

**Practices and Challenges of Education Management Information
Systems in Wereda Education Office of Kaffa Zone**



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Systems in Wereda Education Office of Kaffa Zone**

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**October, 2021
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Approval page

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Declaration

Here I undersigned and declare that the thesis report entitled “Practices and Challenges of Education Management Information Systems in Wereda Education Office of Kaffa Zone” is my original work and has not been presented for MA degree in other university.

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Date of submission _____

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Abstract

The main objective of this study was to examine the practices and challenges of using EMIS in school management in Wereda education office of Kafa zone. In order to achieve this objective, the study attempts to answer the following basic research questions. This research used descriptive survey design. 90 participants were filled questionnaires. The calculated mean value was 3.73. Educational indicators manual availability, 60% of the respondents were agreed and 4.4% of the respondents were strongly agreed that educational indicators manual is available. The gained mean value was 3.50. EMIS is sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders and decisions makers to perform their responsibilities accurately and efficiently, 35.6% of the respondents were strongly disagreed and 37.8% of the respondents were disagreed. Poor ICT infrastructure, 53.3% of the respondents replied poor ICT infrastructure seriously. The calculated mean value was 3.66 and it is greater than the expected mean 3. Based on findings of the study the researcher forwarded the following recommendations: Government and MOF should provide incentive and continue training for EMIS experts on basic computer, educational indicators, on education statistics software and other related topics. Kafa zone education department and offices in collaboration with the relevant stakeholders should design education information policy, motivate EMIS personnel based on their performance, improve data integration School net program and decentralized EMIS soft ware up to schools level ,Established data auditing system and create awareness through relevant training programs to overcome the problem that were identified by respondents.

Table of Contents

Contents	Pages
Acknowledgements.....	i
Abstract.....	ii
Abbreviation and Acronyms.....	vi
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2. Statement of the Problem.....	5
1.3 Research Question.....	7
1.4. Objective of the Research.....	7
1.4.1 General Objective.....	7
1.4.2. Specific Objectives.....	7
1.5. Significant of the Study.....	7
1.6. Delimitation of the Study.....	8
1.7. Operational Definitions of Key Terms.....	8
1.8 Limitation of the study.....	9
1.9 Organization of the Paper.....	9
CHAPTER TWO.....	10
REVIEW OF RELATED LITERATURE.....	10
2.1. Introduction.....	10
2.2 Management Information System (MIS).....	10
2.3 The Concept of EMIS.....	10
2.4 Objective and Function of EMIS.....	12
2.5 The Concept of Information.....	13
2.6 The information management.....	14
2.7 The School Management.....	15
2.8 The Over View of EMIS System in Ethiopia.....	17
2.9 The Process of EMIS.....	18
2.10 Importance of Education Management Information Systems.....	19
2.11.EMIS for Educational Planning and Management.....	20
2.12 Education Management Information System Infrastructure.....	22
2.13.Problems of Utilizing EMIS.....	23

2.14 Summary of Review of Literature.....	26
2.15 Conceptual Frame Work	27
CHAPTER THREE	29
THE RESEARCH DESIGN AND METHODOLOGY	29
3.1 Research Design.....	29
3.2. The Research Method.....	29
3.3 Data Sources.....	29
3.3.1. Primary Sources of Data.....	30
3.3.2 Secondary sources of Data	30
3.4 Population, Sample Seize and Sampling Techniques	30
3.5. Data Collection Instruments.....	30
3.5.1. Questionnaires	30
3.5.2. Interview	31
3.6 Procedures for Data Collection	31
3.7 Reliability and Validity Checks	32
3.8 Method of Data Analysis	32
3.9 Ethical Considerations.....	33
CHAPTER FOUR.....	34
4.Presentation, Analysis and Interpretation	34
4.1. Demographic Information of the respondents.....	34
4.2 Status of Educational Management Information System.....	35
4.3 Challenge of Educational Management Information System	38
4.4 Customer satisfaction on EMIS service delivery	43
4.5 Possible strategies to enhance the future performance of EMIS.....	43
4.6 Discussion	45
CHAPTER FIVE	48
5. CONCLUSIONS, MAJOR FINDINGS AND RECOMMENDAATIONS	48
5.1 Major findings of the Study	48
5.2 Conclusion.....	49
5.3 Recommendations	50
References.....	51
Appendix A.....	53

Lists of Table

Table 1: Gender of the participants.....	34
Table 2: Status of EMIS.....	35
Table 3: Challenges that affect EMIS	38
Table 4: Customer satisfaction on EMIS service delivery.....	43
Table 5: Possible strategies to enhance the future performance of EMIS	43

Abbreviation and Acronyms

EMIS: -----Education Management Information System

ESDP: -----Educational Sector Development Program

GEQIP: -----General Education Quality Improvement Program

ICT: ----- Information Communication Technology

KETB: -----Keble Education and Training Board

PTSA: ----- Parent Teacher and Student Association

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The scarcity of information may result in unnecessary wastage of resources and failing to meet the formulated objective as per the plan set. In order to process school level data properly and keep themselves up to-date with the changing world, it is must that educational managers, teachers and the whole staff members have the required knowledge and skill in Educational Management Information system. In support to this idea, Ahmed (2007) puts that successful management of today's education systems requires effective policymaking and system monitoring through data and information.

Education is a crucial sector in any nation being a major investment in human capital development. It plays crucial role in long term productivity and growth in both at micro and macro level (King E., 2013). To achieve its goal, it should be quality education that uses quality and relevant input to produce quality output. Among major challenge or contribution quality education management information system is the major one. EMIS is a system for the collection, integration, processing, maintenance and dissemination of data and information to support decision making, policy analysis, monitoring and evaluation of all levels of education system (Jon Herstein 2003).

Information can be used to improve educational quality for administration, management, planning, policy and research by providing data that are used directly to secure or allocate resources, constraining 'bad' decisions, and supporting mechanisms that offset the impact of resources loss. For that reason, using relevant and reliable information is important for making rational decisions, enhancing planning and programming, supporting monitoring and evaluation, and helping policy and strategy reviews within education system (Chapman and Mahlck, 2003).

As we live in the era of technology and information, success in organizing information systems for the development of education depends on the effective use and implementation of Education Management Information Systems (Wako, 2003). Therefore, educators must understand that efficient information management is an important condition for continued social and economic development (Chapman and Dhungana, 2011).

The Educational Management Information System (EMIS) is an information system utilized to systematically collect educational data from schools. According to Cassidy (2005) Educational management information system is defined as: It is a system for the collection, integration, processing, maintenance and dissemination of data and information to support decision making, policy-analysis and formulation, planning, monitoring and management at all levels of an education system.

It is a system of people, technology, models, methods, processes, procedures, rules and regulations that function together to provide education leaders, decision makers and managers at all levels with a comprehensive, integrated set of relevant, reliable, unambiguous, and timely data and information to support them in completion of their responsibilities.

The production of educational data and information is a critical cornerstone on which this information-based decision-making framework is built. Deficiencies or inadequacies in its availability, utility, or quality have far-reaching implications. To this end, countries around the world have invested significant resources in collecting, processing, and managing more and better data through education management information system (Haiyan Hua, 2003).

In the pursuit of quality education for all, a timely, cost effective, and accurate data is increasingly important for evaluating education policy, determining educational planning, and monitoring the progress towards attainment of development goals (UNESCO, 2014). Accordingly, to assure and measure quality education, Education Management Information System (EMIS) is repository for data collection, processing, analysis and reporting of educational information including schools, students, teachers and staff. Thus, EMIS is a sub-system of an education system, whose aim is to collect, store, and process, analyze and disseminate educational information (Carrizo & Sauvageot, 2003).

According to Al Koofi (2007), Educational Management Information System is a system for organizing information base in a systemic way for the management of educational development; responsible for collecting, processing, analyzing, publishing, distributing, rendering data and information services for users of educational information

Collection of data and its conversion to the information, proper storage, and retrieval and effective utilization of information need Management Information System popularly known as (MIS) (Aldarbesti and Saxena, 2014).

It is a very strong tool available for managers for planning, organizing, executing, monitoring, controlling and evaluating their operations efficiently. Availability of educational resources makes all the difference to an organization to compete in the market and excel.

It is not enough only to arrange resources but their timely acquisition, utilization and monitoring is absolutely essential for the success of the organization. The terminology of resource is very comprehensive which can be categorized as human, material, financial, and information resources (Yero, 2002).

An emphasis on quality, equity, performance and development requires significant changes to the functioning of education system, how they are managed, and the kinds of data and information that education leaders and managers need to fulfill their responsibilities. Therefore, monitoring a systems progress against this set of goals and objectives requires access to much more detailed data and information. These data and information need a comprehensive system that can analyze and process the data for decision making purposes (Ellison, R., 2004).

he objectives of an EMIS is not only to collect, store, process, analyze, manage and disseminate information but also to help education policy making by producing relevant and accessible information. The EMIS is being recognized as an indispensable tool and support for the formulation of policies, management and evaluation in the education system (Carrizo et al., 2003).

According to MoE, Education performance data and statistics, gathered through routine monitoring and evaluation, are inputs to planning, decision-making and policy formulation. Ethiopia's Education Management Information System (EMIS) has grown in strength in recent years. Now, EMIS is available at decentralized levels, and with support from the respective ICT directorates and offices, are collecting and processing education performance data which can be used for enhanced service delivery (MoE, 2015).

According to Kumsa, (2003), each subsystem had its own specific objectives and EMIS section was under the Planning & Research subsystem which had the responsibility of conducting annual educational statistical survey, survey and research data archive and analysis and forecasting, modeling and stimulation. With this system, Ethiopia registered successes with regard to the quality and timeliness of the education data which could be used for planning purposes.

EMIS can thus support system-wide efforts to improve the equity, inclusiveness, and quality of education and learning: to prepare learners, create better learning environments, make content more relevant and augment the competencies of teachers, create positive participation in society (Ahmad, S., and Adnan A., 2010).

Approaching EMIS in educational organization has several importance points. EMIS helps provide analysts and decision makers with information to understand how educational inputs are transformed in to educational out puts. It also accesses to quality and timely data helps improve decision making and ensure that limited resource target areas in most needed and where returns will be highest. EMIS enables decision makers to understand how resources are translated in to learning out comes, especially the efficiency and effectiveness of the existing processes. It also allows setting of new policies and revising old ones based on evidence instead of self-perception (Hua and Hersiten, 2003). According to system approach for better education result working paper enabling environment is considered to be the legal framework; organizational structure; and institutionalized processes, human resources, and infrastructural capacity.

A strong technological background (social and technical) is needed to host the data, something which is often lacking bandwidth is not sufficient to distribute the software or sustain use at school level, Training and capacity building at all levels is extensive and resource demanding. Education and training policy of Ethiopian (2005) decided the organization and management of education is to be decentralized. Due to this educational management authority is given for regional educational bureau and woreda educational office which is under implementation in Kaffa zone. Moreover, general education quality improvement program is designed to ensure education quality.

Under general education quality improvement program there are six components. Among these components management and administration improvement program (LAMP) is one of the important components that aim to ensure quality education management. Under this component there are three sub components. Repairing and ongoing maintenance of IT infrastructure at the federal, regional and Wereda levels and several enhancement initiatives that will make EMIS more accessible and relevant at school level. However, the increasing number of school student teacher and staff complicate the management activity to utilize information properly specially at woreda and school level of Kaffa zone.

