capacity and character

for higher education and useful living within the society, since the future of any nation including Nigeria depends greatly on the quality of education it provides for its citizens.

To achieve the above objectives, the secondary school administrator has a crucial role to perform in the achievement of the goals of education and his performance determines the success or failure of the educational plan in his school. For instance, the objective of provision of trained manpower in the applied science, technology and commerce cannot be achieved without keeping abreast with ICT appliances (Ugwu and Oboegbulem, 2010). An uninformed school administrator cannot provide and update information. According to Cussack and Skiller in Oboegbulem and Ogonnaya (2008) there have been increasing changes for administrators in the area of leadership expectation, work demands, school and personal accountability, human resources management, decision making, communication, power and authority, and planning. These changes demand that the school administrator must be computer literate to cope with the demands on him.

The advent of ICT in the management of secondary schools has changed the entire system; school principals do get accurate records of students' population, academic records, financial records and the general day to day management of the system. In addition, ICT has brought improvement in teaching and learning by accessing information from the internet. The principals through ICT can provide instructions to students, teachers and ask questions, grade students performance and make recommendation on them through the same system.

2.1.4 Influence of ICT on Records Keeping in the Management of Secondary Schools

School records management is one of the most important aspects of secondary school management; principals often keep and supply important information as demanded by

educational authorities and other bodies. These pieces of information are expected to be factual, reliable and gotten from record-keeping.

Records, as defined by the American Heritage Dictionary and cited by Onifade (2004: 60) “are information or data on a particular subject, collected and presented”, this definition implies that any processed or unprocessed datum that is collected and kept for future use constitutes a “record”. School records are therefore, information or data which are collected on various aspects of a school and presented for future use. The information or data which are written manually or electronically are presented in books, file, diskettes and other materials. However Olagboye (2004) sees school records as books, document, diskettes and files in which are embodied information on what goes on in school (e.g. social, academic and non-academic activities, important events etc), the school plant as well as other relevant information focusing on the growth and development of the school.

Durosaro (2012) explained that school records are official transcript or copies of proceedings of actions, events other matters kept by the school manager. School records could be authentic registers or instruments or documents of official accounts of transaction or occurrences which are preserved in the schools office. The goal of record-keeping in management is to achieve efficiency in the creation, utilization and maintenance of records, however these goals cannot be realized unless they are properly and adequately organized in such a way that storage and presentation allows for easy accessibility. In other words, for records to be useful and sustain the educational endeavor, they must be authentic. The authenticity of records implies that the data collected must be genuine, authoritative of established credibility and entitled to acceptance; false records could severely mislead and cause great handicaps to educational management.

However, Olagboye (2004:2) citing Adepoju and Ojelade listed some general importance of record keeping in schools which includes.

- i. Tells the history of the school and are useful historical sources.
- ii. Facilitate continuity in the administration of a school.
- iii. Facilitate and enhance the provision of effective guidance and counseling services for students in the school, academic career domains.
- iv. Provide information needed on ex-students by employers of labor for admission or placement.
- v. Facilitate the supply of information to parents and guidance for effective monitoring of the progress of their children/wards in schooling or performance.
- vi. Provide data needed for planning and decision making by school heads, ministries of education and related educational authorities.
- vii. Provide a basis for the objective assessment of the state of teaching and learning in a school, including staff and student performance by supervisors and inspectors.
- viii. Provide information for the school community, in general public employers as well as educational and social science researchers for the development of knowledge.
- ix. Enable school heads to collect information on students and staff for decision making by higher authorities, the law courts, security agencies and other related government agencies when occasion demands.
- x. Provide a mechanism such as the school time-table for productive management of time and coordination of school work and activities.
- xi. Serve as data bank on which both the head and staff and even students can draw on.

Onuma (2017) stressed that in educational industry, just like any other sector, information technology (IT) focuses on electronic generation, storage, retrieval, utilization and protection of information for future use, while ICT revolves around different types of technological use in collecting, processing and transmitting information with database as ICT tool, school administrators store, sorts and retrieve all types of records on information for use. Examples, students admission, personnel records, students results etc. also with management information system (MIS) the school administrator handle general administration with ease.

According to Gusen (2003: 179), in stored information,” a computer is used for record-keeping and sorting. This is for the purpose of educational research, bibliographic, scientific data, students’ records, address file and financial records “. The use of modern techniques of record-keeping like the computer for ready retrieval is very important. Education specially has such large number of employees as to warrant the use of computers for this purpose (Akpakwu, 2008).

2.1.5 Influence of ICT on Decision Making Processes in the Management of Secondary Schools

Decision making as a managerial function is a vital responsibility of any manager in the day to day administration within the framework of the school. It is the process of choosing from among alternatives, its importance to the understanding of educational management cannot be overemphasized, because choice processes play an important role in motivation, leadership, communication and organizational change. It has been recognized by researchers as the most paramount aspect of any effective school management. Decisions are made in such important areas as the allocation of scarce resources to teaching and support services, the enrolment of students, staffing, students and staff discipline, ways of improving teaching and learning, introducing new curriculum and so on.

According to Adzongo and Agbe (2009: 14)” decision-making involves the selection (of a course of action) from various possibilities”. They further stressed that as human beings are involved in decision-making almost every minute of the day, and without decision-making, there can never be a plan or plans. In making plan or in planning, there must be that decision to commit the resources, organize the direction of the plan and the resources.

Decision making is a key component in guiding school managers of today to be effective in performing their functions. Today's principal must not only manage the day to day activities of a school but also focus on students learning, standards, data driven decision making and restructuring efforts (Dinham, 2015). Fred and Allen (2018) notes that decision making pervades all other administrative functions as well. Planning, organizing, staffing, directing, coordinating and controlling all involve decision making. They further stressed that school administrators at all levels make decisions, these decisions may ultimately influence the schools client-the students. However all decisions have direct bearing on the performance of both staff and students in the school and the nature and quality of a decision determines administrative effectiveness of a school manager.

Information and communication technology (ICT) is contributing significantly to address the needs of decision makers. Solutions are available facilitate requirements and thus help managers take informed decisions based on latest data, organizations are now relying on ICT as fast and accurate retrieval medium with high uptime and hence resorting to change management and realign the organization structure. This speaks volume about the penetration of ICT in decision making.

Akawu (2010) in research, ICT provides opportunity for schools to communicate with one another through e-mail, mailing list, chat rooms, etc; it also provides quicker and easier access to more extensive and current information and can be used to complex mathematical/statistical calculations. This mathematical calculation provides fundamental information for organizational decision making.

