Addis Ababa University

College of Business and Economics

Factors Affecting Effective Implementation of Integrated Financial Management Information System (IFMIS) In the Ministry of Finance

By

Anteneh Teklu

A Thesis Submitted to Addis Ababa University, College of Business and Economics, in partial fulfillment of the requirements for the Degree of MBA in Business Administration

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Statement of Declaration

I, Anteneh Teklu, have conducted independently a research work on the topic entitled “Factors Affecting Effective Implementation of Integrated Financial Management Information System (IFMIS) in the Ministry of Finance “in partial fulfillment of the requirements for the Degree of MBA in Business Administrationwith the guidance and support of the research advisorLaxmikantham Padakant (PhD). This study is my own work that has not been submitted for any degree or Master program in this or any other institutions.

Anteneh Teklu

Name

Date and Signature

Addis Ababa

Ethiopia

Certification

This is to certify that Anteneh Teklu has conducted this research work on the topic entitled "Factors affecting effective implementation of Integrated Financial Management Information System (IFMIS) in the Ministry of Finance" under my supervision. This work is original in nature and it is sufficient for submission forthe partial fulfillment for the award of the Degree ofBusiness Administration in finance at Addis Ababa University, College of Business and Economics.

Laxmikantham Padakant (PhD)

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SignatureDate

Addis Ababa University

College of Business and Economics

By Anteneh Teklu Terefe

Approved by Board of Examiners

Laxmikantham Padakant (PhD)	Signature	Date
Examiner	Signature	Date
Examiner	Signature	Date

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ACRONYMS & ABBREVIATIONS

AP	Accounts Payable
AR	Accounts Receivable
BDA	Budget and Disbursement Account
BIS	Budget Information System
CM	Cash Management
COA	Chart of Accounts
COPCU	Channel One Programs Coordinate Unit
CSCW	Computer Supported Cooperative Work
DCI	Development Cooperation Ireland
DFID	Department for International Development
DSA	Decentralization Support Activity
FA	Fixed Asset
FDRE	Federal Democratic Republic of Ethiopia
FIS	Financial Information System
FMIS	Financial Management Information System
GDP	Gross Domestic Product
GL	General Ledger
GOE	Government of Ethiopia
GOV	Government
HIC	High Income Country
HR	Human Resource
IBEX	Integrated Budgetary and Expenditure

ICT	Information Communication Technology
IFMIS	Integrated Financial Management Information System
IMF	International Monetary Fund
IS	Information System
IT	Information Technology
INSA	Information National Security Agency
LAN	Local Area Network
LIC	Low Income Country
MoF	Ministry of Finance
MPSHD	Ministry of Public Service and Human Development
OLS	Ordered Least Square
OTS	Over the Shelf
PFM	Public Financial Management
PSB	Public Sector Budget
SIDA	Swedish International Development Cooperation Agency
TCT	Transact Computer Technology
UK	United Kingdom
USAID	United States Agency for International Development
USD	United States Dollar
WAN	Wide Area Network
WBG	World Bank Group

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ABSTRACT

The general objective of the study is to identify factors affecting effective implementation of integrated financial management information system (IFMIS) in the ministry of finance (MoF). The specific objective of this study is to examine the information communication technology infrastructure, managementcommitment, system administration support and end-user commitment, as well as to determine ongoing support activities and human capital development that affects effective implementation of integrated financial information management system. The study adopts a descriptive research design. The target population was users of IFMIS in all directorates of the Ministry of Finance. A Random sampling method was used to obtain 98 samples. Primary and secondary data were collected by means of interview and questionnaires, document review, observation, and would analyzed using descriptive statistics using SPSS version 25.Management of MoF is committed, there are adequate ICT technological infrastructures required for the implementation of IFMIS, and Human capital development issues seem not to have been dealt with properly, adequacy and availability of IFMIS support staff is questionable, computer literacy and awareness are a big issue identified. MoF should consider the mechanism to retain IFMIS trained staffs, and the inadequate number of system administration staff. MoF should fix the problems related to infrastructural and network connectivity issue by continuous follow up with stakeholders like Ethiopian telecommunication, Ethiopian Electric Corporation and INSA.

Keywords: Integrated Financial Management Information System (IFMIS), Management Commitment, ICT Infrastructure, Human capital development, skills of IFMIS Users.

CHAPTER ONE

INTRODUCTION

A government's capacity to manage its public finances is central to its ability to deliver services. Financial management information systems (FMIS) are among the basics that facilitate this as they "support management of public sector budgetary, accounting, treasury, and public debt management processes as well as generate corresponding reporting documents" (Uña and Pimenta 2015, p.282). There are multiple definitions of FMISs varying in scope in the literature (see Dorotinsky and Watkins (2011) for a review), which have been summarized by as "computerized systems that track government expenditures and payment processing, and report accordingly" (Schiavo-Campo 2017, p.187). As such FMISs broadly consist of computer programs, databases, and associated processes, procedures, and technology platforms that enable government finance and accounting staff to conduct their day-to-day operational tasks. The information collected in the system databases as the transactions process enables government finance managers to plan, prepare, and approve budgets, approve payments, monitor and report on financial resources collected, and develop appropriate resource allocation and borrowing strategies. Government auditors can access this transactional data to audit operations.

1.1 Background of the study

A government's capacity to manage its public finances is central to its ability to deliver services. Financial management information systems (FMIS) are among the basics that facilitate this as they "support management of public sector budgetary, accounting, treasury, and public debt management processes as well as generate corresponding reporting documents" (Uña and Pimenta 2015, p.282). There are multiple definitions of FMISs varying in scope in the literature (see Dorotinsky and Watkins (2011) for a review), which have been summarized by as "computerized systems that track government expenditures and payment processing, and report accordingly" (Schiavo-Campo 2017, p.187). As such FMISs broadly consist of computer programs, databases, and associated processes, procedures, and technology platforms that enable government finance and accounting staff to conduct their day-to-day operational tasks. The information collected in the system databases as the transactions process enables government finance managers to plan, prepare, and approve budgets, approve payments, monitor and report on financial resources collected, and develop appropriate resource allocation and borrowing strategies. Government auditors can access this transactional data to audit operations.

Countries all around the world are being strongly encouraged to modernize and enhance their Public Financial Management systems. In a bid to strengthen their public expenditure management systems, many developing countries pushed for or obliged to embrace Integrated Financial Management Information Systems (IFMIS) adoption and IFMIS project implementation, (Rodin-Brown, 2008). According to Diamond and Khemani (2005), the introduction of an IFMIS system should be regarded as a major project requiring a structured project management approach. In order to suitably implement the system establishment of the project management office is mandatory.

According to Hendricks (2012), found that lack of commitment, lack of capacity, institutional and technical challenges were risk factors to successful implementation of IFMIS projects. In addition Rodin-Brown (2008), identified challenges which were common to IFMIS projects around the world specially in developing countries , these include: inadequate planning, poor change communications, shortage of technical capacity and technical resources, institutional and political challenges in systems design documents without full agreement; poorly implemented trainings besides its causes for the project failure or delay due to unnecessary and spurious project expenditures, time overruns ,incompetent run into the project scope , quality and stakeholder satisfaction.

According to a report by the United States Agency for International Development (USAID, 2008), The introduction of government wise IFMIS project needs to be accompanied by strong political commitment, sufficient manpower and solid project management plan, adequate Funding, Technological infrastructure, an agenda for effective change management and its requires the organizational arrangement ,update of legal framework and business process reengineering . Unless these are in place, the chances of success are limited, (Hendricks, 2012). The previous studies identifying different critical success factors for IFMIS project implementation. According to Umble and Umble (2002), the top management commitment and support leads to overall organizational commitment across an organization and it results the key successful IFMIS implementation. The Balancing conflicts between staff and technology and effectively managing employees in the change process are key elements for the successful IFMIS implementation (Ash and Burn, 2003). However Nah and Delgado (2006), argues that the effective project management is critical for the successful IFMIS project implementation, (Nah and Delgado, 2006). Whereas according to Bajwa et al. (2004), end user training has been recognized a most critical factor for IFMIS project implementation.

According to USAID (2011), Ethiopia’s comparatively underperforming information communication technology infrastructure places considerable systemic constraints on a real-time integrated IFMIS. Reliability, security, and overall system integrity are a concern for a system hosted and supported on Ethiopia’s nascent information communication technology infrastructure. Information communication technology assimilation in the public sector has limitations. While Ethiopia possesses a strong but relatively small core of technology savvy professionals, sufficient human capacity does not appear to scale to the demands of 850 planned

IFMIS locations within the next 5 years. For example, the legacy IBEX system in operation for nearly a decade has not been adopted at several sub-national locations and illustrates either capacity limitations or resistance to automation

This research study work out tries to identify factors affecting the implementation of IFMIS (Integrated Financial Management Information System) in the Ministry of finance. This study runs on a zero budget and all activities listed in the research schedule are done by the researcher of this paper.