According to Lasonenetal, (2005) administration faces the challenge of management information system at woreda and zonal level and facilitating school community participation in school governance. This shows how complexity of management is enhancing and enhancing. Despite the apparent importance of utilizing an educational management information system, to my long experience and best knowledge no study has been conduct to assess the practice and challenge of educational management information system and to explore solution for problem. Therefore, the purpose of this study was to assess the practice and challenge of utilizing an educational management information system in Wereda education office of Kaffa zone.

1.2. Statement of the Problem

There are an increasing number of countries which have adopted the EMIS and have already failed (Wako, 2003), maybe because the EMIS structure is insufficient in coping with the fast-growing demands for information (Moses, 2000). As a result, the development of the EMIS as an aid to planning and policy formulation has received considerable attention in literature; however, the introduction of the EMIS has not necessarily led to increased or more effective use of data. Low data quality is a more serious constraint on data use in educational level management and policy formulation.

Mekonnen Kajela (2010) revealed the EMIS problems as, lack of adequate budget allocation, low level of users' awareness, lack of self-initiated learning, personnel shortage, over rating the capacity of EMIS, and need for continuous training are problems that hampered the practice of EMIS. In relation to this, most education planning efforts in developing countries have little impact and do not always guide the fulfillment of their objectives in an efficient way. Some of the reasons often put forward are the absence of a link between the established diagnostic and the defined strategic plans/policies and choices and the inadequacy, indeed in the lack of relevant information for planners and decision makers (Jeilu, 2009).

In similar ways scholars identified Challenges hinder the successiveness of EMIS implementation at different levels of educational organization including schools and the challenges that often underestimated when approaching EMIS in developing countries, which fit well within the concept of design-reality gaps. A strong technological background (social and technical) is needed to host the data, something which is often lacking bandwidth is not sufficient to distribute the software or sustain use at school level, Training and capacity building at all levels is extensive and resource demanding (Bella, N.,2003).

This results in too much effort spent collecting data rather than utilizing it. Information is not being used for active decision-making. Implementation of EMIS in a low resource context (create timely and reliable production of data, integrate towards other departments and create a culture of information use), reflections on data relevancy and the interplay of objectives between organizational levels are absent.

According to Yero, (2002), inadequate funding, in ability to integrate data and data systems, inadequate development of skills in data use at all levels, inability to capture expenditure and budget data in EMIS and inability to develop student-record based EMIS were Challenges of EMIS. Although much information is available within the education system, on issues of educational performance (mainly through EMIS) finances and teachers, ESDP V of the Ethiopia set the priority for the consistency, reliability and systematic analysis of this as well information, its distribution to relevant stakeholders and its use for evidence-based decision making and resource allocation needs to be improved. But according to the researcher the above-mentioned challenges were not only the problems in Education managements.

As the demand for education data is growing at a higher pace than ever before, it is unquestionable that the required education indicators be available at the required information on time. However, there are multiple challenges for example, shortage of skilled man power and technological tools such as computer that stand as a bottle neck in the process of securing the required information in Woreda education offices of Kaffa zone. In addition to above reasons, as the researcher's long experiences, the researcher have seen poor EMIS facilities, dissatisfaction by school principals, teachers and stakeholders, which would result in the delay of effective education data. Similarly, the researcher has seen poor planning, slow decision making, poor skills in using information technology among stake holders toward in education management delaying of information exchange are challenges in school management system (Kaffa zone Education Department Report, 2021).

Besides, the present EMIS does not have the required performance status due to poor implementation and lack of complete infrastructures. Fully accommodating information needs of the management and other stakeholders is not well performed. And Kaffa zone education office cannot be free from these problems. It is therefore, the aim of this study will be to investigate the issue at hand. This study will assist towards addressing the existing gap.

1.3 Research Question

1. To what extent EMIS is practiced to generate quality of information in Wereda education office of Kaffa zone
2. What are the challenges that hinder the utilization of EMIS in Wereda education office of Kaffa zone?
3. What are the strategies used by education department to limit challenges that hinder utilization of EMIS?

1.4. Objective of the Research

1.4.1 General Objective

The main objective of this study was to examine the practices and challenges of using EMIS in school management in Wereda education office of Kafa zone.

1.4.2. Specific Objectives

- To define the extent to which EMIS is practiced to generate quality of information in Wereda education office of Kaffa zone
- To identify the challenges that hinder the utilization of EMIS in Wereda education office of Kaffa zone
- To assess the strategies used by education department to limit challenges that hinder utilization of EMIS?

1.5. Significant of the Study

This study will bring some significances regard to the practices and challenges of using EMIS. Moreover, its findings will have some clear picture on the practices and challenges of education management information system of woreda education office of Kaffa zone.

The study will also help concerned bodies at zone and woreda level to understanding the practice and challenge of education management information system and then may take appropriate measure to improve practice and challenge of education management information system in the sector.

The principals may use findings for appraisal in the use of EMIS and assist in planning for training. The study may additionally contribute knowledge to the field of educational management with regard to the use of EMIS and also provide data for further research in related fields.

1.6. Delimitation of the Study

This study was geographical delimited to Kaffa zone, Southern Ethiopia. Again, this study was subjected to examine the practices and challenges of using EMIS in school management in Wereda education office of Kaffa zone. Because of the researcher's nearest to the study area, this researcher is only subjected to education sectors in Kaffa zone. Additionally, objective of this study is to examine the practices and challenges of using EMIS in s education sector of Kafa zone in three woredas, Bonga, Shishinda and Wacha town administrations and other Selected Weredas.

1.7. Operational Definitions of Key Terms

EMIS: is an "organized group of information" or a unit that collects, stores, integrates, processes, organizes, analyses, manages and distributes information for educational planning and management (Connal, 2005).

Education: is a key sector in any nation being a major investment in human capital development. It needs effective follow of information to advance the progress.

Information and Communication Technology (ICT): Refers to technologies that are used for accessing, gathering, manipulating and presenting or communicating information of data about student attendance achievement progress, education efficiency and performance (Manas, R., 2007).

Information: is associated with data. The difference is that information resolves uncertainty. It is transmitted in time via data storage, space and via communication.

Information management: is an organization wide capability of creating and maintaining, immediately available the right information about student attendance achievement progress, education efficiency and performance (Lange Mo, 1980).

Management: is the activity of setting the strategy of an organization and coordinating the efforts of the employees in the organization or sector (Gev, 2011)

School management team: Refers to the principal, deputy principal, heads of Department and the Board of Management who are responsible for among other duties, supervision and implementation of curriculum, human resource and finance (Barta, M., 2011).

1.8 Limitation of the study

This study has some shortcomings such as unwillingness of the respondents were asked interview, the researcher planned to use audio records to avoid data omission, but he was forced to leave audio record for during interview. The study was limited in studying different Wereda education office in KaffaZone. The sampling technique exposed for bias and make difficulty for generalization, shortage of time and bureaucracy among the respondents.

1.9 Organization of the Paper

This study has five different chapters with different contents in the same context. Chapter one provides a general background of the study, statements of the problem, and objectives of the study, research questions and scope of the study. Chapter two can reviews previous works of literature done by different scholars on area concerned. It explains the practices and challenges of using EMIS in school management and other things related to objectives and research questions of the study. Chapter three presents the setting of the study and the strategies used in the study by explaining the methodology, techniques of data collection and procedures employed in the study. Next to the above three chapters, chapter four comprise data presentation and analysis and the last chapter after the completion of data analysis hold major findings of the study, conclusion and recommendation.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Introduction

This chapter reviews the related literature under the following titles: Management of schools; the concept of Education Management Information System (EMIS); the process of educational management information system (EMIS); challenges to effective use of EMIS in school management.

2.2 Management Information System (MIS)

Management information system encompasses the information-providing systems at all levels of the organization; however, it must be stressed that is a collection systems rather than one total system (MekonnenKajela, 2010). The word “integrating” in the definition implies some degree of integration of the multiple information systems involved.

This conception of an MIS, though broader than that of fully justified because the information systems of all the organizations functions are increasingly tied together in super a system of quasi-independent information systems, so that no one information system can be viewed as entirely separated from the others(Moses, K., 2001).

Information is an additional "knowledge" users employ to enhance planning, programming, monitoring, evaluation, review, research for overall management and decision making of educational development. System is working together to form a relationship and vision of the whole. Each component contributes to the proper functioning of the system. We may have a good data collection procedure, good data processing, and analysis in place, but if the result is never put to use in educational development, the system fails to work properly. Integrated use of these three components enables clarity in understanding the issues involved. Impact of each component on other seemingly independent inputs but interconnected with each other. According to Waweru (2016) MIS is an integrated technique for gathering relevant information from whatever source it originates and transferring it in to useable form for the decision-makers in management.

2.3 The Concept of EMIS

The acronym EMIS stands for 'Education Management Information System'. It is a system designed to systematically organize information related to the management of educational development. EMIS's center is at the Ministry of Education (MoE), where it is responsible for

the collection, processing, analyzing, publication, distribution, and rendering of information services for users of educational information. In the words of Landero, O. (2018), 'EMIS refers to a System for Processing Information for the Management of education resources and services'. Within the MoE, EMIS is responsible for the promotion and use of information for policy planning and implementation, decision-making, and the monitoring and evaluation of an education system.

As we live in the age of information, the success in organizing information systems for the development of education lies in the use of information for development. Not using accurate and timely educational information for monitoring development activities results in retarded development. EMIS also substantially aids efforts made to assess the performance of an education system. It also closely monitors the equitable distribution of resources, and plays an active role in providing information to top management about the deployment of teachers, student performance assessment, and internal efficiency of the education system, resource allocation, and the distribution of didactic materials to schools.

An EMIS is an organized group of information and documentation services that collects, stores processes analyzes and disseminates information for educational planning and management (Herstein, 2003). It is a collection of component parts that include inputs processes outputs and feedbacks that are integrated to achieve a specific objective. It is a system for managing a large body of data and information that can be readily retrieved, processed, analyzed, and made available for use and dissemination (Davis. G., 20150).

According to Hua and Herstein (2003), EMIS is a set of formalized and integrated operational processes, procedures, and cooperative agreements by which data and information about schools and schooling, such as facilities, teachers, students, learning activities, and evaluative outputs, are regularly shared, integrated, analyzed, and disseminated for educational decision use at each level of the educational hierarchy.

An EMIS is an institutional service unit producing, managing, and disseminating educational data and information, usually within a national Ministry or Department of Education (UNESCO, 2010). As to UNESCO, the management functions of EMIS include collecting, storing, integrating, processing, organizing, outputting, and marketing educational data and statistics in a timely and reliable fashion.

Managing information through informed decision making requires the availability of accurate and timely information, which links together resource input to education, teaching and learning. An educational Management Information System is therefore, the basis of management, planning and evaluation of an education system (Ashenafi, 2013). Hence, it is demand responsive, which means that it serves the needs of the consumers or the users of information.

EMIS is also responsible for continuously developing, through training and work, the capacity of its own EMIS staff as well as other staff in the MOE in order to generate a sustainable and self-sufficient center for the provision, development, and maintenance of an educational information system. Moreover, central EMIS is expected to provide special assistance to EMIS personnel at provinces, districts, and schools. Being the major source of educational information, schools need more input regarding training, the improvement of the records management system, and awareness of the use of such information for planning and decision-making purposes (Hua, 2005).

Experience has shown that the best approach to achieving this is having in place an organized programmer for the training of trainers. Using this approach, central EMIS will train the provincial staff trainers, who will in turn train their own staff as well as those at district level.