Cole (2000) also observed that with the availability of a wide range of information sources and transmissions using the computer, management and professional staff have the ability to make informed decisions based on an up to date picture of a situation. Computers are used widely to answer such questions in education, like “what is likely to happen, if we decide to take option or what is likely to be the result of changing x but not changing y”. In line with this Edafiogho in Nwogu (2017) clearly states that ICT increases the efficiency and effectiveness of educational management and administration. According to him, if managerial functions at secondary school and other levels of education system are to be carried out efficiently and effectively, it is necessary that information of high quality is available at all times for effective decision making.

2.1.6 Influence of ICT on Effective Communication in the Management of Secondary Schools.

The task of maintaining effective machinery for a functional school system demands managerial competence amongst the principals; they are expected to coordinate human, material, financial and time resources for effective management of the school. 21st century is the era of ICT and the secondary school system as a social institution cannot be shielded from being affected by the impact of this new technological challenge, computers and other ICT facilities have become major tools of communication and exchange of information amongst organizations, hence, innovative use of ICT in managerial processes in secondary schools cannot be overemphasized.

Fred and Allen (2008) stressed that communication is the lifeblood of every school organization, is a process that links the individual, the group, the organization. To be sure

communication mediates inputs to the organization from the environment and outputs from the organization to the environment. Furthermore they are of view that managers of today's school organization has a multifaceted job, which include setting objectives, organizing task, motivating employees, reviewing results, and making decisions. School administrators plan, organized, staff, direct, coordinate, and review. Task cannot be accomplished, objectives cannot be met, and decisions cannot be implemented without adequate communication. Nwosu (2001) sees communication as a process or an ongoing event where people communicating receive and interpret stimuli all the time. As regards to communication technology or patterns, Kanu (2013) found out that communication patterns is the different way or means of communication which can be adopted to ensure that there is a free flow of communication in the school system or organization.

Akpakwu (2008: 153) is of view that if the school is to achieve better performance," it must maintain an adequate system of communication; information news and even rumours must flow through the system freely". Akpakwu adds that communication does not mean that teachers only should know what and why principal decide. It includes also the very significant need for the principal to know what the teachers think about what he does. A successful school manager or principal is the one that marries information and formal channels of information in the school. To forcefully kill the grapevine is to court trouble leading to many squabbles and in turn to a total disruption of school activities.

The ICT impact in the area of communication is so strong that changes are already occurring in the examination bodies in the country. Today, the joint admission and matriculation board (JAMB), the West African examination council (WAEC) and the national examination council (NECO), results can be checked online, ICT offer hope for quick release of results of

evaluation of institutional outcome for supervision of school. Thus the era of long waited result is over with ICT presence (Bassey, 2009). Yusuf (2005) maintained that modern organizations ability to achieve results and decision making effectiveness of contemporary managers is no longer dependent on just the quality of the manager, but more importantly is the function of the quality of information and communication channels feeding and transmitting their actions.

Obeng (2004) opines that the use of internet and intranet, besides reducing administrative cost also reduces administrative inconveniences because the same information on the internet can be sent to all departments without having to do it individually, instead of sending notices of meeting for instance to those concerned, this can be done online, communication both within and outside the school system can be greatly enhanced by the use of ICT. Cole (2000) also observed that with the availability of a wide range of information sources and transmission using the computer, managers and professional staff has the ability to make informed decisions based on an up to date picture of a situation.

Communication can take three dimensions, downward, upward and horizontal. Downward communication is the transfer of information from the super ordinate to subordinates, this could be from the principal to the staff and students of the school, such information could be warnings, orders, instruction, policies, procedures and methods, control standards and so on. Upward communication is the transfer of information from the staff and students to the principal. This could inform of feedback regarding the message sent by the principal. Horizontal communication entails the transfer of information between two individuals who are of the same level, in the school system for example, heads of departments can communicate among themselves. However school managers must ensure effective communication in the organization in order to enhance orderliness and attainment of goals.

2.1.7 Influence of Administrators' Access to ICT on the Management of Secondary Schools

In this study ICT access means awareness and availability in terms of acquisition of hardware and software. Awareness and acquisition state is that condition whereby the person involved becomes aware and conscious of the technology, analyses its significance, reflects on its value and subsequently, desire and decides on acquiring the necessary skills to handle the new emerging technological challenges within the framework of school management.

The use of ICT in Nigeria and African countries generally is increasing and dramatically growing. However, while there is a great deal of knowledge about how ICTs are being used in developed countries, there is not much information on how ICTs are being introduced into schools in developing countries (Beukes-Amiss and Ahiware, 2006). Considering the above scenario that is prevalent in developing countries, there is generally limited access to time per month using ICTs by both school managers, teachers and students, and less time spent with reliable internet access. It is noted that availability of ICT access to principals of secondary schools differs significantly, however the new emerging technologies challenges the traditional process to which education is managed because the world wide community provides instant access to vast array of data.

Selwood, Fung and O'Mahony (2003) argue that principals who become more comfortable with the competence in using ICT are likely to develop school-wide instructional and management responses to technology. Based on this argument it is assumed that by being ICT literate and having access to and control of the new technologies, secondary school principals can influence school operations by encouraging ICT integration. Bober (2001) stressed

that ICT literacy is necessary for leadership that can enhance school performance. Today's principals are expected to be familiar with ICT to be able to cope with emerging technological changes, because successful change flows from learning, growth and development.

Pernia (2008) reports that the access dimension of ICT is characterized by user's awareness of ICT and availability and the relevance of these ICT in both his/her personal and professional life. Access to information through ICT is the amount of information accessible to individuals to support them in trying new strategies, thinking and creativity that are reflective in practice aimed at engaging them to new innovations through the use of ICTs (Ololube, 2006). Selwood et al. (2003) assert that empowering school leaders with skills in ICT would allow them to access information that is otherwise not easily available. In addition, the increased access of school leadership to ICT has a direct impact on students' achievement (Valle, 2007).

2.1.8 Influence of ICT on Financial Management in Secondary Schools

Financial management is one of the most important functions of school managers as they deal with the resources and monetary aspect of business for funding and operating a business with adequate return. It deals with planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise, and it means applying general management principles to financial resources of the enterprise, where the financial management is weak, success hardly occurs. No organization has ever succeeded without proper utilization of its financial resources. Nongo (2005: 159) asserted that "financial management of any organization is concerned with the effective acquisition, allocation, recording and utilization of funds to achieve organization's objectives. The finance function gives life to other activities of

the organization”. He further explained that, money must be mobilized and utilized before production will embarked upon.

