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PRACTICES AND CHALLENGES OF EDUCATIONAL MANAGEMENT INFORMATION SYSTEM (EMIS) IN WOREDA EDUCATION OFFICES OF KAFFA ZONE

BY

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ON TITILE OF

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DECLARATION

I, the under signed, declared that this thesis is my original work and that all source of materials used for the thesis have been duly acknowledged.

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Abbreviations

EMIS: Education Management Information System.

ICT: Information Communication Technology.

IT: Information Technology.

MIS: Management Information System.

MOE: Ministry of Education.

ESDP IV: Educational Sector Development Program Four

S/N/N/P/R/G; Southern Nations Nationalities, People Regional Government.

W/E/O/H; Woreda Education Office Head.

W/E/O/W/P/O; Woreda Education Office Work Process Owners.

K/Z/E/D/; Kaffa Zone Education Department.

SDG: School Development Goal.

UNESCO: United Nations Education Science and Culture Organization.

GEQIP: General Education Quality Improvement Program

ABSTRACT

The purpose of this study was to assess The Practice and Challenges of Educational Management Information System (EMIS) in woreda education office of Kaffa zone. Descriptive survey design was employed to conduct the study. The major tools used for data collection were questionnaires and interview. Census sampling was used to include sample respondents. Data analysis was conducted by using frequency count, percentages, mean, and inferential. The study was carried out woreda education office of Kaffa zone, in this 5 woreda education office work process owners ,EMIS experts and EMIS structured Kaffa zone education department were participated in the study.30 EMIS experts and 86 woreda education office work process owners were included in this study. Overall, out of 135 target population 116(86 %) of them were participated in the study. The results of the study average (X=2.18& SD=1.76) indicated that there was no well-organized EMIS structure, organization and resource in place at all levels of woreda education offices of Kaffa zone. The findings of this study revealed that education data /information were not well organized systematically, because of lack of accountability, lack of commitment, inaccuracy, unreliable, irrelevant and not valid data transfer. Moreover, the study revealed that the Kaffa zones Woreda Education Offices haven't properly used EMIS for efficient resource utilization, monitoring and evaluation of office activities. The Challenge of EMIS identified by the respondents was insufficiency of ICT infrastructure, lack of poor coordination, shortage of qualified manpower, and lack of adequate training. Thus, it is concluded that EMIS was entangled with a set of problems that hinder the proper functioning of its management. Therefore, to overcome these shortcomings necessary recommendations are establish an autonomous EMIS structure at woreda education office level and put in place the required amount of resources and design education information policy, motivate EMIS personnel based on their performance, improve data integration and decentralized EMIS software up to woreda education office level, Established data auditing system and create awareness through relevant training programs.

CHAPTER

1. INTRODUCTION

This chapter highlights about the definition of education, EMIS, the importance of EMIS, the policy concerns of EMIS, statement of the problem, research questions, and objectives of the study, significance of the study, delimitations of the study, limitations andorganization of the study.

1.1 Background of the Study

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, 1993).

The Educational Management Information System (EMIS) is an information system utilized to systematically collect educational data from education sectors and 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.

According to Bruges (2003) education management information system can be define as a comprehensive system that bring together people, practice and technology to provide quality education statics in timely cost effective and sustainable manner at every administrative level operational function. However, EMIS is better understood as system-wide, and not units exclusively located in one place. The collection, input and analysis and use of data is a collective endeavor that is, beyond the work of any particular unit, team, or service that informs administrative, managerial, planning and policy decisions horizontally across the entire education system, within and between subsectors and institutions.

Formal education system develops EMIS with the purpose of managing resources (human, material, and financial). In the 1980s, when information management systems were beginning to be computerized, the digitization of EMIS was motivated by a desire to automate routine administrative functions (Cassidy, 2006). Since the EMIS has often focused on administrative data such as enrolment rates, schools, and number of teachers (Powell, 2006). This partly explains why, today, EMIS are sometimes narrowly understood as technical tools, pieces of information management software, rather than a social process, and an integral and evolving part of education system reforms.

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.

Educational goals and objectives in many countries have shifted from focusing on access, expansion, maintenance and control to a quality, development, efficient, effectiveness, equity and performance. This shift offers a more complex collection of policy choice. Understanding these choices requires data which come from multiple sources and from multiple levels. Collecting, organizing, integrating and analyzing these data will require more cooperation across directorate levels within the ministry and between the MOE and other private schools and agencies (Hua and Herstein, 2003).

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 (Cassidy, 2006).

The 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. As UNESCO (2006), stated in indicators of educational planning: A practical guide

an indicator may be defined as a tool that should make possible both to have a sense of the state of an education system, and also report on that state to the whole of the education community in particular and to the whole of the country in general.

Education indicators essentially enable us to look at the access, equity, quality and efficiency dimensions of the education system. Beyond statistical characteristic, indicators would give the decision makers, policy designers, education planners, researchers and other stakeholders with necessary information about the strengths, weaknesses and challenges experienced of the education system. 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, (1990), 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.

Ethiopia's effort to establish modern education management information system started at the end of the 1980 by the name "Education Information System Project" with the assistance from SIDA. It was after this project that Ethiopia established computerized EMIS in the Ministry of Education and organized its first EMIS section led by a director. The system was developed as information system in education planning and management, which was composed of different subsystems. Since 1991, EMIS in Ethiopia is managed by a body called the Federal EMIS Panel which has the mandate of preparing questionnaires, consolidating regional data, preparing and publishing annual abstracts of the country and developing software for data management.

At the end 1957 the statically work was organized in to department known as central plan 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

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management as its cited Ashenaf Tesfaye. Using EMIS system becoming very crucial because according (Hua and Hersiten, 2003),Information based decision making in management of educational system has its goal increasing access ,efficient ,effectiveness ,equity and quality of education through   effectiveness of monitoring and evaluation budgeting and planning policy research and analysis..

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, augment the competencies of teachers, and increase the linkage between student learning and positive participation in society Abdul-Hamid (2014). In the context of SDG 4-Education 2030, EMIS can, for example, advance a rights-based approach to education by providing evidence of the extent to which individuals do or do not enjoy their right to education. Information about access, participation, equity, quality and relevance is necessary to ensure that no one is left behind.

EMIS have several importances. EMIS helps provide analysis 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 would translate in to learning outcomes 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 Herrnstein, (2003).

According to system approach for better education result(SABER) working paper 2018 effective EMIS requires improving four policy areas: Enabling environment is considered to be the legal framework; organizational structure; and institutionalized processes, human resources, infrastructural capacity, and budget of the system. This includes both the laws and the policies surrounding an EMIS. In essence, this policy area is the context in which an EMIS exists. "EMIS development involves significant organizational, human resource and technical challenges" (Cassidy 2006, 5), the enabling environment is a crucial policy area.

An EMIS needs to be used so that measures can be taken to improve educational quality. Accurate information on education sector performance enables the design of more informed policies and programs.

It is imperative to understand where decision making occurs, if the capacity to analyze and interpret education data exists, and if specific data is available to inform decisions. "Lack of knowledge and skills to use data and information is not so much limiting the EMIS development as it is limiting development of the education system" (Cassidy 2006, 19). Therefore it is important to understand how an EMIS is utilized.

Education and training policy of Ethiopian (1994) decided the organization and management of education is to be decentralized. Due to this educational management, authority was been given for regional educational bureau and Woreda educational office, which is under implementation in Kaffa Zone. Moreover, GEQIP was been designed to ensure education quality. Under GEQIP, there are six components. Among these components management and administration, improvement program (map) is one of the important components that aim to ensure quality education management. Under this component, there are three sub components.

These are capacity development for educational and management, sector, planning capacity development for school planning and management and education management information system. Under the first phase of GEQIP MoE plans to strength the existing system through combination of capacity development for policy analysis and planning, renewal, renovation, repairing and ongoing maintenance of IT infrastructure at the federal, regional and Woreda levels and several enhancement initiatives that will make EMIS more accessible and relevant.

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 Lasonenet.al, (2005) administration faces the challenge of management information system at Woreda education office and zonal level and facilitating school community participation in school governance. This shows how complexity of management is enhancing. Despite the apparent importance of utilizing an educational management information system, to my long experience and knowledge no study has been conduct to assess the practice and challenge of educational management information system and to explore solution for problem.

Therefor the purpose of this study is to assess the practice and challenge of utilizing an educational management information system in woreda education office of Kaffa zone.

1.2 Statement of the problem

Edmunds and Morris (2000) talk about the paradox of organizations suffering from a"scarcity of useful information "regardless of the "excess of information"; that is available to them. Data are abundant; the issue lies in determine what kind of data are needed and how that data should be analyzed and presented in ways that can actually inform decision –making. The analysis of data on social and educational disparities are necessary to justify the allocations of resources to disadvantaged communities, institutions or students to ensure equity and inclusion, and equality of opportunity at every level of an education system . As result, ministries will be able to make smarter investments and allocate resource to where they are actually most needed yielding better returns on investment whilst also potentially reducing costs.

Educational and training policy of Ethiopian 1994 states that education management will be decentralized to create the necessary education to expand and improve the relevant quality accessibility and equity of education and training.

Effective teaching and learning take place in wider administrative and socio economic context which must support what education system do and in other way assist in creating the condition necessary to improvement in task of education management planning of action (2002 – 2015).

The development of an education management information system EMIS is essential modern management of education. It is design to support information based decision –making process; computer technology data based tool and technical skill provide the necessary assistance in the data and information production capacity for educational system. The development of EMIS involves nurturing new management culture more than establishing a data and information system, Hua and Heritsen (2003).The conduct of education and contribution to its improvement is highly related with that of success of EMIS (MoE 2004).

According to the Heristen and Hunan (2003) EMIS's success depends upon three factors: Timely and Reliable production of data and information, data integration and data sharing among departments effective use of data and information for educational policy decisions. In similar ways, Iyengar identified challenges hinder the successiveness of EMIS implementation at different levels of educational organization including schools.

Iyengar et al.(2016) identifies six main challenges that are 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 woreda level. Training and capacity building at all levels is extensive and resource demanding. This results in too much effort spent collecting data rather than utilizing it. Information is not being used for active decision –making. In country context make target group in accessible, as well as organizational faith of the merits of an EMIS are doubted budgets prevent sustainable operations of the EMIS on a long term basis.

While most publications agree on the strategy of how to implement an EMIS in low resource context (create timely and reliable of data, integrate towards other departments and create culture of information use), reflections on a data relevancy and the interplay of objectives between organizational levels are absent. Although much information is available within the education system, on issues of educational system, on issue of educational performance (mainly through EMIS) finance 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 it's for evidence based decision making and resource allocation needs to be improved.

However as the researchers long experiences and knowledge there is still

- ➢ Challenges on production, analysis, distribution and use of timely reliable and consistent information.
- ➢ The EMIS structure has in woreda education office of Kaffa zone, but this structure is not functional regarding EMIS activities.
- ➢ Moreover no research is conducted on the issue of this tittle in woreda education office of Kaffa zone. This is why the research is conducted on the issue in this area.

1.3. Research questions

1. What is the status of EMIS in Kaffa zone woreda education office?
2. To what level Kaffa zone woreda educational office status implement and utilization education information to plan and manage the education sector?

3. What are the major challenges that affect the effective utilization of EMIS at Kaffa zone woreda education office?

4. To what degree EMIS satisfied internal and external customers in Kaffa zone woreda education office?

1.4. Objective of the research

1.4.1General objectives,
➡ The general objective of the study is to assess the current EMIS practices and major challenges in Kaffa zone woreda education office and to suggest proposed solution.

1.4.2. Specific Objectives
❖ To assess the status of EMIS in the process of data collection, organization, verification, analysis, publication and dissemination of data for planning and managing in Kaffa zone woreda education office.

❖ To identify the challenges of education management information system (EMIS) in organizing and providing quality and timely educational data for the stakeholders and their customers in Kaffa zone woreda education office.

❖ To explain the attitude and efforts of educational management and stakeholders towards the EMIS at different levels of Kaffa zone education offices.

❖ To describe the problems relating to the skill and knowledge gap of the personnel working in EMIS and forward valuable solutions in Kaffa zone woreda education office.

  ❖ To assess the root causes of EMIS problems on proper utilization in Kaffa zone woreda education offices.

1.5. Significant of the study

This study may have significances as through limited the study may add literature to the sparse body of knowledge on practices and challenges of education management information system in Kaffa zone woreda education offices. It may also be as starting point for further study on practice and challenge of education management information system in woreda education offices of Kaffa zone there by stimulating further research to provide valuable insight for other researchers and practitioners may academicians. Moreover based on the finding of this study other researcher and practitioners may have a clear picture on the practice and challenges of education management information system (EMIS) in woreda education offices of Kaffa zone.

The study also expected to help Kaffa zone education bureau, woreda education office, and zone and woreda EMIS experts to understand the practices and challenge of education management information system (EMIS) and then may take appropriate measure to improve practice and challenge of education management system. The finding may be useful to woreda education personnel's of management to enable them use EMIS in a practical way to enhance management in woreda education bureaus and also identify areas where more training is needed. The woreda EMIS experts 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

The study researcher delimited study to woreda education office in Kaffa Zone .Though there are thirteen Woreda in the Kaffa zone; Chena Woreda, Bita Woreda, and Bonga administrative town, wacha administrative town and shishoinde woreda would be select ahead of other woreda as because of two major reasons. First research has been conducted in this Woreda on practice and challenges of education management information system are minimal/zero. The student researcher's long year service as teacher & principal in the Kaffa zone and there by his better experience of understanding its socio-cultural and geographical setting was another reason to select it for the study was also delimited to five woreda education offices. Now a days woreda education sector in Ethiopia had characterized by several critical education problems (MOE, 2010). In this study, investigating the practice and challenge of education management information system for education management has been considered as a frame of reference. The student researcher do so for the reason that this education management information system dimensions are the most commonly used in the study of practice and challenges of education management information system in woreda education offices of Kaffa zone.

1.7. Limitations of the study

 Any study cannot be free of limitation and this study is not exceptional. The following were the major limitations encountered the study. Include the small sample size involved in the interview was one of the limitation. However, to include   wider perspective of the respondent on the issue under investigation the researcher selected respondents those who had better outlook about EMIS. Another limitation encountered the study was .the reliance on self-report of the Education

leaders and woreda education office respondent. However to overcome this limitation the researcher insured respondents confidentiality and pilot testing all the instruments used in the study.

1.8 Operational Definition of Key Terms

➢ Curriculum and instruction refers to the practice of improving teacher's class room performance.

➢ Education Management Information System (EMIS): refers to ICT software with several components (modules) by which data in schools collected aggregated, organized and processed for use by school management in decision making. The components (modules) include those of curriculum and, instruction human resource, school community relations, and finance.