At district level, staff is to create close contact with schools and provide constant feedback and training. They must also relay information, guidelines, and reports between central EMIS and schools, and in both directions. For example, they must ensure that schools have received the necessary instruments of data collection, have filled them in correctly and sent them back to the district office. Data processing is done at provincial level in a decentralized system.

2.4 Objective and Function of EMIS

The objectives of an EMIS are: to improve the capacity for data processing, storage, analysis and providing education planners with timely data; to facilitate the use of relevant information in decision making by planners at all levels; to eliminate duplication of information for decision making and to provide information for policy dialogue (Scott, M, 2015).

The main objective of an EMIS is to integrate information related to management of educational activities, and to make it available in comprehensive ways to varieties of users. Education Management Information System (EMIS) plays an important role in developing appropriate plans, strategies and policies for improving the education system. Data after processing is transformed into information and information is the base for decision making

process. The most direct operational application of EMIS is to support ongoing management, planning and monitoring and evaluation activities of education system. Therefore, the aim of EMIS is to promote the development and operation of education and training management information systems for accountability, planning and monitoring to achieve quality and effective service delivery in the national education system (Olson, H., 2015).

2.5 The Concept of Information

The concept of information in an organizational sense is more complex and difficult than the frequent use of this common word would suggest. Every society, no doubt, is an information society and every organization is an information organization. Information can be considered either as an abstract concept (ideas) or as a commodity, usually in the form of letters and reports.

Essentially, therefore, information has become a critical resource, just like energy, both of which are vital to the wellbeing of individuals and organizations in the modern world. Like energy and politics, technology is changing the ways in which information is captured, processed, stored, disseminated and used. Information, therefore, like any other resource in an organization, should be properly managed to ensure its cost-effective use. It is an ingredient that is vital to good management and if properly managed, should rank in importance with the organization's personnel, material and financial resources. In an organizational context, it is increasingly being recognized as a resource independent of the technology used in manipulating it. The implication of this realization is the further recognition that information is the cohesive element that holds an organization together (Moses, K. 2001).

Information is an unusual commodity, quite unlike most physical goods or consumer durables. Since it is intangible, it is often hard to enforce custody. For this simple reason, it is often crucial to highlight the significant differences between this resource and others when developing a management framework. Its content can be distinguished either by source (internal or external) or by form (Wako, T. 2003).

Non-numeric can either be structured or unstructured. Internal information is that generated within an organization and generally is of interest and value only to decision makers within that organization. External information can be regarded as that created by others, that is, outside the four walls of the organization, generally by publishers in the form of books or journals, or by Governments, external contacts and the like.

As a concept, information has always connoted different meanings to various information professionals, depending on what side of the information profession they belong. West, A. (2003) rightly observes that “the data processing manager might conceive it in terms of data, the records manager in terms of records and reports, the librarian or information scientist in terms of documents or other materials”.

There are three major information worlds which have traditionally been divided and separated. The first is the literature world of libraries and archives, where information has been put into recorded form. The second is the document world of information centers and record centers, where information has been collected and organized but perhaps not seriously evaluated in the same sense as in the literature world. The third information world is the data world of computers, telecommunications and automated information systems where the information is often numerical or structured (Wright, C., 2000).

2.6 The information management

Information management has been defined as the organization-wide capability of creating, immediately available the right information, in the right place, at the right time, in hands of the right people, at the lowest cost, in the best media, for use in decision making (Scott, 2006). Information management is an economic, efficient and effective co-ordination of the production, control, storage and retrieval and dissemination of information from external and internal sources, in order to improve the performance of the organization (Bodo, S., 2006).

The rapid evolution of computer technology is expanding man’s desire to obtain computer assistance in solving more and more complex problems: problems which were considered solely in the domain of man’s intuitive and judgmental processes, particularly in organizations, a few years ago. Information systems are becoming of ever greater interest in progressive and dynamic organizations (BennetK. 2016). Management information and information systems, in particular those related to effective decision-making processes in an organization, that means MIS, are regarded as valuable organizational resources.

Simply put, an information system is a system for accepting data/information as a raw material and through one or more transmutation processes, generating information as a product. Academics interested in information works and information practitioners alike have defined information systems in various ways but with basic ideas of people, information technology and procedures which enable the facilitation of the generation, use and transfer of information. Although information systems are considered to belong to an applied discipline,

there is need for an understanding of their underlying basic concepts by information practitioners. Information systems is considered to be adequate: a collection of people, procedures, a base of data and (sometimes) hardware and software that collects, processes, stores and communicates data for transaction processing at operational level and information to support Management decision making (Manas, R., 2007).

2.7 The School Management

According to Mekonnen Kajela (2010) management is defined as an effort made to coordinate the exertion of human and material input in order to achieve the set objectives. It is an art of coordinating the knowledge and skills of people involved in EMIS activities in order to accomplish planned objectives and visions. To do this, we consider all our activities, the procedures involved, the professionals carrying them out, and the relationships within and with other stakeholders.

Makewa, Meremo and Role (2013) in their study found out that the management of schools is characterized by challenges in the area of finance, teacher absenteeism and lateness, maintenance of student records, communication with parents and students which has been worsened by the a steep rise in the number of students with no corresponding increase in teachers. The use of EMIS in management is therefore expected to enhance the management practices

Bruniges (2003) also asserted that the purpose using EMIS to improving and increase quality accessibility and cost efficiency of the delivery of education. The justification of using EMIS is further affirmed by J.HURREE (2005) who argues that apart from classroom instruction, teachers are also involved class administration duties such as student record keeping lesson, plane preparation, preparing hand out paper making and performing some analysis which can be efficiently done using EMIS module.

Given the complex of school management Telem, M. and Avidov, O. (2014) contended that an EMIS could be used to do the following ; assist school administration in the efficient management of official function enhancing the supervision of progress improving of school resource management promotion of communication between school unit parent and school administration and in so doing cultivating responsibility on the part of school management enhancing transparence in administrative action as well as the interlinking of school network.

Davis., G., (2015) and Ellison, R. (2004) affirm that EMIS can help school management to work more efficient by for example improving raking learning out corners behavior's, curriculum. and others pedagogical data in addition to providing on demanded updated data at different level, individual student class, subjects or the entire school and by strength communications among staff, student and parent.

Davis. G., (2015) further point out those schools can communicate with students and parents via e-mail and social networks platforms such as Facebook, Twitter and what's App. The internet can be used for faster and cheaper approach in operating administration and management of daily tasks such as information processing, transferring, storing and retrieval.

Enache, M. and Supanc, P. (2001) argues that for the 21st century school manager to be effective in the discharge of his duties he must possess technical, human and conceptual skills including the use of new technology to deal with emerging managerial challenges. Such a manager would therefore be able to use the skills so gained to easily integrate technology in the management process. According to Kenya educational management system, school managers are now being encouraged to acquire ICT skills to enable them conduct duties such as registering students for national examinations online students among other managerial duties.

According to Crouch, L., (2001) evidence at school level also point to the introduction management information system not only allows new practice to be more efficient, but also allow new practice to be established. The study by price water use Cooper (2004) which investigate the use if ICT to adders teachers load found that through ICT does help to adders work load for some teachers, in the other cause ICT increase their workload with some task take it was longer to complete. However established that could be result of confidence in the use technology.

Technology is often the most noticeable aspect of EMIS, but it is only a part of the education information solution. Increasingly, laptops are replacing desktop computers (more rugged, just as powerful using less power, consolidated into one piece, and often more reliable). Only some of these technologies have been available over the last six years hence their full application has not yet been tested. Cell phones have gotten much more powerful capable of transmitting data via SMS or GPRS in useable formats for "urgent" or high-demand

information. Cell phones are already used to “log” school locations and to communicate key information such as “attendance or enrollment data” to district or national offices rapidly.

Bennett, K. (2016) suggest that for effective utilization of ICT by teachers, there is the need for a strong leadership to drive a well- designed technology plans in schools (Bodo, S. (2006) Report on the effect of ICT on teaching in basic schools in United Kingdom also stressed on significance of good leadership. In addition Bodo identified five factors that were essential to be present in schools if ICT was to be utilized properly. These factors were ICT resources, ICT teaching, ICT leadership, general teaching and general school leadership.

2.8 The Over View of EMIS System in Ethiopia

Although there has been statically report before the history of EMIS in Ethiopian may be dated to 1957, the year where a research and statistical department was established in history of Education (MOE, 1998). At the end 1957 the statically work was organized in to department known as central planned and statistical division under the department of programmed plan and research (Kassaw, 2001).

Recently the new system EMIS utilization includes the restricting of the system and its management. In Ethiopia, Educational Management Information System and Information Communications Technology (EMIS-ICT) Directorate is organized in three teams. Those are EMIS Team, ICT Experts Team and ICT Support Team.

Main duties of EMIS and ICT Directorate is to collect and organize, education data, prepare Annual Education Statistics, deliver education related data for decision makers and users, and give technical support on ICT related issues (MoE, 2015).

As has been put by the Ethiopian Ministry of Education (MoE, 2015), during ESDP V, Ethiopia’s EMIS system has continued to grow in strength throughout its operation for the past two sector plans. EMIS offices now exist in all woredas and the annual survey of schools is completed effectively, albeit with some delays, with information aggregated at each level from institution to federal level. As the EMIS system has grown and improved, new functions have been added (MOE, 2005). According to the Ethiopian MOE, School Management Information System (SMIS) will be operated at the school level (and when fully established can replace the annual school survey by linking to EMIS). SMIS will support school leaders to collect, record, and analyses school performance data. SMIS will focus on school-level performance data, related to activities to be implemented by school leaders (MOE). School

leaders have started to make use of information systems in the gradually increasing daily management staffs.

2.9 The Process of EMIS

There is a need for Government and the private sector to coordinate data collection activities to minimize duplication and overlap and to maximize the impact of the data collection results. A comprehensive EMIS will assist in this process.

Managing education through informed decision-making requires the availability of accurate and timely information which links together resource inputs to education teaching and learning conditions and processes and appropriate indicators of the knowledge acquired by students. In some countries, the widespread use of information-based decision-making has resulted in more effective and efficient planning and the identification of new information needs (Al Koofi, A., 2007).

In others however failure to supply information that is timely and reliable has contributed to management inefficiencies and are littance on the part of decision-makers to use information. Some Ministers of Education knows that data collection does not function properly and thus they do not trust it. This is also true of other senior decision-makers in education and other ministries (MoE, 20150).

Yes paradoxically, school principals and other education managers sometimes suffer from too much information this is not useable or timely. For example, valuable findings from an annual school census may not be fully exploited because of the large quantity of data collected. Also, the data may be collected tabulated and disseminated in a form difficult to interpret and use especially for people with limited understanding of statistics (Assela, M., 2012).

There is a need for well-organized data presentation and data interpretation standards to provide managers with useful and relevant information. Ideally the design and establishment of an EMIS should be preceded by appropriate policy development legislation and relevant administrative decisions. Government commitment is of major importance in the first instance by the Ministry of Education. This ideal prerequisite situation is particularly necessary where the EMIS is to be established by unifying and expanding existing information structures and services. In some countries, these services already undertake independent ongoing information activities for which they have sole responsibility (MoE, 2015). Hence a set of well-coordinated and clearly defined legislative and Administrative

measures would be the first requirement in order to bring these services together under the same EMIS.