The effective management and control of finance is vital to any organization that attempts to achieve its basic goals and objectives at minimal cost. Evolving better ways and means of generating revenue for education and spending it prudently becomes crucial if school managers are to provide meaningful education to the present generation and the one yet unborn (Asemah, 2010).

Financial management in this context embraces school funding, revenue generation, school auditing, decision making on school finances and cost saving strategies. Ezeocha (2016) opined that computerized school budget system can prevent many anticipated problems long before they supposed to occur and therefore nibbled in bud using appropriate management strategies. He further stressed that huge resource wastes are prevented through such measures.

Revenue generation is another aspect of financial management within the framework of the school and it constitutes the life wire of the educational system. Agabi (2014) states that internet facilities in secondary schools can provide information regarding the availability of external aids or organizations agencies like John F. Kennedy foundation, the Rockefeller foundation, the ford foundation all in the United States and the carnage corporation can contribute to the funding of education generously if the schools are connected to the internet, the school administrators can assess the internet for information concerning such voluntary agencies for possible financial or material contributions to the secondary schools.

John (2018) is of view that computers, photocopy machines operative within the school premises can be made to pay monthly fees charged by the school authority, also students and

staff charged for browsing, such fees can increase the revenue base of schools. Computerized accounting and auditing of school will enhance independent examination of finance records in order to form an opinion on the integrity system of control, improvement and recommendation to limit risk (Hallack, 2014).

Hirsch (2017) observed that computerized account records will enable the school administrators in monitoring finance reports for consistency as well as providing follow-up where information is not consistent. He also asserted that auditors can use data analysis tools to audit the school accounts and report to a separate line in management and be free to state the facts of the situation and their earnest opinion without fear and recommendation to the appropriate body/authority.

Onuma (2017) stated that a school administrator/manager is involved in the communication process on daily basis; he does this with both his staff, members of parent teachers' association (PTA) on an indirect one using telephone and intercom services on crucial issues that border on finances, reports and decision making in the school. He further revealed that such crucial issues are better discussed on private GSM set for confidentiality and implementation.

Akpakwu (2008: 173) opined that “managing funds is one of the major tasks of a school head, the success of any school programme depends very much on the way the financial inputs are managed and this, in turn, affects the overall performance of each school” .The use of electronic device for communication has effectively check and minimized frauds and embezzlement of school funds by finance clerks without early detection by the principals. But with the new invention of electronic and ICT devices, school managers can through telephone

services receive alerts instantly indicating any transaction done on the school account, this has greatly enhanced report and decision making on school financial management processes.

2.2 Empirical Studies

In this section, the researcher reviewed some empirical studies related to this study.

Ugwu and Oboegbulem (2016) investigated on the place of Information and Communication Technology (ICT) on the administration of secondary schools in South Eastern States of Nigeria. Two research questions and two hypotheses guided the study. The study adopted a descriptive survey design as the study was aimed at identifying the role of ICT in school administration. The population for the study was thirty (30) secondary schools in the South Eastern States, comprising of Abia, Anambra, Ebonyi, Enugu and Imo State with ICT and internet facilities, there was no sampling since all the thirty (30) principals from the five States were used for the study. The instrument used for data collection was a 26 item questionnaire, and the data collected were analyzed using mean and standard deviations to answer the research questions, while t-test statistic was used to test the hypotheses at 0.05 level of significance. The findings showed that, the use of ICT in school administration and management is a necessity and worthwhile venture especially in this era of globalization, the study further revealed that the extent of their application in secondary schools was very slow as school managers were incompetent in handling ICT faculties for effective school management. This study has clearly demonstrated based on the findings and recommendations the importance of information and communication technology on the management of secondary schools thus, justifying its relevance to the current study.

Adeyemi and Olaleye (2010) carried out a study on “information communication and technology (ICT) and the effective management of secondary schools for sustainable development in Ekiti State, Nigeria. Six research questions and six hypotheses guided the study. The study adopted a descriptive survey design. The study population comprised of 182 secondary schools in Ekiti State. A sample of 160 secondary schools was selected through stratified random sampling technique. Out of 6278 teachers in the schools, 812 teachers made up of 160 principals and 652 teachers were selected through stratified random sampling technique for the study. The instrument used for data collection was questionnaire; the data were analyzed using frequency counts, percentages and Pearson Product Moment Correlation. The findings revealed that the level of provision of ICT equipment to secondary schools in the state was low and has a direct bearing on the principals’ management of these schools in the state; poor electricity and inadequate funding were also found as major problems inhibiting the effective usage of ICT for the management of secondary schools, the research also revealed that, the state government was not fully ready to imbibe ICT for effective management of secondary schools in the state. They recommended that the government should improve on the training of principals, teachers and computer personnel in the use of computers and other ICT equipment through seminar, workshop and in-service training. This study has clearly shown based on the findings that ICT is very important in the management of secondary schools which is its relevance to the current study.

Abah (2011) conducted a study on impact of information and communication technology (ICT) on the management of secondary schools in Keffi Local government of Nasarawa state. The study formulated four research questions and four hypotheses. It adopted a survey research design. The population for the study comprised of 800 management staff of grant-aided and

government secondary schools in the study area, twenty (20) secondary schools were randomly selected and 160 management staff were used as the sample for the study, the basic instrument used for collection of data was a 28 item structured questionnaire tagged ‘Questionnaire on impact of information communication technology on the management of secondary schools in Keffi Local government of Nasarawa state. Data collected were analyzed using mean standard deviation for answering research questions and chi-square statistic was used for testing the hypotheses at 0.05 significant level. The result of the study revealed that the utilization of computers, internet, e-mail and stored/retrieved information has a positive impact on the effective management of secondary schools, proper storage of students’ enrolment, retrieval of students’ records and quick dissemination of information. Based on these findings, he recommended that the government of the country in order to make ICT impact felt in our secondary schools should ensure that as it supplies ICT facilities to schools, provision should be made for training that is coordinated with the purchase and the use of ICT facilities.

Akuegwu, Bassey, Udida and Nwi-ue (2017) in their study titled “Academic staff access to ICT and the management of skill oriented education in Cross River State”. Five research questions and five hypotheses guided the study. The study adopted the descriptive survey design. 250 academic staff of the universities were randomly selected for the study. The collection of data was limited to questionnaire. The data collected were analyzed using means and standard deviation to answer the research questions while t-test statistic was used to test the hypotheses at 0.05 level of significance. The study found out that academic staff access to ICT is significantly low. Therefore the null hypothesis was rejected based on the findings because the t-test value was found to be higher than the critical value with 249 degree of freedom, the study also revealed that the academic staff access to training on ICT equipment was significantly low, with

reference to their findings, they states that academic staff access to ICT is an essential factor in the management of skill oriented education, they went further to assert that their (academic staff) knowledge and access to ICT determine the extent of their contribution to and impart towards students acquisition of basic employable skills. The study is related and very significant to this research work because it has shown the impact of ICT tools and access to the general improvement and management of the educational sector.

