



St. Marry University
School of Graduate Studies

**Challenges and Opportunities in Implementing Integrated Civil Service
Management Information System (ICMIS) Project: The Case of Ethiopian
National Quality Infrastructure Institutions.**

By

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Dec, 2020

Addis Ababa, Ethiopia

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Faculty of Business

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**A Thesis Submitted to the School of Graduate Studies, Department of Project
Management in Partial Fulfillment of the Requirements for the Degree of
Master of Arts in Project Management**

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DECLARATION

The undersigned declare that this paper entitled "Challenges and opportunities of Implementations of ICMIS in National Quality Institutions" is my original work. I have carried out this research work independently with the guidance and support of my research paper advisor. This study has not been submitted any institution and all source of material used for the study have been duly acknowledge.

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ENDORSEMENT

This thesis has been submitted to St. Mary's University student of graduate studies for examination with my approval as a university advisor.

Muluadam Alemu (Ph.D)

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University Advisor



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Signature

Acknowledgments

Above all, I thank my Lord for helping me to finish my job. I would like also to express my heartfelt gratitude to my Advisor, Dr. Muluadam for his invaluable guidance and suggestions during the course of this study. Apart from his dedication to this thesis, I also like to thank his profound contributions to my stock of knowledge. I am extremely indebted to my lovely wife W/ro Helen Hailemichale, my sister W/ro Tesdale Kinfu , and all my family for their moral and financial support since the beginning of my education.

I am also thankful for their assistance to my colic's and my boss in my workplace by taking my duty in office while I was in class and providing permission for examination in the course schedule. Finally, but important, my special thanks go to all of NQIs staff, particularly those who use ICMIS project office staff, who were very cooperative in providing the necessary data and documents by sacrificing time to fill the questionnaires.

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ABSTRACT

The need for a streamlined and efficient workforce has contributed to the need for reliable service delivery and better outcomes in organizations. This is clearly demonstrated by the many approaches that companies put in place to fulfill the needs of their customers. Therefore, the purpose of this study was to identify Challenges and Opportunities in Implementing Integrated Civil Service Management Information System (ICMIS) Project: The Case of Ethiopian National Quality Infrastructure Institutions. Moreover, the study was to determine implementation practice, capacity and skills, ICT infrastructure, technological infrastructure, cost overruns, staff resistance, and top management commitment variables. The research adopted descriptive research design method. The population framework constitutes 82 employees. The study adopted purposive sampling. For data collection, structured questionnaires were used. The statistical package for social science tool assisted for data analysis. In addition, this study found that system implementations and requirement analysis were the most experienced challenges of NQIs. The analysis also noted that during ICMIS implementations, NQIs face the following difficulties. These include the capability challenge utilizing ICMIS, lack of IT infrastructure and finance, top management commitment, staff resistance and technical problems. The study recommends that the framework must be implemented on based on practices, capacity building of ICMIS, taking technological problems into account, designing best change management strategy and ensuring top management commitment.

Key Words: Challenges, Opportunities, Management, Civil Service, Information System & Integrated Civil Service Management Information System

LIST OF ABBREVIATIONS AND ACRONYMS

CSRP	Civil Service Reform Program
ECAE	Ethiopia Conformity Assessment Enterprise
ENAO	Ethiopia National Accreditation Office
ENQD	National Quality Infrastructure Development
EPRDF	Ethiopia people Revolutionary Democratic Front
ESA	Ethiopian standards Agency
HR	Human Resource
HRIS	Human Resource Information System
ICMIS	Integrated Civil Service Management Information System
ICT	Information Communication Technology
IDT	Diffusion Theory
IT	Information Technology
MDAs	Ministry Department and Agencies
NMIE	National Metrology Institute of Ethiopia
NQI	National Quality Institution
NQIs	National Quality Institutions
PCIS	Personnel Management and Information Systems
PEOU	Perceived Ease of Use
PSRP	Public Service Reform Program
PU	Perceived Utility
QSAE	Ethiopian Quality and Standard Authority
TAM	Acceptance Model
WAT	Work Around Theory

CHAPTER ONE

INTRODUCTION

This chapter deals with the background of the study, statement of the problem, research questions, objectives of the study, significances of the study, delimitation of the study, definition of basic terms, and organization of the study

1.1. Background of the Study

The capacity building of civil service institutions in today's world has gained significant attention from policymakers, reformers and international development agencies (Getachew, 2006). Thus, Federal Democratic Republic of Ethiopia Ministry of Public Service and Human Resources Development introduction of integrated Civil Service Management Information System Project (ICSMS). This system is web based aimed at the promotion of efficiency, effectiveness, accountability, transparency, security of data management and comprehensive civil servant or human resource reporting. Though there no specific studies about ICMIS, different research was published related to challenges and opportunities of implementations human resource information system

In Ethiopia, the first main challenges related to HRIS implementations readiness, such as infrastructure problems, poor logistics and supply, lack of network and internet, low storage capacity and speed of computers, lack of data, backup and anti-virus usage, lack of office equipment, low computer accessories availability, and frequent power interruptions (Eyilachew, 2017). The second main challenges identified were lack of competency or technical skill-related challenges. These challenges were poor computer skills, lack of competent HR employees (skills, knowledge, and attitude), standard data handling skills, and poor information communication skills. Eyilachew, (2017) also identified organizational and managerial challenges. The top management support failure and lack of dedication, failure to work as a team with other departments, low stakeholders' enthusiasm, low motivation to use information technology, and poor attention to HRIS implementation and HR support process

Hadija (2019) examined the Usage and Challenges of Human Resources Information System in the Tanzanian Public Organizations. The study examined five major difficulties associated with the implementations of HRIS, including: insecure financial capacity to, update and retain HRIS; inadequate ICT and HRIS skills; inadequate alignment of computers in the execution of their regulatory duties, internet access uncertainty and inadequate top management support.

Hadija (2019) recommends that the government should increase budget allocations to Ministries, Department and Agencies (MDAs) and Local Government Authorities (LGAs) to ensure adequate procurement of facilities and development of skilled workforce in HRIS and Information Technology (IT). He further recommends strengthening of coordination between different departments responsible for HRIS management in order to speed up information flow to system users for complete and accurate output and timely updating of employees' data. According Kanake (2016) the challenges of adoptions of HRIS in Kenyan universities were most employees resisted the changeover from the manual system to the automated system, lack of skilled Staff, high cost of setting up and maintaining and resistance to change of the organizational culture.

To have a successful interventions and support in NQIs, it requires identifying the challenges and opportunities of the ICMIS implementation project. Analyzing the problems of the implementation of the information system in its particular context, using qualitative and quantitative ways to advise and strengthen the implementation practices of IT project implementation; in addition, it helps to track the effect of initiatives on particular areas.

Despite different studies identifies challenges of HRIS implementations, it is surprising there is no empirical research conducted from perspectives of civil service archive and records management system or ICMIS. To have a successful interventions and support in NQIs, it requires identifying the challenges and opportunities of the ICMIS implementation project. Analyzing the problems of the implementation of the information system in its particular context, using qualitative and quantitative ways to advise and strengthen the implementation practices of IT project implementation; in addition, it helps to track the effect of initiatives on particular areas.

The absence of baseline data for ICMIS project management at all levels of national quality infrastructure that can be used as a guide could result in difficulties in implementing ICMIS project

management objectives. Challenges and opportunities of ICMIS assessment needs systematic approaches in finding the source and the root causes of factors of challenges of ICMIS implementations practice which help the institutions to fostering creativity and innovations and thereby to tap hidden capacity for growth and improved competitiveness.

In relation to the above evidence, no national research on the assessment of challenges and views of opportunities in ICMIS project management styles has been conducted. This confirms that this topic is important and vital for civil service to manage IT project management. Therefore, the purpose of this study is to fill this gap by assessing ICMIS project implementations in Ethiopia civil servant.

1.2 Background of the National quality infrastructure Institutions

Since its first birth in 1970, the Ethiopian Quality and Standard Authority (QSAE) has undergone several structural and name changes, and the Ethiopian Standard Agency (ESA) was created in accordance with the latest restructuring, as per Regulation No 193/2010 of the Ethiopian Council of Ministers, which is one of the four newly created quality infrastructure Institutions in Ethiopia namely; the National Metrology Institute of Ethiopia (NMIE), The Ethiopian Conformity Assessment Enterprise (ECAE) and the Ethiopian National Accreditation Office (ENAO). During their establishment these four institutions (ESA, NMIE, ECAE and ENAO) were accountable to the Federal Ministry of Science and Technology, but currently they are accountable to the Federal Ministry of Trade and Industry.

The Ethiopian standards Agency (ESA) is a government agency that has a national standardization council that works with the agency and is named by the government as a member of the council. And it is also a non-profit governmental organization that represents the country's interest in economic, social and environmental aspects with regard to standard benefits across the international and regional arenas.

The Ethiopia Conformity Assessment Enterprise (ECAE) was established by the Council of Ministers Regulation No. 100/2011 as a federally owned Public Enterprise, in February 2011. And

it represents the country's major conformity assessment organization providing industry and the public with testing laboratory, inspection, and certification services. It also has about 200 core staff across Ethiopia, and support staff. The headquarters and main laboratory facilities are located in Addis Ababa, and there are eight additional branch offices operating in different parts of the country. The Ethiopia National Accreditation Office (ENAO) was established by the Council of Ministers Regulation No. 421/2017 as an independent federal government entity with its own legal personality. ENAO's task are accrediting the competence of Conformity Evaluation Bodies (CABs) to carry out particular tasks, such as assessments, calibrations, certifications, or inspections, by structured third-party approval. The National Metrology Institute of Ethiopia (NMIE) was established by the Council of Ministers Regulation No. 194/2010 to give metrology related services which were previously being provided in the previous QSAE, the former Ethiopian Science Equipment Center, and taking the measurement of Radiation intake activity from the Ethiopian Radiation Protection Authority (ERPA). NMIE has four core business areas: provision of calibration services, training or technical support, maintenance of scientific equipment's, and certification service. Therefore, it is almost a decade ago that they started providing the expected services as the Ethiopia National Quality Infrastructure Development (ENQD) Institutions by establishing their own visions, goals, objectives, and duties. For efficiency of the institutions, the human resource Directorates of each Institution has aligned themselves using an automated HRIS information system.