This is even necessary today as, in most countries; the formal education system includes EMIS with quality of education, which often operates at both national and sub-national levels. It often handles information, some of which is also relevant to the responsibilities of the central government, for example, for curriculum development or teacher training certification. A well-planned and designed EMIS will facilitate the undertaking of sequential activities relative to the development of a functional EMIS (Plan for-action, 2013-2015)\

2.10 Importance of Education Management Information Systems

Education Management Information Systems provides management and other personnel within an organization with up-to-date information regarding the organizations performance. It is usually linked to computer network, which is created by joining different computers together in order to share data. It is designed to capture, transmit, store, retrieve, manipulate, and or display information used in one or more processes (Bennetc.K., 2016).

Management Information Systems performs three main functions. One, to generate reports such as, financial statements, inventory status reports or performance reports for routine and non-routine purposes, two, to answer what if questions from management and to support decision making by integrating the decision maker, the data base and the quantities model being used (Crouch, L., Enache, M, 2001).

Contribution of information systems to schools include among others; support to the school manager and other staff in doing their duties, developing their performances, effectiveness and efficiencies by saving time (Bodo, S. (2006)).

Information supports strategic planning for education and acts as a diagnostic tool to assess the existing capacity and characteristics of the education system. These assist in identifying and setting priorities for future development and areas that need greater resource allocation (Supanc, P., 2001). EMIS is an early warning and learning system for Education leaders that provides a framework for Education Policy and Planning. It provides the basis for monitoring and evaluation, policy development, planning and budgeting. It facilitates the identification of particularly well performing units, so that good practice can be transferred to the poorly performing for intervention (Cassidy, 2006).

Statistical information especially in the poor countries of the African region is important for the optimal allocation of scarce resource. However, in most of these countries the capacity for providing requisite information is low, limiting the ability of decision makers less ability to make informed decisions. This is a major obstacle to effective planning and management of education in Africa. In twenty-one African countries available statistics revealed serious information gaps in terms of coverage, reliability, and timeliness in pupil enrollment, teachers, facilities, teaching and learning materials and finance among others (UNESCO, 2006).

A distinguishing feature of the EMIS is its emphasis on the flow of information within the MOE because information is the common link binding the MOE and schools. As the MOE grows in size and complexity, the need for efficient information and for improved decision-making techniques becomes critical. Recent advances in computer and communications technology mean it is practical to integrate planning and control with data and information. Moreover, there is evidence that the EMIS can potentially provide a powerful management tool capable of contributing to the improvement of educational performance (Davis. G., 2014).

It enables decision makers to identify problem areas, reduce operational costs and provides a systematic way of addressing educational challenges. If effectively implemented, the EMIS is capable of raising educational awareness, motivating employees to search for innovative solutions and increasing educational efficiency (Gunningham, 2007).

Furthermore, the EMIS makes efforts to assess the performance of the MOE system. It monitors the distribution of resources, and plays an active role in providing information to the decision makers (Wako, 2003).

In addition, another major function of the EMIS, other than collecting, storing and processing information, is to facilitate detailed analysis and synthesis of data in order to draw upon the most relevant information to help in educational planning and policy decision-making (Assela, M., 2012).

2.11. EMIS for Educational Planning and Management

Educational Planning, like all planning branches can be described as a process of preparing a set of decisions about the educational system in such a way that goals and purposes of education will be sufficiently realized in future with the available resources. The focus of educational planning is the application of rational and systematic analysis of the education

production function with a view to suggesting what actions or measures would make the production education more efficient and effective. This is based on the nature of goals of the society and the students (Crouch, L., 2005).

The need to gather data, to undertake sector research and thematic studies, to assess and evaluate the efficiency of current programs, to explore the future in order to facilitate a wider debate on these issues is more than ever a determining factor in guiding decision-making and elaborating education policies. The preparation of an education plan is an exercise, which requires not only specific skills, but also the availability of reliable and relevant information, which reflects the exact situation of education in the country. To analyze the situation or set up a diagnostic is a necessary and fundamental step in the planning process. In fact, how could one define objectives; formulate policies and strategies without knowing the present and past situations? In other words, for a plan to be effective, it should be based on a detailed and critical analysis of the situation, identifying the problems and causes, on which new policies and programs to be implemented are supposed to act (Gloom. K, 2002).

Consequently, the choice in matters of education policy and planning should imperatively be made in the light of a solid information system which makes precise, relevant, reliable and updated information available to education managers and planners, and more conclusively for decision makers. Because of a weak IS, most education planning efforts still have little impact and do not always guide the fulfillment of their objectives in an efficient way (Enache, M., 2007).

One of the reasons often put forward is the absence of a link between the established diagnostic and the defined strategic policies and choices. But more frequently the explanation could be found in the inadequacy, indeed in the lack of relevant data and information on which decision-makers can base their policies. In fact, if statistics, documentation or information services exist in almost all education ministries with a quasi-systematic collection of school statistical data, the decision makers often have to content themselves with fragmented and obsolete data (Assela, M., 2012).

Moreover, with some exceptions, the education data are not published except in the form of bulky reports with raw data and incomprehensible statistical tables which lack qualitative analysis. A large portion of collected information remains untapped. For example, when the information system includes, other than the education data, contextual information coming

from other sources, these data are rarely used because of the lack of analytical and research capacities. So, how can one formulate targeted and efficient actions and appropriately satisfy educational needs without any knowledge and understanding of the problems and their causes? Therefore, other than the collection of information, its storage, and processing, one other major function of EMIS is to facilitate the detailed analysis and synthesis of data in order to draw the most salient and relevant information to help in educational planning and policy decision-making (Scott, M and Olson, H., 2015).

2.12 Education Management Information System Infrastructure

To support Education Management Information System, Computers are a basic requirement. Computer consists of hardware and Software. The hardware refers to the parts that one can touch, hold and move. These include the monitor, keyboard, mouse and peripheral devices such as printers, disc drivers and scanners. A computer is useless unless it is given instructions that come in form of software. Software is the program that instructs a computer to process data and how the program should be used.

There are three main types of computer software utilized by administrators. These are; word processing and communication, data base management and spread sheet systems. (Bennet, 2016) in addition, he noted that the ability to connect computers through networks provides a data sharing platform between principals and teachers.

Networking allows for an elaborate system of technology such as using email instead of mail box. Email is enabled by the Internet which is an information gathering tool utilizing the world wide web using search engines and http address Electronic mail or e-mail refers to the procedure of sending messages from one person to another using internet facilities. A personal computer can be connected to the network through internet to send and receive messages and other bulk mail electronically. Network infrastructure connects the access devices in school to the required tools, services and digital resources. It comprises of; internal computers and associate computer storage devices, environmental management equipment, operating software for server computers and related hardware (Hue and Herstein, J., 2003).

Hue (2003) stated that lack of adequate electricity was a barrier to the operation of EMIS in Nigeria. Most states had Generators but usage was limited because fuel was not always available. Most countries of the Caribbean have technical issues on EMIS that are based on what infrastructure is available. The issues include available power, computer soft and ware and their maintenance, security of equipment and air conditioning facilities in areas of high temperatures and humidity (Cassidy, 2006).

A large-scale study in Kenya by school Net in which 69 secondary schools responded found that only 46 percent of the sampled schools had computers, with availability of Internet and facsimile rare in these schools. The findings also indicated that email was yet to be recognized as a tool for collaboration among students and teachers. Only one school had a website while another two reported having networked all their computers to the Internet. It went on to affirm that in these schools, access to the Internet was severely limited and that only a third of schools studied had dedicated computer laboratories. The study also found that some schools were making use of very old equipment and there was dependency on donations of computers as opposed to sourcing locally (Carrizo, L., 2006) in a case study on internet utilization in secondary schools in Kenya, found out that schools with access to the Internet for more than 40 hours in a month were 82 while another 18 reported less than 20 hours in a month of Internet access and this was attributed to non-networked computers in the school laboratories.

They identified some problems lack of electricity connection from the mains power supply as a major challenge to ICT use in school administration in Western Kenya. This forces schools resort to the use of generators for the provision of electricity needed to power computers. This power is mainly used at night and therefore, few administrators are able to use it.

Nowadays all mobile operators provide a 3G mobile internet which in theory can give an opportunity of the Internet access in the whole region which is under the mobile coverage. But even in the developed south and center parts of the country there are a great number of villages without electricity where it is completely impossible to use personal computers.

2.13.Problems of Utilizing EMIS

According to Waweru (2016), the establishment of a functional EMIS is affected by a number of problems. Both human and non-human resources are inadequate to meet the requirements; no clear-cut policy to be observed in the collection, submission, processing and utilization of data; lack of understanding and appreciation by the concerned education

officials and staff in the use and application of EMIS; data are not clearly defined and not regularly collected.

Data can both be analyzed and stored manually (using physical files) or using a computer (Mugo, 2014). The proliferation of a large amount of data in schools makes data management less possible in the traditional manner and requires the use of modern data management systems to easily interact with data (Schildkamp, et al., 2013). As to Schildkamp, most education systems require schools to record information on paper, the failure of many systems to enter that information in computer, to analyze that information or to share results with school leadership has reinforced poor reporting practices at many levels.

As to Mekonnen (2010 cited in Ashenafi 2013), a lot of money, time and other resources have been invested in efforts to improve data quality, to computerize many administrative and management functions, to build EMIS and encourage more data driven decision making over the past 15 years in Oromia region, Ethiopia. The results of these efforts have been mixed. While there have been some notable successes in computerizing administrative management functions in ministries throughout the region, despite years of efforts and considerable investment development of comprehensive, integrated computer-based EMIS have been slower than anticipated (Ashenafi, 2013).

Different countries face challenges in developing a functional and effective EMIS, such as lack of internet connectivity, lack of human resources, limited technical capacity, financial resource constraints, disparity in allocation of funds, negative attitude towards EMIS, lack of coordination, lack of commitment by those in power, lack of clear policies, high turnover of qualified staff and lack of a standard system for data collection (Kornkaew, 2012).

According to the World Bank (2015), the main challenges to the effective use of data for secondary school were reported to be lack of time, particularly time to update and analyze the data, difficulties in applying data to classroom situations, limitations of data. The data collected/ recorded were too narrow/ academic or did not accommodate individual needs and ICT-related issues.

There are some obstacles that have been identified in the literature that would hinder the effective use of EMIS in school management. Becta (2004) grouped these barriers with respect to whether they relate to the institution (school-level barriers) or the individual

(teacher- barriers Pelgrum (2001) noted that there were not enough training opportunities for teachers in the use of ICTs in a classroom environment.

Sicilia (2005) reiterated the assertion that many teachers feel unprepared to use technology because of lack of skills hence providing teachers with more technical training would serve several purposes; increase their comfort level to fix problems when they occur, learn more about new technology skills and hence increase their ability to change their teaching practices. The lack of training may have a negative impact on management because rather than reduce the workload of users it may increase it as the users may spend a lot of time figuring out how to use a system rather than doing the actual work.

Mokena, Memo, and Role (2013) in their study found out that the management of school is characterized by challenges in the area of finance absenteeism and lateness, and maintenance of student records, communication with parents and students has been worsened by the steep rise in the number of students with no corresponding increase in teachers. In a survey conducted by Becta (2004) it was found that if there is a lack of technical support available in a school, then it is unlikely that preventive technical maintenance would be carried out regularly.

Sicilia (2005) had a similar observation by citing technical problems including waiting for websites to open, failing to connect to the internet, printers not printing and malfunctioning computers. Lack of technical support may make users to lapse to the manual way of carrying out administrative duties thus affect school management negatively because affect productivity would be affected.