Ndum (2013) conducted a study on the awareness of internet services among the head of departments of federal polytechnic, Nekede-Owerri, specifically the study aimed at finding out whether the heads of department were aware of internet services, ascertain the internet services available to them and benefit derivable from internet services with four research questions and four research hypothesis to guild the study. A survey research design was adopted with the population of 54 heads of departments, 25 heads of departments were selected using simple random sampling. A validated questionnaire was administered on the respondents for data collection purposes; the collected data were analyzed using Analysis of Variance(ANOVA) to answer the research questions and chi-square was used for testing the research hypotheses. The findings revealed that, the heads of departments were aware of the following internet services, e-mail, the World Wide Web (www), file transfer protocol, tele/video conferencing, Usenet/newsgroup, electronic data interchange, e-commerce and e-learning. The research however revealed that heads of departments were not aware of services like internet relay chat, internet phone and telnet; the findings also revealed that the following benefits were derivable from internet research containing vast and free library services to users, aids the exchange of information on medicine, technology education, reduce space and time for e-commerce, e-banking etc. he concluded that the absence of internet services could hinder administrators

(Heads of departments) from deriving the benefit of internet. He therefore recommends that internet education and activities should be made available in schools.

Undeshi (2014) researched into the Application of information and communication technology (ICT) on the management of secondary schools in northern senatorial district of Cross River State. Five research questions and five hypotheses guided the study. It adopted a causal comparative (ex-post facto) design and the study used the total population of 151 principals from the existing secondary schools in the study area. A 20- item questionnaire was used to collect data for the study. The mean and standard deviation were used to answer the research questions while chi-square was used to test the research hypotheses at 0.05 level of significance. The findings of this study revealed that there is a significant effect of ICT infrastructure, access to ICT, use of ICT in keeping records, use of ICT in decision making and the use of ICT in communication and the management of secondary school. He recommended among others that, the government through the state ministry of education should disseminate ICT gadget to schools to enhance effective and efficient management of secondary schools in the state.

In a research conducted by Anashie (2014) on Influence of school records management on internal efficiency of secondary schools in Northern senatorial district of Cross River State. Five research questions and five hypotheses guided the study. The study adopted ex-post facto design. The population of the study was 1840 teachers, while 460 teachers representing 25% of the entire population for the study were sampled using random sampling technique. A 30 item structured questionnaire titled “influence of school records management on internal efficiency of secondary schools questionnaire (ISRMOIESSQ) was administered to the respondents for data collection. Data collected were analyzed using mean scores and standard deviation to answer the

research questions while chi-square analysis was used to test the hypotheses at 0.05 level of significance. The study revealed that school records management has significant influence on information dissemination in secondary schools; planning of activities, effective guidance/counselling and accountability in secondary schools. The recommended that school administrators must try to keep all records approved by the ministry of education and those that are relevant for effective school management, they must ensure that events are recorded when they happen and also ensure through supervision of teachers on proper record keeping and management so as to guide against improper record keeping and falsification of data, provision of modern record keeping facilities like the computers.

Akinsolu (2016) researched into influence of record management on the effectiveness of school administrators in Ondo state secondary schools, with five research questions and hypotheses to guide the study. The study adopted the ex-post facto design as the study was a correlation type, since records management and school administrators' effectiveness were studied as they had already occurred. The population for the study was 281 public secondary schools principals, out of which 136 were sampled using stratified random sampling technique. Questionnaire was the only instrument used for data collection. The data collected were analyzed using descriptive statistic (i.e. Pearson Product Moment Correlation) was used to test the hypothesis at 0.05 level of significance. The findings discovered that there is a significant relationship between school record management and administrative effectiveness of school administrators, also that there is a significant relationship between school record management and information dissemination effectiveness of school administrators. The study is related and very important to this research, as it has confirmed the importance of school records

management as an integral part of effective school management which leads to better performance and effectiveness of the school system.

2.3 Summary

The literature review deals with conceptual framework and empirical studies. The chapter reviewed various studies conducted by educational experts on ICT and school management that contributes to the present study; the ICT and the management of secondary schools in Keffi Local Government Area of Nasarawa State. The review was concentrated on ICT and records keeping, decision making on ICT, ICT and effective communication, administrators' access to ICT and ICT and financial management in secondary schools. The literature review showed that ICT facilities and administrators' access to it paved way for effective and efficient secondary school management, improved school records keeping practices, decision making processes and communication patterns among principals within the framework of school management.

The review has showed through empirical studies that ICT has contributed to the entire management of educational sector with secondary schools inclusive especially in this era of globalization, but the extent of their utilization and application to secondary school management were very slow as school managers were either incompetent or ignorance in handling ICT facilities, epileptic power supply, poor maintenance culture, inadequate funding and communication breakdown had direct impact on the effective utilization and application of ICT facilities in the management of secondary schools.

Scholarly works and studies have been conducted on the related areas of the study, however there is an existing gap as these studies were not unanimous on the variables to which ICTs are been utilized and applied in the management of secondary schools, this needs to be

bridged because it hinder effective utilization and application of ICT in the management of secondary schools in Keffi Local Government Area of State. Since no study of this nature exists in the study area to the best of the researchers knowledge. The above scenario has moved the researcher to carry out this research.

CHAPTER THREE

RESEARCH METHOD

3.1 Research Design

The ex-post facto research design will be used for the study. This design was chosen because the study involves exploring the effect of what exists already or has occurred and the researcher has no control over the independent variables. The problem at hand is one which seeks to investigate the influence of information and communication technology (ICT) on the management of secondary schools in Keffi Local Government Area of Nasarawa State. According to Emaikwu (2013), it is a research design in which the independent variables have already occurred and in which the researcher begins with the observation on a dependent variable, followed by a retrospective study of possible relationship and effects.

3.3 Population

The population of this study comprises of all the 300 teachers from public secondary schools in Keffi Local Government Area of Nasarawa State. (Source: Education Department, Keffi Local Government Area of Nasarawa State, 2019).

3.4 Sample and Sampling

One hundred and twenty (120) teachers representing 40% of the total number of teachers will be selected for the study. This is in accordance with Gay in Olayiwola (2007) who suggested that a minimum of 10% of the population is a valid sample. The simple random sampling technique of hat and draw method was used to select the sample for the study. This technique was chosen because it gave each member of the population an equal chance of being selected.