1.3 Statement of the Problem

Following EPRDF the consolidation of power, the government also recognized the deep structural constraints on core functions such as policy formulation, provision of services and legislation. Outdated civil service regulations and working processes have hindered key public administration systems at the federal and regional levels; the lack of a medium-term planning and budgeting framework; weak financial and personnel management controls; deficient civil service salaries and improper ranking systems; limited strategic and cabinet-level decision-making capabilities; and insufficient decision-making capabilities. The Government embarked on a comprehensive Civil Service Reform Program (CSRP) in 1996, marking the second reform process, in consideration of these limitations. Indicating the first generation" capacity building activities of Ethiopia, the CSRP

aimed to create an equitable, open, reliable, competitive and ethical civil service primarily through the establishment of enabling laws, the implementation of operating structures and the training of employees in five main areas: control and management of spending, management of human capital, delivery of services, top management systems, ethics and implementations of human resource information system (Getachew, 2006)

In this regard, the ministry has been continuously designed information system to improve civil service management structures, create transparency, accountability, and reducing unnecessary duplication of information to improve the quantity and efficiency of public service delivery as well as to achieve its reform programs. Since 2011, Ethiopia starting deploy a project for the “Integrated Civil Service Management Information System (ICSMIS)” at national level the first phase at nine government institutions include: Ministry of Civil Service, Ministry of Education, Ministry of Health, Oromia National Regional State (Civil Service and Good Governance Bureau) and North Shoa. However, in spite of all these Ministry of Public Service and Human Resources

Development effort to adopted ICMIS in NQI start before two year but still remains challenged. Therefore, this study aimed at the factors which challenge and opportunities implementations of ICMIS. According Kovach & Cathcart, 1999, despite the popular use over the years of HRIS, problems continue to be faced with factors implementing human resource information systems. These factors include the lack of adequate funding and expertise, the expense of setting up and managing the system, the lack of support and commitment from top management, the lack of understanding of human resources by system designers and the lack of applications for users of human resources.

The lack of ICMIS project management baseline data at all levels of national quality infrastructure that can be used as a reference could lead to difficulties in implementing the objectives of ICMIS project management. ICMIS assessment challenges and opportunities require systematic approaches to define the source and root causes of ICMIS implementation practice ice challenge factors that help institutions promote creativity and innovation and thus access hidden growth potential and enhanced competitiveness.

While some studies recognize the challenges of implementing HRIS from health and educational sector (Eyilachew 2017, Kanak 2016 and Farzana 2015) , it is surprising that there is little empirical research from public perspectives (Hadija 2019) . The obstacles and opportunities of the ICMIS implementation project need to be recognized in order to provide effective interventions and support for NQIs. Analysis of the problems of the implementation of the information system in its specific context, using qualitative and quantitative approaches to guide and reinforce the implementation practices of the implementation of the ICMIS project, in addition to helping to monitor the effects of interventions in specific areas.

1.4 Objectives of the Study

1.4.1. The General Objective

The purpose of this study was to assess the challenges and opportunities in implementing the Integrated Civil Servant Management Information System (ICSMIS) project in the Ethiopia National Quality Infrastructure Institutions.

1.4.2 Specific objectives

- To determine the practice of information system implementations on ICMIS implementations
- To explore the influence of capacity and skills ICMIS users of implementation of ICMIS
- To establish the effect of ICT infrastructure for implementation ICMIS
- To establish the effect of technological infrastructure of ICMIS implementation
- To examine the effect of cost for the ICMIS implementation
- To assess staff resistance in the implementation of ICMIS
- To assess top management commitment on the implementation of ICMIS

1.5 Research Questions

The rationale behind this study revolves around the following basic research questions

- Does practices of information system implementation challenge ICMIS implementations?
- Does capacity and skills of human resource challenge ICMIS implementations?
- Does ICT infrastructure challenge ICMIS implementations?
- Does technological Infrastructure challenge ICMIS implementations?
- Does cost affect ICMIS implementations?
- Dose staff resistance challenge ICMIS implementations?
- Does top management commitment challenge ICMIS implementations

1.6. Significance of the Study

The findings of this are expected to be essential elements for the implementation of HRIS/ICSMIS project the Ethiopian National Quality Infrastructure Institutions, especially in the execution of information technology. Thus, the importance of this research can be pointed out from an exceptional beneficiaries' point of view where the Ethiopian National Quality Infrastructure Institutions namely; ESA, NMIE, ECAE and ENAO are expected to be the prime beneficiaries of the study with regards to the implementation of HRIS/ICSMIS system and lead the institutions' human resource service using a fully automated information system. Moreover, the Federal Civil Service Commission of Ethiopia and the Federal Ministry of Trade and Industry of Ethiopia will be other beneficiaries that could have drawn lessons related to challenges and opportunities when implementing HRIS/ICSMIS project the Ethiopian National Quality Infrastructure Institutions.

The result of the study could be an evidence for policy makers who are working on evaluating the existing policies or developing new policies in the area under study. This research could also be served as a stepping stone or as a reference for other researchers who are interested to conduct further studies in the area.

1.7 Scope of the Study

The scope of the study was 4 quality institutions at Ethiopia namely: ESA, NMIE, ECAE and ENAO. The study targeted a population respondent from currently ICMIS system users and implementors

1.8. Limitation of the Study

Despite the fact that each research has its own limits, no studies can be complete. For the purposes of this report, a constraint was defined to be any aspect that was present from the outset and affected or may have affected the achievement of research goals. This was carried out with the following limitations as well:

- There are drawbacks of all statistical processes; so, do analysis methods, such as sample or grounded theory experiments, too (Creswell, 2003). In addition, to minimize the scale of the analysis, the purposeful sampling procedure limits the generalizability of the results, and this study may not be generalizable to all ICMIS usage areas.
- As ICMIS is new to the country, the researcher cannot offer adequate details. recommendation for the research results regardless of the lack of proper knowledge of the system.

1.9. Definition of Terms

Quality: According to Eldin (2011), quality means certain product features that meet consumer needs and thus provide customer loyalty. In this sense, the meaning of quality is earnings oriented. Such higher quality is intended to provide greater customer loyalty and, one hope, to increase revenue. He also named it "free from deficiencies"—free from mistakes requiring rework or resulting in field failures, consumer complaints, customer claims, etc. In this sense, the quality meaning is cost-oriented, and higher quality usually costs less

Quality Infrastructure Institutions: Quality Infrastructure is a system that contributes to government policy goals in areas such as industrial development, global market competitiveness, efficient use of natural and human resources, food safety, health, the environment and climate change (www.unido.org).

Information System: Information systems are combinations of hardware, software and telecommunications networks that people build and use to gather, generate and distribute useful data, usually in organizational settings (Bourgeois, 2017).

1.10. Organization of the Study

The document of this research comprises five chapters. The first chapter deals with the context of the project, the problem statement, the objectives, the research questions, the significance, the scope and limitations of the analysis, and the definition of terms. Second chapter includes a summary of the literature covering human resource information system theories, empirical research on the determinants of information system implementation and knowledge gap and conclusions. The third chapter deals with methodology of the study. The chapter four also presents the results of the various methods used, and analyze is made in this chapter to test the research questions. Finally, chapter five presents an overview of the paper and its major findings with recommendations.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

2.1 Introduction

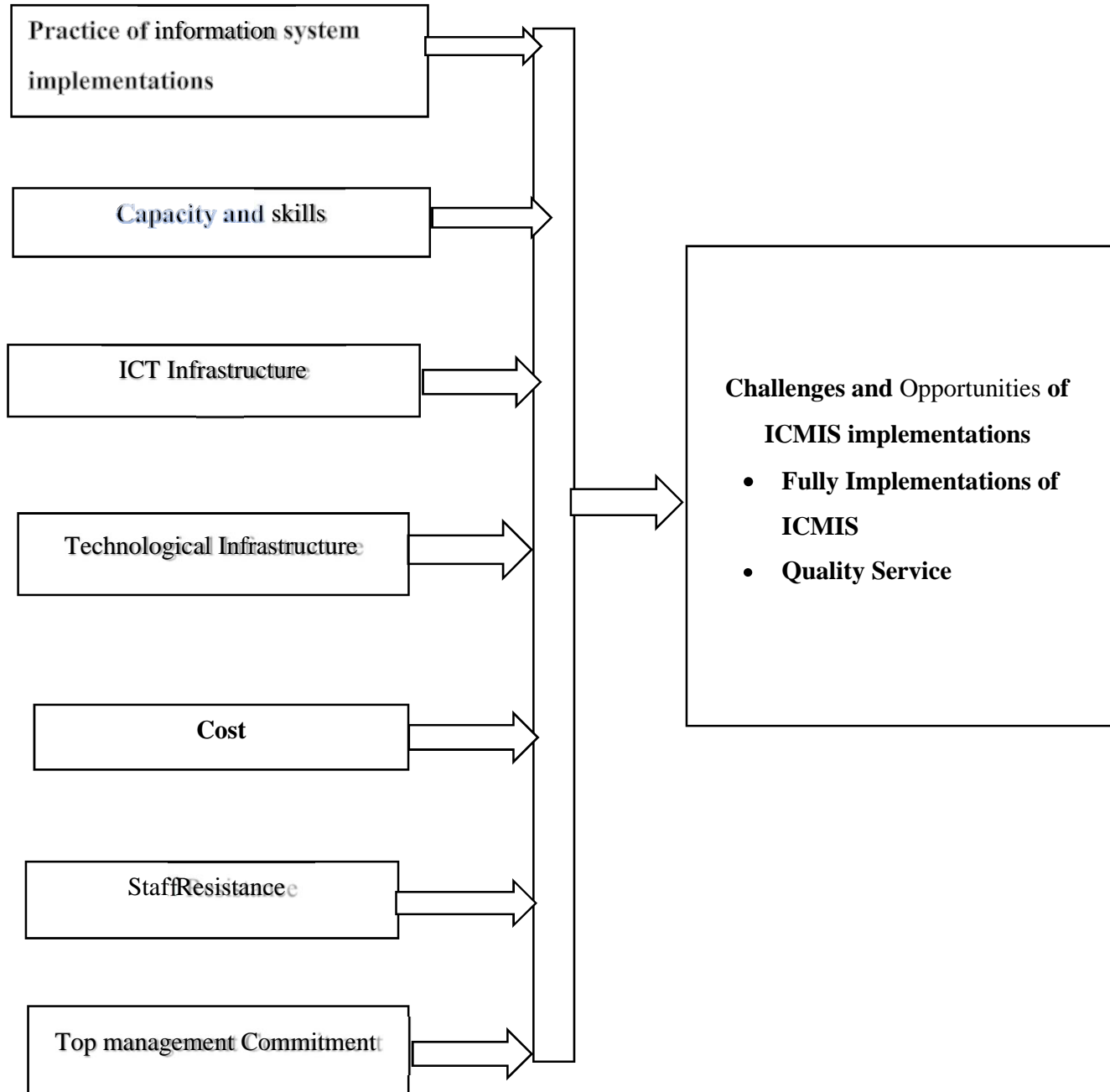
This chapter primarily clarifies basic concepts and definitions relating to the study. Moreover, the chapter discusses and presents different concepts to give a comprehensive understanding of the Integrated Civil Service or Human Resource Management Information System (ICSMIS) project. Accordingly, an overview, theoretical review, components, processes, principles, a strategic perspective, benefits, challenges, theories, empirical evidences, and best experiences of some countries and the case in Ethiopia concerning the subject under study are discussed.