Becta (2004) study shows that inaccessibility to ICT resources is not always merely due to non-availability of the hardware and software or other ICT materials within the school but it may be the result of one of a number of factors such as poor organization of resources, poor quality hardware, inappropriate software or lack of personal access for teachers. Lack of accessibility may have a negative impact on management of schools since a lot of time is lost doing work that would have otherwise been done much earlier. This would end up reducing productivity in a school due to the resultant stress levels.

Sicilia (2005) reports in her study that teachers complained about how difficult it was to always have access to computers and other ICT material. This is because the facilities have to be booked in advance meaning that a teacher would have no access to ICT facilities

because most of these were shared with other teachers.

Resistance to change may hamper teamwork in a school which may have a negative impact on the management practices in the school for example when some deadlines have to be met and other members of staff are still stuck in the old of doing things like analyzing students' progress manually instead of using special.

According to Waweru (2016), the establishment of a functional EMIS is affected by a number of problems. Both human and non-human resources are inadequate to meet the requirements; no clear-cut policy to be observed in the collection, submission, processing and utilization of data; lack of understanding and appreciation by the concerned education officials and staff in the use and application of EMIS; data are not clearly defined and not regularly collected (Ibid). Data can both be analyzed and stored manually (using physical files) or using a computer (Mugo, 2014).

The proliferation of a large amount of data in schools makes data management less possible in the traditional manner and requires the use of modern data management systems to easily interact with data (Schildkamp, et al., 2013).

As to Schildkamp, most education systems require schools to record information on paper, the failure of many systems to inter that information in computer, to analyze that information or to share results with school leadership has reinforced poor reporting practices at many levels. Different countries face challenges in developing a functional and effective EMIS, such as lack of internet connectivity, lack of human resources, limited technical capacity, financial resource constraints, disparity in allocation of funds, negative attitude towards EMIS, lack of coordination, lack of commitment by those in power, lack of clear policies, high turnover of qualified staff and lack of a standard system for data collection (Kornkaew, 2012).

2.14 Summary of Review of Literature

EMIS' is a system designed to systematically organize information related to the management of educational development. EMIS's center is at the Ministry of Education (MoE), where it is responsible for the collection, processing, analyzing, publication and distribution of educational information. Information is an unusual commodity, quite unlike most physical goods or consumer durables. Since it is intangible, it is often hard to enforce custody. For this simple reason, it is often crucial to highlight the significant differences between this resource and others when developing a management framework. Its content can be distinguished either by source (internal or external) or by form (Wako, T. 2003).

EMIS can help school management to work more efficient by for example improving raking learning out corners behavior's, curriculum. and others pedagogical data in addition to providing on demanded updated data at different level, individual student class, subjects or the entire school and by strength communications among staff, student and parent (Blave and Presser (2013).

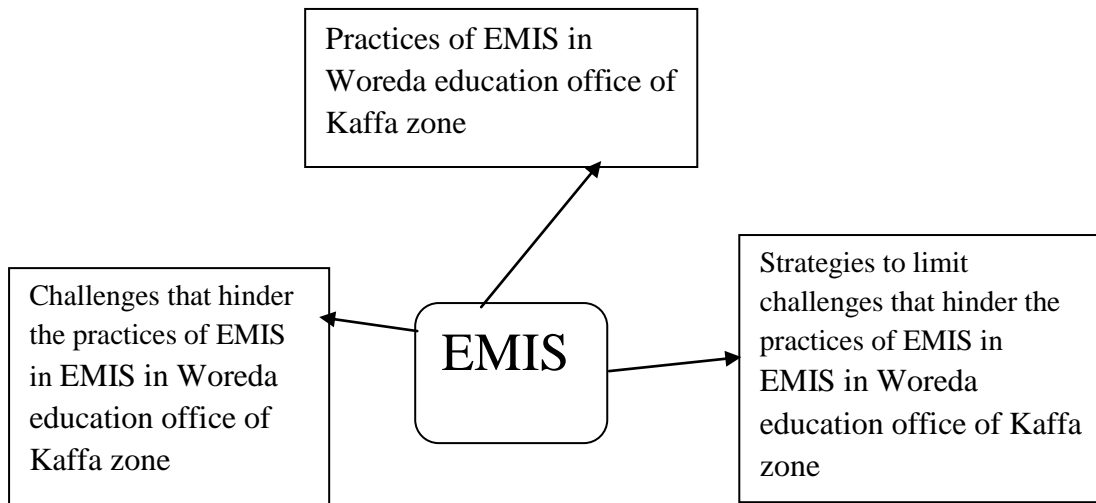
Managing education through informed decision-making requires the availability of accurate and timely information which links together resource inputs to education teaching and learning conditions and processes and appropriate indicators of the knowledge acquired by students. But there are some obstacles that have been identified in the literature that would hinder the effective use of EMIS in school management.

Sicilia (2005) reiterated the assertion that many teachers feel unprepared to use technology because of lack of skills hence providing teachers with more technical training would serve several purposes; increase their comfort level to fix problems when they occur, learn more about new technology skills and hence increase their ability to change their teaching practices. The lack of training may have a negative impact on management because rather than reduce the workload of users it may increase it as the users may spend a lot of time figuring out how to use a system rather than doing the actual work.

Inaccessibility to ICT resources is not always merely due to non-availability of the hardware and software or other ICT materials within the school but it may be the result of one of a number of factors such as poor organization of resources, poor quality hardware, inappropriate software or lack of personal access for teachers (Becta (2004). Lack of accessibility may have a negative impact on management of schools since a lot of time is lost doing work that would have otherwise been done much earlier.

2.15 Conceptual Frame Work

In chapter one, I discussed the experiences of the education system in Woreda education office with different EMIS systems. However, extensive use has never been made of any one system. In this research, my aim is to examine the practices and challenges of using EMIS in school management in Woreda education office of Kafa zone. A number of research questions have emerged from this goal which requires me to study the interactions, actions and engagements of EMIS users at woreda education office.



CHAPTER THREE

THE RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

This research used descriptive survey design. Franken and Wallen (2014) describe the survey method as that which involves asking a large group of people questions about a particular issue, the main aim is to obtain precise decision of the characteristics of the subject under the study and how frequently it happens. According Creswell and Clark (2007), such design enables data to be collected from wide area quite cheaply and produces valid and reliable generalization. Data were collected quantitatively through survey questions and qualitatively through interview and document analysis at the same time. Data was analyzed and interpreted quantitatively by descriptive statistics. The advantage of descriptive survey research method, defined by Cohan (1994) and Grey (2004), are; it generates large amount of data from relatively wide area; it allows high degree of interaction by respondents; it may be adapted to collect generalize able information, it provides relatively simple and straight forward approach to the study of attitude, values and beliefs, it helps to measure particular phenomena at fixed point in time and systematic.

3.2. The Research Method

This student researcher utilized mixed method approach through collecting and analyzing both qualitative and quantitative data because the researcher used both close and open-ended questions to collect data. The researcher used quantitative method through survey questionnaires, while also used semi-structured interviews to substrate the qualitative data. There were some rationales to use mixed method approach for this study. First using such method was important to examine the same phenomenon from multiple perspectives (Cohen et al, 2007). Second, mixed method approach was important to build upon the strength that exists between quantitative and qualitative method in order to understand a given phenomenon that is possible using either quantitative or qualitative methods alone (Creswell, 2003)

3.3 Data Sources

In order to get relevant information for the study, the data was collected from both primary and secondary sources.

3.3.1. Primary Sources of Data

In this study primary data source was obtained from education offices heads in selected woreda education office of Kaffa zone.

3.3.2 Secondary sources of Data

Secondary data sources were annual survey reports of the school, staff record information, student record information, financial reports, student record information and staff and student attendance of selected sample schools in Kaffa zone.

3.4 Population, Sample Seize and Sampling Techniques

The target population of this study was employees in Kaffa zone education sectors in each woredas. The research used 6 woredas education sectors/office employees namely, GeshaWoreda, Gimbo, Decha, Shishoinde, Adiyo and Cheta woredas. In six woreda education office there are 131 employees. Out of 131 employes the researcher sampled 96 participants to conduct questionnaire and interview.

Table 1: The population size under the study area

Name of Weredas in Kafa zone	No of employee	S/size	Sampled	Sampling technique	Total participant
Gesha Woreda	22	22	16wored education professional	Simple random	96
GimboWoreda	21	21	16 W/E/professional	Simple random	
DechaWoreda	22	22	16 W/E/professional	Simple random	
ShishoindeWoreda	19	19	16 W/E/professional	Simple random	
AdiyoWoreda	23	23	16 W/E/professional	Simple random	
ChetaWoreda	24	24	16 W/E/professional	Simple random	

3.5. Data Collection Instruments

3.5.1. Questionnaires

This study uses self-made questionnaires to collect data from Woreda education office professionals and office heads. Because survey questionnaires are most appropriate tool to

gather large data from large number of respondents in short time and low cost. The questionnaires contain two parts: the closed ended items and semi-structured items. The questionnaire was pilot test for reliability in non-sampled woreda. Questionnaire was administrated to 90 participants.

3.5.2. Interview

Interviewee gave the needed information face to face basis at his/her own office. The interview was conducted by the researcher. The researcher uses semi structured interview guide to gather qualitative data from Woreda education EMIS officers. Thus, with the semi-structure interview guides was used to collect deep information on issues related to practices of education management information system. The interview question prepares in English because the respondents are more familiar with the EMIS key in English than other local languages interview is deal with woreda education officers. Interview was conducted with 6 interviewers.

3.6 Procedures for Data Collection

The researcher used a series of data gathering procedures. For the purposes of this research, in depth interviews were used. In depth interviews are personal and unstructured interviews, whose aim is to identify participant's emotions, feelings, and opinions regarding a particular research subject. As far as data collection tools was concerned, the conduction of the research involving the use of semi-structured questionnaire, which used as an interview guide for the researcher? First, the researcher goes to the department of kaffa zone education to inform them of the intent research to be conducted in their area of jurisdiction. The researcher administrated and personally collects the questionnaires after filled. Data from interview was conducted by the officers on agreed days.

Questionnaire was adapted and its reliability was calculated in Crombach alpha in order to check the appropriateness of the instrument in the current research by applying SPSS V20. The reliability indicated .687 and .702 for practices and challenges to utilization of EMIS in woreda education office respectively.

The reliability with Crombach alpha was ranged based on (Hinton et al, 2004). Hinton et al have suggested four cut-off points for reliability, which includes excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70) and low reliability (0.50 and below).

3.7 Reliability and Validity Checks

Pilot test of the instruments was done before launching into the actual investigation. The purpose of the pilot test is, to check whether the responses fulfilled the objectives of the study; to determine the extent to which the questionnaire promote an appropriate relationship with respondents; and to check whether or not the respondents understood the instruments (Yalew,2004). It is possible to conduct pilot test in study area because all woredas education offices were not included in the study expect selected woreda's education offices. Therefore, to conduct pilot test the researcher used one woreda education office from Kaffa zone and conducted questionnaire to 20 education office professionals. To assure the face validity of the instruments, the researcher secured feedbacks from the participants. The content validity of the instruments was confirmed by preparing a sufficient number of questions, which included all objectives of the study. Besides, the return rate of the questionnaire was checked. Finally, the instruments were modified based on the feedback of the pilot test. The reliability indicated .687 and .702 for practices and challenges to utilization of EMIS in woreda education office respectively.