This was done by assigning a number to each member of the population on pieces of papers and folding each piece of paper and shuffling them in a bowl and the required number of schools and teachers were then selected randomly.

3.5 Instrumentation

The instrument for data collection was the questionnaire, developed by the researcher titled “Information and communication technology (ICT) on the management of secondary schools in. Keffi Local Government Area of Nasarawa State “Questionnaire” (ICTMSSKLGANSQ). It consisted of two sections, sections A and B. “An” elicited information on the name of school of the respondents. While Section “B” comprises the 25-items which were grouped into five clusters. The instrument has a four-point rating scale with a response mode of Strongly Agreed (SA) (4) Agreed (A) (3) Disagreed (D) (2) and Strongly Disagreed (SD) (1).

3.6 Validity of the Instrument

In order to ensure the validity of the instrument, the questionnaire will be submitted to experts in Public Administration in the Faculty of Administration, Nasarawa State University, Keffi, for the face and content validation of the instrument. Their constructive criticisms will assist the researcher to restructure the instrument to ensure face, content and construct validity. They will ascertain the language used. The instrument will be finally produced based on the supervisor’s approval for the production of the final copies which will be taken to the field for administration.

3.7 Method of Data Collection

The researcher employed the services of research assistants, they were people who had prior knowledge on research methods and were well trained on the structured items for administration to the respondents.

The researcher with the help of research assistants administered the questionnaire to the respondents by visiting the school in Keffi Local Government Area distributing the questionnaire. Twenty (120) copies of the instrument will be administered to the teachers in Public Secondary Schools Keffi who are the respondents of the study. The direct contact approach will be used to administer the questionnaire; this method be of helped to reduce the loss of copies and non-responses from respondents. The copies of the instrument will be collected on the spot and where it was not possible; the respondents will be instructed to leave the completed copies with the principals to be collected on a later date.

3.8 Method of Data Analysis

Descriptive statistics of mean and standard deviations were used to answer the research questions. The cut-off mark of 2.50 was used for decision making for each item on the cluster. Any item with a mean of 2.50 and above was considered as having the desired influence and accepted while any mean score below 2.50 was considered as having no influence and rejected.

The five hypotheses were tested at 0.05 level of significance using inferential statistics of Chi-square (X^2) test of goodness of fit. The Chi-square was appropriate for this study because it is a non-parametric statistics for treating data consisting of frequency counts; it permits the

researcher to determine whether or not a significant difference exists between the observed number of cases falling into each category and the expected number of cases based on the null hypothesis (Emaikwu, 2013).

CHAPTER FOUR

ANALYSIS, INTERPRETATION AND DISCUSSION

This chapter deals with the presentation, analysis, interpretation and discussion of findings of the data collected for the study.

4.1 Data Presentation, Analysis and Interpretation

A total of 400 copies of the questionnaire were taken to the field and administered to 400 respondents and 400 or 100% copies of the questionnaire were returned answered without damage or loss. The presentation, analysis and interpretation of the data were organized around the five research questions and five hypotheses that guided the study. Mean and standard deviations were used to answer the research questions. A cut-off point of 2.50 was used for decision making. Any mean score of 2.50 and above was accepted as having the desired influence, while any mean scores below 2.50 was rejected as not having the desired influence. The five hypotheses were tested using chi-square (χ^2) test of goodness of fit at 0.05 level of significance.

4.1.1 Analysis of Research Questions

Research Question 1:

How does the use of ICT influence records keeping in secondary schools in Keffi Local Government Area of Nasarawa State?

The data that provided answers to research question 1 are presented on table 1:

Table 1: Mean Ratings and Standard Deviations of Respondents on the Influence of ICT on Records Keeping in Secondary Schools in Keffi Local Government Area of Nasarawa State.

Item No	Item Description	SA	A	D	SD	$\bar{X}$	ST.D	Decision
1.	ICT usage helps in recording staff and students' personal information/data and reports.	185	201	11	3	3.42	0.59	Accepted
2.	The use of ICT as an instrument of record keeping helps in recording student's internal and external examination results.	191	196	12	1	3.44	0.57	Accepted
3.	ICT usage facilitates easy storage and retrieval of school records on information for administrative and managerial use.	212	171	12	5	3.47	0.62	Accepted
4.	ICT helps in maintaining accurate records of student's continuous assessment.	191	198	8	3	3.44	0.58	Accepted
5.	ICT usage facilitates inventory of school properties that can be updated at any point in time.	144	234	1	21	3.25	0.71	Accepted
Cluster Mean and Standard Deviation						3.40	0.61	Accepted

Table 1 shows the responses of the respondents for items 1 to 5 in the cluster. Their ratings of items 1 to 5 in this cluster were 3.42, 3.44, 3.47, 3.44 and 3.25 with the corresponding standard deviations of 0.59, 0.57, 0.62, 0.58 and 0.71. The five items ratings were far above the cut-off point of 2.50 which showed that those statements were acceptable to the respondents. This indicates that the respondents agreed that, ICT usage helps in recording staff and students'

personal information/data and reports. The use of ICT as an instrument of record keeping helps in recording students' internal and external examination results. ICT usage facilitates easy storage and retrieval of school records on information for administrative and managerial use and ICT helps in maintaining accurate records of student's continuous assessment. The respondents also agreed that, ICT usage facilitates inventory of school properties that can be updated at any point in time in secondary schools. The cluster mean of 3.40 with the standard deviation of 0.61 implied that information and communication technology (ICT) has influence on records keeping in secondary schools.

Research Question 2:

To what extent does the use of ICT influence decision making in secondary schools?

The data that provide answers to research question 2 are presented on Table 2:

Table 2: Mean Ratings and Standard Deviations of respondents' Responses on the Influence of ICT on Decision Making in Secondary Schools.