1.2 Statement of the problem

Integrated Financial Management Information System (IFMIS) is a complex system making its implementation difficult without losing the sustainability.The system implementation needs different phases and stages to make an organization a self-contained user of the IFMIS system. Those stages in the implementation process contain analyzing the organizations' infrastructure status, like network infrastructure and how to manage power fluctuation problem and stability of office, converting and migrating IBEX data that previously used to IFMIS standard, train end-users starting go-live and follow-up for user supports.These stages are directly linked to the resource that is delighted to commit the deployment process which affects the effective implementation of the integrated financial management system. Human capital development, infrastructure readiness, implementation management, and post-deployment support activities are major parts of the implementation issues that may affect the success or the failure of IFMIS implementation. The implementation improvement of IFMIS conduct pre-implementation, implementation, and post-implementation activities become more expensive regards with an increase in the number of joining sites.

Implementation success comes when there is user involvement in the implementation process, clear goal setting, top level management support, appropriate infrastructure and support and efficient human capital. Therefore, that this research study sought to determine Factors affecting effective implementation of integrated Financial Management Information System (IFMIS) in the Ministry of finance (MoF).

1.3 Objective of the study

1.3.1 General Objective

Factors affecting effective implementation of integrated Financial Management Information System (IFMIS) in Ministry of finance (MoF).

1.3.2 Specific Objectives

a. To assess the effect of top management commitment on the implementation of Integrated Financial Management Information System.
b. To establish the implication of ICT infrastructure on the implementation of IFMIS in the Ministry of finance.
c. To assess the influence of power fluctuation on implementation of Integrated Financial Management Information System.
d. To determine the influence of capacity and skills of Integrated Financial Management Information System users on itsimplementation in Ministry of finance.
e. To examine end user's commitment affects effective implementation of Integrated Financial Management Information System.
f. To assess support activities affects the effective implementation of Integrated Financial Management Information System.
g. To determine the effect of on-going and system admin support activities on the implementation of Integrated Financial Management Information System.

1.4 Research questions

The research will answer the following basic questions:

a. Does information communication technology infrastructure influence effective implementation of IFMS in the Ministry of finance?
b. How human capital development affects the effective implementation of Integrated Financial Management Information System in Ministry of Finance.
c. To what extent the power fluctuation that affects the effective implementation of Integrated Financial Management Information System in Ministry of Finance.
d. How end user's commitment affects the effective implementation of Integrated Financial Management Information System in Ministry of Finance?
e. How management commitment affects the effective implementation of Integrated Financial Management Information System in Ministry of Finance.
f. How ongoing support activities affect the effective implementation of Integrated Financial Management Information System in Ministry of Finance.

1.5 Significance of the study

The study aimed at finding out factors affecting effective implementation of IFMIS, It also offers a chance for strategic policy considerations related to the influence of ICT in Ethiopia. so the finding of this study will help the MoF to formulate appropriate strategy to overcome the identified problems. The MoF is the main beneficiary from the study, the responsible government organization of IFMIS implementation, on how they can form a foundation for enhancing effective implementation of IFMIS throughout the country. It would act as a guide to the government (MoF) on how IFMIs users' resistance reduced, how these users' skills improved and how to increase the availability of ICT infrastructure for effective implementation of IFMIS.It is hoped that the findings of the study would make valuable additions to the existing literature and stimulate further interest in similar area of the study.

1.6 Limitation of the Study

This study has its limitation a limitation for this study would regard as any factor that would present from the onset and affected or could have affected the acquisition of research objectives. These matters and occurrences are out of the researcher's control which limits the extensity of the study can go and may affect the result & conclusion of the study. When this project took place different challenges for instance shortage of time to discourse-related source materials and some targeted respondents would be unwilling to share sensitive information while others misinterpret the intentions behind the research and refuse to provide accurate information for fear of disclosure besides assurances of confidentiality. However, discussing the relevance of the study to the respondents would help to provide the required information. Thus, this study conducted based on the available documents and respondent's opinions using a questionnaire.

1.7 Scope of the study

The scope of this study is limited to which affect the implementation of integrated financial management information system in the Ministry of Finance (MoF). This study focuses on the users of IFMIS in each department/directorate of MoF purposely selected financial users, planning users, property Admin users, and procurement users, top management users, Budget users, system administrator users, set up users, and human resource departments staffs including all secretaries on the implementation of the integrated financial management information system.More or less this study is also helpful in finding good guidance in the process of IFMIS deployment and implementation phase strategy. IFMIS top management and information technology directories would the most beneficiary from this study. The result of this research paper has its effect on the decision support system in the IFMIS project by providing information about the extent of investigating the determinants of IFMIS for the IFMIS management and ministry of finance.

1.8 Organization of the Study

The thesis consists of five chapters. Chapter one presents background, statement of problem, basic research questions, objectives, significance, scope and limitations of the study. The second chapter was dedicated to review of related literature. The third chapter presents a method of the study. It described the type and design of the research per sued, detail description of participants of the study, data sources, data collection tools and procedures, methods of data analysis. The fourth chapter covered results and discussions about the research topic based on the result of third chapter. Finally, the fifth chapter explains the conclusion and recommendation part of the study.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter review out the existing theories regarding the study and supports new findings that have added to the existing knowledge. In this section what various authors and scholars have said aboutall the relevant written sources on a Factors Affecting Effective Implementation of Integrated Financial Management Information System (IFMIS) at Ministry of Finance (MoF).it would include both theoretical and empirical works.

2.2 Theoretical Review

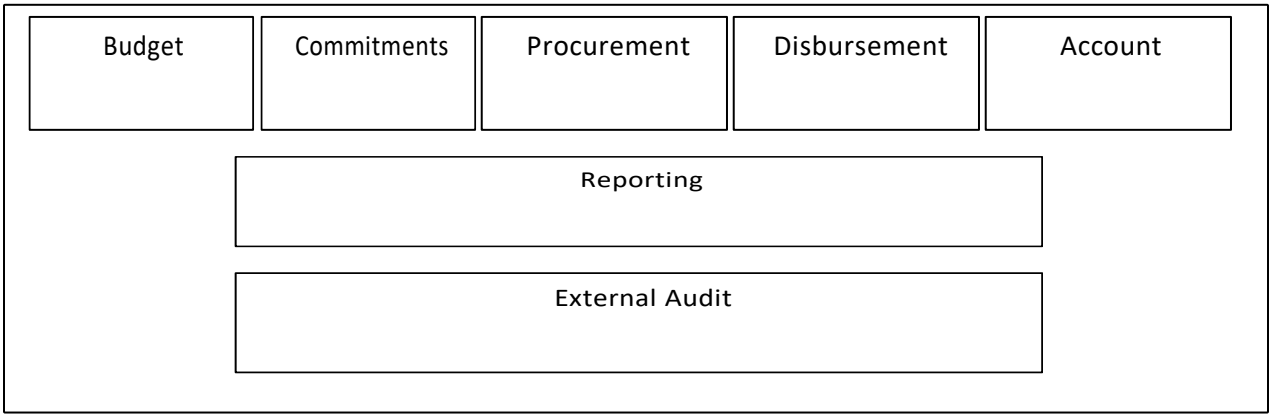
According to BrownJeffy, S., & Cooper, J. E. (2011), defines a theory as a set of interrelated concepts which can be used in the study, definitions, prepositions that have been put forth to explain or predict a scenario under study.

2.2.1 IBEX and IFMIS as a tool for implementation of PFM

2.2.1.1 Public Financial Management (PFM)

PFM encompasses the mobilization of revenue. It underlies all government activity; Many PFM topics are highly specialized and have their cadre of experts on issues such as financial management information systems, payroll reform or procurement for public works. But whether one is engaged in the gritty details of cash advance procedures or works on public policy at a broad level, it remains valuable to consider the PFM system as a whole. It is important to understand how various functions fit into a broader system of rules and regulations that govern the management of public resources, and what these functions are ultimatelyintended to achieve. (Cited by Rebecca Simon, Natasha Sharma & Imran Aziz 2011)

2.2.1.2 Components of Public Financial Management



Source: Peterson (2007)

Figure 1 components of public financial management

The following paragraphs give a brief description of the components of Figure 1

The budget is the most fundamental source of financial control--its appropriation (approval by the legislature) is the legal basis of public expenditure. The budget is also the most important policy document of a government for it allocates resources to public priorities and determines what revenues need to be raised from citizens. Poor control can mean that the budget is inefficient and that demands for money from citizens are in excess of what they would otherwise be; revenue requirements should not be driven by expenditure need requirements.