3.8 Method of Data Analysis

In this study quantitative data from survey questionnaire was processed and analyze by employing different statistical tools such as percentage and frequency check the significance of the response differences among varying. The quantitative data was coded and entered using the SPSS software version 20. The researchers also uses descriptive statistics such as frequency, percentage and mean to analyze quantitative data because mean is usually the preferred measure since it takes in to account each individual observation and is most amenable to statistical analysis and measures the dispersion. Descriptive statistics such as and Cronbach's Alpha to analyze quantitative data to determine the extent of use of EMIS by stake holders in education management in education sector.

On the other hand, the qualitative data which gathers from respondents through interviews was summarized by qualitatively describing it using content analyzes approach. The main characteristic of qualitative research is that it is mostly appropriate for small samples, while its outcomes are not measurable and quantifiable. Because it is more appropriate for small samples, it is also risky for the results of qualitative research to be perceived as reflecting the opinions of a wider population (Bell, 2005).Using this method enable the student researcher to organize the data, break them in to manageable units, and then search and come up with them.

3.9 Ethical Considerations

Above all the researcher conducted the study based on professional as well as the basic principles of research. The researcher was not be identified or presents the respondents personal details and response without their consent and agreement. Ethical issues grouped into informed consent procedures, dishonesty, confidentiality towards participants or sponsors and protecting the anonymity and privacy of research participants (Sarantakos, 2005).

Based on the basic principles, the researcher will be proposing a set of ethical and moral procedure and informs the participants just before in-depth interview and filling out the questionnaire. The participants have informed that information obtained from them remain confidential. The researcher will also be conveying the purpose of the study to the proposed respondents as per standard research requirements. The researcher will be avoiding deceptive practices, and respect indigenous cultures as well as discloses sensitive information. The researcher never practice any kind of practices that affect professional research undertakings

CHAPTER FOUR

4. Presentation, Analysis and Interpretation

This chapter presents analysis of data begin with background information of the respondents, status of Educational Management Information System, challenge of Educational Management Information System, customer satisfaction on EMIS service delivery and strategies to enhance the future performance of EMIS.

4.1. Demographic Information of the respondents

This part deals with gender, age level, educational level and work experience.

Table 1: Gender of the participants

Items		Number/frequency	Percentages/%
Gender	Male	73	81
	Female	17	19
	Total	90	100
Educational level	BA degree	52	58
	MA degree	38	42
	Above MA degree	--	--
	Total	90	100
Work experience	5-10 years	53	60
	10-15 years	37	40
	Above 15 years	--	--
	Total	90	100
Age level		Frequency	Percentage
25-30 years		8	9
30-40 years		25	28
Above 40 years		57	63
Total		90	100

As can be seen from the above table 1, out of 90 participants, 81% of the respondents were male and 19% of the respondents were female. This implies that there is a large number male employees than female in Kaffa zone education sectors and the finding reveals that female enrollment is less considered. With regard to educational level, 58% of the respondents were BA degree holders and 42% of the respondents were MA degree holders. This implies that

employees in Kaffa zone education sector were maximum BA degree and minim MA degree holders. Based on their work experience, 60% of the respondents have 5-10 years' work experience and 40% of the respondents have 10-15 years' work experience. With regard to respondents' age group, 9% of the respondents were under the age group of 15-30 years, 28% of the respondents were under the age group of 30-40 years and 63% of the respondents were under the age group above 40 years.

4.2 Status of Educational Management Information System

This chapter presents analysis of data on availability of necessary materials, prevalence and utilization of educational management information system. The data was collected based on five Likert scales such as 5= strongly agree; 4= Agree 3= moderate; 2= Disagree and 1= strongly disagree.

Table 2: Status of EMIS

No	Items	N	Mean	Str. Dev
1	Education office send data without any delay Computers, Fax machine and data backup flash desk available	90	3.53	.531
2	Recalibrated BPR design document available	90	3.67	.471
3	EMIS strategic plan available	90	3.73	.803
4	Educational indicators manual available	90	3.50	.601
5	Annual questionnaire completion guides available?	90	3.52	.593
6	EMIS is available to assess the performance of an education system	90	2.82	.303
7	EMIS is available in planning and implementation, decision-making, and the monitoring and evaluation of an education system.	90	2.84	.301
8	EMIS is success in organizing information systems for the development of education lies in the use of information for development	90	2.93	.284
9	EMIS is sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders	90	2.83	.417

Deals with the status of EMIS; accordingly, 10 items that are aimed at assessing the status of EMIS in the respective sampled woredas were presented to the participants. Item 1 of the table contains the responses of the participants regard of woreda education office in sending

data without any delay computers, fax machine, Office phone, copy machine, printer and data backup flash desk available. The responses of the participants were calculated (mean=3.53, Str. Deviation=.531). The score indicated slightly high value of the responses this implies that woreda education office send data without any delay computers, fax machine, Office phone, copy machine, printer and data backup flash desk available.

In the table, of item 2, concerning with recalibrated BPR design document availability, the responses of the respondents were calculated (mean =3,67, Str. Deviation=.471). The scored value indicates high value. This implies that there is recalibrated BPR design document in the woreda education office.

In line with EMIS strategic plan availability, majority of the respondents were agreed on the availability of strategic plan to use EMIS with (mean=3.73, Str. Deviation =.803). The score is high and which implies that there is availability of strategic plan to use EMIS in the Woreda education office.

Based on educational indicators manual availability, most of the respondents were strongly agreed that educational indicators manual is available. The gained (mean value =3.50, Str. Deviation=.601). As can be seen from data analyzed, the current mean value is greater than the expected mean 3 this indicates that educational indicators manual is available in the educational offices of the study area.

Concerning with software manual use, majority of the respondents were undecided on educational management information system software user manual (Amharic version) available with (mean=2.92, Str. Deviation=.327). This implies that the EMIS software user manual (Amharic version) is available is poorly available

With regard to annual questionnaire completion guides availability, majority of the respondents were agreed on annual questionnaire completion guides availability with (mean score=3.52, Str. Deviation=.593). This reveals that there is presence of annual questionnaire completion guides availability in the Woreda education office.

With regard to EMIS availability to assess the performance of an education system, majority the respondents were undecided on EMIS availability to assess the performance of an education system with (mean sore=2.82, Str. Deviation=.303). This shows that EMIS is not available to assess the performance of an education system or there is inadequate access of EMIS infrastructure to assess the performance of an education system.

Concerning with EMIS available in planning and implementation, decision-making, and the monitoring and evaluation of an education system, the respondents' responses were calculated (mean score=2.84, Str. Deviation=.301). This implies that EMIS is not adequately available in planning and implementation, decision-making, and the monitoring and evaluation of an education system. Concerning EMIS success in organizing information systems for the development of education lies in the use of information for development, most of the respondents were disagreed with (mean score =2.93, Str. Deviation=.284). This shows that EMIS is not success in organizing information systems for the development of education lies in the use of information for development.

In line with EMIS is sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders and decisions makers to perform their responsibilities accurately and efficiently, majority of the respondents were undecided with (mean score=2.83, Str. Deviation=.417). This shows that EMIS is not sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders and decisions makers to perform their responsibilities accurately and efficiently.

The data collected through interview support that:- Establishing education management information system and its structure, and in placing the necessary resources make easy to access education data/information at the required time and places. To have acceptable organizational environment, there must be well established structure, organization and resource in placement in systematic way. This could be realized, if and only if the higher officials/policy makers design the relevant policy, structure and organization. Moreover, assigning the required human and material resource is crucial for productivity of an organization.

Interviewed indicated that they do not have any training regarding to EMIS management. To play managerial role in EMIS positions, managers should have basic knowledge and skills about the management of EMIS by far.

One of the causes for low availability of data/ information at each respective levels of education system was lack of training. With this respect all the EMIS levels interviewee

responded that the situation was serious. Chapman and Mahlck (1993) stated that provision of training and collection of data requiring detailed educational indicators are crucial to improve decentralized education management.

4.3 Challenge of Educational Management Information System

In this part data was collected through 17 close-ended questions and analyzed based on five Likert scale such as 5 = very serious; 4 = Serious; 3 = partially; 2= rarely; 1= Not a problem.

Table 3: Challenges that affect EMIS

No	Items	N	Mean	Str. Deviation
1	Absence of clear information policy	90	3.82	.624
2	Poor ICT infrastructure	90	3.66	.347
3	Unavailability of remuneration packages for EMIS workers	90	3.64	.404
4	Lack of data/information integration	90	3.44	.317
5	Assigning unqualified manpower for EMIS positions	90	3.62	.289
6	Poor coordination	90	3.67	.297
7	Information illiteracy/lack of awareness/	90	3.58	.352
8	Lack of commitment from the information professionals	90	3.49	.313
9	Lack of shared vision for EMIS	90	3.13	.305
10	Lack of a culture of communication and information exchange	90	3.37	.371
11	Delays in bringing data or information upward to higher decision	90	3.70	.283
12	Lack of accountability for inaccuracy, unreliable, irrelevant, incomplete and not valid data transfer	90	3.20	.324
13	Lack of skilled manpower	90	2.23	.174
14	High turnover rate/higher than other sectors' average	90	3.49	.281
15	Low salary/lower than other social sectors/	90	3.56	.541
16	Unavailability of clearly stated policy and procedures	90	3.45	.349
17	Unavailability of clearly designed organizational structure for the EMIS unit.	90	3.36	.418

Table 3, shows the challenges that affect the availability of EMIS in the sampled woreda education office. Accordingly, 17 different items were prepared. Based on data collected and analyzed on challenges/factors that affect EMIS, majority of the respondents agreed with (mean score=3.82, Str. Deviation=.624). This shows slightly high scores which implies that there is absence of clear information policy seriously affect EMIS in the woreda education office.

Deal with poor ICT infrastructure, most of the respondents were replied that poor ICT infrastructure is rarely affect EMIS usage with (mean score=3.66, Str. Deviation=.347), it is greater than the expected mean 3. This shows that poor ICT infrastructure is one of the factors that affect EMIS performance and usage in the educational office of the study area.

With regard to unavailability of remuneration packages for EMIS workers, more than 65% of the respondents agreed that there is unavailability of remuneration packages for EMIS workers very seriously affect EMIS. The responses of respondents were calculated (mean=3.64, Str. Deviation=.404) is greater than the expected mean 3. This indicates that unavailability of remuneration packages for EMIS workers is factors/challenges that affect EMIS performance and usage.

Concerning with lack of data/information integration, most of the respondents were agreed that lack of data/information integration seriously affect EMIS performance with (mean score=3.44, Str. Deviation =.317). The calculated mean value was 3.44 and it is greater than the expected mean 3. This indicates that lack of data/information integration is one of the challenges/factors that affect EMIS usage or performance in the education office of the study area.

Account with unqualified manpower for EMIS positions, majority of the respondents replied that unqualified manpower for EMIS positions very seriously affect EMIS with (mean score=3.62, Str. Deviation =.289). The calculated mean was greater than the expected mean 3. This indicates that lack of skilled manpower is factors that affecting EMIS performance in educational office of the study area.

Looking on poor coordination, the respondents replied that poor coordination is very seriously affecting EMIS usage and performance, their responses were calculated (mean value=3.67, Str. Deviation=.297) it is greater than the expected mean 3. This shows as poor

coordination among stakeholder is one of the factors that affect EMIS usage or performance.

Along with information illiteracy/lack of awareness/, the respondent's response was calculated (mean score=3.58, Str. Deviation =.352). This slightly high value mean shows that there is lack of awareness seriously affect EMIS in the sampled woreda education offices.

In addition to lack of commitment from the EMIS professionals the respondent's response were calculated (mean score=3.49, Str. Deviation =3.13). This indicates that lack of commitment from EMIS professional affecting EMIS implementation.