Item No	Item Description	SA	A	D	SD	X	ST.D	Decision
6	The usage of ICT facilitates easy retrieval of information of high quality for prompt action in decision making.	259	139	1	1	3.64	0.50	Accepted
7	The usage of modern communication gadgets facilitates urgent decision making in school management.	4	22	148	226	1.51	0.65	Rejected
8	ICT helps school managers take informed decision based on latest data and update picture of a situation.	228	164	8	0	3.55	0.58	Accepted
9	With ICT tools in data processing, decision making becomes very easy.	186	209	3	2	3.45	0.54	Accepted
10	ICT usage in decision making saves time, efforts and money.	207	188	2	3	3.50	0.55	Accepted
Cluster Mean and Standard Deviation						3.13	0.56	Accepted

Table 2 shows the responses of respondents for items 6 to 10 in the cluster. Their ratings of items 6 to 10 in this cluster were 3.64, 1.51, 3.55, 3.45 and 3.50 with the corresponding standard deviations of 0.50, 0.65, 0.58, 0.54 and 0.55. The five items' ratings were far above the cut-off point of 2.50 which showed that those statements were acceptable to the respondents. This indicates that the respondents agreed that the usage of ICT facilitates easy retrieval of information of high quality for prompt action in decision making. The use of modern communication gadgets facilitates urgent decision making in school management. With ICT tools in data processing,

decision making becomes very easy. The respondents also agreed that, ICT usage in decision making saves time, efforts and money in secondary schools. The cluster mean of 3.11 with the standard deviation of 0.56 implied that ICT influences decision making in secondary schools.

Research Question 3:

How does the use of ICT influence effective communication in secondary schools?

The data which provides answers to research question 3 presented on Table 3:

Table 3: Mean Ratings and Standard Deviations of Respondents on Influence of ICT on Effective Communication in Secondary Schools.

Item No	Item Description	SA	A	D	SD	$\bar{X}$	ST.D	Decision
11	The usage of ICT helps school principals to communicate and get information from colleagues in other schools through e-mails, mailing list and chat by using internet.	242	136	12	10	3.53	0.68	Accepted
12	The use of ICT enables the school to maintain correspondence with education officers.	200	162	18	20	3.35	0.79	Accepted
13	ICT tools aids in communicating with school staff/students and given notice of PTA meeting to parents.	182	180	10	28	3.29	0.82	Accepted
14	ICT usage helps school managers to access information from external examination bodies through the use of internet.	270	118	10	2	3.64	0.56	Accepted
15	The usage of ICT facilities exposes principals to information on the modern management techniques in school management.	209	179	12	0	3.49	0.56	Accepted
Cluster Mean and Standard						3.46	0.68	Accepted

Deviation

Table 3 shows that the respondents' responses for items 11 to 15 in the cluster. Their ratings of items 11 to 15 in this cluster were 3.55, 3.55, 3.29, 3.64 and 3.49 with the corresponding standard deviations of 0.68, 0.79, 0.82, 0.56 and 0.56. The five items' ratings were far above the cut-off point of 2.50 which showed that those statements were acceptable to the respondents. This indicates that the usage of ICT helps school principals to communicate and get information from colleagues in other schools through e-mails, mailing list and chat by using internet. The use of ICT enables the school to maintain correspondence with education officers. ICT tools aids in communicating with school staff/students and given notice of PTA meeting to parents and ICT usage helps school managers to access information from external examination bodies through the use of internet. The respondents also agreed that, the usage of ICT facilities exposes principals to information on the modern management techniques in school management. The cluster mean of 3.46 with the standard deviation of 0.68 implied that information and communication technology influences effective communication in secondary schools.

Research Question 4:

To what extent does the use of ICT influence administrators' access in the management of secondary schools?

The data which provide answers to research question 4 are presented on Table 4:

Table 4: Mean Ratings and Standard Deviations of Respondents' Responses on Influence of ICT on Administrators' access in the Management of Secondary Schools.

Item No	Item Description	SA	A	D	SD	$\bar{X}$	ST.D	Decision
16	Administrators' access to ICT facilitates managerial and administrative process in secondary school management.	233	145	1	21	3.48	0.76	Accepted
17	ICT facilities through internet browsing help principals to update their managerial skills for up to date information.	173	212	4	11	3.37	0.65	Accepted
18	Administrators who are incompetent in handling ICT facilities are effective inschool management.	183	202	3	12	3.39	0.66	Accepted
19	Epileptic and poor power supply affect administrators' access to ICT in the management of secondary schools.	210	183	6	1	3.51	0.54	Accepted
20	Inadequate funding and poor maintenance culture affects administrators access to ICT in the management of secondary schools.	182	208	8	2	3.43	0.56	Accepted
Cluster Mean and Standard Deviation						3.44	0.63	Accepted

Table 4 showed that the respondents rated items 16 – 20 above the cut-off point of 2.50. Their ratings of items 16 – 20 are 3.48, 3.37, 3.39, 3.51 and 3.43 with the corresponding standard deviations of 0.76, 0.65, 0.66, 0.54 and 0.56. The respondents agreed that the administrators' access to ICT facilitates managerial and administrative process in secondary school management,

ICT facilities through internet browsing help principals to update their managerial skills for up to date information. Administrators who are incompetent in handling ICT facilities are ineffective school management and epileptic and poor power supply affects administrator's access to ICT in the management of secondary schools. The respondents also agreed that inadequate funding and poor maintenance culture affect administrators' access to ICT in the management of secondary schools. The cluster mean of 3.44 with the standard deviation of 0.63 were above the cut-off point of 2.50, which indicated that ICT influences administrators' access in secondary schools.

Research Question 5:

What is the influence of the use of ICT on financial management in secondary schools?

The data which provide answers to research question 5 presented on Table 5.

Table 5: Mean Ratings and Standard Deviations of Responses of Respondents on Influence of ICT on Financial Management in Secondary Schools.

Item No	Item Description	SA	A	D	SD	$\bar{X}$	ST.D	Decision
21	The usage of ICT facilities provides useful information about financial transactions of the school for proper accountability in school management	148	226	20	6	3.29	0.63	Accepted
22	ICT tools in data processing facilitate compilation and presentation of financial report to strengthen account records.	262	136	1	1	3.64	0.50	accepted
23	ICT usage in financial management helps principals in controlling and monitoring school finances.	149	225	20	6	3.29	0.63	Accepted

24	ICT facilities facilitate prompt payment of staff salaries and allowances by the school management.	207	188	2	3	3.50	0.55	Accepted
25	The usage of ICT facilities in school gives a new outlook to financial management in secondary schools.	212	182	1	5	3.50	0.58	Accepted
Cluster Mean and Standard Deviations						3.44	0.58	Accepted

Table 5 shows the respondents' responses for items 21 to 25 in the cluster. Their ratings of items 20 to 25 in this cluster were 3.29, 3.64, 3.29, 3.50 and 3.50 with the corresponding standard deviations of 0.63, 0.50, 0.63, 0.55 and 0.58. The five items' ratings were above the cut-off point of 2.50 which showed that those statements were acceptable to the respondents. This indicates that the respondents agreed that, the usage of ICT facilities provides useful information about financial transactions for proper accountability in school management. ICT tools in data processing facilitate compilation and presentation of financial report to strengthen account records. ICT usage in financial management helps principals in controlling and monitoring school finances. It facilitates prompt payment of staff salaries and allowances by the school management. The respondents also agreed that the usage of ICT facilities in school gives a new outlook to financial management in secondary schools. The cluster mean of 3.44 with the standard deviation of 0.58 implied that information and communication technology (ICT) influences financial management in secondary schools.