2.2. Conceptual Framework of the Study

Conceptual form as a concise summary of the phenomena being studied, followed by a schematic or visual representation of the main study variables. According to Gallarza & Saura 2013 conceptual framework defined as a virtual or written product that describes the main things to be analyzed, either graphically or in narrative form, the key causes, principles or variables and the supposed relationships between them. Moreover, educational researcher Yadav (2010), conceptual frameworks are structured from a collection of general ideas and hypotheses that help a researcher correctly define the issue they are looking at, frame their questions and locate relevant literature. At the beginning, most scholarly research uses a conceptual framework so it encourages the researcher to clarify his research issue and try to explain it (Van Kamp & De Hollander, 2003).

In the context of the current study, as seen in the figure, the researcher describes six independent variables and one dependent variable in order to determine how this factor challenges and opportunities for the implementation of ICMIS in national quality institutes

Fig 1, Conceptual Diagram



This research variables were in accordance with both the study's primary objective and specific objectives. These independent variables were implementation practice, Human resource skills, operational issues, technical issues, Financial issue, change management, and top management. And these independent variables are in alignment with specific objectives for research. The dependent variable was Challenges and opportunities implementations ICMIS in the case of NQI.

2.2.1 Information Management Implementation Practices

According to Charles 2009, the rationale for system implementation, the development of information systems Its stage where challenges are encountered, user acceptance, system testing, continuous performance monitoring of the information system and the development of system documentation are considered issues in the implementation of the information system in practice. The author founds that approximately 67% of respondents agree the primary reasons for implementing ISs in the parastatal state (Kenya) were for sake of system integration and streamline business process operation. Further, the author identified that limitation of the current system, need information sharing and executive order. Regarding the initiators of ISs projects, the author noted that 55%, 53% ,34%, 25% and 2% of the respondents were suggested that ISs project initiated by functional department, IT department, top management, government and donors respectively. Further, the author noted that about 55% of the respondent agreed that, ISs are initiated by functional department, 53% by IT department, 34% by top management, 25% by the government, while 2% are initiated by donors. Finally, he found that during the implementation

2.2.2 Capacity and skills of ICMIS

Human resource skills relate to the interpersonal skills of the individuals involved in the project, starting with the pre-planning stage, the approval process, the planning of the project and the implementation of a project through the transition to production status. Burke et al (2001) suggest that human issues have the greatest impact on processes, as they argue that when implementation is successful, it is because attention has been paid to human issues. The author further explains

poor project management skills, lack of customer skills and awareness, resistance to change, negligence, inadequate staffing, scanning, political battles and perfectionism and lack of experience are issues related to human resources. According (Turbit, 2005), very few organizations have the experience in house to run such a complex project as implementing a large-scale integrated solution. He indicated the project implementation includes senior executive engagement to ensure that the proper balance of company and IT presence is accomplished and dispute resolution.

As a problem, Burke et al (2001) identified poor skill sets among users. This perspective is reinforced by META Group (2004) research that showed that user knowledge as a challenging factor is missing in more than 75% of organizations listed. In addition, 66 percent of organizations described a lack of executive knowledge as having a similar impact in the same report. Maguire (2002), the IT user skills manager at e-skills UK. "It states that the lack of user skills is a "significant concern" supported by a recent study showing that "7.6 million workers wanted better IT skills out of 21.5 million IT employees (Murray, 2007). Turbit (2005) also indicates that the capabilities of employees must also be updated when upgrading from old systems. The update would put major expectations on a team that is aiming at preserving an old but stable climate, and this initiative is typically underestimated.

Furthermore Kossek, 1987; Kimberly & Evanisko, 1981, employee structure and levels of education have also been stated to have a significant effect on the implementation of innovation, particularly in human resources management (HRM). Effectiveness of IT expertise and understanding of electronic technologies promote the implementation of e-HRM, as they contribute to the readiness and desire of end users to use the system. (Shrivastava & Shaw, 2003; Panayotopoulou et al., 2007; Voermans & van Veldhoven, 2007).

2.2.3 ICT Infrastructure

Different authors are discussed about operational variables in relation to Information system implementations. According Charles 2009, operational variables are those that control the distribution of information transactions within an organization. As Lurbit 2005 suggestion, the distinction between modifying business processes to accommodate the system or maintaining business processes and paying the expense, in cash and time, is difficult to draw. The implementation is limited by time and cost, so the normal route is not to alter the structure, but to adjust the way people function. Moreover, he suggested that poor planning is also a key obstacle to effective implementation of the program. A case study based on Pestell Group in cited in Maguire (2002) revealed that, due to inefficient planning, they had problems getting their information system up and running on time. The author suggested that planning is essential to the development of information systems, since the better the plan, the better the outcome. According Gupta 2000, time constraints can also trigger unexpected problems. He further identifies time overruns can be due primarily to unforeseen problems and poor project management. However, each project has its unexpected delays, those that cannot be foreseen; how the organization can handle the situation that determines its impact is very important.

The experience of a company with technology and the amount of time it has been devoted to IT in the HR department has been shown to have a strong influence on an organization's overall IT effectiveness (Tye & Chau, 1995; Teo et al., 2001). The type of organization is also an IT implementation factor, as the industry in which a business works plays a role in the adoption of HRIS (Rashid and Ai-Qirim, 2001). High-tech businesses, such as telecommunications, use more advanced HR information technologies, frequently implementing HRIS faster than other industries to retain a 'high-tech' look (Galanaki, 2002). As Arad, Hanson & Schneider, 1997 discussion firms with a high percentage of clerical jobs, such as insurance, pledge uncomplicated adoption, as there is a high proportion of the workforce. Computers and literate machine staff. In comparison, businesses with largely non-clerical activities, such as manufacturing, typically do not accept computers and computer literacy in the workplace as a part of their job structure.

2.2.4 Technological Infrastructure

According to Charles 2009, technical factors are those that influence the technology side of an organization. It identified the following technical factors: Those who normally underestimate the effort to build interfaces, change reports, customize software and convert data. It will also entail an effort to gather new data and clean up the data being processed that goes beyond what is usually required (Lurbit, 2005). Further, a wide

variety of problems and problems concerning desktop computers compatibility issues occur during implementation of the IS project (Gupta 2000). He also notes that networking issues are based on several common problems with regard to the implementation of ISs. This may involve issues such as setting up the whole PC to use the new information system and sharing data. For automation, suitable hardware is very necessary. Due to aging and obsolescence of the software, software engineers need constant process enhancement, longevity is due to software technology advances. Suitable computer hardware is needed for this (Gutpa, 2000).

2.2.5 Cost

Financial problems are those that impact the financial side of an enterprise. Financial problems found in this respect are cost overrun. Cost overruns can be associated with poor planning and may be due to resource underestimation (Lurbit, 2005) in relation to budgets, consulting fees, hardware costs, and software costs. Automation's drawbacks are high initial costs, and increased maintenance dependency.

The level of automation should be at the level required to achieve full operational efficiency (Lynn, 2002). NMIE is facing a persistent resource shortage like finance. The management should be aware that implementation of the program is part of the complex and general economic framework therefore implementation performance depends on that framework, as well as the optimum allocation of resources on time

2.2.6 Staff Resistance

Change management is described as "managing process, institutional, technological, personnel and change of culture within an organization" (Chaffey, 2002) and is also seen as setting goals that minimize change pain. People interested in a transition foresee moving from A to B. Sometimes where they really are going is C. Change Management can be used to fight change resistance, as it is about getting them used to the idea that C is the real destination (Alter, 1999).

2.2.7 Top Management commitment

Researchers argue that the support of innovation by top management - participation and participation of executive or top-level leadership - plays a major role in the acceptance or early adoption of that innovation (Jarvenpaa & Ives, 1991; King & Teo, 1996; Raymond & Bergeron, 1996). The strong dedication of top management, in particular of a specific 'innovation champion' contributes to early adoption, while the absence of top management commitment prevents implementation (Mehrtens et al., 2001; Chan and Mills, 2002). Recognition of the important position in organizations with top-level managers, it is Not surprising, the assistance of top management was one of the most critical ones. Organizational variables most commonly debated in many HRIS Studies on adoption (Kavanagh et al., 1990; 1994, Jones and Arnett; Pitman, 1994; 1994, Wong et al.)