➢ Finance refers to planning and utilization of school funds in an efficient and effective manner and accordance with regulations and procedures from the minister of education.

➢ Human resource refers to staff and student administration .attendance, allocation of duty to staff and monitoring of student's academic progress, discipline and staff Appraisal.

➢ Information and communication technology (ICT) refers to technology that is used for accessing, gathering, manipulating and presenting or communicating information.

➢ School management team refers to principal, deputy principal, and heads of department and the board of management who are responsible for among other duties, supervision and implementation of curriculum, human resource and finance.

➢ School community relations refers to formal and informal interaction between educational institution and the section of the public with interest in the school who have some common interest in what it is dual purpose of obtain and maintain community support for school programmers .

1.9 Organization of the study

This study encompasses five chapters. The first chapter is introduction of the study .The second chapter provides the review of literature pertinent to the study. The third chapter presents the research methodology, the fourth chapter explains data presentation, analysis and interpretation and the last chapter briefs summary, conclusions and recommendations of the study.

CHAPTER TWO

2 Review of Related Literature

2.1 Information System

Information is a necessary resource produced by information systems and is a key building block to the management and decision making in any organization. O'Brien(1994) defines an information system "as a set of people ,procedures and resources that collects, transforms, and disseminates information in an organization". Information system as a system that "can include several integrated information technologies as well as organizational use and maintenance that collectively comprise a socio- technical phenomenon''. Therefore,an information system in the context of this study includes the technology, the people , processes and information. Clearly, information systems development is more than just a rational representation of reality beyond the measurable, the visible the world of reason. An information system is one that accepts data resources as input, and processes them into information products as output.

2.2 Concepts of Education Management Information System (EMIS).

An Education Management Information System (EMIS) 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 controlling at all levels of an education system, Tom (2005). The technical operation of EMIS is to coordinate information resources such as the education statistics unit, the education information and documentation services, and departments holding various administrative records for education is also said to be a system of people, technology, models, methods, processes, procedures, rules and regulations that function together to provide education leaders with concrete knowledge of working system The aim is to integrate the various sources of educational management information into one coordinated system that serves the entire education system.

A comprehensive EMIS will provide access to quantitative and qualitative data; to data on inputs, processes, and outputs; and to data on students, teachers, facilities, examination results,

expenditures, etc. UNESCO, Plan of Action in Tajikistan, (2003, p. 5). EMIS is perceived & explained differently by various scholars. Tom (January 2005), in his document on EMIS in Latin America, denotes some definitions he came across that different people's understandings of what an EMIS is and the vision of what EMIS could be can be quite different from one country and one person to the other..

The necessity to get accurate, timely and quality data caused the demand for some sort of systematic management of information. This was followed by the desire to have standardized meaning of the system from which the above stated different definitions are posited. All of them, in fact, are not far from its comprehensive meaning. In context, "It is an organized group of information and documentation services that collect, store, processes, analyze and disseminate information for educational planning and management." (UNESCO document, 2003); This definition of EMIS is really a statement of a vision of a system; a system that, if realized, would provide education leaders and decision makers with all the data and information needed to insure the development of highly effective and efficient education systems.. Therefore, as the potential users of data, managers must be systematically provided with accurate and timely information so that decision-making, planning, project development and other management functions can be carried out effectively.

According to Thierauf (1984) management information system can be define as any system the convert the data collected from routine transaction in to information which directly aid decision makes ability to make decision where the emphasis has been providing manager with decision making process. This study of system are refer to management information system .Thierauf (1984) further state that EMIS is based on information system design specifically for education management and its concept is derived from the concept of management information system. Blave and presser (2013) affirm that EMIS can help school management to work more efficient by for example improving ranking out corners behavior's, curriculum and other pedagogical data in addition to providing on demanded update data at different level, individual students' class, subjects or the entire school and by strengthens communications among staff, student and parent.

Bruniges (2003) asserted that the purpose using EMIS to improving and increase quality accessibility and coast 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, plan preparation, preparing hand out paper making and performing some analysis which can be efficiently done using EMIS module.

According to Juit (2000) 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. Indeed, Jhuree (2005), point out the school managers alter also involved in variety of work that require technology such as computation of school performance of certain year keeping record of employs and preparation of school budget.

Given the complex of school management HADDAD and Jurich(2001) 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 networks.

In this study the use of EMIS in management it's broadly seen as process of managing technology used for communication. Data processing and storage in daily task on the school management with respect to work load issue however, study by price water use cooper (2004) which investigates the use if ICT to address teacher load found that through ICT does help to address work load for some teachers. In the other cause ICT increase their work load with some task take it was longer to complete. However established that could be result of confidence in the use technology.

2.3 Challenges to effective EMIS
Some obstacles that have been identified in the literature that would hinder the effective use of EMIS in education sector. Becta (2004) grouped these barriers with respect to weather they relate to the institution (school – level barriers), education sector barriers, or the individual (teacher – barriers). Becta (2004) asserted that the issue of training is a complex one because it is important to consider several components insure the effectiveness of the training. Pelgrum (2001) noted that there were enough training opportunities for education sector persons, teachers in the use of ICTs in education sector and classroom environment.

Sicilia (2005) reiterated the assertion that many education sector officers and teachers feel unprepared to use technology because of lack of skills and 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 it as the users may spend a lot of time figuring out how to use a system rather than doing the actual work.

In survey conducted by Becta (2004) it was found that if there is a lack of technical support available in a woreda education sector and school, then it is unlikely that preventive technical maintenance would be carried out regularly. Becta (2004) further pointed out that technical faults with ICT equipment are likely to lead to lower of ICT use by woreda education sector because recurring faults are likely to reduce teacher ,education sector persons confidence and cause teachers and woreda education officers to avoid using the technology in future .

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 .

Sicilia (2005) reports in her study that teachers complained about how difficult have to be booked in advance meaning that a teacher would have access to ICT facilitate because most of them were shared with other teachers. 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. Becta (2004) found that resistance to change is an important barrier to teacher's use of new technologies. The study argues that one key area of teachers' attitudes towards the use of technology is their understanding of how those technologies will benefit their teaching and students learning.

Becta (2004) argues that in the teaching profession there is an inherent resistance to change, and that this is a barrier in teachers' use of new technologies in educational profession. Watson (2006) averse that integrating information technology in to educational setting requires change

and different teachers will handle this change differently depending on their personalities .Resistance to change May hamper teamwork in a school which may have a negative 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 student's progress manually instead of using special.

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. Lack of accessibility may have a negative impact on management of school since a lot of time is lost doing work that would have otherwise been done much earlier. This would end up reducing productivity in at the School due to the resultant stress levels.

2.4 EMIS for Management
Management is an effort made to lead the exertion of human and material input in order to achieve the set objectives through coordinating knowledge and skills of people involved. Information Technology is the equipment used for input, processing and output activities, in system; detailed preprogrammed instructions to control and coordinate components, storing data in magnetic disk, optical disk, tape etc., and transfers data from one location to other. The equipment can be connected into network for sharing the resources. An EMIS is utilizing information for proper planning & decision making in the management functions. In another way, EMIS can be perceived as an early-warning and early-learning system for education leaders.

That is, as broadly stated, an EMIS should facilitate the timely identification of underperforming units, such as schools, communities, districts, and societies, so that decision makers can take action sooner rather than later as remedial actions. Conversely, an EMIS should facilitate the identification of particularly well-performing units so that we can learn sooner rather than later about promising examples of good practice that may be transferable to other schools. It is part of a larger policy-planning-management system driven by goals and objectives and priorities. The EMIS itself is composed of sub-components each of which must be carefully managed to assure the delivery of relevant, reliable, unambiguous and timely data and information.

Education based data must be collected from: teachers, students' performance, exam results, finance sector, administrative personnel and the environment. It must also be analyzed, interpreted and stored systematically and then, disseminated to concerned bodies on time. This can be practical if management or administration is committed to promote the use of technology and able to shape individuals' beliefs that technology is useful for work activities. Lessen and Sorensen (2000), tell us that making the use of technology as priority, and establishing a technological infrastructure, focusing on development and creating training opportunities for staff can be one way in which administrators can promote the integration of technology between offices.

Some scholars add that primarily, it is the role of the leader to set the priorities for the staff, although these priorities may have been developed collaboratively with the staff. These priorities should include the integration of technology in key aspects of the office activities and life. They also note that the leader should be seen as not just a promoter but as a user of the technology and should set expectations for staff regarding the use of the technology, beginning with the hiring of new staff. In addition to this, the administrator is responsible for creating an environment where the integration of technology is possible and that includes providing access to appropriate technological tools. This means that staff should get access to the system in their offices. According to Robertson, (2005), implementation of information management means deploying new technology solutions, such as software, data warehousing or portal applications.

Thus, successful management of education systems today, require effective use of the IT tools for providing smooth operations, to enhance policy-making, teaching and learning research and monitoring and evaluating through data and information. Establishing a technological infrastructure also means providing adequate budgetary resources not just for technology acquisition but for maintenance and investing in adequate support personnel to coordinate all technology activities. This could be practical by EMIS coordinators acting on the coordination of EMIS activities in educational administrative offices.

According to Robertson, the training could be conducted in the form of one-on-one sessions, small group workshops or peer training, where for example, one staff member who has received training can pass on similar training to colleagues & downwards. Based on this, the uses of technology can be seen in two ways; uses for teaching and learning and uses for professional or

personal development. With reference to the implementation of EMIS, if one or more professionals are successfully using the system over a long period of time or if sustained professional development is provided for the staff, it is more likely to survive. Hence, other workers will have a positive perception of the EMIS and will be motivated to use it. Therefore, using the EMIS fully means, a change from the manual system of managing information to an electronic one, which involves a total transformation of information management at all level.

2.5 Management Information System and Decision Making.

Management Information System (MIS) is basically concerned with the process of collecting, Processing, Staring and transmitting relevant information to support the management operations' in any Organizations. Thus, the success of decision making which is the heart of administrates process, is highly dependent partly an available information, and partly on the functions that are the components of the process. It is pertinent to note that existence of alternatives, based on relevant information, is a necessary condition for making a decision. This view was buttressed by Ogunsaju (1990), when he pointed out that education decision must be based upon sound and well informed evidence that are highly intelligent, rather than those that are weak and baseless for effect ice decisions to evolve in any organization, therefore, receiving information from, and supplying information to, people within the system are a necessity.

The first of such activities is information gathering, which is followed by evaluation of alternatives and finally a choice. The first task of manager is to design and manage the flow of information in an organization, in ways that would improve productivity and decision making information must be collected, stored, and synthesized in such a way that it will answer important operatives and strategic questions. Corroborated this by elucidating that the amount of information available to a decision making group affects the product of that group. Hence, an administrator must be concerned with facilitating the free flow of information upward, downward and laterally within the organization. To do this successfully, the decisions should be based on accurate information obtainable with the operation of an effective management information system.

According to Obi (2003), MIS is useful in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also relevant in non-programmed decisions as it provides support by supplying

information for the search, the analysis, the evaluation and the choice and implementation process of decision making. Fabunmi (2003) also maintains that MIS is useful in making decisions to solve merry of the problems facing educational institutions. Such problems include poor program scheduling, poor estimate of staff requirements, lack of accurate information on students, personnel, and facilities, piling up of administrative matters, wastage of spaces, and lack of flexible budget estimates among others.

Adebayo (2007) stressed the need for MIS in decision making as it provides information that is needed for better decision making on the issues affecting the organization regarding human and material resources. Successful management of today's education systems requires effective policy-making and system monitoring through data and information. To this end, countries around the world have invested significant resources into collecting, processing, and managing more and better data through education management information systems (EMIS). However, all too often EMIS design and development has been limited to information technology enhancements, and/or data storage and maintenance, with insufficient attention paid to the management environment in which EMIS operates and data utilization for policy decisions.

This paper will examine the technical, organizational, and institutional conditions that must be met in order to enable information-based decision-making for effective system management. It will highlight the fact that technical capacity building must be accompanied by the creation of the demand for information and the nurturing of a culture of open communication, information sharing, and information use. EMIS means Education Management Information System, an information system with the main purpose of providing information which is used for improving the management of education at all levels. In order for EMIS to be useful, it has to lay the foundations for generating and accumulating additional knowledge for decision-makers at all levels of policy formulation and administration to base their decisions on. In addition, the EMIS also has to provide information to external users (donor and international agencies, researchers, private sector organizations, etc.), and the Central Statistics Office. The EMIS is not the only source of information, but it provides concrete, quantified information to the pool of information.

2.6 The Role of EMIS at Zonal and Woreda Level.
In Ethiopia, the Zone Education Office (ZEO) is an administrative level that is involved, to some degree, in the management of the statistical chain, with the noticeable exception of the

S/N/N/P/R/ State which handles its own data capture of questionnaires. All the other zones play a purely administrative role limited to transmission alone, which is justified by the hierarchical position of these structures in the organization chart. UNESCO, (2003/2004). Information management at zonal education office is based on collecting data from woreda, interpreting and using some for planning professional development, text book distribution, resource allocation and training purposes.

Other data that is needed by the region is sent to S/N/N/P/R/Zones need information for planning purposes. They prepare plans for services that are cross-woreda. These include technical vocational education, construction of secondary schools and provision of textbooks, under the guidelines from S/N/N/P/R/S. One of the critical planning functions at zonal level is to determine the locations for construction of secondary schools. A number of criteria are used, such as population of students, school-age population, enrolment in primary school, need for resource and distance from the nearest high school.

According to ESDP II (2003) description, zonal educational offices are also responsible for personnel information systems. BESO is developing the Personnel Management Information System (PMIS), which collects very detailed information. Woreda collect the data that are captured at the zonal level. The personnel department mainly uses this information for administrative purposes, but in future this has the potential to be linked with EMIS.

The woreda are the nearest education offices that can easily and frequently communicate with schools and get first-hand information. According to the guideline in the education decentralization, the budgetary aspects connected with the financial management of schools are fundamental to the woreda education offices. In principle, woreda are the most responsible sectors to gather, reliable data from schools & environment, retrieve and send to the zones in time. UNESCO Document (2004), states that the woreda are in the process of acquiring real administrative autonomy and are responsible for the delivery of local government services across all sectors.

In the budget planning process, WEOs need data on the number of teachers, new recruits, enrolment and the number of classrooms constructed, and use these data to make projections for the upcoming school year. An important element of the woreda plans concerns the construction

of new primary schools. Data needs and planning approaches are similar to those employed by the regional bureau to determine location of new schools in regards to population, school-age population, and distance from the nearest school, etc. The explanation regarding the information exchange between schools &woreda takes place in a number of schools visited, to be provided information on teachers and qualifications, enrolment and school supplies and infrastructure, as well as for budgeting and planning purposes. Schools are required to produce a strategic plan for the upcoming three years, based on a common format.