The budget structure is the DNA of financial control and is established by the budget classification and the chart of accounts. The structure determines what institutions are assigned a budget, how detailed the items of expenditure and revenue will be recorded, andthe specificity of control in procurement, disbursement and accounts. The structure also determines the depth and breadth of financial reporting. Transfer rulesdetermine the level of discretion of a budget given to budget managers. Therefore, the fundamental 'loop' of financial control starts with legislative appropriation and ends with legislative review of the audited statement of accounts. Public accounts demonstrate whether the intent and letter of the appropriation was executed, value for money was obtained, andprudent control was exercised. A 'financial' calendar should

authoritatively schedule the stages of budgeting, accounting and auditing a well-functioning budget system has the following:

(a)Budgetclassification. The budget classification translates the appropriation to the administrative structure and shows the delegation of budgets to administrative levels that are not assigned an appropriation. The critical issue is one of materiality--'how low should you go' in determining objects of expenditure, and what tradeoffs must be made between control and analysis. In principle this can be a 'win win' tradeoff but control is a priority over analysis.16 The budget classification should be clear and consistent over time and capable of mapping to the classification of the functions of government (COFOG) guideline. Since the recent version of the government financial statistics (GFS 2001) guideline is principally about introducing accrual accounting, governments should onside the relevance of revising their budget classification to this guideline.

(b) Chart of accounts. The chart of accounts provides a consistent coding of the discrete items in the budget, disbursed from the treasury, captured in accounts and presented in reports. The chart includes items of expenditure, revenue, loans, transfers, etc. As with the budget classification, the design of the chart of accounts involves a tradeoff of control and analysis. A critical question of financial control is the level of detail one should establish in the budget which in turn governs the level of detail of commitment control, disbursement, accounts and reporting. The chart should clearly match the type of expenditure and the type of financing (domestic, external loan, external assistance). One common misconception is that a more detailed chart provides greater financial control. Budget transfers and virulentcan defeat line item control. Another misconception is that the introduction of more advanced forms of budgeting withers away line items--they don't as they are fundamental to control (specificallyprocurement, accounts and auditing). The challenge of moving to more advanced forms of budgeting (cost centers, performance budgeting) is how to aggregate the chart of accounts. The lack of a robust chart (and budget classification) weakens control and the evolution of budgetary formats.

The chart should clearly match the type of expenditure and the type of financing (domestic, external loan, external assistance). Frequent revisions to the budget classification and the chart whether from domestic requirements or foreign aid conditionality need to be carefully weighed

and resisted in terms of the priority of financial control (simplicity and comprehension) over analysis? Budget structure should be stable.

(c) Financial calendar. The calendar needs to specify key dates in the execution of select components of financial control. For budget, the calendar should establish when the budget call with ceilings is issued, when budget submissions are due at the Ministry of Finance, when the budget has to be submitted and appropriated by the legislature, and when the vote on account lapses. For accounts, the agency period should be specified as well as the deadline for closure of accounts. For external audit, the submission date to the legislature should be specified. The legal framework should specify the consequence of not meeting the calendar (e.g. the Ministry of Finance can prepare an agency's budget if it is not promptly submitted).

(d) Budget preparation. Budgets are time critical and involve the efficient processing of large volumes of data that are frequently adjusted at the last minute. They need to be systematically prepared to ensure adequate time, quality and review. Budget preparation requires rapid reporting to ensure that submissions are within ceilings, composition is appropriate, and sources of finance are properly matched to expenditure type. Budgets need to be adjusted to updated revenue projections especially volatile foreign aid. Reporting during the budget preparation stage is critical for it allows policy makers a view of how spending agencies intend to operationally implement government priorities before these intentions are 'locked into' the final budget. The budget in preparation often becomes budget policy.

(e) Notified budget. Once the draft budget is approved by the legislature, spending agencies need to be promptly notified of their budget so that they can start the financial year. Depending on the level of detail of the appropriation, this notification involves production of notification by budget classification and detailed line item. Along with the notification is the apportionment/allotment of the appropriation to the spending agencies which can be done through provisions in the appropriation law, warrants, transfers to accounts, and notification of cash limits.

(f) Adjusted budget. The adjusted budget is the operational source of budgetary control throughout the fiscal year as it reflects updated balances against which commitments, procurement and disbursements are executed. If not current, then operational control falls to the procurement and disbursement components (a cash budget) which is poor financial management

and inadequate control (disbursements are not audited for purpose of the approval of financial statements). Since the first step in closing accounts is to finalize the adjusted budget at the end of fiscal year, delay in this task delays the closure of accounts and potentially external audit. Responsibility for the adjusted budget needs to be clearly specified and should reside with the budget not accounts office. One frequently finds that accounts departments manage the adjusted budget because it involves the detailed recording of changes within and between the budget classification and the chart which accounts departments are familiar with. By having the adjusted budget in the accounts department, budgetary control throughout the fiscal year is compromised if not eliminated.

2.2.1.3 BUDGET COMPONENT OF FINANCIAL CONTROL

• **Manual procedures:** To facilitate manual preparation as well as accuracy of data entry into a budget information system, manual forms for preparing and presenting the budget should be printed. Having a robust manual system for budget preparation and presentation promotes a seamless manual/automated operation of the budget process which is essential especially for outer administrative areas that have yet to be automated or where automation is unreliable. A detailed operational budget manual also provides the basis for a training program. It is especially important that the budget classification and chart are discussed with spending agencies to ensure it meets the material requirements of financial control and adequate reporting.

• **Legal Framework:** appropriation, transfer and calendar should be defined and elaborated.

• **Automation:** budget preparation and the adjusted budget should be a core module of any financial information system as it establishes budgetary control of commitments, procurement, disbursements and institutes proper recording. The information system should exactly replicate (not mirror) the user requirements of the budget classification and the chart of accounts. Automation is needed to rapidly assemble and revise budget submissions and analyze composition. Automation is also essential for the prompt notification of the budget by the Ministry of Finance so the budget can be executed at the start of the fiscal year.

Commitments the commitment component of financial control is part of a broader process of 'budgetary accounting' which monitors the use of the appropriation through the expenditure cycle: apportionment/allotment, commitment, certification, payment. Thecommitment

component ensures that there is budgetary provision before a future obligation to pay is incurred. The commitment component needs to track all contracts, purchase orders and standing payments (e.g. salary).

Procurement the procurement component of financial control involves establishing requirements, adherence to tendering procedures, issuance of contracts/purchase orders, and verification of receipt of goods and services.

Disbursement the disbursement component involves determining the level of cash available to issue the cash, check or transfer to pay for the payment voucher or contract. Disbursement is part of a larger process of cash management which includes debt management and financial asset management. Different approaches (single treasury, zero based balance) are used to limit idle funds.

Accounts the accounting system records expenditure transactions, transfers, revenues, receivables and payables in a timely and accurate manner. The critical issues in the operation of the accounting system are when and what transactions are recorded (the basis of accounting cash, modified cash, modified accrual, accrual), and how they are recorded (single or double entry).

Reporting this component is cross cutting of the five components listed above: budget, commitments, procurement, disbursement and accounts. The basic requirement is final accounts matched to final adjusted budget by the budget classification and chart of accounts. Reporting should also promote financial management by providing reports across the components (e.g. variance of expenditure to budget). In addition to standardized reporting formats, reporting can also be done to assess policy objectives (sector expenditure) as well as the composition of expenditure. Depending on the basis of accounting (cash or full accrual), reporting should approximate the standards established by the International Federation of Accountants (IFAC). Unfortunately, this body does not present guidelines for the reporting under the modified cash or modified accrual basis of accounting which are the basis that most governments use, and which most developing countries should retain. A key reporting task is to consolidate accounts from different levels of government with different formats. A budget and accounts reform often has leads and lags so different levels of government may be operating different bookkeeping

systems, different basis of accounts and different budget classification and chart of accounts. Consolidation often demands considerable customization of financial information systems as countries have nonstandard and different legacy budget and accounting systems.

Audit external audit verifies the robustness of financial control, the accuracy of accounts, and whether value for money has been obtained.