2.3. Theoretical Framework of the study

The paper draws from three theories in investigating the issues of ICMIS Adoption. The theories Diffusion Theory (IDT) by Rogers (1995), Work Around Theory (WAT) that tries to establish how users can work around systems obstacles advocated by Alter (2014) and the Technology Acceptance Model (TAM) by Davis (1989), which is most widely used by several researchers that examine the adoption of IFMIS and user acceptance, as observed by Sternad et al. (2011).

2.3.1 Innovation Adoption Theory

Implementation typically begins with the acceptance that there is a need and progresses to the search for alternatives, then to the initial decision to try to implement a solution and eventually to the actual decision to try to continue with implementing the solution (Damanpour and Schneider 2006; Gallivan 2001; Mendel et al. 2008), In the adoption process, Greenhalgh et al. (2004) characterized pre-adoption (e.g., understanding of innovation), peri-adoption (e.g., continuous access to knowledge on innovation), and developed adoption (e.g., dedication of adopters to the adoption decision). The above basic understanding of adoption important for this study since it helpful to identify predators, staff who have continues access to knowledge of innovations and adoptions dedicators

Alternatively, two phases of adoption were discussed by Frambach and Schillewaert (2002): the decision of the organization to seek adoption acceptance and initiation by workers of their individual processes of acceptance of innovation. Adoption will either switch to initial activities of implementation or return to de-adoption. Ultimately, just as the decision to take is a process, how the adoption proceeds are best defined in terms of degree, pace, or level, adoption degree (Mendel et al. 2008). The more it is possible to grasp the adoption process, the more likely it will be to challenges in adoption may then be discussed, leading to initial implementing. These phases affect the challenges of implementations of ICMIS, which is a new system to the Ethiopia.

The adoption process is complex on an organizational or system level. Fostering changes in routine practice is especially difficult when decision-makers within organizations do not view changes as important (Garland et al. 2010). Although the similarities to person-level adoption, Aarons et al. (2011) indicate that it can be difficult for individuals in organizations to recognize, weigh or choose suitable technologies to solve specific problems, or their decision to take is often complicated by organizational factors (e.g., leadership, culture, values) that are not generally experienced in individual problem-solving.

In addition, organizations, such as people, may be labeled as low-, medium-, or high-adopters, regardless of interesting innovation (Rogers 2003). Although meaningful for planning and descriptive purposes, these classifications of adopters require more empirical inquiry into whether there is a These are techniques that can shift organizations to high adopters from medium or low adopters (Greenhalgh et al. 2004; Oldenburg and Glanz 2008)

2.3.2 Work Around Theory (WAT)

WAT is characterized as a goal-driven adaptation carried out by system users to bypass or reduce the barriers that are perceived to deter job success (Alter, 2014). However, this may be considered to be detrimental, as Alter (2014) further Observes, but this can be ethically driven to allow a person to obtain the outcomes otherwise desired. Many consumers recognize that ICMIS has some limitations to its use. WAT can then be used either at the corporate level or at individual levels to model parts of the structure. Alter (2014) also states that certain hurdles or obstacles Failures may be inherent in the structure or evolving mechanisms that may result from any factor leading to the effective adoption and use of technologies such as operational, technical and environmental aspects, the principle that determines creativity would then be rooted in the IDT. As a method and aims to look at how the process operates inside the ICMIS around processes.

2.3.3 Technology Acceptance Model (TAM)

The Technology Adoption Model (TAM) is a philosophy of information management developed by Davis (1989) that explains how technology is accepted and used by consumers. As noted by Vogel and Cheung (2013), the model focuses on how technology the factors of consumer adoption of information technology have been embraced and used with a great deal of focus. It consists of two key theoretical frameworks: the system's perceived utility (PU) and perceived ease of use (PEOU). Viewed use as described by Davis (1989), is the degree to which an individual assumes that using a specific device will increase their job performance, while perceived ease of use refers to the degree of ease that a person will have in using a specific system that both affects happiness, acceptance and attitude towards technology (Davis, 1989). While the theoretical model has been postulated to have different drawbacks, such as not taking into consideration the operational

environment and moderating impact (Davis, 1989), it has been widely used in contrast the implementation of systems. The paper therefore adopts its assistance in evaluating how the application of ICMIS at NQI is influenced by individual variables, looking at both the system's PU and PEOU.

2.4. Empirical Framework of the study

This section covers a review of the cases from other countries that have implemented ICMIS or HRIS project and the literatures are reviewed in line with the objectives of the study. Although some studies address the challenges of the health and education sector's implementation of HRIS (Eyilachew 2017, Kanak 2016 and Farzana 2015), it is surprising that there is little empirical research from a public perspective (Hadija 2019). Therefore, these sections are forced to discussed empirical studies some country HRIS implementation practices rather than ICMIS

2.4.1. Human Resource Information System Implementation in Ethiopia

In a research by Eyilachew (2017) about human Resource Information System implementation readiness in the Ethiopian, he indicates level of readiness of the HR employee for HRIS implementation was 35.8 %. Regarding hospital and health department infrastructure. The author suggested that, 198 (80.5 %) respondents had telephone service for office work purposes in their working organization, and 220 (89.4 %) had electricity access. The author also noted that most of the 193 respondents (78.5%) had at least one to three computers in their HR department. Furthermore, the author indicated that, 182 (74%) did not receive any training from the respondents on the use of HRIS, from overall participants, 174 (70.7 percent) indicated that HRIS for all workers in their department had not been implemented. In addition, 178 (72.4%) of them replied that they feel accountable for their responsibility for the full implementation of HRIS.

According Eyelashes 2017, the infrastructure-based difficulties were the first key challenges related to HRIS implementation readiness. Such issues were inadequate supply and logistics, lack of network and internet, low storage and speed of computers, lack of backup and anti-virus use, shortage of office facilities, Low availability of computer accessories and regular power

disruptions .The second main challenges identified by researcher were lack technological skill-related issues, poor computing skills, absence of qualified HR staff (skills, experience, and attitude), traditional data management skills, and unfortunate communication skills.

Finally, the author identified organizational and management related challenges, such as top management reluctance for decision lack of commitment, failure to collaborate with other teams as a team, low interest of customers, unwillingness to use information technology, and inadequate dedication to the implementation of HRIS and HR support systems

2.4.2 Human Resource Information System Implementation in Tanzania.

The Tanzanian government faced a variety of obstacles before fully implementation the HRIS system in Public instigations. Information errors were addressed from the context of human resource functions due to paper -based process, such as slowness, inaccuracy and output incompleteness. Public payroll corruption, unskilled civil servants, delayed career promotion and ineffective employee recruiting and growth programs were critical obstacles to public sector human capital during the 1980s and 1990s: - (Hadija 2019). The author also pointed out that the Personnel Management and Information Systems (PCIS) program was introduced in 1995 alongside these changes to ensure a smaller, more manageable, well-compensated, effective and efficient civil service. The goal of the project was to incorporate staff data into one database and client-server architecture ([World Bank, (2002)]). Moreover, the government launched the Public Service Reform Program (PSRP) in 2002 to encourage, among other things, the transformation of information and communication systems in government agencies and to enhance the quality of information. Two new laws were passed at this point to conceptualize the changes, namely the 2002 Public Service Act (No. 8) and the 2002 Records and Archives Management Act (Akoyo & Muathe, 2017), The two pieces of legislation were basically designed to fulfill two separate but linked goals. While the Public Service Act defines the Public Service component agencies, the Records and Archives Management Act grants the archives direct powers to supervise the management of records in the public service [World Bank (2002)]. In this stage, an important component of the HRM remained paper-based documents and the same problems were observed. The government carried out a national pay day exercise in 1994 and 13,360 cases of ghost

employees were reported as a result of the exercise (Sawe, D. and Maimu, D. 2001). As per Hadija2019, a variety of issues were posed by such a transformation and project in the third phase of 'web-based framework (HRIS)' during implementation, Unsatisfactory ICT and HRIS skills within the HRM workforce; poor government coordination; network access instability; and weak top management support, such as unstable financial capacity to obtain, update and maintain the HRIS.

2.4.3 Human Resource Information System Implementation in Kenya

According Kanak 2016, established the challenges of practice of HRIS as employee's resistance, lack of skilled staff, high cost of setup and resistance to change of the organizational culture. Further, the author noted that 48.7 percent of respondents showed that the lack of qualified staff is an issue for public university HRIS. The author also indicated that in private colleges, 43.8 percent of the respondents had similar view. The high cost 44.4% and 46.9% of respondents from both public and private universities described the creation and management of an HRIS as a challenge. Regarding reluctant to change of the organizational culture, the author indicated 69.6 % and 65.7 % of respondents from public and private universities suggested it was viewed as a challenge. 52.3 % university respondents and 51.6 % of private university respondents acknowledged that HRIS was not viewed as a benefit, thus preventing the academic institution from reaching its maximum service delivery capacity through the utilization of HRIS

Having described the problems facing universities in the adoption of Information Systems for Human Resource Management, the researcher effort to create the most workable strategies that have been implemented for sustained use of service delivery HRIS. In conclusion the study reveals that university personnel agree on the top management assistance in authorizing and aligning the execution of the HRIS project with strategic priorities, they have agreed that HRIS has Improved decision-making method, management planning and teamwork. But the workers were not confident about the dedication of top management to capital and the allocation of a significant budget to prepare for the adoption of HRIS. On the basis of the results that sufficient HRIS applications should be used to achieve productive HRIS in the majority of public universities (80.5

%) indicated that they were in agreement, while in the majority of private universities (87.5 %) indicated that they were in agreement. On the fact that attempts should be taken to ensure effective record keeping in the majority of public universities (84.8%) suggested in agreement in order to improve the efficiency of the HRIS, while the majority of private universities (90.6%) were also in agreement.

Further Charles (2009), in Kenya parastatals study on the information system implementation challenges. In Kenyan state parastatals, he described IS implementation practice showing that most state parastatals have adopted many practices in their ISS implementation. Although the approaches adopted have assisted the implementation of ISs by parastatals, there is a lack of; detailed work plan for the implementation of ISs, user acceptance, system testing, version control, periodic review of system documentation, stress testing and established IT department to spearhead implementation of ISs., In addition, parastatals lack sufficient policies, IT requirements and procedures for handling IS modifications. In addition, the results show that there is a lack of comprehensive risk log and risk management processes that are important for the effective implementation of ISs.