This is one documentary point from where data are collected by the ZEO so as to provide help. This doesn't stop here; it will be processed to the region's education office. The explanation from EMIS panel discussion states that MOE is on process to actualize the system linkage from schools up to ministry of education. In addition to this, The Federal EMIS Panel, (2004), in its statement on (" The Aim of EMIS for Quality Education"), reminds that linkage of school census and examinations data will yield several additional indicators on the quality of education from a national perspective, based on the proxy of examination results.

This would include derivation of indicators on exam results by rural versus urban areas; socio-economic status characteristics of the parents; school infrastructure and supplies; and teacher qualifications. Such indicators and analyses will be helpful in identifying factors impacting data quality to help influence policy formulation.   Upon this, we can sense that there are some indicators flashing hopes for sustainable linkage among schools, WEO, ZEO, REB and MOE with the development of EMIS.

2.7 Benefits of Education Management Information System.
 EMIS being a system is used as a set of formalized and integrated operational processes, procedures, and cooperative agreements by which data and information about schools; educational resources and infrastructure; other learning activities, and evaluative outputs are regularly shared, integrated, analyzed, and disseminated for educational decision making at each level of the educational hierarchy. Educational Management Information System is mainly perceived & used as comprehensive and coordinated data collection, processing, storage and dissemination mechanism for the education sector.

The importance of a well-established EMIS is that problems associated with lack of knowledge on the status of education development at a given time and what really needs to be done will be solved systematically. It also helps to know the status of education development and manage it in an effective and efficient way at various levels.

EMIS could also provide other important information, such as outcomes of findings of education researches, results of school inspectorates, newsletters, regulations, school mapping and micro planning reports, public expenditure review, recorded documents of TDP, ESDP, SDP, SIP, CPD and the like. These documents are archived in the system to which anyone can have access.

Infrastructure and assets data – classroom, furniture, school area, other facilities, and performance measures data – results of national examinations and local examination, repetition rates, transition can be evaluated. Financial management information– cash flow of school finance, audit report, expenditure reports, implementation of school plans and school contributions, studies, researches, information materials, results of school inspection, documents, education policy, acts and regulations are all realized by EMIS. In aggregate, EMIS is important to promote school performance with the strategies, which are capacity building and institutionalization, development of software system, hardware procurement & installation, and program management and monitoring activities at all levels.

2.8 The Objectives of EMIS

The focal functions of EMIS are the collection, processing, utilizing and dissemination of educational data and information and avail it to educational stakeholders on a timely, routine, reliable and predictable basis via uncomplicated and user friendly interfaces. In its normal operation it employs both manual and ICT through computerized systems. EMIS also includes a set of formalized and integrated operational processes, procedures, and cooperative agreements by which data and information about schools; educational resources and infrastructure; other learning activities, and evaluative outputs are regularly shared, integrated, analyzed, and disseminated for educational decision making at each level of the educational hierarchy (Bodo, 2006).

Educational goals and objectives in many countries have shifted from focusing on access, expansion, maintenance and control to quality, development, efficiency, effectiveness, equity

and performance; this shift offers a more complex collection of policy choices. Understanding these choices requires data which come from multiple sources and from multiple levels. Collecting, organizing, integrating and analyzing these data will require more cooperation across directorate levels within the MOE and between the MOE and other private schools and agencies (Hua and Nerstein, 2003, Cassidy, 2006).

An emphasis on quality, equality, equity, performance and development requires significant changes to the functioning of education systems, how they are managed, and the kinds of data and information that education leaders and mangers need to fulfill their responsibilities. Therefore, monitoring a system's progress against this set of goals, and adjusting education policies to assure successful attainment of goals and objectives, requires access to much more detailed data and information. These data and information need a comprehensive system that can analyses and process the data for decision making purposes (Cassidy, 2006).The objective of an EMIS, however, is not only to collect, store, process, analyses, manage and disseminate information but also to help education policy making by providing relevant and accessible information. The EMIS is gradually being recognized as an indispensable tool and support for the formulation of policies, management and evaluation in the education system (Carrizo et al., 2003).

2.9 Some of the empirical studies

Some of the challenges of EMIS in Nigeria are discussed below as highlighted by Shoo Bridge, (2006).How to fund EMIS development and maintenance is no doubt the biggest challenge facing some countries including Nigeria. This is an issue beyond the scope of the current review. Inadequate funding has prevented most schools from having well equipped computer laboratories. Inability to integrate data and data systems: Integration is the most significant supply- side challenge facing those responsible for EMIS development in Nigeria today. As observed by Shoo bridge (2006), most of the integration challenge has to do with organizational constraints.

There is much more reliable and useful data and information available today in most countries than in the past but even in the countries considered to be leading in terms of EMIS development, e.g., Chile, Mexico, Argentina, Brazil, data is rarely integrated in ways that make it readily available to support monitoring and evaluation, policy analysis and planning at multiple

levels. This is largely difficult because past efforts to improve data quality were efforts designed to meet the particular needs of specific ministry offices and extra organizations. Hua and Herstein (2003) maintenance of an integrated EMIS requires a high degree of coordination and collaboration at all levels in the educational system as well as with other ministries and with external agencies. This is not an easy task as organizations are as complex as educational systems tend to resist change. More timely integration of data across units will only be possible if standard definitions and coding schemes are developed and put in place across the system

Inadequate development of skills in data use at all levels: Considerable knowledge and skills are required to build, maintain and use an EMIS. Lack of available human resource capacity significantly limits EMIS development. Building human resource capacity has long been known as a critical factor in the success of EMIS development. Limited capacity for more effective use of data in management and decision making, particularly at the school levels is often cited by local educators and external evaluators as a critical factor limiting the development of EMIS in Nigeria. Several categories of knowledge and skills are often referenced as deficient: (i) knowledge and skills to lead and manage EMIS development; (ii) knowledge and skills to use technology; and (iii) knowledge and skills to use data effectively for decision making, policy analysis and planning (AEPM, 2007).

Inability to capture expenditure and budget data in EMIS: The lack of access to desegregate data on educational expenditures or even education budgets is often cited as a major constraint to more informed dialogue on education policy. The lack of budget transparency has been cited as a serious limitation to wider citizen participation in policy debates in Nigeria. Salado, C. University of Jos Demonstration Secondary School, Jos, Nigeria. Inability to develop student-record based   EMIS: The debate in Nigeria is about whether, or not, to pursue the development of individual student-based EMIS. Proponents of such systems often point to the need for individual student records to monitor the progress of all students and to support student-based financing schemes, which are emerging in a number of countries.

The implications for EMIS of a decision to build a student-based EMIS and maintain student records at state and federal levels are considerable. The development of a student-based system is conceptually straight-forward and not particularly difficult to accomplish technically. The challenge, when building and maintaining a national EMIS based on individual student records is how to manage the complexities involved with tracking and updating student records from

year to year. The administrative- management demands of such a system are considerable. Maintaining national level student- record based EMIS requires a level of administrative and management discipline that is often beyond the means of current administrative-bureaucratic-management systems.

Experience in other countries suggests that the decision to build an EMIS up from individual student records should be weighed carefully against existing management capacities, administrative-bureaucratic discipline and available resources (Stephen and Cummings, 2009).Given the complicated environment in which data collection takes place and the politics surrounding federal-state relationships, the government faces an enormous challenge to develop an EMIS capable of capturing the inputs and outputs to the educational system, not to mention issues with measuring the efficiency of resource allocation.

These challenges are inadequate funding, inability 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. The government and donor communities cognize these challenges and need to embark on a series of major reforms, including the development of structures to improve coordination at the federal level and to focus resources on creating a sustainable EMIS at the state level. Achieving the goals of quality, equality and equity requires new knowledge and skills at all levels education system and in all job categories from teachers and principals to state and national-level educators.

2.10 Summary of Literature Reviewed

This section examined the literature related to management in general including the classical definition of management. The concept of EMIS in education management has also been explored together with the education management tasks that lend themselves to the use of EMIS These tasks are curriculum and instruction, human resource, school – community relations and finance According to strickly (2011) EMIS system can be used for tracking student's performance and also assist in time table management and allocation of rooms in an education sector with regard to the use of EMIS for human resource and school community relations research findings school-community affair through the technology can easy the process of data retrieval and promote the linkage between the school parents and the wider community.

Bland ford (1997) showed how the computerization of accounts can enhance financial management in education sector. The studies cited did not however; the use of EMIS in the tasks either singly or jointly affected the management education sectors. However, that by price weather house coopers (2004) reduced mixed results showing that the use of ICT does help in reducing work load in some instances and increase them in others. There is therefore a need to fill this gap by investigating the influence of the use of EMIS on education sector management. The literature has shown that appropriately used. ICT can have a positive impact on the management of curriculum and instruction. Human resources management school-community relations and financial management (strickely, Gurr, 2000). Barriers to the use of ICT in management have been highlighted including lack training lack of technical support, lack of accessibility and resistance to change (Becta, 2004).

An over view of the various policies by the government on the need to use EMIS in education sector management and the interventions that the government has made to improve EMIS in education sector management and the environments that the government has made to improve the skill of educational sector managers through training, and provision of ICT facilitates especially and software (Republic of Kenya, 2015). There was therefore having invested in hardware and software (Republic of Kenya, 2015). There was therefore a need to find out whether such policies have had a bearing on the use of EMIS in management.

2.11 Theoretical frame work

The study is guided by Hennery Fayola administrative theory of management, technology acceptable model administrative theory of management by Hennery Fayola. The administrative theory was developing by Hennery Fayola, arench mining engineer in 1916. Fayola prefaced his definition of management by identifying six group of activity to which all industry understand given rise, technical activity (production, manufacture, adaption) accounting activity (buying , selling, exchange)financial activity (search for optimum use of capital) security activity (stoking, balance sheet, coast, statically)and managerial activity. Fayola then break down function or elements namely plan organizing, command, coordinate and control, Fayola (1949; p.3)

The concern of this study is with last of this .i.e. the managerial activity which are concerned with drawing up board plan of operations of business with assembling personal coordinating and harmonizing effect and activities ;Fayola(1945;p.5)the five function of management are

applicable to this study for example, it come to planning which is assess the function and make provision for it .(Fayola, 1949 ;43) this can know be done on continuous , thanks to a number of software package and computer program available to education sector management which can help them store retrieve and analyze information for plan (maki,2006,vischer 2003) similar control which is verifying weather everything occurred on conformity with a plan adoption instruction issued and principle established . (Fayola, 1949; 107) can be made easier by made ICT software. with regard to organize the way in which task ,people and group need to be structure can now be established and the change quickly and easily.

In addition to above managerial activity Hennery Fayola come with 14 general principle designs to guide the successful manger .These were division of labor, (providing maximum efficiency from applied effort) manager. authority (requiring obedient and fulfillment of orders) discipline (employers must obey and respect rule that govern the organization , unity of command (prescribing accountability of an employee to only one supervisor.) unity of direction (leading an entire undertaking along single of action towards common goal) subordination (calling for submission of individual interest to need entire) remuneration (serving as fair rewards and means of motivation)centralization (prescribing integrity of authority and control , scalar hierarchy (lire of authority from top management of the lowest , communications should be follow this chain , order (requiring the all organization activity are regularizing that all organization activity's regularize and every unit ether material or human , is placed at right place.

Equity (anticipating faire relation between management and employees, stability of personal tenure (providing employees with principle that are applicable to this study include the principle of division of work which stress on the specialization and can be applied to encourage team work and help colleagues who may not know how to use. sufficient time to accustom to their work place and encourage them to work at full). Initiative (facilitating employees concern about organization advancement) and sprite decors which has to do with maintain moral and cohesion in the working environment (Fayola 1949; 19)

2.12 Conceptual framework

The   study conceptualizes that the use of EMIS in the management of a woreda education sector is attached on how education sector functions to meet its objectives. The study is based on the

supposition that woreda education sector in Kaffa zone have ICT infrastructure and that the education sector organizations are familiar with the various EMIS use in education sector management. From the framework, the independent variables reflect the five mission areas where EMIS are used in woreda education sector management namely the status produce and utilization of education information to plan and manage education sector of EMIS by stake holders, the major challenges that affect the effective use of EMIS in education sectors, and the extent EMIS satisfied internal and external stakeholders. The intervening variables are the training established, access to technology and the ICT infrastructure which have an impact on the use of EMIS in woreda education sector management. The reliable use of EMIS facilities would ultimately influence the education sector management in terms of good planning , faster decision making ,easy packing of information and closer communication.

Variables

☐ The extent of use of EMIS by stake holders

☐ Training established

☐ The extent of data and information management

☐ Accesses to technology

☐ The extent of EMIS development in woreda education office

☐ ICT infrastructure

2.13 Designing Models.

The study is also guided by designing models such as the input design, design of computer technology, database design, and the output design. In addition, the design stage should be equipped with designing procedures and programs. A model design is a simplification or abstraction of something that represents a number of objects or activity called entity (Sutanta et al., 2003). The input design is a component of the system, i.e. everything that needs to be entered into the system as a material to be processed further to produce and useful output. In management information systems, input refers to the data or the data source (Marimin & Prabowo, 2006). Processing input design was done with data capture, data preparation, and data entry. Regarding to this process, Input can be grouped into internal input that comes from within the organization and external inputs that come from outside of the organization. The design of a

database used an entity relationship technique that data model was developed based on the object in order it can be explained to the user about the relationship between data in the database and the perception of the real world logically. The basic objects that are interconnected were visualizing into the graphic symbols. The database will manifest themselves in the form of file collections. They are master file, transaction file, report files, history files, backup files, and working file. Meanwhile the steps in database design were to determine the needs of database files to the new system, determine the parameter file of the database, normalize the database file and optimize the database file.

The output design is a system component such as various forms of output generated by the processing component. In education MIS, the output is information generated by the application program to be used by the users as decision making for improvement and development. Type of output can be in the form of display on the computer screen (softcopy) or printed on paper (hardcopy), such as paper and microfilm.

In order to be implemented systematically as the scheme, the system should receive additional support by designing procedures and programs. Procedures Design set standard operating procedures for education MIS at school. Thus, in the operating system, the deviation can be avoided. While the program design is a system software that consists of programs controlling or maintaining the operation of computers and tools. Software acted as an interface among the user, application software, and computer hardware as the operating system and utility programs.

The development of computer-based education MIS model for elementary schools will be designed by programmers. The result of its design will be in the form of application software. The characteristics of the program application will depend on the desired content, which refers to a procedure manual. Perceived service the information given was related to the expectation of the stakeholders. Therefore, education MIS output can be viewed from the meaningfulness of information services to the users, use of information in decision making, and use of information as a control for quality improvement and organizational development.