2.2.1.4 The Objectives of Public Financial Management

The traditional triad: Control, allocation, efficiency Public financial management (PFM) is instrumental in nature. As a central instrument of policy, it must pursue all three overall economic policy goals of economic stability, growth and equity. Stability calls, among other things, for fiscal discipline; economic growth and equity are pursued partly through allocating the moneys to the various sectors; and all three policy goals require efficient and effective use of public money. Hence, the three goals of overall policy translate into three key objectives of good public expenditure management: fiscal discipline (expenditure control); allocation of resources consistent with policy priorities ("strategic" allocation); and good operational management. (The two objectives of strategic resource allocation and good operational management are easily recognizable in the distinction traditionally made in economics between efficient allocation and use efficiency.) In turn, good operational management calls for both efficiency (minimizing cost per unit of output) and effectiveness (achieving the outcome for which the output is intended).

There are linkages between the three key objectives of expenditure management, their corresponding major functions, and the government level at which they are mostly operative.

Fiscal discipline requires control at the aggregate level; strategic resource allocation requires good programming, which entails appropriate cabinet- level and inter-ministerial arrangements. Operational management is largely an intra-ministerial affair. Fiscal discipline and operational management are more amenable to "technical" improvement than is the strategic allocation of resources. This is because the distribution of resources among sectors and ministries is the least technical and the most "political" of the three objectives: "The allocation of funds results from a series of forces that converge at different points of the decision-making process…according to an imperfect perception of present and future political realities. The decision-making positions are occupied by politicians who, theoretically, have developed a certain intuition about what people

want. In any event, the effort made at this stage of the budget process to collect and analyses information is less than at any other stage" (Petrei 1998).

Owing to the essential link between revenue and expenditure, the triad of public expenditure management objectives can easily be expanded into a triad of fiscal objectives. Fiscal discipline results from good forecasts of revenue as well as expenditure control; strategic allocation has a counterpart in the tax incidence across different sectors; and tax administration, of course, is the revenue aspect of good operational management of expenditure. (Cited by Dr. Salvatore SchiavoCampo 2013).In Ethiopia the public finance management program has a vast strategic plan to promote the country's finance management systems. From those point of view, regulating and supporting the account and budget process for every public institution is the mandate of the Government of Ethiopia through the Ministry of Finance. The fast growth of the technological advancement which becomes the top business solution for every sector in the world, Ministry of Finance is intended to implement technological tools to support the public finance management program.

In early time of Ethiopia, the financial and budgetary tasks where held with manual system that has lots of demerits in terms of information accuracy, efficiency, cost, time and other performance measurement parameters. The lag on delivery of financial information report to the higher authority institution and certainty on disseminating more accurate data were big challenges for succession of country's development. Distribution of allocated budget for all institutions were took more than a couple of months since the parliament approves the country's budget in every Ethiopian fiscal year. Since the initiation and implementation project of BDA and BIS by the donors' organization was the ground-breaking decision to implement financial management information system tool in government of Ethiopia.

From those tools Integrated Budgetary and Expenditure (IBEX) system is the most widely used almost in all federal, regional, zones, woredas, and sector offices including the city administrations. The main purpose of IBEX is to integrate the budget management system with the activities of account day to day transactions.

2.3 A Recent Tool for PFM IBEX and IFMIS

In a recent year in MOF use both IBEX and IFMIS technology based system parallel because in the region and federal university which locates at regions uses IBEX system. Development of a financial system for the government of Ethiopia passes a lot of steps starting from BDA and BIS then now IBEX and IFMIS are the new emerged automated tools that serve the government of Ethiopia to manage and control its institutions' financial activities and budget utilization. In addition to these, those tools were developed based on financial regulation, procedures, and policy. The short come that resided with BDA and BIS leads to the IBEX development project initiation by a Decentralization Support Activity (DSA) project which was implemented by Harvard University and funded by the Netherlands Minister for Development Cooperation, Development Cooperation Ireland (DCI), and United States Agency for International Development (USAID). In Ethiopia's financial policy enrichment, it is recognizable that the public finance management system has a great impact on the support of the country's development strategy execution. Among those different tools, IBEX is one of the most distributed financial systems that the government of Ethiopia has implemented in almost all of its institutions. Such a core system that can support the operation of public finance management, it is well known that the tool has created the finance activities are more qualified deliverable for the higher authoritarian institutions at the government level.(Stephen, 2007&IFMIS user manual 2012)

DSA has developed IBEX and leads the support activities of IBEX rollout to implement in all federal, regional, and zonal institutions. The operational activities are also supported based on procedural concepts and skills. Now a day, MoF takes the leading part to provide top-level IBEX support activities. Thus, all regional level institutions hire IBEX support staff for their descendant organizations' support activities without any limitation to measure the quality of the support that they provide. All regional IBEX support staff may send inquiries for critical and advanced issues to the MOF IBEX team if they face them. Now a day, the IBEX application is implemented and operational on more than 33 federal level institutions and more than 1,700 regional institutions. Most of them use the distributed structure while the rest are based on the standalone installation especially federal institutions.(Adam Abate and Eric Chijioke, 'The DSA Financial Information Systems,' unpublished, 2005, Hendricks, 2012).

2.3.1 Systems, Procedures and Accounting Policies

According to (COPCU 2012 POM), accounting for all Sub-programs will be governed by respective government accounting policies and procedures. The Ethiopian government uses a double-entry modified cash basis of accounting since 2002.

The double entry reform has been implemented at the federal level and in regions. The computerized Integrated Budget and Expenditure (IBEX) accounting system is operational at the federal level and in all of regions zones woreda and sector offices, the IBEX accounting system is in place.

WHAT IS IBEX?

The Integrated Budget Expenditure Information System (IBEX) is an integrated public financial management system being implemented by the Federal Government of Ethiopia (FGE) to improve the public expenditure management processes, enhance greater accountability and transparency across Federal Ministries, Agencies, Regions, City Administrations, Zones and Woredas.

The IBEX application is a web-based application. This means that it follows the client-server model whereby the interface for all users is presented in a web browser through application functionality is performed on a remote application server.

Browser-based application design requires that all communication between the user and the system occurs as a series of requests and responses. The user requests the system by interacting with the browser, this request is communicated over a network (very often over great distances) to the servicing application, the application processes the request performs the necessary business logic, and returns a response to the client (browser) which has been waiting for the response, and the client displays the response to present an updated interface. (Adam Abate and Eric Chijioke, 'The DSA Financial Information Systems,' unpublished, 2005)

2.3.2 Systems as Organization used for Financial Information

As we can observe financial information system is a combination of people, material resources (equipment, hardware, and software, supplies), and procedures organized to provide financial information to financial managers for decision-making purposes. At a minimum, an information system must have the following technical elements: input (data), processing, in which input data are transformed into outputs, and output (information). It also includes a storage element, where data can be stored before and after processing (Ties, J. B. 1991) However, information systems cannot be understood independently of the people around them; their social relationships, their culture, and the work practices that they are engaged in within everyday life. To gain a better understanding of information systems development, implementation, and use, research and development regarding a particular information system must involve a better understanding of how people work and the social practices and organizational culture in which they are engaged. An information system includes the social system, which in turn, has its subsystems of people, business processes, social structure, and culture. The problems of development, implementation, and use of information systems are well known and invariably they concern interactions between human, organizational and technical factors, which cannot be separated. Therefore, information systems should not be regarded as technical systems with behavioral implications but are better conceptualized as social systems in which technology is only one of the elements (Gallagher, M, and Rozner. S2008). The study reported here explores organizational factors and their impact on information systems development and implementation.

2.3.3 Information Infrastructure and Organization Culture

According to (Hanseth and Monteiro, 1997) organizational culture can be viewed as an information infrastructure. An information structure that has key characteristics that can be described as shared – a foundation underlying and supporting other activities in a community; evolving – its use areas growing, i.e., more components are added and more users are adapting to and changing the organization culture; open – without borders regarding the number of factors that may be included; standardized – having a minimum set of functionalities that allows different solutions to work at different levels; heterogeneous - including components of different kinds, i.e. technological and non-technological; and having an installed base – each new version of a component replacing an existing one has to fit with the infrastructure as it is at that moment

For an organization to continue to innovate its activities there is a need to consider the already existing organization culture during the innovation process. In other words, we conceptualize organization culture as constitutive of the installed base of an information infrastructure.