Account with common vision, majority of the respondents lack of shared vision for EMIS seriously affect EMIS implementation with (mean value=3.13, Str. Deviation=.308) it is greater than the expected mean 3. This shows that lack of commonly shared vision affect implementation of EMIS.

With regard to absence of effective communication, more than half respondents replied that lack of a culture of communication and information exchange seriously affect with (mean value=3.37, Str. Deviation=.371) it is greater than the expected mean 3. This implies that lack of communication is the other factors that affecting implementation of EMIS.

Along with accountability, majority of the respondents replied that there is lack of accountability for inaccuracy, unreliable, irrelevant, incomplete and not valid data transfer very seriously affecting implementation of EMIS. The calculated (mean value was 3.20, Str. Deviation=.324) it is greater than the expected mean 3. This shows lack of accountability affect the implementation of EMIS.

Concerning with skilled human power, 60% of the respondents replied seriously affect the implementation of EMIS. The calculated (mean value=3.70, Str. Deviation=.283) and is greater than the expected mean 3. This indicates that lack of skilled human power is one of the factors that affect the implementation of EMIS.

Deals with budget allocation, majority of the respondents replied low salary/lower than other social sectors/ very seriously affect the implementation of EMIS. The calculated (mean value= 3.49, Str. Deviation=.281) it is greater than the expected mean 3. This indicates that low salary for EMIS department is one of the challenges that hinder the implementation of EMIS.

In addition to policy and procedures, 6.7% of the respondents replied rarely, 26.7% of the

respondents replied partially, 51% of the respondents replied that unavailability of clearly stated policy and procedures seriously affect the implementation of EMIS and 15.6% of the respondents replied that unavailability of clearly stated policy and procedures very seriously affect the implementation of EMIS. The calculated mean value was 3.56 and greater than the expected mean 3. This indicates that unavailability of clearly stated policy and procedures is one the factors/challenges that hinder the implementation of EMIS.

With account to lack of clear organizational design for EMIS unit, most the respondents were replied that unavailability of clearly designed organizational structure for the EMIS unit seriously affect with (mean value=3.76, Str. Deviation=.418) is greater than the expected mean 3. This indicates that unavailability of clearly designed organizational structure for the EMIS unit is one of the factors that affect the implementation of EMIS.

The interviewer added that; the effectiveness of education management information system (EMIS) could be exhibited by its success in providing education data/information that is relevant, accurate, complete, comprehensive, and timely for service seeker. In support of this, Mosses (2001) listed several things that make EMIS successful.

These are set standards for information, set timing, define the level of accuracy, reports should be the result of daily activities, not special purpose efforts, define how information is presented, ensure that the provision of information quickly see the result of their work, and measure the providing information. Moreover, Hua and Herstein (2003) also identified an EMIS's success depends up on three factors, namely: Timely and Reliable Production of Data and Information, Data Integration and Data sharing among departments and effective use of Data and Information for educational policy decisions. On the contrary, there are a number of factors that hinders the success of EMIS. Increasing access to information users/stakeholders is one of the indispensable objectives of EMIS unit. To achieve this objective, EMIS worker make available relevant and accurate data/information in understandable manner. The following are data/information assumed to be available in educational organizations commonly.

As interview held. With education bureau and offices heads assured that the availability of education data/information was partially available in an organized/computer assisted/ way in their organization. Educational indicators are the crucial element for efficient and effective

education management. This should be done in a systematic way starting from lower level up to the top level coherently without distortion of data/information.

They were not documented and communicated educational indicators electronically except some of them at region and sub-cities. One of the causes for partial availability of data/information at each respective levels of education system was lack of training as responded by most of the interviewees at each level of the education systems. Regarding to this, Chapman and Mahlck (1993) stated that provision of training and collection of data requiring detailed educational indicators are crucial to improve decentralized education management. Therefore, training should be conducted regularly as a main tool to have an organized data/improve EMIS management performance.

Educational organizations are the one that seek quality data/information from EMIS unit to plan and make informed decisions at the right moment and place. Not only educational organizations are using EMIS output but also organizations like, NGOs, associations community, other organizations like finance, health, etc.

According to the responses of interviewee:- At all levels of the education system, EMIS output utilization for financing procurement Curriculum development purpose was very low at wereda and school level. This implies that, there was no clear awareness about the vital role of education data/information as a base for decision making and in general for the improvement of education.....

In general, in most of assumed EMIS outputs presented in the table above, the respondents' response was not positive in utilizing them in their organization. This implies that the awareness of EMIS outputs to employ by education experts and heads was not efficient and effective mostly at lower levels of education echelons. Therefore, the region should plan to create clear awareness in utilizing EMIS outputs both for EMIS personnel and education data/information users to improve the management of education system in the region.

Most education planning efforts in developing countries have little impact and do not always guide the fulfillment of their objectives in an efficient way. Some of the reasons often put forward are the absence of a link between the established diagnostic and the defined strategic plans/policies and choices and the inadequacy, indeed in the lack of relevant information for planners and decision makers (Jeilu, 2009).

4.4 Customer satisfaction on EMIS service delivery

Table 4: Customer satisfaction on EMIS service delivery

No	Items	N	Mean	Str. Deviation
1	Does EMIS have the system of assessing needs of customers before collecting data?	90	2.73	.113
2	After collection & analysis of educational data, could you make accessible to users	90	2.87	.219

As can be seen from the above table with regard to customers' satisfaction on EMIS service delivery, the respondents' Responses calculated (mean score=2.73, str. Deviation=.113), that EMIS have the system of assessing needs of customers before collecting data. This implies that there is no EMIS system to assess needs of customers before collecting data.

Along with after collection and analysis of educational data, could you make accessible to users, the responses calculated (mean score=2.87, str. Deviation=.219). This implies that the calculated mean score was slightly low and shows that the employees in the woreda education office were unsatisfied on the EMIS service delivery in the education office.

4.5 Possible strategies to enhance the future performance of EMIS

Data was collected on the possible strategies to enhance the future performance of EMIS in Kaffa zone Education office. The five likert scales used for this part are 5(for very strong recommendation) 4(for strong recommendation) 3(for undecided to recommended) 2(for loss recommendation) 1(for not recommended response).

Table 5: Possible strategies to enhance the future performance of EMIS

No		N	Mean	Str. Deviation
1	Designing clearly stated information policy	90	4.01	.456
2	Designing clear structure up to grass root level /school/	90	3.74	.361
3	Assigning qualified manpower to all education system	90	3.80	.329
4	Preparing remuneration structure for EMIS staff	90	3.93	.298
5	Integrate with School Net program	90	3.42	.432
6	Expanding School Mapping	90	4.28	.238
7	Decentralized Database	90	3.63	.321
8	Ensuring system of accountability for the different levels who generate data or information	90	3.77	.321
9	Providing relevant trainings regularly	90	3.04	.233

With regard to possible strategies to enhance the future performance of EMIS, of the respondents replied that designing clearly stated information policy loss recommendation, majority of the respondents replied strong recommendation with (mean=4.01, Str. Deviation=.456) replied very strong recommendation. The calculated mean value was 4.01 and is greater than the expected mean 3. This shows that designing clearly stated information policy is one the strategies to enhance the future performance of EMIS.

Along with designing clear structure up to grass root level /school/, 3.3% of the respondents said the strategy loss recommendation the respondents replied that the strategy is undecided to recommend the respondents replied that the strategy has strong recommendation and said very strong recommendation (mean=3.74, Str. Deviation=.361).

The calculated mean value was 3.74 and is greater than the expected mean 3. This indicates that designing clear structure up to grass root level /school/ is possible strategies to enhance the future performance of EMIS.

Concerning with skilled man power the respondents said that the strategy is undecided to recommend the respondents replied that the strategy has strong recommendation and of the respondents said has very strong recommendation. The calculated mean value was 3.80 it is greater than the expected mean 3. This indicates that assigning qualified manpower to all education system as the possible strategies to enhance the future performance of EMIS.

In addition to preparing remuneration structure for EMIS staff, 28.9% of the respondents said undecided to recommend, of the respondents strongly recommended and of the respondents said very strongly recommended strategy to enhance the future performance of EMIS. The calculated mean value was 3.93 and it is greater than the expected mean 3. This shows that remuneration structure for EMIS staff is one the possible strategy to enhance the future performance of EMIS (mean=3.93, Str. Deviation=.298).

Integrate with School net program, 21.2% of the respondents said loss recommendation, 30% of the respondents said undecided to recommend the respondents said strongly recommended and of the respondents said very strongly recommended to enhance the future performance of EMIS. The calculated mean value was 3.42 and is greater than the expected mean 3. This indicates that integrate with school net program is one of the possible the possible strategy to enhance the future performance of EMIS.

With regard to expanding school mapping, of the respondents said undecided to recommend the respondents said expanding school mapping is strongly recommended and the respondents replied such strategy is very strongly recommended strategy to enhance the future performance of EMIS. The calculated mean value was 4.28 and is greater than the expected mean 3. This indicates that expanding school mapping is one of the major strategies to enhance the future performance of EMIS.

In account with decentralized database the respondents said loss recommendation, 22.2% of the respondents said undecided to recommend, of the respondents said strongly recommended and 30% of the respondents said very strongly recommended strategy enhance the future performance of EMIS. The calculated mean value was 3.63 and is greater than the expected mean 3. This shows that such strategy is recommended to enhance the future performance of EMIS.

Concerning with ensuring system of accountability for the different levels who generate data or information, the respondents said not recommended, the respondents said loss recommendation the respondents said undecided to recommend, 50% of the respondents said strongly recommended and the respondents said very strongly recommended to enhance the future performance of EMIS. The calculated mean value was 3.77 and is greater than the expected mean. This indicates that such strategy is used to enhance the future performance of EMIS.

Along with providing relevant trainings regularly, 50% of the respondents said loss recommendation the respondents said undecided to recommend and the respondents said strongly recommended to enhance the future performance of EMIS and the respondents' aid very strongly recommended. The calculated mean value was 3.04 and is greater than the expected mean 3. This indicates such as strategy is recommended to enhance the future performance of EMIS.

4.6 Discussion

Regarding Systems, procedures and structures are in placed the education sector, Interview guide question implied that there was high turnover in EMIS positions because of low salary in comparison of the other government social sectors and also low attention and support was given by management bodies. In addition to this, there were high attitudinal and commitment problems both from the educational leaders' part and also from the EMIS personnel in implementing the activities of EMIS. As indicated by school principals and education heads

from the respondents, the problem might be unawareness about the importance of education information at all levels. Organizations without the necessary Structure and resources that are in place will not be able to address its vision and mission properly.

There must be somebody that uses the data/information generated. For the purpose of building institutional capacity, for analyzing the data collected, for monitoring the system, and for recommending policies, it is desirable that EMIS personnel have advanced formal training and education to work on the positions. In addition to this idea, Scott (1986) stated that the characteristics of the tasks for which data/information is intended, and expectations of the external recipients of the information determine the numerous ways in which an MIS should transform data into information. Based on this information, educational leaders should consider the experience of EMIS personnel during recruitment and selection process and to assign at the right position for effectiveness of education management. This implies that there is a need to establish EMIS structure, organizing and assigning the required resources at each level of the education echelons. Therefore, the region should consider to establishing EMIS structure organization and in place the required resource for each level of education systems independently to improve the current practice of EMIS.