Education MIS should provide educational information starting from the collecting, processing, and storage of data or information. Information submitted to the person in charge can be used as the consideration for effective decision making (Kaner, 2014; Sutanta et al., 2003)

The implementation of management information systems will support the leader to decide the quality policy or decision. The level of quality in the organization (particularly education) depends on the intangible factors, especially from the attitude of the leader. By using computer-based education MIS, the system will work as a disseminator of information to the people within the organization. To have a right decision-making in education, the leader should understand the overall system. Therefore, in making decisions the leader should be suitable with the value, the facts, and the culture of the organization. The application of education MIS can improve the quality of education continuously so that it can be supported by the data or information that is accurate, precise, and relevant. The process of continuous improvement can be done based on the plan, do, check, action (PDAC).

CHAPTER THREE

3 THE RESEARCH DESIGN AND METHODOLOGY

This section was discussing the research methodology that would employ to achieve the objectives of the study. It contains the setting where the research were conducted, research design, source of data, population and sampling techniques, data gathering instruments and methods of data analysis.

3.1 RESEARCH DESIGN

The research design is mainly descriptive. This design was selected for it is an appropriate methodology to describe the current status of a given situation. Accordingly, the study was mainly undertaken using on both qualitative and quantitative data pertaining to the problems and objectives. This is because it is important to explain what is causing the problems relating to EMIS to happen and how people perceive the importance of EMIS as a key tool to efficiently manage the activities of the education sector. By using this type of research method, the researcher would attempt to gather data about the past experience, recent status, and other internal and external factors that contributed to the existing problem.

The quantitative method supported by qualitative approach and the research design was descriptive in nature. Descriptive research design has been employed. The method is selected as an appropriate method to carry out the study as a whole (Best and Kahn, 1998). Accordingly, quantitative and qualitative approach was employed throughout the study. In line with this, Bryman (1984) describes that the problem under investigation properly dictates the method of investigation.

The advantage of descriptive survey research method, defined by Cohan (1994) and Grey (2004), are; it generate 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.

According to Creswell and Clark (2007). Such design enables data to be collected from wide area quite cheaply and produces valid and reliable generalization. In this study data would collected from varies respondents (Kaffa Zone EMIS experts, Kaffa zone Woreda education office EMIS experts and woreda education office work process owners to help give clear picture of using EMIS on management woreda education office of Kaffa zone.

3.2 The Research Method

The student researcher would utilize mixed method approach through collecting and analyzing both qualitative and quantitative data. The researcher initially uses quantitative methods through survey questionnaires, while he also uses semi-structured interviews to the substrate the qualitative data. There are some rational to use mixed method approach for this study. First using such methods is advantageous to examine the same phenomenon from multiple perspectives (Cohen et al, 2007). Second, mixed method approach is important to build up on the strength that exists between qualitative and quantitative methods 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 strength the finding of the research the relevant data for the study was generalize from both primary and secondary sources.

3.3.1 Sources of Primary Data

In this study primary data source employs to obtain reliable information about the study. The sources of primary data were sampled woreda EMIS experts and sampled woreda education office work process owners through questionnaires and interviews woreda education head.

3.3.2 Sources of Secondary Data.

Secondary data was obtained through documentary analysis. For this purpose, the researcher is able to observe woreda education offices relevant documents to obtain data on the organization and implementation of education management information system (EMIS) strategic Plans, available EMIS materials and information documents of the woreda annual report, to reveal information for the study. According to *Bowen (2009),* document analysis implies a systematic procedure for reviewing or evaluating both printed and electronic documents (materials) of information recorded for use. He denotes; Document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge. These enable the researcher to get adequate information and analyze how information has been being utilized in the target areas.

3.4 Target Population

The target population of the study would be Kaffa zone five woreda; Woreda education office EMIS experts, woreda education office work process owners, Kaffa Zone EMIS experts and woreda education office head.

3.5 Population Size, Sample and Sampling Techniques

In Kaffa zone there are eleven woreda and two town administration. For this study five woreda namely Chena woreda, Bita woreda, Bonga administrative town, Wacha administrative town and shishoinde woreda would selected by using random sampling techniques. Cohen and Manion (1994) suggested that, a sample size of 30% from the population is appropriate if the number of population is known. Based on this, Out of thirteen woreda five woreda would be selected on the basis of simple random sampling technique. This is because simple random sampling technique gives each unit of population equal opportunity to be selected (Seyoume and Ayalew, 1989). Socio-cultural and geographical setting was another reason to select it for the study was also delimited to five woreda education office only.

From each selected sampled Woreda 33% would be selected as a sample area by using purposive sampling technique. Similarly selected woreda education EMIS experts, woreda education office work process owners and woreda education office head would selected by using purposive sampling technique, because they are directly concerned individuals to provide relevant data regarding to EMIS practice and problems of their organization. In support of this technique, Gall, Meredith, D. (1996) stated that, the goal of purposeful sampling is to select cases that are likely to be "information rich" for purpose of the study.

Table 1 List of woreda target population and sample size

R/ no	List of zone/woreda	Variables	Population			Sample				Sampling Techniques
			M	F	T	M	F	T	%	
1	Kaffa zone	EMIS expert	5	1	6	5	1	6	100	Census
2	Chena woreda	EMIS experts	4	1	5	4	1	5	100	Census
		Woreda education office Process owners	14	7	21	14	7	21	100	Census
3	Bita woreda	EMIS experts	5	-	5	5	-	5	100	Census
		Woreda education office Process owners	16	7	23	16	7	23	100	Census
4	Wacha administration town	EMIS experts	5	1	6	5	1	6	100	Census
		Woreda education office Process owners	15	3	18	15	3	18	100	Census
5	Bonga administration town	EMIS experts	4	2	6	4	2	6	100	Census
		Woreda education office Process owners	16	4	20	16	4	20	100	Census
6	Shishoinde Woreda	EMIS experts	5	1	6	5	1	6	100	Census
		Woreda education office Process owners	17	2	19	17	2	19	100	Census
7	Total	Woreda EMIS experts& K/Z/EMIS experts	28	6	34	28	6	34	100	Census
	Total	Woreda education office work process owners	78	23	101	78	23	101	100	Census

3 .6 Data Collection Instrument.

This study would be mainly employed questionnaires, interviews and observations.

3.6.1 Questionnaires

This study use questioner to collect data from Woreda EMIS officers, woreda education head, woreda education work process owners, Zone EMIS officers. The close ended items are formality in five points liker scale (strongly agree undecided, disagree, and strongly disagree) and semi structure items are provided for the respondents to express their ideas. The questionnaire would be develop after the advisors and experienced teachers of Chena secondary

school would be consulted to give their assess and give feedback on the significance of the contents, item length, simplicity of items, and details of the questionnaire. Based on their comments, the instruments would be improved before they are administered to the major participants of the study to reduce errors.

The respondents personal characteristics and item are relevant under investing the student researcher compute the quantitative data using mean item scores from $1.0 - 5.0$ with higher scores indicating higher responses score and lower score indicating low response of respondents.

3.6.2 Interview

Interview gives the needed information face to face. These, with this assumption semi $-$ structure would use to collect deep information on issues related to practice and challenges of education management information system. The interview question would be prepared in Amharic and translated to English. The interview was deal with each woreda education office head.

3.6.3 Observation checklist:

According to Fraenkel and Wallen (2014), an observation is intended to indicate whether a particular behavior is present or absent and that observation checklist is used to record data on an event or activity directly rather than relying on people's willingness to provide information. Kothar(2004) states that under the observation method, the information is sought by way of the investigator's own direct observation without asking from the respondent.

In this study, an observation checklist was constructed and used to check the presence of the number of computer available, internet access, printer, copier machine, fax machine, office phone and strategic plan of EMIS in use in the woreda education office of Kaffa zone. Observation provided the opportunity to experience real-life situations of aspects for which data is being collected. The researcher carried out observations during visits and recorded the number of ICT facilities that were available for EMIS implementation. For each item observed, appropriate remarks were made against the item in the observation checklist. The observation checklist enabled the researcher to cross check with the information provided by the respondents in the questionnaires for purposes of triangulation.

3.7 Validity of the Instrument

In this study survey item, and the item about the back-ground information would be reviewed for content and clarity by experts in the filed .My dear advisor and co-advisor from College of education and behavioral science department of educational planning and management from Jimma University would be review these survey questionnaires to insure that the instruments compressively covers the domain or items that it properties to cover. Feedbacks on the instrument were also from the student researcher's advisor. Finally all accepted comments and feedbacks are including in the final version of the instruments. In addition to this, based on the given comments from dear advisor and co- advisor the questionnaires and interview questions were re-organized.

Regarding trust worthiness of the study, since the participants of the study 59(89.58%) in five woreda education offices of Kaffa zone student researchers' believes that depending on their response lends credence to the results on the study. Moreover these participants are not force by any to participate in the study; situation can increase the trust worthiness of their response. Moreover (5) out of participant of the interview were be invite to review the accuracy of this response and the interpretations of them.

3.8 Reliability of the instrument

Checking the validity and reliability of data collecting instruments before providing to the actual study subject is the core to assure the quality of the data (Yalew, 1998). To ensure validity of instruments, initially the instrument was prepared by the researcher with guidance from the advisor. The questionnaires were pilot tested at one woreda education office of Kaffa zone. The participants of the pilot test would also primary clued-up about the objectives and how to fill, assess and give feedback on the significance of the contents, item length, simplicity of items, and details of the questionnaire. Based on their comments, the instruments were improved before they would administer to the major participants of the study to reduce errors. The result of the pilot testing was statistically computed by the SPSS version-20 program. The Cronbach's Alpha Model was used for analysis the data. Based on the pilot test, the reliability coefficient of the instrument was found to be (0.759 to 0.859) and, hence, was taken to be reliable. That is the instrument was found to be reliable as statistical literature recommend a test result of 0.65 (65% reliability) and above as reliable (George &Mallery, 2003).

Table 2; Reliability test results with Cronbach's alpha

R/N	Major categories of Practice& challenges of EMIS in woreda education office of Kaffa zone./ Detail description of the title of the questions	Reliability coefficient
1	Opinion and Importance of EMIS in W/E/O of Kaffa zone	0.84
2	Organization of EMIS in W/E/O of Kaffa zone	0.87
3	Staffing of EMIS in W/E/O of Kaffa zone	0.68
4	Utilization of EMIS in W/E/O of Kaffa zone	0.75
5	Quality of data generated W/E/O of Kaffa zone	0.82
6	Challenges related to EMIS in W/E/O of Kaffa zone	0.62
	Average reliability coefficient	0.76

3.9 Ethical Consideration

Research ethics refers to the type of agreement that the researcher enters into with his or her research participants. Ethical considerations play a role in all research studies, and all researchers must be aware of, and attend to the ethical considerations related to their studies. Therefore, there are a number of ethical considerations made during the study. Voluntary participation of respondents is encouraged. Responding to interviews and responding to questionnaires requires significant time and energy and its participation could disrupt the respondents 'regular activity. Depending on this, the researcher explained the objectives and significance of the study to the respondents and allowed them to exercise their right in the form of voluntary participation. To avoid any psychological dismay, questions would framed in a manner that is not offensive and doesn't disturb their personality. They are assures that the information they would provide should be kept confidential. To ensure this, the researcher haven't included information that requires identification or names of respondents. Furthermore, the first page of the questionnaire displays an opening introductory letter that requests the respondents 'cooperation to provide the required information for the study

3.10 Procedures for Data Collection

After I would get permission letter from the Kaffa zone education department, to conduct study in the woreda education office of Kaffa zone students research make a contact with EMIS experts and woreda education office work process owners to inform them about the purpose of the study and to distribute questionnaires in woreda of education office of Kaffa zone. The student researcher would personally distribute the questioners for the respondents. Moreover, the student researcher would personally conducts the interview participant and make interview in his work plan.

3.11 Method of Data Analysis

In this study data would be collect through survey questionnaires were process and analyze by employing different statistical tools. The student researcher uses mean and standardization to analyze. On the other hand, the qualitative data which would gather from respondents through interviews were summarized by qualitatively describing it using content analyzes approach. Using this methods enable the student researcher to organize the data, break them in to manageable units and then search come up with them.

CHAPTER FOUR

4 PRESENTATIONS, ANALYSIS AND INTERPRETATION OF DATA.

4.1 .INTRODUCTION

The study investigated the practice and challenges of Education management information system in woreda education offices of Kaffa zone. The analysis was based on the following research objectives which sought to: status of EMIS, organization of EMIS, staffing of EMIS, availability of necessary materials, utilization of EMIS, quality of data generated by EMIS and challenges related to availability, competency and manpower.

Table 3: Questionnaire return rate

	Respondents	Expected actual		Return rate	
		F	%	F	%
1	EMIS Experts	34	100	30	88.2
2	Woreda education work Process owners	101	100	86	85.2

As shown in Table 4. The return rate for EMIS experts was 88.2 percent and for woreda education office work process was 85.2respectively. The response rate was therefore statistically representative as recommended by Bryman (2004) who avers that a response rate of more than 70 per cent is good for meaningful generalization.

4.2. Demographic characteristics of the respondent Characteristics of Respondents

The study targeted 34 EMIS experts and 101 process owners working in five (5) woreda and education offices of Kaffa Zone. Apart from this, each woreda education office head were interviewed so as to organize & analyze the responses obtained on the organization and implementation of EMIS in their respective offices. A total of 135 questionnaires were distributed to EMIS experts and process owners (PO) that were included in the study. Out of 34 questionnaires distributed to EMIS experts respondents 30(88.2%) were filled and returned. From 101 questionnaires that were distributed to process owners, 86(85.2%) were filled and returned, in spite of little delay. In general, out of 135 questionnaires distributed to respondents, 116(86%) were filled and returned. On the basis of the responses that were obtained, presentation, analysis and interpretation of data have been made following each table

Table 4 Background information of the respondents.

Category. Of respondents demographic	Item	EMIS Experts		Process owners		Total	
		F	%	F	%	F	%
Gender	Male	25	89.3	73	84.9	98	84.5
	Female	5	83.3	13	15.1	18	15.5
Age distribution	Below 25years	3	10	6	7	9	7.6
	25-30 years	5	16.7	9	10.5	14	12.1
	31-40 years	12	40	32	37.2	44	38
	41-45 years	7	23.3	15	17.4	22	19
	Above age 45	3	10	24	28	27	23.3
Educational qualification	Diploma	-	-	6	7	6	5.2
	BA degree	26	86.7	80	93	106	91.4
	MA degree	4	13.3	-	-	4	3.4
	PHD	-	-	-	-	-	-
Work experience	0-5 years	12	40	26	30.2	38	32.8
	6-10 years	7	23.3	24	28	31	26.7
	11-15 years	3	10	9	10.5	12	10.3
	16-20 years	3	10	12	14	15	13
	Above 20 years	5	16.7	15	17.4	20	17.2

4.2.1 Background Information.

This study sought to find out the respondents' gender. The disaggregation of respondents according to gender is important because this is one of the factors that may affect the use of EMIS implementation. According to Becta (2004) there is evidence that suggests that gender may have an influence on the degree to which use ICT with female, woreda education officers reporting greater levels of computer anxiety than their male counterparts

As table 5, indicates, out of the total 116 respondents, 96 (82.8%) are male respondents from EMIS experts and process owners and 20 (17.2%) are females. This indicates that the participation of females in these positions of the offices is low due to different social and economic factors.