2.3.4 ICT Infrastructure

According to Wafula&Wanjohi (2009) around the world, governments are undertaking ambitious reforms to further revitalize or transform their public sectors. The drivers for reform include: on the demand side – the increasing expectations by citizens for efficient and effective services and a voice in their design and delivery, and on the supply side – the increasing pressures on government budgets, more severe since the global financial crisis, requiring that they do more with considerably less. To accomplish this revitalization, governments are introducing innovations in their organizational structures and practices, and in how they mobilize, deploy and utilize human, financial, and ICT resources (United Nations 2011). The use of ICT in the public sector, or e-government as it is known, is playing a critical role in governments' efforts to revitalize their public sectors. Modern ICT is a significant strategic tool for lifting public sector performance, offering benefits of greater efficiencies and effectiveness in government operations and service delivery, improved communication and coordination across organizational boundaries and levels of government, and greater transparency and accountability in government functions (Ameen& Ahmed, 2011). Consequently, over the past 10 to 15 years, governments around the world have utilized information and communication technologies, particularly digital technology (OECD 2009) which have significantly changed how. A second key issue that has emerged is achieving greater citizen engagement in public policy processes through the latest Web 2.0 tools. E-government is no longer viewed only as of the provision of information or services via the internet but as a way of transforming how citizens interact with government and how government interacts with itself (Rose and Grant 2009). The new social media tools have the potential to transform public policy processes by making the government far more responsive and participatory. Web 2.0 offers unprecedented opportunities to open government decision-making to the community allowing citizens to engage more directly and collaboratively with public servants.

Many IFMIS projects have failed because the basic system functionality was not specified from the onset of the intervention. Chêne (2009) posits that an IFMIS must be carefully designed to

meet the needs and functional requirements, including the accounting and financial management tasks the system should perform. Consideration must be given to the type of systems that will be implemented, for example, off-the-shelf (OTS) or custom-built systems that fit the requirements of the specific country. An analysis of the different systems used by developing countries indicates that they make use of both off-the-shelf systems as well as custom-built systems. For example, Ghana and Uganda opted for a system designed and developed to fit their specific requirements, whilst Tanzania, Malawi and Kenya opted for off-the-shelf systems. It is important to note that a determining factor in the success of the implementation is not in the type of system, (i.e. off-the-shelf or custom-built) but rather in the complexity of the system. One of the reasons for the success of Tanzania's project is, for example, their decision to purchase a less complex, mid-range commercial package (Dzidonu, 2011).

2.3.5 What is IFMIS?

An IFMIS can potentially provide governments with a tool that can support financial control, management, and planning. By managing a core set of financial data and translating this into information for management, these three financial functions are supported. Since control is the first task of public financial management, IFMISs should be assessed by how they contribute.

More narrowly defined, an IFMIS is a computer application that potentially can integrate key financial functions (e.g. accounts, budgets, etc) and promote efficiency and security of data management and comprehensive financial reporting. An IFMIS is one way to address the problem of 'stove-piped financial systems that do not talk to each other and do not produce a timely and comprehensive picture of a country's financial position. IFMIS are usually considered in terms of core and non-core financial functions.

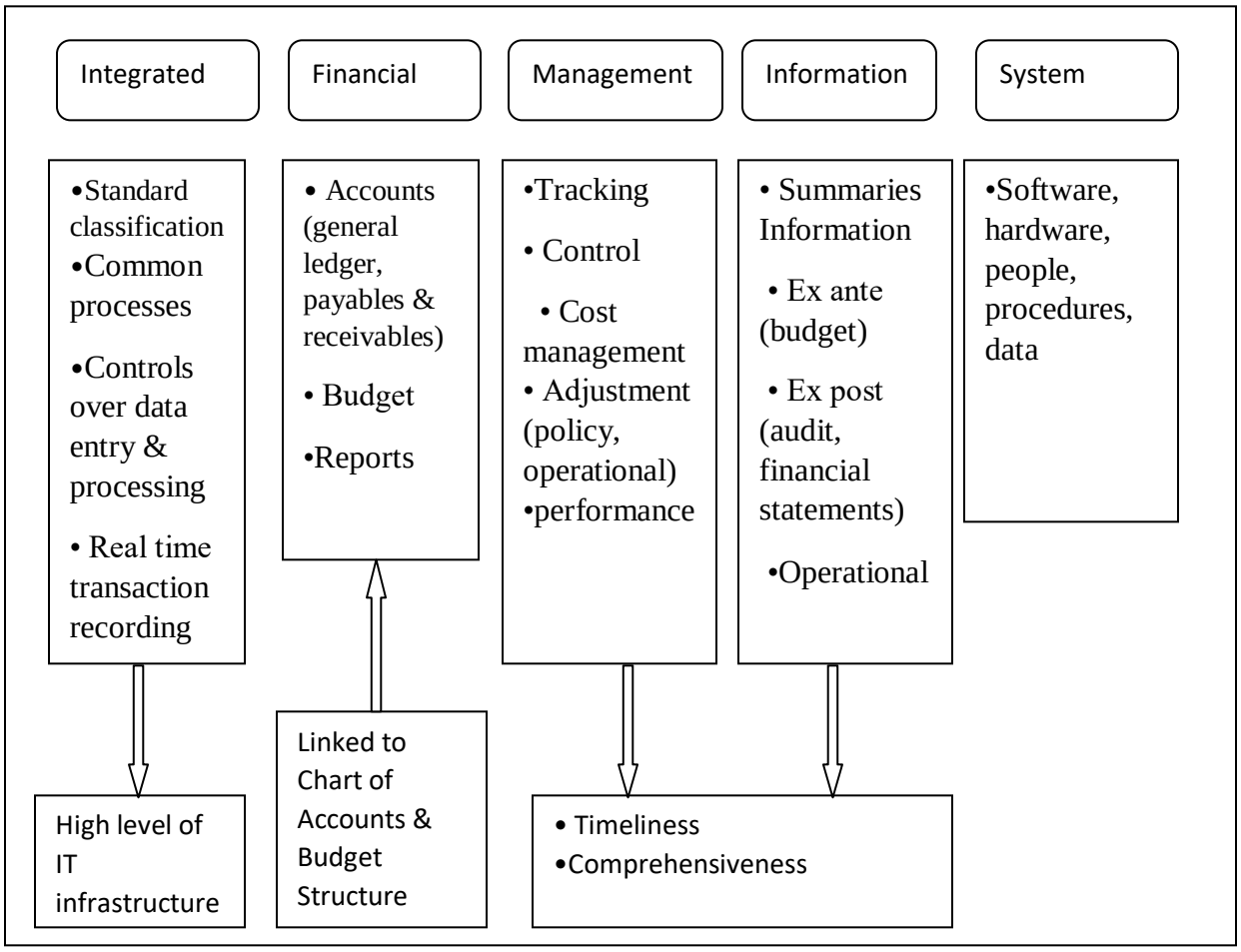
While public financial management is a broad field with multiple systems, it is striking how limited the commonly cited specification of the core functions of an IFMIS is. The conventional specification of the IFMIS core is accounting and reporting functions, while non-core functions include budgeting, commitment control, cash management, and disbursement functions. The common specification of the core function of an IFMIS does not include all of the components needed for effective financial control and therefore cannot provide sufficient or basic financial control. The limited comprehensiveness of the conventional core functions of an IFMIS stems in

large part from the private sector origins of IFMIS technology as demonstrated by the absence of a budget component as a core module.

IFMIS is a partial solution to financial control. 'Integration' should not be confused with 'comprehensive' control. While a partial solution, we argue that the core components of an IFMIS should be Budget, Accounts, Disbursements, and Reporting (BADR).

Financial Function of IFMIS

Figure 2Features of a typical IFMIS (Stephen, 2005)



Source: Penrose 2005

According to (Stephen 2005) Integrated function of an IFMIS (Figure 2) ideally, and IFMIS provides two types of integration: functional integration across financial components so that data flows seamlessly; and physical integration with networks or standalone installations that can share data. We would argue for a third feature of integration which is key to the building of a hybrid system—integration between manual and automated procedures.IFMISs are designed to