2.4.4 Human Resource Information System Implementation in Bangladesh

According Farzana (2015), many difficult challenges in Bangladesh hold organizations lagging behind in order to reap the advantages of technology. Based on the responses of human resource (HR) managers from some companies operating in Bangladesh, he tried to explore those barriers. The study found management reluctance; the most potential to hinder the effective implementation of HRIS are employee privacy problems, organizational internal opposition, and conversion costs.

In addition, the author found that the HRIS can be easily introduced in most organizations if the top managers take measures and workers avoid resistance to change for some reason (78 %). He also noted that the other factors are lack of technical skills, difficult to manage HRIS, and the lack of an IT expert cannot be a concern since the majority of responding companies (61%) have expert staff in this sector. The last problem identified by the author was that the costs of infrastructural

development for respondents would not be an obstacle at all because the marginal costs of implementing HRIS could be covered by the marginal benefits.

2.5. Knowledge Rap and Research Justification

In the past three decades, Innovation activity in organizations, relating to the implementation of innovation theory, has been a subject of growing concern in the adoption of information technology (IT). In an effort to study and identify the key variables that decide the implementation of IT innovation actions at the level of the individual organization, a significant amount of research has been conducted. Several researchers have developed conceptual models to validate the implementation of aspects of IT behavior. Most of these researches, however, have not completely taken into account the factors driving the implementation of the actions of IT invention in general and the acceptance of Human Resource Information Systems (HRIS) in particular. Here, the content study of related empirical studies is used to classify and isolate the major explanatory factors correlated with the organizational acceptance of HRIS, either negatively or positively. In addition, all relevant factors were defined and grouped into large categories of internal and external environmental factors in the absence of empirical studies to assist in the dentification of the most important factors for the implementation of HRIS. According to organizational behavioral theory for example, the behavior of an organization is inseparably related to the environment under which it exists - in other words, the implementation of new innovation practices by an organization is dictated not just by its internal environmental features, but also by factors present in the external environment (Rand 2013).

Furthermore, earlier studies have accurately identified the various drivers and obstacles to HMIS adoption in most African countries, but there are no studies on ICMIS implementation challenges and opportunities. Though no exact studies had been done on ICMIS implementation, the review of the relevant research in the field shows determine the readiness of HRIS implementation, identify associated factors, and explore the challenges of HRIS implementation in hospitals and health departments of the Amhara National Regional State (Eyilachew, 2017).

According to Hadija 2019, In spite of HRIS's relevant and promising contributions to successful public sector HRM, he recommended five major challenges associated with the adoption of HRIS, including: unsteady financial capacity to acquire, update and maintain the HRIS; inadequate ICT and HRIS expertise among the HRM workforce; inadequate coordination of government machinery in the performance of their statutory responsibilities; instability of internet connectivity and inadequate top management support.

2.6 Summary of Literature Review

This section deals with the study of current literature on the implementation of the ICMIS project. A review of current project implementation literature shows that lack of capacity, poor commitment to change, low commitment of top management organizations, institutional problems include, among other organizational arrangements, the legal structure, technological factors that include both the ICMIS software and hardware and the most common challenges of the ICMIS project implementation are the changing opposition from senior personnel and management all the way down to the civil service staff.

The review of the existing literature shows a list of contributing factors as guidance for the effective implementation of ICMIS projects, in particular the immediate, medium-term and long-term project implementation plan should be planned and periodically revisited, a change management strategy should be established and the benefits of the required change should be clearly communicated, educated and trained, the framework should be developed and. Early in the project, it is therefore necessary to build a learning environment and to treat the whole process as a learning opportunity, with training being part of an ongoing process. The government must completely commit itself to preventing the workforce from resistance. It is also important that management participation, during the introduction and implementation of new systems, takes the lead.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter deals with the research design, the research method, sources of data, sampling techniques, instruments and procedures of data collection, methods of data analysis, and finally end in presenting ethical considerations.

3.1 The Research Design

The study adopted descriptive research design. According Kothari 2004, descriptive research is used where the problem has been well planned. It concerns the description, recording, analysis and analysis of conditions that either occur or have existed. A descriptive design was selected for this research because of better understanding of the phenomenon.

3.2 Sources of Data Collection

Data was collected both from primary and secondary sources. The primary sources include top management, planning, IT and human resource experts, whereas the secondary sources were related books, research reports, and online data from verified sources, documents such as authoritative journal papers, regulations, brochures, publications, and website.

3.3. Population and Sampling Technique

Population is a catalog of the elements from which the sample may be taken (John, 2007). The target population of the study were the top management, planning, IT and human resource experts. From the total of 117 target population in the four national quality infrastructure institutions, 82 participants were selected for the study. This study purposeful sampling techniques. According to Patton (2015), purposive sampling technique is used to select the respondents who are expected to be rich in providing information on the issue under the study. Therefore, purposive sampling technique was used to collect data because this method avoids bias and allows the researcher to

get real information for each and every employee. Thus, out of 117 members of the four institutions 82 (70%) were selected for the study (See Table 2.1 below).

Table 2.1 Sampling for the selection of respondents

Participants	NMIE			ESA			ENAO			ECAE		
	Total	No. Sample	%	Total	No. Sample	%	Total	No. Sample	%	Total	No. Sample	%
Planning Expert	4	4	100.00	2	2	100.00	3	3	100.00	3	3	100
Human Resource	6	2	33.33	7	2	28.57	5	3	60.00	5	3	60
IT Expert	15	7	46.67	6	2	33.33	9	4	44.44	10	5	50
Top Management	14	14	100.00	10	10	100.00	8	8	100.00	10	10	100
Total	39	27		25	16		25	18		28	21	

3.4 Instruments of Data Collection

Data was collected by a self-administered, structured questionnaire. According to Kothari (2004), even though the universe is big, the use of the questionnaire system ensures low cost, it is free from the interviewer's bias, respondents have enough time to provide well-thought-out answers and the use of self-administered questionnaires ensured respondents' privacy and thus reported a high response rate. Moreover, document analysis was also employed as data gathering tool that include related books, research reports, and online data from verified sources, journal papers, regulations, brochures, publications, and websites.

3.5. Reliability Test

According to Carmines and Zeller, (1979), reliability refers to the degree with which a phenomenon calculation results in a reliable and consistent manner. Testing reliability is important because it refers to the accuracy across a measuring instrument's parts (Huck, 2007). A scale is said to have high internal consistency reliability if the things in a scale hold together or calculate the same construct (Huck, 2007, Robinson, 2009). There are various reliability test methods, for which Cronbach's alpha is considered appropriate for this study. The most famous indicator of reliability is Cronbach's alpha. As described by Andy (2006) the values of Cronbach's alpha more than 0.7 is good. The alpha values in this study were far from 0.7 and had very good reliability for the questioners. Reliability analysis of the questionnaire is made through SPSS 20 demographic variables of the questionnaire are excluded for the purpose of this analysis 7 variables are included the Cronbach's alpha of the questionnaire is 0.75 that means 75 percent of respondents have similar way of understanding for the questionnaire that is filled by them.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.75	.157	7

Table 3.7 Result of reliability analysis for the questionnaire

3.6 Procedures of Data Collection

The data collection tool was relatively based on the standard questionnaire prepared in the form of five-point Likert scales to assess ICMIS project challenges and opportunities. To gather data for this study, a survey method of data collection was used through the questioner. According Krishna swami and Ranganatham (2007), the benefits of this approach is that less expensive, provide privacy and can leads to more truthful answer. The respondents were asked by the questioner to show the degree of their level of satisfaction or dissatisfaction using the five-point Likert scale. Questions ranging from 1 representing "strongly Agree" to 2 refer to "Agree" 3 representing "Neutral," 4 representing "Disagreement," and 5 representing "strongly Disagreement." The

questionnaires will be provided directly by the researcher to the respondents. The following six major variables were grouped: human resource skills, operational management, technical, financial, change management and top management.

3.7 Methods of Data Analysis

According to LeCompte (2010), translation of data into research outcomes is data analysis. The study used descriptive statistics such as frequencies, percentage, mean and standard deviation to analyze the data. The collected data coded, edited and analyzed using the statistical package for social science (SPSS) version 20.

3.8 Ethical Considerations

It should give a top priority to the well-being of participants whenever we do human research. The study topic will be our second focus. This suggests that if we want to harm participants for our study, the damage would also impact our study (Woodsong, MacQueen, Visitor, & Namey, 2005)

Confidentiality – Respondents will be assured that they would not be confused and that their response would remain confidential. The details they give are proprietary and used for scholarly purposes only.

Organizational approval – the researcher receives a written recommendation from St. Mary's University and respective offices ESA, NMIE, ENOA, and the letter outlines the premise and intent of the work.

Informed consent – The questionnaire cover page defines the objective of the study and reminds respondents that they have the option to agree or decline to engage in research activities.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

This chapter explains the results of the findings. The research sought to establish how selected issues (Information management practice, capacity and skills, ICT infrastructure, technical infrastructure, cost, staff resistance and top management commitment) challenge and create an opportunist for the implementations of ICMIS project in Ethiopia national quality institutes. The implications of the results form the basis of the findings that are well illustrated in the next chapter. The section is organized on the basis of the research variables. The study addressed a sample size of 82 respondents from which the questionnaires were completed and re-tuned by all respondents. Thus, the response rate was 71 % (82/117). This response rate was very good to make conclusions for the study. According to Mugenda (2003) observed that a 50% response rate is adequate, 60% good and above, while 70% rated are very good.

4.1. Demographic Characteristics of Respondents

Demographic details provide data on research participants and is important to assess if the individuals in a specific study are a representative sample of the target population and to test the respondent's suitability to answer questions for generalization purposes. The demographic characteristics of the selected respondents considered in this study include sex, age, educational level and work experience (See Tables 4.1 below).