In terms of age distribution, 8(6.9%) are below 25 years, 16 (13.8%) 25-30 years, 46(39.7%) are 31-40 years, 24(20.7%) are from 41-45 years and 22(19%) are above 45 years. This shows that they all are in varied age groups and can be used as reference for experience.

Regarding educational qualification, 4(3.4 %) respondents are diploma, 104 (89.7%) of the respondents are MA degree holders and 8 (6.9%) of the respondents are MA degree holders. Therefore, from this, it can be seen that, 112 ((96.5%) for woreda education office level   EMIS experts and process owners' qualification are enough to be good opportunity for organizational performance.

In the case of work experience, the table shows respondents current experiences numerically & in percent. Accordingly, 41 (35.3%) respondents are 0-5 year experiences, 29(25 %) respondents are 6-10 years experiences,12(10.3%) respondents are 11-15 year experiences,14(12%) respondents are 16-20 year experiences and 20 (17.2%) of the respondents are above the age of 20. From this, it can be learned that, the sample woreda education offices have sufficient experienced process owners and experts.

4.3. Data on the practice and challenges of EMIS in Woreda Education Offices of Kaffa zone

Table 5. Respondents view on the opinion and importance of EMIS in Office

Item	group of the respondent	N	Mean	Std. De	T	P
EMIS improves the quality of decision made in my section	EMIS experts	30	1.72	0.75	-1.26	.001
	woreda education office work processes owners	86	1.80	0.96		
EMIS improves the quality of planning in my work section	EMIS experts	30	2.11	0.96	-290	0.58
	woreda education office work processes owners	86	1.73	0.63		
EMIS enhances efficient utilization of resources in my office	EMIS experts	30	2.33	0.76	-253	0.614
	woreda education office work processes owners	86	1.66	0.66		
EMIS strengthen the link between our woreda and others	EMIS experts	30	2.27	1.01	1.26	.001
	woreda education office work processes owners	86	1.96	.55		
EMIS strengthen the link between our woreda and regional educational bureau	EMIS experts	30	2.38	1.03	1.03	0.99
	woreda education office work processes owners	86	2.33	0.99		
EMIS improves the overall operation in my work section	EMIS experts	30	2.44	0.78	.004	-222
	woreda education office work processes owners	86	2.10	0.66		
EMIS helps to complete tasks in relatively shorter time	EMIS experts	30	2.33	1.18	0.39	-434
	woreda education office work processes owners	86	2.23	1.07		

Key.-1 strongly disagree 2; dis agree 3; UN decided 4: agree 5: strongly agree

EMIS experts and woreda education work process owners responded question positively as EMIS improves decision making in their office. The mean obtained from EMIS experts and woreda education work processers are(X= 1.7 SD =0.75) and x= 1.8 SD=0.96 respectively. The t-value is -1.26 and below 0.05. This implies that t-value is not significant. None significances of t-value indicates that nonexistence difference of mean between two different respondent. As shown in the table the mean falls under the disagreeing category. This implies that woreda education office work processers and EMIS experts has limitations in using EMIS data in decision making in their office .This view was buttressed by Ogunsaju (1990), when he pointed out that education decision must be based upon sound and well informed evidence that are highly intelligent, rather than those that are weak and baseless for effect ice decisions to evolve in any organization, therefore, receiving information from, and supplying information to, people within the system are a necessity.

> *A woreda education office EMIS expert expressed what he feels,(IN#1)*
>
> *…as far as quality information is needed at every hierarchy of education sector, there has to be improved structure and resource development at each level of education institution…" hence in woreda education office of Kaffa zone there hasn't any improved structure regarding EMIS implementation and quality of education also these is the result of absence of ICT infrastructure.*

When we observed in item 2 of the same table, respondents were asked to denote whether EMIS improves the quality of planning in their work section or not. Experts and process owners with the mean of(X= 2.11& SD=0.96) and (X= 1.73 SD=0.63) respectively. The t-value is-29 and this is below 0.05.This implies that t-value is not significant. None significance of t-value indicates that nonexistence difference of mean between EMIS experts and work process owners. This implies in table 1, item 2, mean determines under disagree category. The implication of this was that the EMIS experts and woreda education work process owners had limitations in using EMIS for the quality of planning in their work section in woreda of Kaffa zone. *Lucey* (2005), suggests that EMIS enhance the quality and speed of information processing and management's decision making, planning and control.

The mean (X) and standard deviation (SD) obtained from the EMIS enhances efficient utilization of resources in woreda education office of Kaffa zone in table 3 item 3 the

mean(X= 2.33 and SD=0.76 and(X=1.66 and SD=0.66) respectively shows there about the issue. The t-value was -25 and this is below 0.05. This implies that t- value is not significant. None significances of t- value indicates that nonexistence difference of mean between two different respondent. This implies that the mean falls under disagreeing category. This indicates EMIS not enhances efficient utilization of resources in woreda education office of Kaffa zone. This shows absence of proper training on modern resource utilization. In view of the information revealed above, there is a room to say that EMIS was not properly utilized to actualize efficient utilization of resources in woreda education offices. According to *Chapman (1990:5),* educational information could be used to improve the quality of education by providing data that are used directly to secure allocated recourses, constraining bad decisions and detecting inefficient use of resources.

In table 3 item 4 EMIS experts and woreda education work process owners asked question positively as EMIS strengthen the link between there woreda and others in the education office of Kaffa zone. The mean obtained from EMIS experts and woreda education office work process owners were(X= 2.27 SD=1.01andX= 1.96 SD= 0.55) respectively. This shows both EMIS experts and woreda education office work process owners disagreeing on the issue of EMIS strengthen the link between there woreda and others. Understanding these choices requires data which come from multiple sources and from multiple levels. Collecting, organizing, integrating and analyzing these data will require more cooperation across directorate levels within the MOE and between the MOE and other private schools and agencies (Hua and Nerstein, 2003, Cassidy, 2006). The implication showed that the woreda education EMIS experts and work process owners did not strengthened with other stake holders that work with education.

Regarding to table 3 item 5 on the question about whether EMIS strengthens the link between our woreda and regional educational bureau. EMIS experts and woreda education office work process owners with the mean of(X= 2.38 SD=1.03andX= 2.33SD=0.99) respectively. This indicates that both group respondents were disagreeing on the issue of EMIS strengthens the link between woreda education office and regional education bureau. The implication of the above idea is both woreda education offices and regional education bureau did not link with EMIS process and the systems they use were/are old fashioned trained that is on hard paper report system. The Federal EMIS Panel, (2004), in its statement on (" The Aim of EMIS for Quality

Education"), reminds that linkage of school census and examinations data will yield several additional indicators on the quality of education from a national perspective, based on the proxy of examination results.

One of the woreda education office EMIS experts express his feeling as follows ;(IN#2)

One of the problems for making linkage of woreda education office with other woreda education office and regional education office is the absence of internet access and shortage of EMIS infrastructure in woreda education office.

This feeling is supported by direct observation of the woreda education office whether they have enough internet access and EMIS infrastructure the observation checklist shown that in each woreda education office they haven't internet access and have shortage of   EMIS infrastructures in woreda education office of Kaffa zone.

Concerning on item 6 of table 3 whether EMIS improves the overall operation in woreda education sector of Kaffa zone; the mean of EMIS experts and woreda education work process owners responded(X= 2.44 SD=0.78 and X= 2.10 SD=0.66) respectively. This indicates that the EMIS experts and the woreda education work own process owners disagreeing on the issue. The p-value 0.056 and this is greater than 0.05, this indicates there is no remarkable differences between the opinion of EMIS experts and woreda education office work process owners. The implication showed that no operations were held with EMIS and this is also the factors for information gap.

In table 3 item 7 EMIS experts and woreda education work process owners responded questions positively EMIS helps to complete tasks in relatively shorter time the mean and standard deviation(X= 2.33 SD= 1.18 and X=2.33 SD= 1.07) respectively. This indicates both EMIS experts and woreda education work process owners falls under disagreed on the issue.

That means EMIS couldn't complete tasks relatively in short time in their office. The t-value is-43 and this is below 0.05. This implies that t-value is not significant. None significances of t-value indicates that nonexistence difference of mean between two different respondent. As shown in the table the mean falls under the disagreeing category.

Table 6 Respondents view on the organization of EMIS in Office

Items	Group of the respondent	N	Mean	Std. Deviation	T-value	P-value
EMIS is appropriate at woreda level	EMIS experts	30	3.72	2.94		0.59
	woreda education office work processes owners	86	3.66	2.75	0.85	
There is an efficient communication between EMIS offices at different level	EMIS experts	30	2.33	0.97		0.94
	woreda education office work processes owners	86	2.00	1.11	1.05	
EMIS activities are sufficiently decentralized to woreda level	EMIS experts	30	4.05	3.05		0.76
	woreda education office work processes owners	86	4.10	3.16	-14	
EMIS is furnished with adequate physical resources(computers and other office materials	EMIS experts	30	1.77	0.54		0.04
	woreda education office work processes owners	86	1.80	0.96	-08	

Key.-1 strongly disagree 2; dis agree 3; un decided 4: agree 5: strongly agree

EMIS experts and woreda education work process owners responded to the question positively as whether EMIS is appropriate at woreda level   or not. The mean obtained from EMIS experts and woreda education work processers are the mean X and SD (X= 3.72 & SD=2.94andX= 3.66 &SD=2.75) respectively. The p-value is 0.59 and this is greater than 0.05. This indicates there is no considerable difference between the opinion of EMIS experts and woreda education office work process owners. Both EMIS experts and woreda education work process owners agree that EMIS is appropriate at woreda level. The implication shows that EMIS appropriate but not well organized at woreda level.

Concerning on item 2 of table 4 EMIS experts and woreda education work process owners responded to the question positively as there is an efficient communication between EMIS offices at different level. The mean and standard deviation of EMIS experts and woreda education office work process owners are(X= 2.33 & 0.97 and X= 2.0 &1.11) respectively. This implies that both are disagreed on the issue. The implication briefs no efficient communication at different level in education office and the communication way is either in meeting report or hard paper written report. The p-value is 0.94 and this is greater than 0.05 indicates that there is no considerable difference between the opinion of EMIS experts and woreda education office work process owners. UNESCO Document (2004), states that the woreda are in the process of

acquiring real administrative autonomy and are responsible for the delivery of local government services across all sectors.

Item 3 of table 4 EMIS experts and woreda education office work process owners responded on the question whether EMIS activities are sufficiently decentralized to woreda level or not. The mean and standard deviation obtained from EMIS experts and woreda education office work processers are(X= 4.05&3.05 and X= 4.01 & 3.16) respectively. This indicates that EMIS experts and woreda education office work process owners agree that EMIS are decentralized to woreda level. The t-value is -14 and it is below 0.05.This nonexistence difference of mean between two different respondents. As shown in the table the mean falls under the agreeing category. *The woreda education EMIS experts of IN#1 expresses there idea as it is listed below. In his woreda education office EMIS structure have in woreda education office level, but this structure is as a symbol and they have no skilled manpower, EMIS infrastructure, concentration is not given by the above level educational bodies and governments.*

The implication shows that the structure is skeleton (have no function) at woreda level in woreda education office of Kaffa zone. UNESCO Document (2004), states that the woreda are in the process of acquiring real administrative autonomy and are responsible for the delivery of local government services across all sectors. In the budget planning process, WEOs need data on the number of teachers, new recruits, enrolment and the number of classrooms constructed, and use these data to make projections for the upcoming school year.

When we observed item 4 of the same table, respondents were responded to denote whether EMIS is furnished with adequate physical resources (computers and other office materials) or not. The mean and standard deviation of EMIS experts and woreda education office work process owners are(X= 1.77 &SD=0.54 and X= 1.80&SD=0.96) respectively. This indicates that both EMIS experts and woreda education work process owners disagreed on the issue of EMIS is furnished with adequate physical resources. This implies that in woreda education offices of Kaffa zone EMIS is not furnished with adequate physical resources. The t-value is –089 and it is below 0.05. This implies that t-value is not significant. None significances of t-value indicates that nonexistence difference of mean between two different respondent. As shown in the table the mean falls under the disagreeing category.

Table 7 Respondents view on the staffing of EMIS in Office

Items	Group Statistics					
	Group of the respondent	N	Mean	Std.De viation	T-value	P-value
There is a clear chain of command for EMIS section	EMIS experts	30	2.33	0.90	4.25	0.12
	woreda education office work processes owners	86	1.46	0.50		
There is an efficient communication between EMIS and other work section	EMIS experts	30	2.38	0.91	0.79	0.87
	Woreda education office work process owners	86	2.16	0.94		
There is clear division of work among experts in EMIS section	EMIS experts	30	2.94	1.10	-175	0.26
	woreda education office work processes owners	86	3.26	1.74		
EMIS is staffed with adequate experts	EMIS experts	30	2.00	1.23	0.61	0.02
	Woreda education office work processes owners	86	1.83	0.64		
EMIS experts receive continuous training	EMIS experts	30	2.27	0.82	3.10	0.15
	woreda education office work processes owners	86	1.70	0.46		

Key.-1 strongly disagree 2; dis agree 3; UN decided 4: agree 5: strongly agree

EMIS experts and woreda education work process owners' responded question positively as EMIS have a clear chain of command in section. The mean and standard deviation obtained from EMIS experts and woreda education work processers are(X= 2.33 & 0.90 and X=1.46 &= 0.50) respectively. This implies that EMIS experts and woreda education office work process owners responded as disagreed on the issue. The p-value is 0.12 and it is greater than 0.05.this   indicate that there is no considerable difference between the opinion of EMIS experts and woreda education office work process owners. The implication shows in Kaffa zone woreda education offices there is no clear chain regarding in EMIS.

Concerning on item 2 of table 5 EMIS experts and woreda education office work process owners responded to the question positively as there is an efficient communication between EMIS and other work section. The mean and standard deviation of EMIS experts and woreda education office work process owners are (X= 2.38 & SD=0.91 and X= 2.16 & SD=0.94) respectively. This implies that both EMIS experts and woreda education office work process owners were

disagreed on the issue of efficient communication between EMIS experts and other work section. The p-value is 0.87 and it is greater than 0.05.This indicates there are no remarkable differences between the opinion of EMIS experts and woreda education office work process owners. The implication stated that in woreda education offices of Kaffa zone there have no efficient communication between EMIS and other work section.