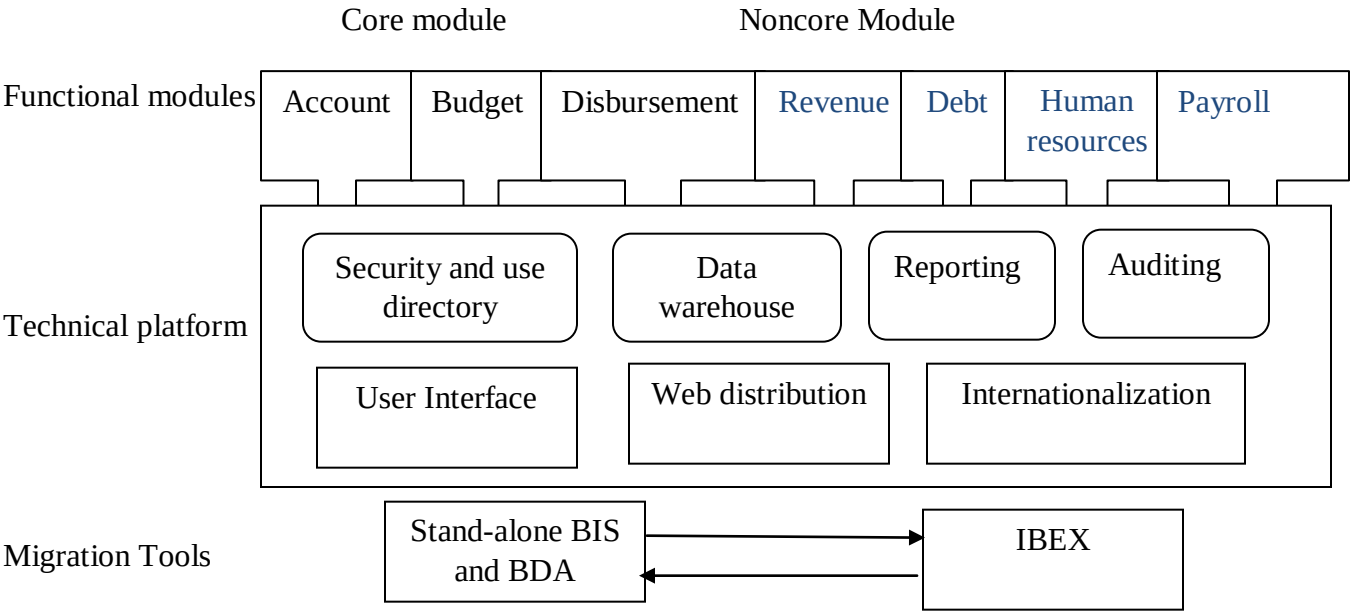
manage financial data efficiently so that once entered; data are securely stored and shared with different financial functions (e.g. budgets, accounts). The management of data from the user standpoint is standardized with common input screens and report formats. Integration is within the core modules but is also meant to include seamless data sharing (possibly on-line) across administrative entities to promote financial control.

Management functions of an IFMIS (Figure 2). The management function of an IFMIS applies the information function (Figure 3) to execute the three roles of a financial system: control, management and planning. Information functions of an IFMIS (Figure 2). This function translates financial data into information. IFMISs provide a wide range of reports. System functions of an IFMIS (Figure 2). Finally, an IFMIS is an information technology that embeds financial procedures in software applications, data stores, and communications infrastructure.

2.3.5.1 System function of an IFMIS

An IFMIS is an information technology that embeds financial procedures in software applications, data stores, and communications infrastructure. Figure 3 uses the example of the Ethiopian custom IFMIS (the Integrated Budget and Expenditure, or IBEX, system) to show how an IFMIS is constructed. The functional modules deliver the content of the application: in this case, budgeting, accounts, and disbursements. The technical platform is the capacity of the system, which includes the volume and speed of data processing, data security, connectivity (in this case to the Web), the front-end interfaces for the user, and the languages it presents the modules in. The third part of the application constitutes the migration tools, which allow data to be exchanged between the legacy financial systems—Budget Information System (BIS) and Budget Disbursement and Accounts (BDA) and the new IBEX system. One limitation of an OTS IFMIS is the management of legacy systems and their data. Although in principle these data can be shared, building a custom migration capability is often necessary, thereby increasing costs. In other words, an OTS is not necessarily synonymous with a turnkey system. A virtue of custom systems is their inclusion of custom migration tools. (Stephen B. Peterson, 2005)

Figure 3An example of the platforms of an IFMIS: Ethiopia's IBEX System (Source, Abate and Chijioke 2006)



Source: Adam Abate and Eric Chijioke, 'The DSA Financial Information Systems,' unpublished, 2005

As cited by (Stephen B. Peterson, 2002) The financial information system should be determined by four factors: the content to be automated (which functions—budget, accounts, and so forth); the quality of existing financial procedures (whether they can be evolved or must be replaced); the capacity of public bureaucracies to absorb and sustain IT; and a conservative and healthy skepticism about the capability of contractors. In regard to content, a coherent core set of financial functions needs to be automated and linked. As argued earlier, the commonly accepted core for IFMISs is not comprehensive, because a coherent core should cover budget (formulation and management, as well as adjustments and commitments); accounts (general ledger, payables, receivables, and reporting); and disbursements (and cash balances if possible). The user requirements of these systems need to be relatively stable. The second factor that affects scope refers to the quality of the existing procedures for these functions and how effectively they are integrated. For example, do commitment data from the budget module control the disbursement module? Effective integration of modules requires not only the sharing of data but also the existence and execution of procedures for management and control.

2.3.5.2 IFMIS Implementation in Ethiopia

Over the last thirteen years, the Ethiopian government has initiated some capital investment towards set up and installation of ICT infrastructure and in 2010 government of Ethiopia has decided to buy IFMIS from Oracle Company and adopted the system with the financial regulation of Ethiopian public financial management system. The customization was done by Transact Computer Technology (TCT). The customization and user acceptance testing were held in the selected pilot sites (Ethiopian Road Authority, Ministry of Health, Ministry of Education, Ethiopian Revenue and Customs Authority, Ministry of Public Service and Human Development are pilot sites including MoF). These pilot sites were selected based on the characteristics and financial activity individuality, and other issues like the complexity of the finance system in order to keep inclusion of all features of IFMIS for all federal public bodies of Ethiopia. Now a day, the IFMIS system is implemented in 145 federal public bodies in which the deployment role out is being held by Techno Brain Company. MoF has a great role in administering, controlling and monitoring the deployment activities and the overall acceptance and assessment of implementation on every public body which admits to deploy IFMIS. (Hendricks, 2012)

2.3.5.3 Objective ofIFMIS

The main objective of IFMIS is to improve the public financial management reformation. Institutionalizing the qualified financial system with a great accuracy, transparency, security, information confidentiality and integrity are the basis of IFMIS that forms the conceptual structure of IFMIS. As a modularized information system, IFMIS has different modules which are related to financial system which is called core modules and which are non-financial systems which are called non-core modules. Thus, all modules are integrated into one information repository to ensure the consistency of financial data is the major objective of IFMIS.(Diamond & Khemani, 2005)

2.3.5.4 Modules ofIFMIS

As a multi modular system, IFMIS has lots of modules. From these modules, government of Ethiopia has bought only 9 modules. These modules have their own functionality in order to fulfill the subsystem features. Cash management, payroll, accounts payable, accounts receivable, public sector budget, inventory, fixed asset, procurement, and general ledger are the 9 modules which government of Ethiopia has bought.

The modules currently in operation by oracle are:

1) **General ledger module:** This module is used to; enter and post journals, budget inquiries, opening of budget year, funds inquiries, others Issuance of a Grant of Credit by the Auditor General, Issuance of the MinistersWarrant by the Accountant General, Issuance of Cash limits by the Budget Directorate, Preparation of the Accounting Warrants by the Votes, Initiation andApproval of virements or re-allocations and generation of management reports.
2) **Accounts Receivables module:** This module is used to; Enter customers, enter and approveinvoices and to enter receipts. It also used to enter bank charges and bank transfersand the generation of receivables reports.
3) **Procurement module:** This module is used to create suppliers on the system, preparepurchase requisitions, and approve purchase requisitions, enter and approve purchaseorders and finally enter purchase receipts.
4) **Accounts Payables module:** This module is used to; create supplier invoices from supplierinformation, approve invoices, make payments, make prepayments (to employees orsuppliers) and generate payables reports
5) **Cash management module:** This module is used to; create bank accounts, it alsoused to enter/ upload bank statements and to perform automatic bank accountreconciliations.
6) **Fixed asset module:** This module is used to reconcile the acquisition/ creation of assets and distribution of asset to staff and to view asset status and profile information.
7) **Public Sector Budget:** This module is used to create budget from planning department, send for higher officials for approval hierarchy. Additionally, this module used to control the cost of budget transaction paid and unpaid budget over expenditure status.

8) **Payroll Module:** This module is used to create monthly payroll and incur for staff based on their salary and additional benefits.
9) **Inventory Module:** This module is used to manage and control all inventory transactions limited for the organization's inventory resources (Ethiopia Study Report 2015).

The major advantage of the IFMIS is its integration with every module. Thus, the integration of information is improved and inconsistency of information is eliminated.

2.3.5.5 Implementation of IFMIS and What are the Challenge Involved

A 2005 IMF workingpaper on introducing Financial Management Information Systems more specifically highlights a number of challenges that explain why IFMIS projects tend to stall in developing countries. The sheer size and complexity of an Integrated Financial Management Information System (IFMIS) poses significant challenges and a number of risks to the implementation process that go far beyond the mere technological risk of failure and deficient functionality. Studies conducted in various countries such as Tanzania, Ghana, Uganda, Malawi, Kenya and Rwanda indicated that there are a number of challenges that may influence the successful implementation of an IFMIS (Diamond &Khemani 2006 Rodin-Brown 2008). Some of the most common challenges that may be faced by developing countries are discussed in the subsections that follow. It is necessary for these challenges to be discussed in order to develop guidelines for better implementation of an IFMIS.