Table 4.1 Demographic Characteristics of Respondents

Gender	Frequency	Percentage (%)
Male	57	69.5
Female	25	30.5
Total	82	100
Age	Frequency	Percentage (%)
25-34 years	22	26.8
35-44 years	20	24.4
45-54 years	23	28.0
55 and above	17	20.8
Total	82	100
Educational level	Frequency	Percentage (%)
First Degree	59	72.0
Masters	18	22.0
Ph.D.	3	3.7
Diploma	2	2.4
Total	82	100
Duties & Responsibilities	Frequency	Percentage (%)
IT Officers	30	36.6
Top Management members	23	28.0
Human Resource Experts	17	20.7
Planning expert	12	14.6
Total	82	100.0
Experience	Frequency	Percentage (%)
3-10 years	71	86.6
10-15 years	9	11.0
Above 15 years	2	2.4
Total	82	100.0

Source: Primary Data Collected by the Researcher

Table 4.1 shows sex of the participants. The data in table 4.1, indicated that respondents were of Male (N=57, 69.5%), and Female (N=25, 30.5%). This means that male respondents take the greatest share of the overall survey. This indicate that this research, both genders were well represented and did not experience from gender biases.

The data in the same Table showed that respondents of 25-34 years (N=22, 26.8%), 35-44 years (N=20, 24.4%, 45-44 years (N=23, 28.0%) and years 55 and above (N=17, 20.8%). This means employees of NQIs with sound reasoning and extensive experience. This is an asset for the implementation of ICMIS by the institutions.

The data in the same Table also revealed that in terms of education about 72%, 22%, 3,7% and 2.4% of respondents are First Degree, Masters, Ph.D. and Diploma holders. The above means that most employees of NQIs have trained very well. The fact that most respondents were educated suggests that the more correct the response was, the better they understood the question posed by the researcher.

From table 4.1, it was found that respondents were defined to several duties and responsibilities where IT officer (N=30,36.6%), top management (N=23, 28.0%), human resource expert (N=17, 20.7%) and plan expert (N=12, 14.6%). This indicates the largest number of respondents from the background of information technology.

From the same table, it was found that respondents were defined their work experience where 3-10 years (N=71, 86.6%), 10-15 years (N=9, 11.0%), and above 15 years (N=2, 2.4%). This means majority of respondents had working experience between three and ten years. This helpful since work experience is a critical aspect of 'work -place ready and differentiate decides their home factor than third party factor. In 1998, a survey conducted by Scribner found that this building was helpful skills that cannot be learned in the class as well as connections that students otherwise would not be exposed to and potential employer will always look favourably on the effort taken by those who have done job experience, which encourages new talent and gives them an advantage to push for the most searched after graduate positions in the field.

Therefore, the sampled respondents of this report, who are skilled in technical skills, discovered that their work-based experiences were not only rich in practice opportunities, but also improved problem-solving, critical thinking and teamwork skills. And that's why the researcher emphasizes on those who use ICMIS to obtain relevant data for this report.

4.2 Description of Information Management Implementation Practices

4.2.1 Reasons of Introducing New Information Technology System

The research tried to determine the reasons for the respondents' introduction of new information technology and the findings were as shown in Table 4.6.

Table 4. 6 Frequencies and Percentage on the Reasons of Introduce New Technology System

Attribute	Frequency	Percent	Rank
Management Order	30	36.6	1
Need for integration	29	35.4	2
Current system's weakness	13	15.9	3
Simplify procedures	7	8.5	4
Need for information sharing	3	3.7	5
Total	82	100.0	

Source Primary

From the above observation, it was indicated respondents was management order (N=31, 36.6%), need for the integration (N=29, 35.4%), system weakness (N=13, 15.9%), simplify procedures and information sharing's are another attribute for introduction of new IT system in NQIs. (N=7, 8.5%)

and need for information sharing (N=3,3.7). This means management order and need for integration are prime reason for initiating new IT system. Further, system weakness, simplify

4.2.2 Main Focus Area of Information Management System

The study attempted to establish the information system focus area in NQIs and the results were as shown in Table 4.7

Table 4.7 Frequency and parentage of Main focus Area of Information System

Attribute	Frequency	Percentage (%)	Rank
Internal efficiency	43	52.4	1
External service delivers	36	43.9	2
Other	3	3.7	3

Source Primary

From the above table, it was indicated that majority of respondents was internal efficiency (N=31, 7.8%), external service delivery N=30, 36.6%). This means that internal efficiency and external service deliver was prime issues of all our national quality institutes when using information system. However, negligible respondents respond n

4.2.3 Information Management Project Initiators

The study tried to establish the information system project initiators in NQIs and the outcomes were as shown in Table 4.8

Table 4.8 Frequency and Percentage of Information System Project Initiators.

Attribute	Frequency	Percent	Rank
Government	63	76.8	1
Donors	8	9.8	2
Functional Department	5	6.1	3
IT Department	3	3.7	4
Customer Pressure	2	2.4	5
Top Management	1	1.2	6
Total	82	100	

Source Primary

As indicated table, 76.8% of the participant felt that the government primary initiator for ISs project implementation in NQIs. However, donors, functional department, IT department, customer pressure, top management were least initiators of system implementation project.

4.2.4 Challenging Stage of Information Management System Development

The research attamed to found challenging stages of information Development and the result showed in Table 4.9

Table 4.9 Frequency and Percentage of Challenging Stage of Information System Development

Attributes	Frequency	Percentage (%)	Rank
System Implementation	52	63.4	1
Requirement study	22	26.8	2
System Design	7	8.5	3
Testing	1	1.2	4
Total	82	100.0	

Source primary

From table 4.9, it was indicated that respondents challenging stage of information system developments was system implementations (N=52, 36.4%), requirement study (N=22, 26.8%), system design (N=7, 8.5%) and testing (N=1, 1.2%). This implies that system implementations are major challenging stages in NQIs. Further, least amounts of respondents indicated during system design and testing. Comparison the result with literature review, the study finding have the similar result with the literature review or do not the same with it. For example, according Charles 2009,

the leading challenges ISs implementation happen during implementation phase, this is true with the findings of this research. However, system maintenance and analysis phase were the potential challenges of ISs implementation for secondary data. But this result is opposing with the research findings of requirement study.

4.3 Capacity and Skills

Table 4.10 Descriptive Statistics of Capacity and Skills of ICMIS Users

Attributes	Yes		No	
	Freq	%	Freq	%
Have your basic computer skill?	78	95.1	4	4.9
Do you think that ICMIS enhance efficiency of human resource service in the institute?	76	92.7	6	7.3
Do you know Advantages of ICMIS?	61	74.4	21	25.6
Do you feel that you are responsible for full implementation of ICMIS?	52	63.4	30	36.6
Do you think that you have roles in implementation of ICMIS?	46	56.1	36	43.9
Do you know the modules of ICMIS	45	54.9	37	45.1
Can you manipulate ICMIS Software? Lack of skilled Staff	37	45.1	45	54.9
Did you receive training on ICMIS? v did not take any training	32	39	50	61
Do you use manual for the implementation of ICMIS?	16	19.5	66	80.5

Source Primary

The Table 4.10, indicated that in terms of capacity and skills of ICMIS users. Thus, majority respondents suggested that basic computer skills result were (N=78, 95.1%), 66 (80.5%) didn't use manual for the implementations of project. When it was analyzed the efficiency of ICMS over human resource service, 76 (92.7%) of most of respondents reported that had positive response. Regarding to the understanding advantage about ICMIS, 52 (63.4%) indicated that they had fully

know the merit of it. Whether respondents believed that they were responsible for full implementation of ICMS ,61(74.4%) suggested that had strong trust. Furthermore, about their role full implementation of ICMIS; 46(56.1%) of them answered they felt role. The respondent was also asked where whether had knowledge about ICMS module. Almost half of, 45 (54.9%), responded that they recognize manual. Finally concerning respondents were also replied whether could use ICMIS software, received ICMIS training of ICMS; nearest to half, 45 (54.9%), and half, 50(61%), responded that couldn't had capacity to exploit ICMIS and didn't earn training.

Therefore, the findings and responses are not totally agreed with the challenges as it was mentioned in the review part i.e., Eyilachew (2017), Kanak (2016) and Hadija (2019). Thus, only some of the result of this study are the has gap with reviewed literature. This difference showed in attributes of taking basic computer skills trainings and whether ICMS enhance the efficiency HR service.

4.4 ICT infrastructure

Table 4.11 Descriptive statistics of ICT Infrastructure

Attributes	N	Minimum	Maximum	Mean	Std. Deviation
Established quality assurance unit to certify the implementation of ICMIS	82	3	5	4.73	.589
Project monitoring and Evaluation system are Implemented	82	1	5	4.62	.938
Data quality assurance system are implemented	82	1	5	4.41	.916
An established IT department supports for the implementation of ICMIS Project	82	1	5	4.35	1.047
ICMIS implemented with realistic project timelines plan	82	2	5	4.15	.848
ICMIS implementation supported by comprehensive plan	81	1	5	4.11	.880

Essential desktop facilities including software are available	82	1	5	2.01	.619
Reliable network infrastructure for the implementation of ICMIS	82	1	5	1.73	.982
Valid N (listwise)	82				

Source Primary

Average Mean =3.77

The Table 4.11, shows that majority of the respondents agreed that ICT infrastructure has great influence for successful implementations of ICMIS project. This was shown by respondent that establishment of quality assurance unit for certify the implementations ICMIS and conducting data quality assurance scored mean of 4.73 and 4.41 respectively, the implementation of project monitoring and evaluation system have effect on adoption of the project attained a mean of 4.62. Moreover, an attributes of an established IT department for sake project implementation, whether the project implemented with realistic time line plan and the implementation process supported by comprehensive plan have effect on ICMIS implementations. This is because the above attributes have mean value of 4.35, 4.15 and 4.11 respectively. Finally, the availability of desktop facility or software and the reliable network were found were no factors for the implementations of ICMIS. This means each of the above attribute scored mean values of 2.01 and 1.73.