In table 5 item 3 EMIS experts and woreda education office work process owners responded on the question of clear division of work among experts in EMIS section. The mean and standard deviation obtained from EMIS experts and woreda education work processers are(X= 2.94 & SD=1.10 and X= 3.26 & SD= 1.74) respectively. EMIS experts and woreda education office work process owners were undecided about the issue of clear division of work among EMIS experts in section. The t value is -17 and it is below 0.05. This nonexistence difference of mean between two different respondents. This implies that in woreda education offices of Kaffa zone there is no division of works between EMIS experts.

Regarding on table 5 item 4 the mean and standard deviation obtained from EMIS experts and woreda education office work process owners are(X=2.00 & SD=1.23 and X=1.83 & SD=0.64) respectively. The mean of both respondents shows that there were disagreed on the issue of EMIS is staffed with experts with relevant training. The p-value is 0.12 and it is greater than 0.05.This shows that the p-value is no remarkable differences between the opinion of EMIS experts and woreda education office work process owners. The implication show that Kaffa zone woreda education offices have shortages in EMIS trained personnel and absent of relevant training regarding to EMIS. Lessen and Sorensen (2000), tell us that making the use of technology as priority, and establishing a technological infrastructure, focusing on development and creating training opportunities for staff can be one way in which administrators can promote the integration of technology between offices.

Concerning on item 5 of table 5 EMIS experts and woreda education office work process owners responded to the question positively as there is EMIS experts receive continuous training or not on woreda education office of Kaffa zone. The mean and standard deviation of EMIS experts and woreda education office work process owners are (X= 2.27 & SD=0.82 and X= 1.70 & SD=0.46) respectively. This implies that both EMIS experts and woreda education office work process owners were disagreed on the issue of EMIS experts receive continuous training. The p-value is

0.15 and it is greater than 0.05.This indicates there are no remarkable differences between the opinion of EMIS experts and woreda education office work process owners. The implication stated that in woreda education offices of Kaffa zone there haven't any training regarding on utilization and implementation of EMIS.

Direct observation was carried at 5 sample woreda education office of Kaffa zone by student researcher by   purposively by assuming woreda education office those which can have ICT accessibility and can represent the whole. The observation contains questions which enable to gather information of the accessibility of computers, copier machine, fax machine, printers, office phone and strategic plans of EMIS.

The following table had shown that availability of EMIS materials in each woreda education office of Kaffa zone that were checked by observation check list.

Table 8 Availability of EMIS necessary materials by direct observation.

Name of woreda	Availability of EMIS materials in W/E/O	Number of EMIS materials	Level of EMIS materials in listed W/E/O		
			New/Giving service/	Need maintenance	Out of service
CHENA	Computer	6	3	2	1
	Fax machine	1	-	-	1
	Copier machine	-	-	-	-
	Internet access	-	-	-	-
	Printer	2	1	1	
	Office phone	2	1		1
	EMISstrategicplan	1	-	-	-

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Name of woreda	Availability of EMIS materials in W/E/O	Number of EMIS materials	Level of EMIS materials in listed W/E/O		
			New/Giving service/	Need maintenance	Out of service
BITA	Computer	5	2	2	1
	Fax machine	-	-	-	-
	Copiermachine	1	-	1	-
	Internet access	-	-	-	-
	Printer	2	1	1	
	Office phone	2	1	1	
	EMISstrategicplan	-	-	-	-

Name of woreda	Availability of EMIS materials in W/E/O	Number of EMIS materials	Level of EMIS materials in listed W/E/O		
			New/Giving service/	Need maintenance	Out of service
Wacha administration town	Computer	2	2	-	-
	Fax machine	-	-	-	-
	Copier machine	-	-	-	-
	Internet access	-	-	-	-
	Printer	1	1	-	-
	Office phone	1	1		
	EMIS strategic plan	-	-	-	-

Name of woreda	Availability of EMIS materials in W/E/O	Number of EMIS materials	Level of EMIS materials in listed W/E/O		
			New/Giving service/	Need maintenance	Out of service
Bonga administration town	Computer	5	3	1	1
	Fax machine	-	-	-	-
	Copier machine	1	1	-	-
	Internet access	-	-	-	-
	Printer	2	2	-	-
	Office phone	2	1	1	-
	EMIS strategic plan	1	-	-	-

Name of woreda	Availability of EMIS materials in W/E/O	Number of EMIS materials	Level of EMIS materials in listed W/E/O		
			New/Giving service/	Need maintenance	Out of service
Shishoinde	Computer	4	3	1	
	Fax machine	-	-	-	-
	Copier machine	-	-	-	-
	Internet access	-	-	-	-
	Printer	2	2	-	-
	Office phone	1	1	-	-
	EMIS strategic plan	1	-	-	-

To support Education Management Information System, Computers, printers, internet access, copier machine, fax machine and others are very important tools and infrastructure. Computer consists of hardware and Software. 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, from one sector to another and from woreda education to zone education department, regional education bureau and MoE using internet facilities. Therefore, for effective utilization and implementation of EMIS the above mentioned materials are important.

When we see in the observation check list in each sampled woreda education office of Kaffa zone there are shortage of computers in each woreda education office and different groups or different work process owners use together one computer. *The third interviewer said (IN#3) "The allocation of budget provision of important software for data analysis and storage were challenges for ineffective use of EMIS in woreda education office of Kaffa zone. The shortage of ICT facility and absent of training on using EMIS in educational Management were the challenge in effective use of EMIS.* This implies that shortage of computers absent of training regarding on EMIS implementation hinder effective utilization of EMIS in woreda education office of Kaffa zone.

The following table shows the level of challenges of EMIS infrastructure in each woreda education offices of kaffa zone.

R/NO	Name of woredas	List of EMIS infrastructures challenges in % in each woreda education offices.						
		Computer	Printer	Fax machine	Telephone	Strategic plan	Copier machine	Internet access
1	Chena	50	50	100	50	100	100	100
2	Wacha administration town	-	-	100	-	100	100	100
3	Shishoinde	30	50	100	50	100	100	100
4	Bita	60	50	100	50	100	100	100
5	Bonga administration town	-	-	100	-	100	100	100

The most important infrastructure for EMIS utilization and implementation is internet access. In all sampled 5 woreda education office of Kaffa zone it hasn't internet access and this is one of the challenges that hinder the implementation and utilization of EMIS in woreda education office of Kaffa zone. This idea is supported by each woreda education office head that gives there interviewee for this study.(IN#5).The implication shows that internet access is very important infrastructure in EMIS implementation and utilization but, in 5 sampled woreda education office of Kaffa zone there is no internet access and this is one major challenges that hinder for the utilization and implementation of EMIS

Shortage of Fax machine, printer and copier are the another factors that hinders the implementation and utilization of EMIS in woreda education office of Kaffa zone. *One woreda interviewer (IN#2) supported the idea and he states that "fax machine, printer and copier machines are not sufficient in each office of EMIS experts and woreda education office work process owners may it have one for the all woreda education office"*. The implication shows that in woreda education office of Kaffa zone fax machine, printer and copier machines are the main challenges for EMIS implementation and utilization.

Table 9 Respondents view on the utilization of EMIS in education woreda Office of Kaffa zone

Items	group of the respondent	N	Mean	Std. D.	T-valu	P-value-
Human resource planning	EMIS experts	30	2.50	1.33	3.81	0.00
	woreda education office work processes owners	86	1.46	0.50		
Financial planning	EMIS experts	30	2.38	1.09	3.10	.04
	woreda education office work processes owners	86	1.60	0.67		
Physical resource planning	EMIS experts	30	2.72	1.12	3.05	0.02
	woreda education office work processes owners	86	1.83	0.87		
Monitoring of office activities	EMIS experts	30	2.50	0.85	1.03	0.77
	woreda education office work processes owners	86	2.20	1.03		
Evaluation of office activities	EMIS experts	30	2.50	1.20	1.36	0.08
	woreda education office work processes owners	86	2.06	0.98		
Record keeping	EMIS experts	30	2.55	0.92	2.49	0.26
	woreda education office work processes owners	86	1.93	0.78		
Strategic planning	EMIS experts	30	2.11	0.67	1.08	0.02
	woreda education office work processes owners	86	1.83	0.94		
For school development	EMIS experts	30	2.33	0.90	0.92	0.53
	woreda education office work processes owners	86	2.10	0.80		

Key.-1 strongly disagree 2; dis agree 3; un decided 4: agree 5: strongly agree

EMIS experts and woreda education work process owners responded to the question positively as utilization of EMIS whether for human resource planning or not. The mean and standard deviation obtained from EMIS experts and woreda education office work process owners are (X=2.50 & SD=1.33 and X=1.46 SD=0.50) respectively. This implies that EMIS experts were disagreed on the issue and woreda education office work process owners were strongly disagreed on the issue. The p-value is 3.81 and it is greater than 0.05 this shows there is no considerable differences on both respondents. *The first question presented for interview was to examine the extent of using EMIS in? The first interviewee explained as follow; '' attitude of stacke holders in*

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using EMIS, skill in using computer, shortage of ICT facility, and low government and non-governmental support in strengths education are challenge ineffective use of EMIS ''(IN#2)

This implication shows that both EMIS experts and woreda education office work process owners weren't used EMIS for human resource planning. Thierauf (1984) further state that EMIS is based on information system design specifically for education management and its concept is derived from the concept of management information system. The above interviewer was supported this idea.

Concerning on item 2 of table 7 EMIS experts and woreda education office work process owners responded to the question positively whether they used EMIS for financial planning or not. EMIS experts and woreda education office work process owners responded on the mean and standard deviation of (X= 2.38 & SD =1.09 and X=1.60 & SD=0.67) respectively. The t-value is -04 and it is below 0.05. This implies that t-value is not significant. None significances of t-value indicates that nonexistence difference of mean between two different respondent. As shown in the table the mean falls under the disagreeing category. This implies that woreda education office work processers and EMIS experts had limitations in using EMIS for financial planning. Bland ford (1997) showed how the computerization of accounts can enhance financial management in education sector. The studies cited did not however; the use of EMIS in the tasks either singly or jointly affected the management education sectors

Regarding on table 7 item 3 the mean and standard deviation obtained from EMIS experts and woreda education office work process owners are (X=2.72 & SD=1.12 and X=1.73SD=0.87) respectively. The mean of EMIS experts show that they were undecided on the whether they used EMIS for physical resource planning or not. But woreda education office work process owners were disagreed on the issue. This implication shows that in Kaffa zone woreda education office they had limitation on using EMIS for physical resource planning. . 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 (Vissher and Wild, 1997).

In table 7 item 4 EMIS experts and woreda education office work process owners responded on the question of Monitoring of office activities by EMIS. The mean and standard deviation obtained from EMIS experts and woreda education office work processers are (X=2.50 &

SD=0.85and X= 2.20 & SD=1.03) respectively. This implies both EMIS experts and woreda education office work process owners were disagreed on the issue. The implication shows that in Kaffa zone woreda education office they had limitation on monitoring of office activities by EMIS program. The p-value is 0.77and it is greater than 0.05.This shows that the p-value is no remarkable differences between the opinion of EMIS experts and woreda education office work process owners.

According to Obi (2003), MIS is useful in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also relevant in non-programmed decisions as it provides support by supplying information for the search, the analysis, the evaluation and the choice and implementation process of decision making.

In the same table item 5 EMIS experts and woreda education office work process owners responded to the question positively whether they used EMIS evaluation of office activities or not. The mean and standard deviation obtained from EMIS experts and woreda education office work process owners were (X= 2.50 & SD=1.20 and X=2.06 & SD=0.98) respectively. This implies that both EMIS experts and woreda education office work process owners are disagreed on the issue of evaluating of office activities by using EMIS. The implication shows that in Kaffa zone education office they had limitation on evaluation of office activities in EMIS. The p-value is 0.08 and it is greater than 0.05.This shows that there are no considerable differences on both respondents. According to Obi (2003), MIS is useful in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also relevant in non-programmed decisions as it provides support by supplying information for the search, the analysis, the evaluation and the choice and implementation process of decision making.

Regarding on table 7 item 6 the mean and standard deviation obtained from EMIS experts and woreda education office work process owners are(X= 2.55 & SD=0.92 and X=1.93 & SD=0.78) respectively. The mean of EMIS experts implies that they were undecided the issue whether they use EMIS for record keeping or not. But woreda education office work process owners were disagreed on the issue of EMIS for record keeping. The p-value is 0.26 and it is greater than 0.05.This implies that there are no remarkable differences between the opinion of EMIS experts

and woreda education office work process owners. This implication shows that in woreda education office of Kaffa zone there were limitations on record keeping on EMIS.

When we observed item 7 of the same table, respondents were responded to denote whether they used EMIS for Strategic planning. The mean and standard deviation of EMIS experts and woreda education office work process owners responded(X= 2.11 & SD= 0.67and X=1.83 & SD=0.94) respectively.

This indicates that both EMIS experts and woreda education office work process owners disagreed on the issue of EMIS for strategic planning. The p-value is 1.08 and it is greater than 0.05 this shows there is no considerable differences on both respondents. This implication shows that in Kaffa zone education office   both EMIS experts and woreda education office work process owners had limitations on using EMIS for strategic planning. . According to, World Bank, 2016 in the wider context of results-based management. The monitoring of routine administrative functions, tracking and approval of financial transactions, timekeeping, or maintaining personnel records can be greatly improved by efficient EMIS.

Concerning on item 8 of table 7 EMIS experts and woreda education office and   work process owners responded to the question positively as they used EMIS for school development. The mean and standard deviation of EMIS experts and woreda education office work process owners are(X= 2.33 & SD=0.90 and X= 2.10 & SD=0.80) respectively. This implies that both EMIS experts and woreda education office work process owners were disagreed on the issue of using EMIS for school development. The p-value is 0.53 and it is greater than 0.05.This indicates there are no remarkable differences between the opinions of EMIS experts and woreda education office work process owners. It implies that in Kaffa zone woreda education office both EMIS experts and woreda education work office work process owners had limitations to use EMIS for school development.

Table 10 Respondents view on in the quality of data generated by EMIS education woreda Office in Kaffa zone.