2.3.5.5.1 Technical Skills and Capacity

According to Brar (2010) argues that low capacity for system implementation at the sub-national level, such as provincial and regional governments, is one of the major challenges in the implementation of an IFMIS in developing countries. Farelo and Morris (2006:) contend that the human resource development issue within government needs prioritization, the education system needs to be aligned with the information and communication technologies (ICT) demands of the country and scarce ICT skills need to be attracted and retained particularly within government. The effective implementation, operation and maintenance of an IFMIS require staff with the necessary knowledge and skills. Lack of capacity is regarded as one of the main causes for the delay in the implementation process experienced by Ghana, whilst the emphasis that was put on

capacity building through training in Tanzania was one of the main contributors to their success (Diamond &Khemani 2008).

The lack of staff with IT knowledge and experience cannot be easily remedied by training and hiring. The salary structure and terms of employment in the public sector are usually not attractive enough to compete with the private sector and to incentivize candidates with the required IT-skills levels (Chêne 2009). Trained personnel also leave the government service, often for better job opportunities.

2.3.5.5.2 Complexity of the System

The effectiveness of IFMIS depends on the robustness and flexibility of the technological solution. The technology chosen must be flexible to adapt to evolving conditions and allow the system to be smoothly extended to other parts of government. In its main report on the 2004 Country Integrated Financial Assessment, the World Bank commented that, "The IFMIS is highly complex, sophisticated, and expensive. Having chosen this route, the Government of Ethiopia must overcome a number of major challenges to fully realize the benefits of the system, while ensuring that security is not compromised. From an accounting and financial reporting perspective, failure to address specific issues relating to the sustainability, functionality and extension of the system are liable to result in higher rather than lower levels of fiduciary risk. In particular there is a need to ensure that either internally or externally there is sufficient capacity to manage the ongoing implementation process funds is available for the maintenance of the system government can retain staff at all levels that have the capacity to utilize the system effectively the coverage of the system is comprehensive, and funding is available to facilitate any future rollout" Furthermore, the associated Country Financial Accountability Assessment reported the following risk: "Should the IFMIS fail, there is no current backup at the moment other than the continued use of existing systems in parallel" (GAO, 2004). Diamond and Khemani (1999) in a World Bank study on the introduction of an IFMIS in five African countries recommended that: "careful evaluation of the salaries and packages for the relevant staffing both public and private sector should be done including an assessment of the implications of improved salaries for the broader public sector environment. Such a strategy would aim at striking balance between the need to attract qualified staff."

2.4 EMPIRICAL REVIEW

In a research by Kimwele in 2011 about Factors Affecting Effective Implementation of IFMIS in Government Ministries in Kenya, he found out that the level of awareness by employees of the Government ministries was 100%. He also found out that 70% of the departments used IFMIS. 73% of the respondents to the research questions said that there was sabotage of IFMIS. 37% of the respondents said that IFMIS supported proper planning of work. There is a great percentage of abuse of the system but IFMIS offers security to personal data(Kimwele, 2011).

2.4.1 Project Success and ChangeManagement Commitment

According to Rozner (2008), a change management strategy should be developed as soon as an IFMIS project is conceived, taking into consideration the change implications for diverse stakeholders, that is, from politicians and senior officials to heads of departments, civil servants and the IT personnel who will support the new systems. If this aspect is not addressed early in the project, the project will constantly be faced with resistance and obstacles from elected politicians, executive officials and personnel who will use the systems regularly. The best way to overcome resistance to change will bethrough clear communication, education and training, as well as through „quick wins" that demonstrate the benefits of the change, (Rozner, 2008). The communication can be done through a variety of media, workshops, seminars, training sessions, a website or conferences (Rodin- Brown, 2008).

2.4.2 Capacity Building and Training

An IFMIS comprises more than only implementing a project; it also means planning for capacity building. A comprehensive training program is therefore vital for the success of the project and should be compiled as early as possible. Training is essential to unlocking client readiness and is the best way to ensure sustainability of a system(Vick land&Nieuwenhuijs 2005). Capacity building is a major factor affecting the success of IFMIS implementation, especially in developing countries (Chêne 2009). The shortage of skilled ICT people in the Ethiopia is exacerbated by the emigration of highly skilled ICT personnel and other professionals to developed countries, and from the public to the private sector. In order to build the necessary capacity, it is important to create a learning environment early in the project and to treat the

whole process as a learning opportunity with training being part of an ongoing process. Training should be provided to senior managers, technical staff and end users, and should teach users how to use the new system and how it affects business processes. Diamond and Khemani (2006), however, argue that the training will not onlyinclude training in the use of the IFMIS for the respective operations and functions, but will also entail training in the new legal and regulatory framework, the new codes and classifications, and the new business procedures put in place.

A well-defined training program will also assist in building capacity and help build confidence amongst users who, through the process, are reassured that there will be some constants amidst the change. Given the nature of institutions and organizations, capacity building is a neverending process. It needs to be ongoing and permanent (Rodin-Brown 2008).

2.4.3 Project Success and ICTInfrastructure

Technological resources have been consistently identified as an important factor for successful information systems adoption. Technologies have changed and redefined the way organizations and government corporations operate. Organizations adopt new technologies to improve the efficiency and effectiveness of various work processes. Unfortunately, manytechnology-based products and services never reach their full potential, and some are simply rejected Rodin brown (2009). Failed investments in technology may not only cause financial losses, but also lead to dissatisfaction among employees Waruinge (2008). Hence, explaining and predicting user adoption of new technology is important. New technology adoption by service employees is affected by various factors. Some of them include; technology readiness, technology integration and interoperability with the existing IT systems and the IT security applications. Research by Parasuraman and Colby (2009) pointed that technology readiness (TR) is a key factor in the adoption of innovative products and services. TR refers to the propensity to adopt and embrace technology in home life or work. It reflects a set of beliefs about technology and is not an indicator of competence. TR is highly predictive of the speed of technology adoption and level of usage of technology in consumer households and organizations. TR is multifaceted, with some factors being contributors and some factors behind inhibitors. According to Moseet (2013) private and public sector organizations have been utilizing information technology (IT) systems to streamline and automate their purchasing and other processes over the past years.

2.4.4 Project Success and Management commitment

Mwakio (2015) investigated the Challenges Facing County Governments in the Implementation of IFMIS in Taita Taveta County. The study aimed at finding out why there was still poor management of devolved funds to the counties despite the use of IFMIS at the counties. The study concluded that previous training on IFMIS had not involved senior county officers who were often too busy attending to other matters and thereby sending their junior staff for the training instead. The study recommended that the national treasury deal more decisively on matters devolution and specifically in the implementation of IFMIS to avoid letting partisan politics interfere with management of devolved funds.

2.4.5 List of African Countries Currently Implement IFMIS

At this time most African countries implements IFMIS these are Tanzania, Uganda, Kenya, South Africa and Malawi are some of countries who adopted and implemented IFMIS system. Majorly they are facing challenges related with resource facility, complexity of systems, capacity of project implementation team, inefficient project implementation plan etc.IFMIS have become a core component and driver of public finance reform in many developing countries. As of 2005, the World Bank had funded IFMIS projects in 27 countries at a cost of USD 1.1 billion. However, the implementation of IFMIS has proven very demanding, especially for developing countries and according to the Bank's own account, has not always been successful.

2.4.5.1 Uganda

According to the 2005 IMF working paper, Uganda chose to implement a comprehensivefinancial management reform program to improve budget and expenditure processes both at the central and decentralized levels. The design and development phase of the IFMIS gotconsiderably delayed and only in 2003 was a company awarded the contract for the provision of a turnkey solution including hardware, software, a Wide Area Network (WAN) and supporting training/change management. This constituted the second attempt to set up a government-wide IFMIS with World Bank financing. The project encountered key design problems and the pilot run in six line ministries and four local governments brought out a number of issues in the system's functionality as well as treasury procedures. The main design problem was associated with the chart of accounts that the government had approved and the

costs involved to rebuild the system were considerable. The system was put into operation with the defects unaltered. As a result, the Uganda IFMIS is performing under its potential with piecemeal, ad-hoc solutions that decrease the efficiency of the system. Further problems encountered are common to the implementation of most IFMIS projects in public sector. To begin with there was inadequate planning, poor communication between implementer donors and government, shortage of management capacity and resources, changes in system design without full agreement of all and poorly implemented trainings. These examples illustrate the numerous challenges involved in implementing IFMIS. Lack of high level commitment, ineffective project coordination, loose project design and planning, institutional resistance to change, inadequate technology and lack of human resource capacity are some of the factors often cited for the failure of such schemes.