Though, the above finding seemed to be same with literature reviewed, it has some difference. For instance, where Eyilachew (2017), Kanak 2016 and Hadija 2019 recognize that various operational issues or management highly impertinence for the implementation HRIS system. This means include poor logistics and supply, lack of network and internet, low storage capacity and speed of computers, lack of data backup and anti-virus usage, lack of office equipment, low computer accessories availability, and frequent power interruptions are challenges for implementations of HRIS. But based on information was collected through the qualitative data interview concerning only some attributes were such as lack of essential desk top and unreliable network connections not challenges for ICMIS implementations

4.5 Technological Infrastructure

Table 4. 12 Descriptive Statistics for Technological Infrastructure

Attributes	N	Min	Max	Mean	Std. Deviation
Regular review of system documentations	82	2	5	4.76	.713
Technical compatibility hardware/software are exhibited during ICMIS implementation	82	1	5	4.11	.786
ICMIS implementation project with appropriate policies	82	1	5	4.10	.811
User roles are defined perfectly	82	1	5	3.98	.916
Checklist is prepared for all functionalities of ICMIS.	82	1	5	3.94	.822
Risk alleviation procedures are prepared	82	1	5	3.27	.994
Power inconsistency that affects ICMIS implementation.	82	1	3	1.89	.801
Valid N (listwise)	82				

Source primary

Average Mean=4.02

From Table 4.4, it is clear that majority of respondents that suggest that technological factor was causes for challenges of implementation of ICMIS project. This was show by respondents' response of regular review of system documentations have effect on the challenges of successful implementations of ICMIS project attained means of 4.76, technical compatibility of hardware/software challenges of project implementation scored as mean of 4.11, ICMIS implementation project with appropriate policies scored means of 4.10. And finally, user role definition, checklist preparation for all ICMIS functionality and preparations of risk alleviation procedures were scored means of 3.98,3.94 and 3.27 respectively.

A comparison of the findings with literature makes several revelations. Through the qualitative data interview, information was gathered on the technical challenges of the interview, the lack of

review documentation, the lack of adequate implementation policy, and the lack of risk control procedures were indicated as gap in the literature

4.6 Cost

The first five questionnaires' which considered in this study as the success or challenge factor for the implementation of ICMIS is related to the cost overrun. The 82 respondent's response and analyzed in this table.

Table 4.13: Descriptive Statistics for Cost

Attributes	N	Min	Max	Mean	Std. Deviation
ICMIS project implementation has Financial plan	82	3	5	4.39	.681
Cost overrun shown in ICMIS project implementation	82	3	5	4.37	.658
ICMIS project implementation has sufficient funds	82	3	5	4.32	.542
Prepare Cost benefits analysis ICMIS project implementations	82	1	5	4.22	.703
Valid N (listwise)	82				

Source primary

Average Mean=4.32

From Table 4.13, was investigated whether ICMIS implementation has financial plan and following the results were obtained (M=4.39, SD=0.68). This means the respondents agree. Similarly, it was exploring that whether the cost overrun happens during project implementation and it was indicated that (M=4.37, SD=0.658). This result shows agree. Moreover, whether ICMIS project has sufficient funds and it the result was (M=4.32, SD=0.54). Finally, whether ICMIS project had cost benefit analysis (M=4.22, SD=0.70). This means both the respondents agree. Generally, the average mean value of the above table is 4.32, this suggest suggested that financial issues are factors for challenges of implementation of ICMIS project. Though some literature suggested cost

has implications in implementations of HRIS from resource mobilization point of view (Hadija 2019), detailed study was to Commenced. Therefore, this research studies details from financial perspectives.

4.7 Staff Resistance

Table 4. 14 Descriptive Statistics for Staff Resistance

Attributes	N	Min	Max	Mean	Std. Deviation
Designed change management strategy	82	3	5	4.45	.669
Updated ICMIS project change	82	3	5	4.35	.636
Successful communication workshops	82	3	5	4.24	.534
Many employees condemn the implementation of ICMIS.	82	1	5	4.01	1.272
Manage changes while resistance	82	1	5	3.91	1.021
ICMIS project has encountered significant workforce difficulties	82	1	3	1.82	.722
Valid N (listwise)	82				

Source primary

Average mean = 3.81

The data in table 4.4, confirm that project staff resistance has profound effect on the challenges of implementation of ICMIS project. This showed results for designed change management strategy (M=4.45, SD=0.69), prompt updating on any ICMIS project change and results (M=4.35, 0.63), successful communication workshops achieved results (M=4.24, SD=0.53), employees condemned the implementation process that had results (M=4.01, SD=1.27) and managements of changes while resistance happen scored (M=3.91, SD=1.02).

4.8 Top Management Commitment

Table 4.15 Descriptive Statistics for Top Management Commitment

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Top management in your business allocates sufficient finances to ICMIS Implementing.	82	3	5	4.88	.427
Top management has strong commitment for the implementation of ICMIS.	82	3	5	4.66	.593
The management of your business strongly involves the implementation of About ICMIS.	82	3	5	4.51	.593
Top leadership takes action when the worker faces obstacles during the process Implementation.	82	3	5	4.51	.614
The institute's top management tries its best to achieve critical success factors associated with the implementation of ICMIS.	82	3	5	4.09	.789
Your institution's top management helps & promotes employees in the implementation by ICMIS	82	1	5	3.96	.909
In your institution, top management is aware of the benefits of ICMIS	82	1	3	1.45	.591
Valid N (listwise)	82				

Source primary

Average Mean=4.01

From Table 4.7, it is clear that majority of the respondents showed that top management commitment has a great influence for successful implementations of ICMIS project. This shown by respondents' response on top management influence to ICMIS implementation scored mean 4.88, the top management has strong commitment for the implementation of ICMIS attained mean 4.66, both top management involvement and take action during obstacles in the implementation process achieved mean 4.51 Furthermore, the top management taking best practices factors for the

implementation of ICMIS reached a mean 4.09, employee promotes by top management in the implementation of ICMIS attained mean 3.69 .

4.9 Correlation Analysis

This research uses association analysis, which explores the magnitude of the associations between the variables examined. To have proof of convergent validity, Pearson correlation analysis was used. Pearson correlation coefficients reveal magnitude and direction of relationships (either positive or negative) and the intensity of the relationship (-1.0 + 1.0). Correlations are perhaps the most basic and most useful measure of association between two or more variables (Marczyk, Dematteo & Festinger, 2005). The degree and orientation of relationships (either positive or negative) and the strength of the interaction (-1.0 + 1.0) are seen by Pearson correlation coefficients. Perhaps the most fundamental and most useful indicator of interaction between two or more variables is correlations (Marczyk, Dematteo & Festinger, 2005).

Pearson Correlation analysis

According to Shukran (2003), as shown by Pearson product-moment, the relationship is represented by value within the range -1.00 to + 1.00. In the case of a perfectly rising (positive) linear relationship (correlation), the Pearson correlation is + 1; in all other cases, - 1 and 1 signify the degree of liner dependence between the variable

Table 4.16 Correlations results of Practice of Information System Implementation, Capacity and Skills, ICT infrastructure, Technological Infrastructure, Cost, Staff Resistance, and Top Management Commitment

		Correlations						
		Information System Implementation Practice	Capacity and Skills of ICMS Users	ICT Infrastructure	Technological Infrastructure	Cost	Staff Resistance	Top Management commitment
Practice of Information System Implementation	Pearson Correlation	1	.163	-.162	-.064	.070	-.545**	-.330**
	Sig. (2-tailed)		.144	.145	.565	.532	.000	.003
	N	82	82	82	82	82	82	82
Capacity and Skills	Pearson Correlation	.163	1	-.235*	-.334**	.108	-.280*	-.349**
	Sig. (2-tailed)	.144		.033	.002	.335	.011	.001
	N	82	82	82	82	82	82	82
ICT Infrastructure	Pearson Correlation	-.162	-.235*	1	.185	.047	.104	.273*
	Sig. (2-tailed)	.145	.033		.097	.676	.352	.013
	N	82	82	82	82	82	82	82
Technological Infrastructure	Pearson Correlation	-.064	-.334**	.185	1	.054	.334**	.257*
	Sig. (2-tailed)	.565	.002	.097		.628	.002	.020
	N	82	82	82	82	82	82	82
Cost	Pearson Correlation	.070	.108	.047	.054	1	-.017	.193
	Sig. (2-tailed)	.532	.335	.676	.628		.876	.082
	N	82	82	82	82	82	82	82
Resistance	Pearson Correlation	-.545**	-.280*	.104	.334**	-.017	1	.434**
	Sig. (2-tailed)	.000	.011	.352	.002	.876		.000
	N	82	82	82	82	82	82	82
Top Management commitment	Pearson Correlation	-.330**	-.349**	.273*	.257*	.193	.434**	1
	Sig. (2-tailed)	.003	.001	.013	.020	.082	.000	
	N	82	82	82	82	82	82	82

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

According to the data in Table 4.16, there was significant positive relationship between the staff resistance and cost (0.876), cost and ICT infrastructure (0.676) as well as technological infrastructure and information system practices (0.565). This shows strong correlation or relationship was noted between the above variables. In the opposites the study identified negative correlations between ICT infrastructure and Practice of information system implementations (-0.162), technological Infrastructure and Practice of information system implementations (-0.64), staff resistance Practice of information system implementations (-0.545) , ICT infrastructure and capacity and skills (-0.235) , technological Infrastructure and capacity or skills (-0.334), staff resistance and capacity or skills (-0.280) as well as top management commitment and capacity or skills (-0.349). This implies weak relationship between the above variables.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter presents the summary, conclusions as well as recommendations for the study. This chapter is organized into four key sections. The first part of the chapter presents a summary of the study's main results. The results of the research and recommendations for the research are discussed in the second and third sections of the chapter, respectively. In the fourth section of the chapter, the directions for future study are also presented.

5.1 Summary of Major Findings

In this study majority of the respondents were male, even distribution of age and education were reported. As far as strategies of managing challenge of ICMIS implementations, a review of related literatures on the theoretical and conceptual considerations of ICMIS project implementations was done. In relation to this, instruments were developed to measure the sources of challenges and opportunity, individual's perception about the function of challenges and how challenges are managed during ICMIS implementation. The tools for measures of challenges and opportunity generating factors, perceptions about the challenges and opportunities were developed.