Items	group of the respondent	N	Mean	Std. Deviation	T-value	P-value
Relevant	EMIS experts	30	2.33	1.18	1.97	0.20
	woreda education office work processes owners	86	1.73	0.90		
Up to date	EMIS experts	30	2.61	1.09	2.32	0.10
	woreda education office work processes owners	86	1.93	0.90		
Clear	EMIS experts	30	2.27	1.01	3.11	0.01
	woreda education office work processes owners	86	1.56	0.56		
Adequate: coverall important areas	EMIS experts	30	2.38	0.69	1.46	0.56
	woreda education office work processes owners	86	2.00	0.98		
Easily accessible	EMIS experts	30	2.33	1.13	0.41	0.31
	woreda education office work processes owners	86	2.20	1.03		

Key.-1 strongly disagree 2; dis agree 3; un decided 4: agree 5: strongly agree

EMIS experts and woreda education office work process owners responded to the question positively as the quality of data generated by EMIS is relevant or not in education woreda Office of Kaffa zone. The mean and standard deviation obtained from EMIS experts and woreda education office work processers are(X= 2.33 & SD=1.18 and X= 1.73 & SD=0.90) respectively. This implies that EMIS experts and woreda education office work process owners were disagreed on the issue of relevance of the quality of data. The p-value is 0.20 and it is greater than 0.05 this shows there is no considerable differences on both respondents. This shows that in woreda education office of Kaffa zone there were limitation on relevance of data generated by EMIS.

In the same table item 2 EMIS experts and woreda education office work process owners responded to the question positively whether generated data is up to date by EMIS or not. The mean and standard deviation obtained from EMIS experts and woreda education office work process owners were(X= 2.61 & SD =1.09 and X=1.93 & SD= 0.90) respectively. This implies that both EMIS experts and woreda education office work process owners were disagreed on the issue of up to date data by EMIS. The p-value is 0.10 and it is greater than 0.05.This shows that there are no considerable differences on both respondents. This indicates that there are shortages

in quality of data up to date on EMIS in woreda education office of Kaffa zone. An Educational management information system (EMIS), According to Tegegne (2003), is a comprehensive system that brings together people, process, and technology to provide timely, cost effective, and user appropriate information to support educational management at whatever level is needed.

Regarding item 3 of table 8 respondents were asked to show their perceptions about whether EMIS generated information are clear or not. Apparently, EMIS experts and woreda education work office process owners with the mean and standard deviation of(X= 2.27& SD=1.01and X= 1.53 & SD=0.56) respectively. This implies that both respondents (EMIS experts and woreda education office work process owners were disagreed on the issue and they had shortage in generated data is clear in woreda education office of Kaffa zone. As one considered from this implication in woreda education office of Kaffa zone data is not clearly generated by EMIS.

Concerning item 4 of the same table, respondents were requested to say whether EMIS generated information are adequate; covers all important areas, or not. EMIS experts and woreda education office work process owners with the mean and standard deviation of (X= 2.38 & SD=0.69and X=2.00 & SD=0.98) respectively. That means both EMIS experts and woreda education office work process owners disagreed that EMIS generated information are adequate; covers all important areas in woreda education office of Kaffa zone. The significance level p=0.56 is greater than 0.05, this indicates that there is similarity between the opinions of EMIS experts and woreda education office work process owners regarding the issue of generated information are adequate; covers all important areas. The implication shows that in Kaffa woreda education office there are problem in information adequacy and covers all important areas .

 In table 8 item 5, respondents were asked whether EMIS generated information are easily accessible or not. EMIS experts and woreda education office work process owners with the mean and standard deviation of(X= 2.33 & SD=1.13 and X= 2.20 & SD=1.03) respectively. This indicates they are not sure on the issue and both respondents are disagreed that EMIS generated information are easily accessible in woreda   education office of Kaffa zone.
   The third interviewer said (IN#3)
"The allocation of budget provision of important software for data analysis and storage were challenges for ineffective use of EMIS in woreda education office of Kaffa zone. The implication

shows that shortage of ICT facility and absent of training on using EMIS in educational Management were the challenge in effective use of EMIS and this hinders for easily accessible data generation.

Its implication shows that in Kaffa zone woreda education office the generated information is not easily accessible in EMIS. This is mentioned in the above interviewer. The significance level p=0.31 is greater than 0.05, this indicates that the opinions of experts and process owners are in complementary regarding the issue. Sack and Saidi, (1997: 44-68) have pointed out that EMIS can be characterized by; the quantity of information it produces, the quality of that information, the availability of the information to the concerned people inside and outside the organization, and the time it takes for the information to become available and used.

Table 11 Respondents view on the challenges related to availability, adequacy, competency and manpower of EMIS in education woreda Office of Kaffa zone.

Item	Group of the respondent	N	Mean	Std. Deviation	T-value	P-value
Poor ICT infrastructure	EMIS experts	30	2.38	0.84	3.84	0.58
	woreda education office work processes owners	86	1.56	0.62		
Assigning unqualified manpower for EMIS positions	EMIS experts	30	2.27	1.12	0.13	0.94
	woreda education office work processes owners	86	2.23	1.07		
Information illiteracy/lack of awareness	EMIS experts	30	2.27	0.82	-31	0.22
	woreda education office work processes owners	86	2.36	0.99		
Lack of commitment from the information professionals	EMIS experts	30	2.11	0.83	0.42	0.72
	Woreda education office work process owners	86	2.00	0.90		

Lack of accountability for inaccuracy ,unreliable irrelevant., incomplete and not valid data transfer	EMIS experts	30	2.16	0.92		
	woreda education office work processes owners	86	1.76		1.66	0.42
Lack of skilled manpower	EMIS experts	30	2.16	1.09		
	W/E/O/W/P/O	86	1.93	0.82	0.05	0.23

Key.-1 strongly disagree 2; dis agree 3; un decided 4: agree 5: strongly agree

Regarding item 1 of table 12 respondents were asked to indicate their feelings on whether poor ICT facilities are factors that hinder proper implementation of EMIS at woreda education office of Kaffa zone or not. Concerning this, the mean and standard deviation of EMIS experts and woreda education office work process owners are(X= 2.38 & SD=0.84and X=1.56 & SD=0.62) respectively. This indicates that EMIS experts and woreda education office work process owners were agreed on the issue on poor ICT infrastructure challenges for implementation of EMIS in education office of Kaffa zone. Thus, they have suggestion that poor ICT facilities are one significant factor that hinders proper implementation of EMIS at woreda level. The significance level p=0.58 is greater than 0.05, this notifies that there is no significant variance in their opinions on this point in both respondents.

The fourth interviewer said that (IN# 4)

The absence of   provision of budget for purpose of equipping woreda education office with ICT facility and the absence of adequate training on capacity building in using EMIS in Education management"

In the above interviewee the attitude of stake holders to ward using EMIS, skill gap the provision of hard ware and software inaccessibility of ICT facility the provision of budget were raised as challenges ineffective use of EMIS data in woreda education office management.This implies that in woreda education office of Kaffa zone there are shortages in ICT infrastructure in implementation of EMIS.

 Tucano (2006), states 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. Becta (2004) further pointed out that technical faults with ICT equipment are likely to lead to

lower of ICT use by woreda education sector because recurring faults are likely to reduce teacher ,education sector persons confidence and cause teachers and woreda education officers to avoid using the technology in future .

As indicated in table 12 item 2 challenges that hinder EMIS regarding to assigning un qualified man power for EMIS positions. The respondents were requested to indicate their level of agreement regarding the un qualified man power for EMIS positions from EMIS experts and woreda education office work process owners with the mean and standard deviation of (X=2.27 & SD=1.12 and X=2.23 SD=1.07) respectively. This shows that they were agreed on assigning unqualified manpower for EMIS positions. The implication shows that shortage of qualified staff is a challenge that hinder for the implementation of EMIS in woreda   education woreda office of Kaffa zone. Thus, it is possible to say that shortage of qualified staff \manpower\ is one factor that hinders the implementation of EMIS in woreda education office of Kaffa zone. The significance level p=0.94 is greater than 0.05, this indicates that there is no significant variance between the responses of EMIS experts and woreda education office work process owners regarding this factor. The best example is the tendency of training personnel that leave the public sector for more lucrative jobs in private agencies as critical. This leads to assignment of untrained personnel to handle data management at regional and school levels (Camilleri, 2002.

Regarding item 3 of the table 12 respondents were asked to state whether low awareness level of EMIS data users is a factor that hinders proper implementation of EMIS at education office of Kaffa zone level or not. The mean and standard deviation of EMIS experts and woreda education office work process owners (X=2.27 & SD=0.82 and X= 2.36 & SD=0.99) respectively. This implies that both EMIS experts and woreda education office work process owners agreed on lack of awareness \information illiteracy \had in woreda education office of Kaffa zone.

The second   interviewee said that (IN#2)   for the questions why EMIS is not successful   in woreda education office of Kaffa zone?   The skill gap in using computer in education management, absence of ICT facility and   Power supply was challenges for in effective use of EMIS in woreda education office of Kaffa zone.

The implication indicates that shortages of awareness on implementation of EMIS in woreda education office of Kaffa zone. The t-value is -31 and it is below 0.05. This implies that t-value is not significant. None significances of t-value indicates that nonexistence difference of mean

between two different respondent. Concerning the management's awareness about EMIS, MOE informed UNESCO (2004) that it had provided short term training to regions zones and woreda so as to cascade it to school management. However, only similar data from different woreda are calculated statistically and stored on computers.

Concerning item 5 of table 12 respondents were asked to denote whether Lack of commitment from the information professionals EMIS experts and woreda education office work process owners with the mean and standard deviation of (X=2.11 & SD=0.83 and X=2.00& SD=0.90) respectively. This implies that in woreda education office of Kaffa zone professionals are lack of commitment from the information in implementation of EMIS. The significance level p=0.72 is greater than 0.05, this indicates that there is similarity between the opinions of experts and process owners regarding the mentioned issue of lack of commitment from the information professionals. Therefore, lack of commitment from the information professionals is one major hinder in implementation of EMIS in woreda education office of Kaffa zone. According to Salako, C. T inadequate funding, inability 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.

Regarding item 6 of the same table, respondents were asked to state whether Lack of accountability for in accuracy, unreliable irrelevant incomplete and not valid data transfer in woreda education office of Kaffa zone level or not. The EMIS experts and woreda education office work process owners with the mean and standard deviation of (X=2.16 & SD=0.92and X= 1.76 & SD=0.72) respectively. This implies that in woreda education office of Kaffa zone there are limitations on accuracy; reliable, relevant complete and valid data transfer in implementation of EMIS .This implication shows that the mentioned issues are challenges \hinders\ for implementation of EMIS in Kaffa zone woreda education offices. The significance level p=0.42 is greater than 0.05, this indicates that there is similarity between the opinions of experts and process owners regarding the mentioned issues.

Charles, (2003), states the quality of data and information in education has been a focus of concern due to a number of reported errors, inaccuracies, inconsistencies and misinterpretations. The inability of management to provide an adequate support system has contributed to the seriousness of the problem. The poor structures, frequent changes of concepts and definitions of

objectives, the lack of trained and qualified staff, poor direction and organization and a shortage of hardware and software are among the most obvious setbacks of most education managers.

Item 7 of table 12 respondents were asked to explain whether lack of skilled manpower hinder the implementation of EMIS in woreda education office of Kaffa zone or not. The mean and standard deviation of EMIS experts and woreda education office work process owners are (X= 2.16 & SD=1.09 and X=1.93 & SD=0.82) respectively. This implies that both respondents are agreed in the issue of lack of skilled manpower hinder the implementation of EMIS in woreda education office of Kaffa zone. *The first question presented for interview was to examine the extent of using EMIS in? The first interviewee explained as follow; '' attitude of stake holders in using EMIS, skill in using computer, shortage of ICT facility, and low government and non-governmental support in strengths education are challenge ineffective use of EMIS ''*

The implication shows that in woreda education office of Kaffa zone there are shortages of skilled manpower in EMIS and this is the challenges that hinder in implementation of EMIS. The significance level p=0.23 is greater than 0.05, this indicates that there is no significant variance between the responses of EMIS experts and woreda education office work process owners regarding this factor.

Sicilia (2005) reiterated the assertion that many education sector officers and teachers feel unprepared to use technology because of lack of skills and 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 it as the users may spend a lot of time figuring out how to use a system rather than doing the actual work. According to Tegegn's a lack of available human resource capacity significantly limits EMIS development. Building human resource capacity has long been known to a critical factor in the success of EMIS development.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the major summary of the study, findings of the study, conclusions and recommendations**.**

5.2. Summary of the study

The study was conducted by mixed approach design. The target population   was 5 Woreda education office 30 EMIS experts, 86 education office work process owners of Kaffa zone and 5 woreda education office head.The studies investigates   practice   and   challenges of EMIS in woreda education office of Kaffa zone. The study was guided by the following objectives:

1. What is the level of EMIS in Kaffa zone woreda education office?

2 To what degree Kaffa zone educational bureau status produce and utilization of education management   information system (EMIS) to plan and manage the education sector?

3 What are the major challenges that affect the effective utilization of EMIS at Kaffa zone woreda education bureau?

 4 To what level EMIS satisfied internal and external customers?

The sampling   techniques   were used   simple random sampling   techniques for both EMIS experts and woreda education office work process owners. The   validation   was   established by testing questionnaires using   woreda EMIS experts and woreda education office work process owners of Kaffa zone and interview was given to each woreda education office heads. The descriptive and   inferential statistics   were used   to analyse data with help of SPSS software 20 versions.

The aggregated data obtained are analyzed using various statistical tools: percentages mean Standard deviation and independent sample t-test. According to the result of the data analysis, the following major findings are identified.

5.2.1. Characteristics of the Respondents

a) The majority of respondents 98 (84.5%) were males and 18 (15.5%) of them were females.

b) The age distribution of the respondents were31-40 years 44 (38%), 41- 45 years 22(19%),

above 45 years 27(23.3%), 25-30 years 14 (12.1%) and the rest 9 (7.6%) were categorized below 25 years in the participation rate respectively.

c) The majority of EMIS experts and woreda education office work process owners 106(91.4%) had first Degree (B.A).

5.3. Major findings of the study.

When we see the importance of EMIS depending on the respondents of EMIS experts and woreda education office work process owners; the findings in this study investigated that the respondents stated their belief that EMIS have limitations on importance and improves the quality of decision made in woreda education offices of Kaffa zone.

➢ The result show on EMIS on importance and improves the quality of decision made in woreda education office of Kaffa zone is low and the result of mean and standard deviation of(X=1.722 & SD=0.75) of EMIS experts and (X=1.80 & SD=0.96) of W/E/O/P/O.

➢ The finding of this study indicates that in woreda education office of Kaffa zone there were limitation on planning different activities on EMIS the result of EMIS experts and W/E/O/P/O of (X=2.11 & SD=0.96) and (X=1.73 & SD=0.63) respectively.

➢ This study also shows that respondents expressed their imaginations saying that there are shortages of enhancing efficient utilization EMIS in education office of Kaffa zone in the mean and standard deviation of (X=2.33 & SD=0.76) and (X=1.66 &SD=0.66) of EMIS experts and W/E/O/P/O.