An effective information flow enabled by information system is the first step in facilitating and enacting competitive actions. Information flow allows organizational participants to connect, share and develop a common conceptualization of specific organizational actions (Knite and McDanil, (1979). From this basic information educational managers could grasp something vital knowledge to manage his/her organization in handling the appropriate flow of information. Through practice, there are problems that hinder the information flow within the organization and out of the organization also.

In addition to these from the interviewed respondents, lack of accountability for inaccuracy, irrelevant incomplete/ not valid data transfer, lack of understanding or not having of clear attitude about the importance of data/information among educational heads, EMIS personnel and the users by and large, unavailability of clearly stated policy and procedures independently to EMIS unit.

Tegegn (2003) identified EMIS problems as, lack of adequate budget allocation, low level of users' awareness, lack of self-initiated learning, personnel shortage, over rating the capacity of EMIS, and need for continuous training are problems that hampered the practice of EMIS.

This indicates that the implementation of EMIS activities were unsatisfactory in the region from top up to lower levels/schools. Therefore, the region should assess this problem, design EMIS projects and implement accordingly to minimize the problems and improve the education systems at all level as an alternative solution.

Along with these from the interviewed respondents, decentralized software for using data collection, analysis and interpretation because now a day the data collection using manual for the feature this change using technology like mobile append accountably EMIS data to be strong system.

The demand of designing clear structure up to grass root level was very high. Therefore, special attention should be given at region level to establish clear structure of EMIS independently as a unit/department in each of the education systems up to school level, because schools are the main source EMIS inputs and the Qualified EMIS manpower very high demand for each level of education systems. So that, educational decision makers should strive to recruit and select an appropriate/skilled personnel for each of EMIS positions up to school levels.

The Remuneration structure for all EMIS staff high demand at each level of education systems Therefore, the region should design EMIS staff remuneration structure to encourage and make stable workers in their position for longer period of time. Integrate of EMIS with School Net program high demand at each level of education systems

CHAPTER FIVE

5. CONCLUSIONS, MAJOR FINDINGS AND RECOMMENDATIONS

This chapter deals with the summary of findings of the study. Based on these findings, conclusions are drawn and recommendations which can be implemented are forwarded

5.1 Major findings of the Study

Status of Educational Management Information System: Concerning the maximum value of mean it is possible to say that there is availability of strategic plan to use EMIS in the office. EMIS is not available to assess the performance of an education system or there is inadequate access of EMIS infrastructure to assess the performance of an education system.

EMIS is not adequately available in planning and implementation, decision-making, and the monitoring and evaluation of an education system.

EMIS is sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders and decisions makers to perform their responsibilities accurately and efficiently the respondents were strongly disagreed. This shows that EMIS is not sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders and decisions makers to perform their responsibilities accurately and efficiently.

Challenge of Educational Management Information System: Absence of clear information policy partially affect EMIS, Poor ICT infrastructure, Lack of data/information integration, unqualified manpower for EMIS positions, Lack of commitment from the EMIS professionals and lack of commitment from EMIS professional seriously affect EMIS implementation were factors that affecting EMIS performance in educational office of the study area.

Possible Strategies to Enhance EMIS Performance: along with these from the interviewed respondents, decentralized software for using data collection, analysis and interpretation because now a day the data collection using manual for the feature this change using technology like mobile append accountably EMIS data to be strong system. The demand of designing clear structure up to grass root level was very high. Therefore, special attention should be given at region level to establish clear structure of EMIS independently as a unit/department in each of the education systems up to school level.

5.2 Conclusion

The main objective of this study was to examine the practices and challenges of using EMIS in school management in Wereda education office of Kafa zone. In order to achieve this objective, the study attempts to answer the following basic research questions. This research used descriptive survey design. This researcher utilized mixed method approach through collecting and analyzing both qualitative and quantitative data. The researcher used quantitative method through survey questionnaires, while also used semi-structured interviews to substrate the qualitative data.

In this study quantitative data from survey questionnaire was processed and analyze by employing different statistical tools such as percentage and frequency check the significance of the response differences among varying. The quantitative data was coded and entered using the SPSS software version 20 program. The researchers also uses descriptive statistics such as frequency, percentage and mean to analyze quantitative data because mean is usually the preferred measure since it takes in to account each individual observation and is most amenable to statistical analysis and measures the dispersion.

The finding revealed that absence of clear information policy partially affect EMIS, Poor ICT infrastructure, Lack of data/information integration, unqualified manpower for EMIS positions, Lack of commitment from the EMIS professionals and lack of commitment from EMIS professional seriously affect EMIS implementation were factors that affecting EMIS performance in educational office of the study area.

To this end, the possible strategies were developed decentralized software for using data collection, analysis and interpretation because now a day the data collection using manual for the feature this change using technology like mobile append accountably EMIS data to be strong system. The demand of designing clear structure up to grass root level was very high. Therefore, special attention should be given at region level to establish clear structure of EMIS independently as a unit/department in each of the education systems up to school level.

5.3 Recommendations

Based on findings of the study the researcher forwarded the following recommendations:

- Government and MOF Should provide incentive and continue training for EMIS experts on basic computer, educational indicators, on education statistics software and other related topics.
- Lack of accountability for inaccuracy, irrelevant, incomplete/not valid data transfer, lack of understanding about the value of education data/information, low salary payment for EMIS staff, lack of commitment both from the professional and education leaders side and lack of data integration, were the most serious factors that affect the effectiveness of EMIS. Therefore, Kafa zone education department and offices in collaboration with the relevant stakeholders should design education information policy, motivate EMIS personnel based on their performance, improve data integration School net program and decentralized EMIS software up to schools level ,Established data auditing system and create awareness through relevant training programs to overcome the problem that were identified by respondents.
- Insufficiency of ICT infrastructure, shortage of qualified manpower, lack of IT competency and poor coordination system were the felt problems that should be tackled by strong effort. Hence, Regional, zonal and Wereda education offices, and schools should try to design feasible EMIS improvement projects and exert their effort to implement these projects in collaboration with relevant stakeholders
- For the utilization of EMIS in Government education office to be realized, there was need for the study to provide recommendations that would guide policy-makers. The recommendations are therefore divided into those with policy implications and those meant for further research.
- Training of educational experts in ICT applications and software programs for curriculum implementation should be undertaken by MOE, woreda and zonal education office experts.
- Capacity building on EMIS should be intensified by the government in order to realize its influence on the EMIS implementation.
- Donor agencies should consider proper allocation of their funds, and in time in order to aid in the implementation of EMIS

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Appendix A

Jimma University

College of Education and Behavioral Science

Department of Educational Planning and Management

Questionnaires to be Filled by Woreda Education Office Professionals

Dear respondents,

The main objective of this study will be to examine the practices and challenges of using EMIS in Wereda Education office of Kafa zone. Therefore, I would like to express my heartfelt appreciation and respect for your precious time and sincere cooperation, in advance, to fill this questionnaire. The findings could be used for planning and improving the system of education in the city. Hence, the success of the study will depend on the quality of your responses. Therefore, you are kindly requested to give accurate and honest information timely to the items presented. Your response will be kept confidential and used only for academic purpose.

Thank you in Advance!

Notice:

- There is no need to write your name.
- Mark your response after reading carefully the instructions given for each question.

Part I. Background information of the respondents

Please, one choice from the following given alternatives

1. Gender: A/ Male B/ Female
2. Age: A/25-30 B/ 30-40 C/41-45 C/ above Age 45
3. Educational level: A/ Diploma B/ Bachelor C/ Master degree D/ above MA degree
4. Work experience: A/0-5 B/5-10 C/10-15 D/15-20 E/ above 20

Part II. Status of Educational Management Information System

Availability of necessary materials, document for EMIS Give your answer by using agree or disagree response in the box provided.

5= strongly agree; 4= Agree 3= moderate; 2= Disagree; 1= strongly disagree

No	Form of Availability	Degree of Availability				
		5	4	3	2	1
1.1	Education office send data without any delay Computers, Fax machine, Office phone, copy machine, printer and data backup flash desk available					
1.2	Recalibrated BPR design document available					
1.3	EMIS strategic plan available					
1.4	Educational indicators manual available?					
1.5	Educational management information system software user manual (Amharic version) available?					
1.6	Annual questionnaire completion guides available?					
1.7	EMIS is available to assess the performance of an education system					
1.8	EMIS is available in planning and implementation, decision-making, and the monitoring and evaluation of an education					
1.9	EMIS is success in organizing information systems for the development of education lies in the use of information for development					
1.10	EMIS is sufficient to gather information by using emerging information technology to provide comprehensive, integrated, relevant, reliable and timely data to education leaders and decisions makers to perform their responsibilities accurately and efficiently					

Part III: Challenge of Educational Management Information System

1. Listed below are factors affecting the flow of education data/information? Indicate the extent of seriousness as they occur in your school by the number:

5 = very serious;4 = Serious;3 = partially;2= rarely; 1= Not a problem

No	Statements	Degree of Seriousness				
		5	4	3	2	1
1.1	Absence of clear information policy					
1.2	Poor ICT infrastructure					
1.3	Unavailability of remuneration packages for EMIS workers					
1.4	Lack of data/information integration					
1.5	Assigning unqualified manpower for EMIS positions					
1.6	Poor coordination					
1.7	Information illiteracy/lack of awareness/					
1.8	Lack of commitment from the information professionals					
1.9	Lack of shared vision for EMIS					
1.10	Lack of a culture of communication and information exchange					
1.11	Delays in bringing data/information upward to higher decision					
1.12	Lack of accountability for inaccuracy, unreliable, irrelevant., incomplete and not valid data transfer					
1.13	Lack of skilled manpower					
1.14	High turnover rate/higher than other sectors' average/					
1.15	Low salary/lower than other social sectors/					
1.16	Unavailability of clearly stated policy and procedures					
1.17	Unavailability of clearly designed organizational structure for the EMIS unit.					
1.18	If others, please specify					
					
					

Part IV. Customer satisfaction on EMIS service delivery

1. Does EMIS have the system of assessing needs of customers before collecting data?

A/Yes B/No

2. After collection & analysis of educational data, could you make accessible to users

A/Yes B/No

Part VI: possible strategies to enhance the future performance of EMIS.

1. The following are the possible strategies to enhance the future performance of EMIS in Kaffa zone Education office. Use numbers to indicate possibilities:

5= for very strong recommendation; 4= for strong recommendation; 3= for undecided to recommended; 2= for loss recommendation; 1= for not recommended response.

No	Activities	Degree of agreement				
		5	4	3	2	1
1.1	Designing clearly stated information policy					
1.2	Designing clear structure up to grass root level /school/					
1.3	Assigning qualified manpower to all education system					
1.4	Preparing remuneration structure for EMIS staff					
1.5	Integrate with School Net program					
1.6	Expanding School Mapping					
1.7	Decentralized Database					
1.8	Ensuring system of accountability for the different levels who generate data or information					
1.9	Providing relevant trainings regularly					
1.10	If others, please specify:					

**Appendix “B” Interview Guide
Jimma University**

College of Education and Behavioral Science

Department of Educational Planning and Management

Interview to be responded by Woreda Education office heads

Part I. The Practices of EMIS

1. Are there clear EMIS structure, organization and resource in placement in your school?
2. What are the key factors that hinder EMIS management?
3. How do you see the availability of EMIS structure?
4. How do you perceive the establishment of EMIS structure, organization, and resources in placement?
5. How do you see the availability of Education Data/Information in Education Sector?
6. What are utilizations of EMIS Outputs in Education Sector?
7. What are the challenges related to EMIS Management?
8. What are the possible Strategies to Enhance EMIS Performance?