The general purpose of the study was to identify the challenges and opportunities of ICMIS implementation in NQIs. Descriptive statistics was used to analyse the data, the results were presented in tables, the findings of the practice of ISs implementation in NQIs indicate that most each institution have adopted their own practices in their ISs implementation. Though each institute have their own approach for ISs implementation practice, their current system weakness and integration problem were not the cause for introducing the new IT system. Further, this study found that most experienced challenges state of NQIs were system implementations and requirement study. The study also found that NQIs experience the following challenges during ICMIS implementations. These include the challenge of capacity using ICMIS, lack IT infrastructure and top management commitment cost overrun, staff resistance and technical problems

5.2 Conclusions

The primary focus of this study was to identify key challenges and opportunities related to ICMIS implementation the case of NQIs. The most important learning from this research is that the description of challenges which was categorized in to seven main issues.

Regarding the first research question, the author found practices of information's system implementations challenges ICMIS implementations. Though the researcher created a framework based on a literature review which consists on different issues, the author indicated that system implementation stages of information management were one of the main challenges in NQIs.

Based upon the second research question, the key issues which should be presented capacity and skills challenges of ICMIS implementation. This can be concluded that there are various challenges that need to be presented in capacity and skills. One of the important Obstacles is the lack of skilled staff related to manipulation of ICMIS. In contrary, the staff have good and correct skills related to basic computer and understanding about ICMIS efficiency and its advantage

Regarding the third and fourth question, the study led to the conclusion that ICT and technological infrastructure challenges ICMIS implementation. This to leads in ICMIS project implementations lack of systems related to quality assurance, review system documentations, appropriate policy or procedures, checklist for functionality, project monitoring and evaluation. In additions, projects not had an established support from IT Departments. Based on the fifth questions, the cost challenges in ICMIS project implementations. One of important issues related to cost is ICMIS project implementation had no finical plan. In addition, this project shows cost overrun over the implementation period. Also, the project implementation was suffered with luck of sufficient funds and cost benefit analysis. Concerning six questions, the study led to the conclusion that staff resistance challenges ICMIS project implementations in variety ways. In this study, several pieces of evidence are lacks of change management strategy, and problems on update ICMIS project change. In additions, individuals resist the implementation process and lack of communications skills.

Finally lack of top commitment challenges ICMIS implementations. In this regard, several pieces of evidence are lack of top management for allocate sufficient finance for the implementations of ICMIS. Also, top management not have taken leadership action during ICMIS project implementations obstacles

5.3 Recommendation

The study was required to identify the challenges and create opportunities for ICMIS project implementation in NQIs. The study recommends that the framework must be implemented by sound project management monitoring and evaluation systems, taking infrastructure problems into account, recognizing the management of change and maintaining top management engagement were very basic findings of the analysis.

The effects of manpower and staff capacity on the successful use of the system was important. The study indicates that it is important to define the multiple user classes, assess and develop training programs. Focus on providing adequate training based on basic ICMIS principles of awareness, such as ICMIS knowledge, accountability and basic skills of it. This includes, thus the establishment within the institutes of a sound permanent entity, equipped to carry ICMIS implementations. Adjusting operating facilities and planning operational management structures in the NQIs are important when applying ICMIS. Moreover, establishing project monitoring and evaluation as well as quality assurance system the necessary task to overall adoption of ICMIS. The study recommends that, the ICMIS implementation must have M&E team as well as quality assurance team for sake of the project sustainability., All procedures, operating structures, strategies, rules and regulations, law, and related mechanisms should be reviewed by the project office. New Upcoming Processes in the Institutes would have to be established and standardized. The required technical provisions for the successful implementation of the ICMIS project. Hardware and software should be highly emphasized in the project. A detailed review of all ICMIS associated data centres and network networks and technology documents to determine the detailed technical criteria for the implementation of ICMIS.

It also advises that a detailed project management plan should be implemented at all stages, including the purpose and nature of the system, the overall conceptual design of the system, potential effects and advantages, crucial milestones and success factors, framework for project implementation, risk methodology, Method for review or reduction, projected risks and plans for funding. Monitoring and evaluation should be undertaken appropriately.

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APPENDIX

Informed Consent Sheet

ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES AND PROJECT
MANAGEMENT AS PARTIAL FULFILLMENT OF MASTERS OF ART DEGREE IN
PROJECT MANAGEMENT ADDIS ABABA

Research Topic: - Challenges and opportunities of integrated civil service management information system project implementation in case of national quality institutions

Dear Respondents;

I would like to assure you that this thesis would be used solely for academic purposes to partially fulfill the criteria for the Master of Arts degree; and thus, since all the details will be kept confidential, it will not influence anyone in any way. Thus, for the accuracy of the analysis, your genuine answer is essential. The researcher has therefore kindly requested your help to respond responsibly and honestly to the questions raised. Questionnaires: - to be filed by the staff of National Metrology Institute of Ethiopia (NMIE), Ethiopian Quality and Standard Authority (QSAE), Ethiopian Standard Agency (ESA), Ethiopian Conformity Assessment Enterprise (ECAE), Ethiopian National Accreditation Office (ENAO) Addis Ababa.

General Instruction

- don't write your name
- Put (✓) or (x) mark in the box to indicate your response
- Write additional opinion, if any, on the space provided
- Please follow instructions provided for each part.

With Great Respect

Thank you!!!

Name: - Daniel Zenebe

Questions for Qualitative Data

General Instruction

- don't write your name
- Please choose your answer
- Put (√) or (x) mark in the box to indicate your response
- Write additional opinion, if any, on the space provided
- Please follow instructions provided for each part.

Part 1. Demographic Profile

1. Gender A. Female B. Male
2. Age (in years) A. Under 25 B. 25-34 C. 35-44 D. 45-44 E. 55 and above
3. How long have you worked in this institute? -----
4. Educational Level: A. Secondary B. Diploma C. BA Degree D. Master's Degree E. Others _____
5. What is your designation in the institute?
A. Directorate B. Plan Expert C. Human resource expert
B. D. IT officer
C. E. Others _____

Part 2: Practice of Information System Implementations

Please provide details on the application of information systems in your institute by ticking in the relevant box after selecting

6. What are the reasons that your institute's is introduce new information technology or system (you can choose more than one choice)?

A. current system's weaknesses	B. Management order
C. Need for integration	D. Simplify procedures

E. Need for information sharing

F. Others _____

7. Which are the main focus areas of your institute's information systems (you may pick more than one choice)?

A. Internal efficiency

B. External service delivers

C. Other _____

8. Who initiates information systems projects in your institute (you may tick more than one choice)?

A. Government

B. Donors

C. Functional Department

D. Its Department

E. Customer Pressure

F. Top Management

9. In which of the following stages of information systems development does your institute experience challenges at most (tick one)?

A. Requirement study

B. System Design

B. System Implementation

D. Testing

Part 3. Capacity and Skills

Give your best choice by putting (√) or (x) under the Yes or No.

No	Attributes	Yes	No
1	Have your basic computer skill?		
2	Do you think that ICMIS enhance efficiency of human resource service in the institute?		
3	Do you know Advantages of ICMIS		
4	Do you feel that you are responsible for full implementation of ICMIS?		
5	Do you think that you have roles in implementation of ICMIS?		

6	Do you know the modules of ICMIS		
7	Can you manipulate ICMIS Software?		
8	Did you receive training on ICMIS?		
9	Is there a manual on ICMIS implementation?		

Part 4. ICT Infrastructure

Give your best choice by putting (√) or (x) under the numbers which represent: 1=strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, and 5=strongly Disagree

	Attributes	1	2	3	4	5
1	Established quality assurance unit to certify the implementation of ICMIS					
2	Project monitoring and Evaluation system are Implemented					
3	Data quality assurance system are implemented					
4	An established IT department supports for the implementation of ICMIS Project					
5	ICMIS implemented with realistic project timelines plan					
6	ICMIS implementation supported by comprehensive plan					
7	Essential desktop facilities including software are available					
8	Reliable network infrastructure for the implementation of ICMIS					

Part 5. Technological Infrastructure

Give your best choice by putting (√) or (x) under the numbers which represent: 1=strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, and 5=strongly Disagree

R. No	Attribute	1	2	3	4	5
1	Regular review of system documentations					
2	Technical compatibility hardware/software are exhibited during ICMIS implementation					
3	ICMIS implementation project with appropriate policies					
4	User roles are defined perfectly					
5	Checklist is prepared for all functionalities of ICMIS.					
6	Risk alleviation procedures are prepared					
7	Power inconsistency that affects ICMIS implementation.					

Part 6. Cost

Give your best choice by putting (√) or (x) under the numbers which represent: 1=strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, and 5=strongly Disagree

R. No	Attribute	1	2	3	4	5
1	Inadequate cost benefits analysis has shown in ICMIS project implementations					
2	ICMIS project implementation is subject with lack of funds					
3	ICMIS project implementation shows cost overruns,					
4	ICMIS project implementation has Inadequate financial plan					

Part 7. Staff Resistance

Give your best choice by putting (√) or (x) under the numbers which represent: 5=strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, and 1=strongly Disagree

R. No	Attribute	1	2	3	4	5
1	Designed change management strategy					
2	Updated ICMIS project change					
3	Successful communication workshops					
4	Many employees condemn the implementation of ICMIS.					
5	Manage changes while resistance					
6	ICMIS project has encountered significant workforce difficulties					

Part 8. Top Management Commitment

Give your best choice by putting (√) or (x) under the numbers which represent: 5=strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, and 1=strongly Disagree

R. No	Attributes	1	2	3	4	5
1	Top management in your business allocates sufficient finances to ICMIS Implementing.					
2	Top management has strong commitment for the implementation of ICMIS.					
3	The management of your business strongly involves the implementation of About ICMIS.					
4	Top leadership takes action when the worker faces obstacles during the process Implementation.					
5	The institute's top management tries its best to achieve critical success factors associated with the implementation of ICMIS.					
6	Your institution's top management helps & promotes employees in the implementation by ICMIS					
7	In your institution, top management is aware of the benefits of ICMIS					