➢ The result(X=2.38 &SD=1.19) of EMIS experts and (X=2.43& SD=1.04) of W/E/O/P/O denotes that EMIS is not properly used to link every woreda education office with other woreda education offices and regional education bureaus. Moreover this, it doesn't complete tasks in relatively short time.

➢ The result show on EMIS experts of(X= 4.05 & SD=1.05) and W/E/O/P/O of(4.10 & SD=1.06)on organization of EMIS, the findings address that EMIS is organized and decentralized at woreda level of Kaffa zone education offices but the EMIS activities are not properly run at organized and decentralized offices.

➢ The findings of this study denotes on the organization of EMIS in Kaffa zone education offices shows that there were limitation on efficient communication between EMIS offices at different level, there is un clear division of work among experts in EMIS

section the mean and standard deviation of (X=2.16 & SD=1.20) and (X=1.93 & SD=0.94) as EMIS experts and W/E/O/P/O respectively.

➢ EMIS is not furnished with adequate physical resources (computers and other office materials) this is shown on the result of (X=1.77& SD=0.54) and (X=1.80 &SD=0.96) the result of EMIS experts and W/E/O/P/O of Kaffa zone woreda education office.

➢ In addition to the above; EMIS is not staffed with adequate experts, without relevant training and unclear job description.

Concerning to utilization of EMIS, the finding of the research shows that there were limitations on utilization of EMIS for human resource planning, financial planning, physical resource planning, efficient resource utilization, monitoring of office activities ,evaluation of office activities, record keeping, Strategic planning, and for school development in education office of Kaffa zone the average of (X=2.39 &SD=1.01)and (X=1.92 &SD=0.84).

➢ Some of the respondents of interview imply that shortage of adequate EMIS resources and unskilled man power hinders the utilization of EMIS in education office of Kaffa zone.

➢ With regard to quality of information generated by EMIS; the finding of the study denotes that EMIS generated information are limitation on relevance and update. This idea was also explained on interview. The result with the mean and standard deviation from both EMIS experts and woreda education office (X=2.33& SD=1.18) and (X=1.73 & 0.90) respectively.

➢ The other findings of the study concerning accessibility and clear information are not easily accessible and not clear information. This is due to unskilled manpower and inadequate training and materials with EMIS experts (X=2.27 &SD=1.01) and woreda education office work process owners of (X=1.56 &SD=0.56).

➢ The other point of the findings EMIS generated information covers all activities have limitations. That means EMIS generated information is not covers all activities. Because in woreda education office of Kaffa zone the implementation and utilization of EMIS is not functional.

➢ The findings of this study indicates that in education office of Kaffa zone there are poor ICT infrastructure, lack of skilled manpower, lack of coordination among EMIS experts and woreda education work process owners (X=2.38 & SD=0.84) and (X=1.56 &

SD=0.62) result from EMIS experts and woreda education office work process owners respectively.

➤ The findings of the study shown that lack of awareness in implementing EMIS, lack of commitment from information professionals, lack of accountability and assigning un skilled man power are major challenges that hinder the utilization of EMIS in education office of Kaffa zone with the result of (X=2.27 & SD=0.84) and (X=2.36 & SD=0.99) from EMIS experts and woreda education office work process owners respectively.

5.4. Conclusions of the study.

The research sought to find out the practice and challenges of EMIS in woreda education office of kaffa zone. Having analysing and interpreting the data the finding were that generally the status of EMIS on EMIS structure, organization and resource allotment revealed that, there was difficulty in EMIS infrastructure in placement, absence of independent systems, procedures to EMIS management as each levels of education system. This indicates that, high insufficiency of the necessary resources and unavailability of proper organization and an autonomous EMIS structure for all levels of woreda education office of Kaffa zone. According to *Chapman (1990:5),* educational information could be used to improve the quality of education by providing data that are used directly to secure allocated recourses, constraining bad decisions and detecting inefficient use of resources.

Lack of skill in utilizing the existing resources based on EMIS generated information in woreda education offices of Kaffa Zone due to lack of EMIS infrastructure, unskilled manpower, absent of training and lack of awareness. In addition to this, absence of chained structure and allotted budget for the system are learned as other core challenges for the actualization of the system. From these, we can generalize that the practice and challenges of EMIS is not profoundly organized and utilized so as to improve quality of education in woreda education offices of Kaffa Zone. Therefore, it can be imagined that the practices and efforts made by woreda education offices to develop educational activities and to achieve intended goals could be hampered unless EMIS is actualized. According to Obi (2003), MIS is useful in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control.

Concerning to the challenge of EMIS; the study depicts that, poor coordination, lack of adequate EMIS infrastructure, lack of accountability for inaccuracy, irrelevant, incomplete/not valid data transfer, assigning unqualified manpower and lack of training identifies as the most serious factors that greatly influences the performances of EMIS at all levels of woreda education offices of Kaffa zone.Additionally; shortage of computers, printers, fax machines and others are hamper the utilization and implementation of EMIS in woreda education offices of Kaffa zone. In the case of Customer Satisfaction using EMIS data; the study depicts that does not have the system of assessing needs of customers before collecting EMIS data. This shows that the current and potential EMIS users are not aware of EMIS and its output .this implies that the customer satisfaction on EMIS data the customers are not satisfied.

5.5   Recommendations.

Based on the finding study the following recommendations were suggested for concerned bodies.EMIS is a backbone for high quality decision and better planning for Education sector. For these reason the involvement of the management is crucial for the successes of EMIS. That means if the management bodies have known how about the EMIS capacitate the processes and used EMIS data effectively for educational decisions and planning. To bring this environment it is necessary to do some awareness creations and make brief about the work of EMIS for the management bodies at all level of Kaffa zone education department, woreda education offices and top administrative levels of Kaffa zone and woreda level. The establishment of EMIS structure, its organization and resource in placement was not properly organized in all woreda education offices of Kaffa zone. Therefore, Kaffa zone education department in collaboration with other stake holders should organize an autonomous EMIS structure to woreda levels, organize and put in place the required amount of resources in education sectors.

Lack of commitment both from EMIS experts and woreda education office work process owners, lack of accountability for inaccuracy, incomplete/not valid data transfer and lack of understanding about the value of education data were the most serious factors that affect the effectiveness of EMIS in woreda education offices of Kaffa zone. Therefore, Kaffa education

department, woreda education offices in collaboration with other stake holders should design education management information policy, motivate EMIS experts and work process owners based on their performance, improve data integration and decentralized EMIS software, up to school levels and create awareness through relevant training programs to overcome the problems that were identified by respondents.

Shortage of qualified manpower, poor coordination of the experts and other stake holders, insufficiency of EMIS infrastructure and lack of awareness were the challenges that should be tackled by strong effort.So, Kaffa zone education department, Kaffa zone administration and woreda education offices should try to design feasible EMIS improvement projects and exert their effort to implement these projects.

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APPENDIX A
Questionnaires

This questionnaire is to be fulfilled by Kaffa zone woreda education office work process owners & EMIS experts.

JIMMA UNIVERSITY

College of Education and Behavioral Science

Department of Education Planning and Management

Dear respondents,

This is a questionnaire prepared to collect data on the practices and challenges of Education Management Information System in Kaffa Zone Woreda of Education Offices. The research is meant for the fulfillment of MA degree in school leadership. It is to be reacted to by purposively selected personnel & experts of each core process unit of five woreda. Academician as you are, the researcher trusts you to respond genuinely & faithfully. No individual's name would be included and all personal suggestions, notion or comments shall be kept confidential; and hope that this paper will come back with your intellectual mind.

Please, write due answers in the blank-spaces for personal information and ticking the numbers of your preference for part two. If there is a change of mind, you can tick the rights. Regarding the open ended questions, you can write what you believe about the ideas raised in the spaces provided.

I thank you for your cooperation.

Part I. Biographic Information Place/put a tick mark "□" on the boxes or write in the spaces provided.

1. Zone ---------------------------- Woreda-------------------------- School -------------------------------

2. Gender: Male-------------------- Female------------------------

3. Age: Below 25-------- 25-30---------- 31-40 ----------- 41-45------------------ above Age 45 ----------

4. Acquired educational level Diploma----------- Bachelor---------- Master ------- PhD ----------

5. Academic Subject; Subject in education----------- ICT---------- EDPM -------- Other-----------------

6. Position Head of office--------------- Expert ------------------

7. Work experience over all service year 0-5------ 6-10------ 11-15------16-20 ---- above 20----

8 In current position experience year 0-5 ------- 6-10------- 11-15------ 16-20-------above 20-----

Part 2. Below are statements seeking your opinion about the status of EMIS in your woreda.

Indicate your agreement by ticking on the number corresponding to your answer

Note: (1. Very low, 2. Low 3. medium 4 high 5. Very high)

No	Statements/ Opinion about EMIS in your woreda/	1	2	3	4	5
1	EMIS improves the quality of decision made in my section					
2	EMIS improves the quality of planning in my work section					
3	EMIS enhances efficient utilization of resources in my office					
4	EMIS strengthen the link between schools and woreda education office					
5	EMIS strengthen the link between our woreda and others					
6	EMIS strengthen the link between our woreda and regional educational bureau					
7	EMIS improves the overall operation in my work section					
8	EMIS helps to complete tasks in relatively shorter time					

Part 3. Below are statements seeking your opinion about organization of EMIS in your woreda.

Indicate you agreement by ticking on the number corresponding to your answer

Note: (1. strongly disagree, 2. Disagree, 3 Undecided, 4.Agree, 5. strongly agree)

No	Statements/ Organization &staffing of EMIS in your woreda/	1	2	3	4	5
1	EMIS is appropriate at woreda level					
2	There is an efficient communication between EMIS offices at different level					
3	EMIS activities are sufficiently decentralized to woreda level					
4	EMIS is furnished with adequate physical resources(computers and other office materials					

Part 4. Below are statements seeking your opinion about staffing of EMIS in your woreda. Indicate you agreement by ticking on the number corresponding to your answer

Note: (1. strongly disagree, 2. Disagree, 3 Undecided, 4.Agree, 5. strongly agree)

No	Statements staffing of EMIS in your woreda	Measures of degree				
		1	2	3	4	5
1	There is a clear chain of command for EMIS section					
2	There is an efficient communication between EMIS and other work section					
3	There is clear division of work among experts in EMIS section					
4	EMIS is staffed with adequate experts					
5	EMIS experts receive continuous training					

Part 5 Availability of EMIS necessary materials by direct observation.

Name of woreda	Availability of EMIS materials in W/E/O	Number of EMIS materials	Level of EMIS materials in listed W/E/O		
			New/Giving service/	Need maintenance	Out of service
	Computer				
	Fax machine				
	Copier machine				
	Internet access				
	Printer				
	Office phone				
	EMISstrategicplan				

Part 6. Below are statements seeking your opinion about utilization of EMIS information for various purposes in your woreda. Respond to the statements by circling on the number corresponding to your answer

Note: (1. strongly disagree, 2. Disagree, 3. Undecided, 4.Agree, 5. strongly agree)

No	Statements/My office uses EMIS generated information for/	Measure of degrees				
		1	2	3	4	5
1	Human resource planning					
2	Financial planning					
3	Physical resource planning					
4	Monitoring of office activities					
5	Evaluation of office activities					
6	Record keeping					
7	Strategic planning					
8	For school development					

Part 7. Below are statements seeking your opinion about quality   data generated by EMIS in your woreda. Indicate you agreement by ticking on the number corresponding to your answer

Note: (1. strongly disagree, 2. Disagree, 3. Undecided, 4.Agree, 5. strongly agree)

EMIS generated information are

No	Statements/quality of data generated by EMIS/	1	2	3	4	5
1	Relevant					
2	Up to date					
3	Clear					
4	Adequate: coverall important areas					
5	Easily accessible					

Part 8: Challenge of EMIS 1.Listed below challenges related to availability, adequacy competency and of manpower. 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/ challenges related to availability, adequacy and competency of manpower.	Degree of Seriousness				
		1	2	3	4	5
1	Poor ICT infrastructure					
2	Unavailability of remuneration packages for EMIS workers					
3	Assigning unqualified manpower for EMIS positions					
4	Poor coordination					
5	Information illiteracy/lack of awareness					
6	Lack of commitment from the information professionals					
7	Lack of accountability for inaccuracy, unreliable, irrelevant., incomplete and not valid data transfer					
8	Lack of skilled manpower					

If any, please, mention some of the problems/factors that hinder proper

implementation of EMIS in your Zone/ woreda

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What do you suggest to improve EMIS practices in the Zone/Woreda?

_____

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If you have any suggestions please state.

_____

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APPENDIX B

ጅማ ዩኒቨርሲቲ

በትምህርት እና ስነ-ባህሪ ኮሌጅ

የትምህርት አመራርና አስተዳደር /EDPM/ ትምህርት ክፍል

ቃለ- መጠይቅ

ይህ ቃለመጠይቅ የተፈለገው ለሁለተኛ ድግሪ ማሟያ ምርምር ጽሁፍ ሲሆን በትምህርት አስተዳደር መረጃ ስረዓት በሚል የምርምር ርዕስ ነው፡፡ ምርምሩ የሚሰራው በካፋ ዞን ውስጥ በሚገኙ አምስት የወረዳ ትምህርት ጽ/ቤት በሚገኙ የትምህርት አስተዳደር መረጃ ስርዓት ባለሙያ (EMIS experts) እና የወረዳ ትምህርት ጽ/ቤት የሥራ ሂደት አስተባባሪዎችን (WEOPO) መሰረት ያደረገ ነው፡፡ መረጃው የሚሞላ የወረዳ ትምህርት ጽ/ቤት የትምህርት አስተዳደር መረጃ ስረዓት ባለሙያ ይናል፡፡

ቃለ-መጠይቁን የሚሞላ ግለሰብ ማንነት እና የሰጠው አስተያየት ሚስጥራዊነት የጠበቀ ነው፡፡

ክፍል አንድ፡

1. የተጠያቂው ግለሰብ ሁኔታ፡

   ሀ. የሥራ ኃላፊነት እና ተግባር፡ _____

   ለ. የትምህርት አስተዳደር መረጃ ስረዓት (EMIS Expert) በተመለከተያለህ/ያለሽ ልምድ፡_____

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ክፍል ሁለት፡

1. ግልፅ የሆነ የትምህርት አስተዳደር መረጃ ሥረዓት መዋቅር በወረዳ ትምህርት ጽ/ቤት ደረጃ አለ?

   - ካለ መዋቅሩ የሚሰራቸውን ሥራዎች ዘርዝር፡

     _____

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   - ከሌለ የትምህርት አስተዳደር ደረጃ ስርዓት እንዳይኖር ያደረጉት ተግዳሮቶችን ዘርዝር፡

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2. እነዚህ ችግሮች በማን እና እንዴት ይፈታሉ?

   _____

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   _____

ሀሳቦን ስላጋሩን በጣም እናመሰግናለን!