4.1.2 Hypotheses Testing

In order to test the hypotheses, the chi-square (χ^2) test of goodness of fit was used to test the opinions of respondents at 0.05 level of significance and the results are presented on Tables 6 to 10 and the detailed analysis shown in Appendix C-G.

Hypothesis 1:

The use of ICT has no significant influence on records keeping in secondary schools in Keffi Local Government Area of Nasarawa State.

Table 6: Chi-square Test of the Influence of ICT on Recording Keeping in Secondary Schools in Keffi Local Government Area of Nasarawa State.

Opinions	Observed Frequency	Expected Frequency	df	Level of sig	X^{2-cal}	X^{2-tab}	Decision
No Influence	14 (4%)	200(50%)	1	0.05	346.36	3.84	Ho
Influence	389(96%)	200(50%)					Rejected

Values in parentheses are percentages ($X^2 = 346.36$, $df = 1$, $p = 0.05 > 0.00$)

Table 6, showed that the descriptive and inferential statistics of percentages and chi-square (x^2) were used to test the influence of the use of ICT on record keeping in secondary schools. The results indicated that 96% of the respondents agreed that the use of ICT has influence on records keeping in secondary schools, while 4% of the respondents disagreed.

Table 6 also showed that the chi-square (x^2) calculated value of 346.36 was greater than the chi-square (x^2) tabulated value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis which states that the use of ICT has no significant influence on records keeping in secondary schools was rejected. The implication is that ICT has significant influence on recording keeping in secondary schools **(See Appendix B)**.

Hypothesis 2:

The use of ICT has no significant influence on decision making in secondary schools.

Table 7: Chi-square Test of the Influence of the use of ICT on Decision Making in Secondary Schools

Opinions	Observed Frequency	Expected Frequency	df	Level of sig	X^{2-cal}	X^{2-tab}	Decision
No Influence	5(1%)	200(50%)	1	0.05	398.86	3.84	Ho
Influence	395(99%)	200(50%)					Rejected

Values in parentheses are percentages ($X^2 = 398.86$, $df = 1$, $p = 0.05 > 0.00$)

Table 7, showed that the descriptive and inferential statistics of percentages and chi-square (x^2) were used to test the influence of the use of ICT on decision making in secondary schools. The results indicated that 99% of the respondents agreed that the use of ICT has influence on decision making in secondary schools, while 1% of the respondents disagreed.

Table 7 also showed that the chi-square (x^2) calculated value of 398.86 was greater than the chi-square (x^2) tabulated value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis which states that the use of ICT has no significant influence on decision making in secondary schools was rejected. The implication is that the use of ICT has significant influence on decision making has significant in secondary schools (**See Appendix C**).

Hypothesis 3:

The use of ICT has no significant influence on effective communication in secondary schools.

Table 8: Chi-square Test of the Influence of the use of ICT on Effective Communication in Secondary Schools

Opinions	Observed Frequency	Expected Frequency	Df	Level of sig	X^{2-cal}	X^{2-tab}	Decision
No Influence	22(6%)	200(50%)	1	0.05	325.82	3.84	Ho
Influence	378(94%)	200(50%)					Rejected

Values in parentheses are percentages ($X^2 = 325.82$, $df = 1$, $p = 0.05 > 0.00$)

Table 8, showed that the descriptive and inferential statistics of percentages and chi-square (x^2) were used to test the influence of the use of ICT on effective communication in secondary schools. The results indicated that 94% of the respondents agreed that the use of ICT has influence on effective communication in secondary schools, while 6% of the respondents disagreed.

Table 8 also showed that the chi-square (x^2) calculated value of 325.82 was greater than the chi-square (x^2) tabulated value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis which states that the use of ICT has no significant influence on effective communication in secondary schools was rejected. The implication of the result is that the use of ICT has significant influence on effective communication in secondary schools (**See Appendix D**).

Hypothesis 4:

The use of ICT has no significant influence on administrators' access in the management of secondary schools.

Table 9: Chi-square Test of the Influence Administrators' Access in the Management of Secondary Schools

Opinions	Observed Frequency	Expected Frequency	df	Level of sig	X^{2-cal}	X^{2-tab}	Decision
No Influence	15(15%)	200(50%)	1	0.05	344.46	3.84	Ho
Influence	385(85%)	200(50%)					Rejected

Values in parentheses are percentages ($X^2 = 344.46$, $df = 1$, $p = 0.05 > 0.00$)

Table 9 showed that the descriptive and inferential statistics of percentages and chi-square (x^2) were used to test the influence of the use of ICT on administrator's access in secondary schools. The results indicated that 85% of the respondents agreed that the use of ICT has influence on administrator's access in secondary schools, while 15% of the respondents disagreed.

Table 9 also showed that the chi-square (x^2) calculated value of 344.46 was greater than the chi-square (x^2) tabulated value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis which states that the use of ICT has no significant influence on administrator's access in secondary schools was rejected. This implies that the use of ICT has significant influence on administrator's assess in secondary schools **(See Appendix E)**.

Hypothesis 5:

The use of ICT has no significant influence on financial management in secondary schools.

Table 10: Chi-square Test of the Influence of ICT on Financial Management in Secondary Schools.

Opinions	Observed Frequency	Expected Frequency	df	Level of sig	X^{2-cal}	X^{2-ta}_b	Decision
No Influence	193(48%)	200(50%)	1	0.05	183.91	3.84	Ho
Influence	207(52%)	200(50%)					Rejected

Values in parentheses are percentages ($X^2 = 183.91$, $df = 1$, $p = 0.05 > 0.00$)

Table 10 showed that the descriptive and inferential statistics of percentages and chi-square (x^2) were used to test the influence of the use of ICT on financial management in secondary schools. The results indicated that 52% of the respondents agreed that the use of ICT has influence on financial management in secondary schools, while 48% of the respondents disagreed.

Table 10 also showed that the chi-square (x^2) calculated value of 183.91 was greater than the chi-square (x^2) tabulated value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis which states that the use of ICT has no significant influence on financial management in secondary schools was rejected. The implication of the result is that the use of ICT has significant influence financial management in secondary schools (**See Appendix F**).

4.2 Discussion of Findings

The discussion of the main findings of this study is organized around the research questions and hypotheses for ease of reading and comprehension.

The first finding of the study indicated that the use of has significant influence on records keeping in secondary schools. The above result agrees with Durosaro (2002) who asserted that school records are official transcript or copies of proceedings of actions, events other matters kept by the school manager. School records could be authentic registers or instruments or documents of official accounts of transaction or occurrences which are preserved in the schools office. The goal of record-keeping in management is to achieve efficiency in the creation, utilization and maintenance of records, however these goals cannot be realized unless they are properly and adequately organized in such a way that storage and presentation allows for easy accessibility. In other words, for records to be useful and sustain the educational endeavor, they must be authentic. The authenticity of records implies that the data collected must be genuine, authoritative of established credibility and entitled to acceptance; false records could severely mislead and cause great handicaps to educational management. The result also agrees with the views of Olagboye(2004) who noted that school records as books, document, diskettes and files in which are embodied information on what goes on in school (e.g. social, academic and non-academic activities, important events etc), the school plant as well as other relevant information focusing on the growth and development of the school.

The second finding revealed that the use of ICT has significant influence on decision making in secondary schools. The finding agrees with Fred and Allen (2008) who opined that

decision making spread through all other administrative functions as well Planning, organizing, staffing, directing, coordinating and controlling all involve decision making. They further stressed that school administrators at all levels make decisions and these decisions will ultimately influence the students. However all decisions have direct bearing on the performance of both staff and students in the school and the nature and quality of a decision determines administrative effectiveness of a school manager. The finding also agrees with Dinham(2005) who stressed that decision making is a key component in guiding school managers of today to be effective in performing their functions. Today principal must not only manage the day to day activities of a school but also focus on students learning, standards, data driven decision making and restructuring.

The third finding of the study showed that the use of ICT has significant influence on effective communication in secondary schools. The result agrees with Fred and Allen (2008) who stated that communication is the life blood of every school organization, it is a process that links the individual, the group and the organization. Communication mediates inputs to the organization from the environment and outputs from the organization to the environment. Furthermore they are of view that managers of today's school organization has a multifaceted job which include setting objectives, organizing task, motivating employees, reviewing results, and making decisions.

School administrators plan, organized, staff, direct, coordinate, and review. Task cannot be accomplished, objectives cannot be met and decisions cannot be implemented without adequate communication. The finding also agreed with Yusuf (2005) who maintained that modern organizations ability to achieve results in decision making and effectiveness of contemporary managers is no longer dependent on just the quality of the manager but more

importantly is the function of the quality of information and communication channels feeding and transmitting their actions.

The fourth finding revealed that the use of ICT has significant influence on administrators' access in secondary schools. The result agrees with Selwood, Fung and O'Mahony (2003) who echoed that principals who become more comfortable with the competence in using ICT are likely to develop school-wide instructional and management responses to technology. Based on this submission, it is assumed that by being ICT literate and having access to and control of the new technologies, secondary school principals can influence school operations by encouraging ICT integration. The finding also agreed with Bober (2001) who maintained that ICT literacy is necessary for leadership that can enhance school performance. Today's principals are expected to be familiar with ICT to be able to cope with emerging technological changes because successful change flows from learning, growth and development.

The fifth finding of the study revealed that the use of ICT has significant influence on financial management in secondary schools. The result agrees with Nongo (2005) who asserted that financial management of any organization is concerned with the effective acquisition, allocation, recording and utilization of funds to achieve organization's objectives. The finance function gives life to other activities of the organization. Nongo further explained that money must be mobilized and utilized before production will be embarked upon. The finding also agreed with John (2009) who opined that computers, photocopying machines operating within the school premises can be made to pay monthly fees charged by the school authority, also students and staff should be charged for browsing and such fees can increase the revenue base of schools. Computerized accounting and auditing of school will enhance independent examination

of financial records in order to form an opinion on the integrity of the system control and recommend improvement to limit risk.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter deals with the summary, conclusion, recommendations, limitations and suggestions for further studies.

5.1 Summary

The study investigated information and communication technology (ICT) in the management of secondary schools in Keffi Local Government Area of Nasarawa State. Specifically, the study examined the influence of information and communication technology (ICT) on record keeping, decision making, effective communication, administrator's access and financial management in secondary schools. Five research questions and five hypotheses guided the study. The review of related literature was done under conceptual framework, empirical studies and summary. The descriptive survey design was adopted for the study. From the population of 1293 teachers, 400 teachers representing 31% of the total population were sampled from 15 secondary schools representing 15% of the total schools using the simple random sampling technique. The instrument for data collection was a self-structured questionnaire titled, influence of information and communication technology and school management questionnaire (ICTSSMQ). Data were analyzed using the descriptive statistics of mean and standard deviations to answer the research questions. Chi-square (χ^2) test of goodness-of-fit was used to test the hypotheses at 0.05 level of significance.

The findings of the study showed that:

1. The use of information and communication technology (ICT) has significant influence on record keeping in the management of secondary schools in Keffi Local Government Area of Nasarawa State.
2. The use of information and communication technology has significant influence on decision making in secondary schools.
3. The use of ICT has significant influence on effective communication in secondary schools.
4. The use of ICT has significant influence on administrators' access to ICT in the management of secondary schools.
5. The use of ICT has significant influence on financial management in secondary schools.

5.2 Conclusion

Based on the findings, it has been concluded that the use of ICT has significant influence on record keeping, decision making, effective communication, administrators' access to ICT and financial management in the management of secondary schools in Keffi Local Government Area of Nasarawa State.

5.3 Recommendations

Based on the findings of the study, the following recommendations were made:

1. Principals of secondary schools should be provided with modern information and communication gadgets to enable them to keep proper records of school activities.

2. Principals and teachers in secondary schools should be trained on modern information management techniques for better decision making processes.
3. The government and other providers of education should ensure that teachers in secondary schools are ICT compliant for easy information management.
4. Secondary schools should be provided with internet facilities to enable their principals access the information as fast as possible for efficiency and effectiveness..
5. Modern financial management facilities should be provided for secondary schools by the Ministry of Education.

5.4 Limitations of the Study

This research was however, not without constraints. Some of the constraints the researcher faced include the following; uncooperative attitude of some of the respondents, coverage and transportation. These constraints have limited the scope of the study to the number of the sampled schools visited by the researcher.

5.5 Suggestions for Further Studies

The following suggestions were made for further studies;

1. Influence of the use of ICT on the management of secondary schools in Nasarawa State.
2. Information and communication technology and principals' effectiveness in secondary schools in Nasarawa State.
3. This study should be replicated in other zones in Nasarawa State for better generalization.

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