2.4.5.2 Tanzania

According to the 2005 IMF working paper, the IFMIS in Tanzania appears to be the most successfully implemented system in an Anglophone African country. Within the framework of an ambitious public finance management reform initiated in 1994, Tanzania decided to introduce IFMIS in 10 ministries, departments and agencies in 1998.The IT-solution selected was a medium-sized management and accounting package, significantly less complex than the ones used in other countries like Ghana. The roll-out plan was based on an incremental approach and focused initially on the Accountant General's Department and 10 pilot Ministries. After a consolidation phase, the system was rolled out to all 43 ministries and departments in the capital, then progressively to the entire central government and progressively introduced at the local level. The implementation process was distinguished since the Ministry started by an initial review of the public expenditure management processes affecting budget execution and the introduction of an improved expenditure control framework and chart of accounts. Secondly, they embedded the reform process in the Ministry of Finance with an emphasis on capacity building. Thirdly, they revised and developed an enabling legislation, accounting principles, systems and necessary organizational arrangements. Fourthly, the ministry selected midrange commercial software. package supported by a high quality local consultancy company and finally, they established a structure of solid political backing which trickled down to the management level.

2.4.5.3 Kenya

As cited by (Emilie Combaz, 2015), In Kenya, an IFMIS piloted in 2002 had stalled by 2005, due to technological deficiencies (Diamond &Khemani, 2005: 19). Pilot implementation had raised a number of issues. The engagement of audit staff was inadequate, resulting in limited quality control assurance. The program management lacked strategic direction, leadership and communication.

2.4.5.4 Malawi

(Emilie Combaz, 2015), in 1995, the government of Malawi decided to computerize government accounting and finances (Diamond &Khemani, 2005: 18). The IFMIS conceptual framework (including technical specification) was completed in time, and the governance structure of the project (including a steering committee and a management team) was adequately set. The design and procurement process were completed in 2000 and the pilot run of the customized software started in 2001. The system was implemented in five pilot ministries and thereafter supposed to be rolled out to all ministries and departments. The lack of political will was a major issue, with the main players neglecting the IFMIS (Diamond &Khemani, 2005: 18). Some observers argued that the political commitment to reform was weak, because individual incentives in some ministries undermined sound financial management (SIDA report, cited in Chêne, 2009: 10). In addition, the implementation team was poorly resourced and was dismantled. Change management and communication were insufficient. Outstanding issues were not resolved. By 2005, the government had decided to adopt an IFMIS similar to the Tanzanian one (Chêne, 2009: 10).

2.4.6 Some African Countries Failed IFMIS Systems

The failed implementation cases include that of the governments of Ghana, Uganda and Malawi. Ghana launched an ambitious multi-faceted Public Financial Management Reform Program (PUFMARP) in 1996, about the same time as the one in Malawi, but has been significantly less successful (World Bank, 2002).The project is based on state-of-the-art IT e-technology (i.e.

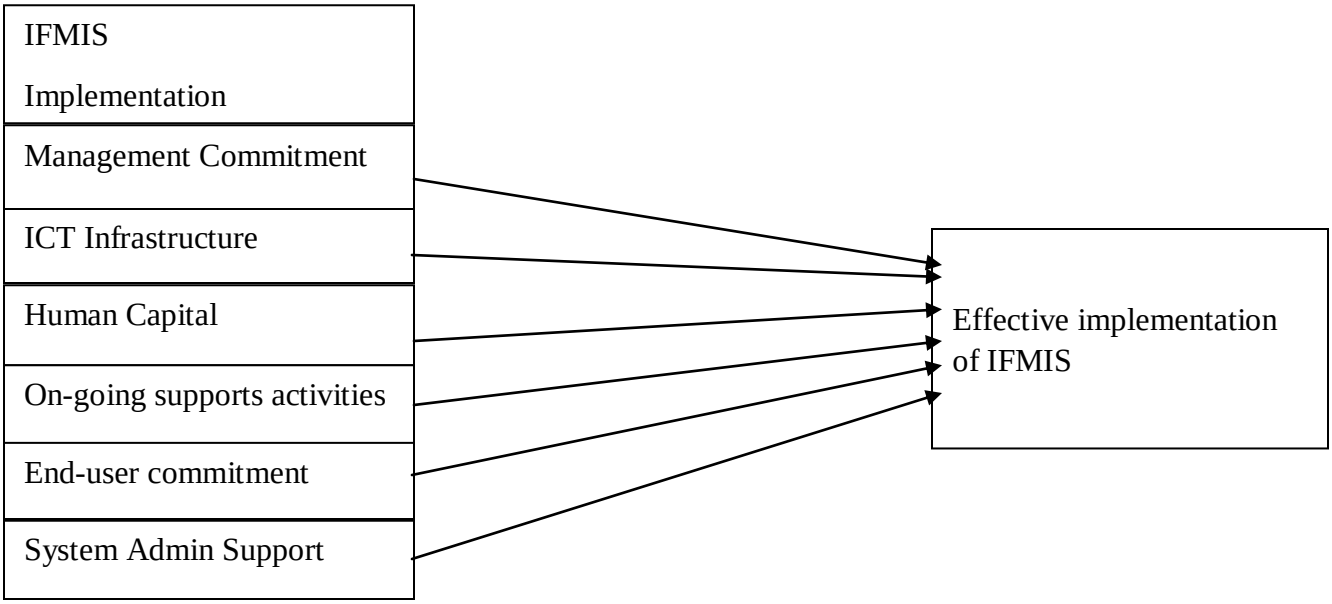
Oracle Financials), with the following modules: Accounts receivable, Accounts payable, General ledger, Cash management, and Budget execution (Andy, 2005, World Bank, 2004).According to Uganda offers an example of a country where introduction of a government IFMIS has moved in fits and starts (Brown, 2008, Chêne, 2009). The most recent IFMIS implementation started in2002. This is the second effort to set up a government-wide IFMIS with World Bank loan financing. The previous attempt never went live, after faltering in the design stage. The current system, based on the Oracle Financials platform, is fraught with key design problems that lie around the Chart of Accounts which will necessitate a system migration (Brown, 2008. Chêne, 2009). The Uganda IFMIS has moved along ever since, underperforming its potential, with patches and workarounds that only serve to decrease the efficiency of what could have been an excellent system. Various other problems were encountered, most of them common to IFMIS projects around the world. These included: inadequate planning; poor communications between implementers, donors, and Government; shortage of management capacity and resources; changes in systems design documents without full agreement; poorly implemented trainings; and unnecessary and spurious project expenditures (Brown, 2008, Chêne, 2009, Diamond et al2005).

In general, these numerous challenges involved in implementing IFMIS. Lack of high-level commitment, ineffective project coordination, loose project design and planning, institutional resistance to change, inadequate technology and lack of human resource capacity are some of the factors often cited for the failure of such schemes. (Marie Chêne, 2009).

2.4.7 Conceptual Framework

According to Gallarza&Saura (2013) defined a conceptual framework as a virtual or written product, one that explains, either graphically or in narrative form, the main things to be studied-the key factors, concepts, or variables and the presumed relationships among them. Conceptual frameworks, according to educational researcher Yadav (2010) are structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at, frame their questions and find suitable literature. Most academic research uses a conceptual framework at the outset because it helps the researcher to clarify his research question and aim (Van Kamp & De Hollander, 2003).

Figure 4 Conceptual frameworks for the study



The above conceptual frame work shows that there are six variables which affect IFMIS project success .These are Management commitment, ICT Infrastructure, Human Capital, On-going support activities, End-user commitment and System admin support.

- Management Commitment: Allocation of resources for IFMIS implementation, Support for uses IFMIS.
- ICT Infrastructure: Consistent network connectivity, Modern ICT equipment.
- Human Capital: Training of staff on IFMIS, Systematic long term capacity building plans.
- On-going support activity: supports all end users on their day to day activities and challenges of using the IFMIS system.
- End-users: to enter data into the system, process the data as per the regulation of the system and generate the outputs to the relevant organs in timely fashion.
- System admin support: Effectiveservice delivery to the IFMIS users, provides accurate information.
- IFMIS Success: Cost saving, Time saving, Increase users satisfaction, quality of services, transparency and accountable use of resources.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This section gives an overview of the methods and materials used to underwent the thesis. The methodology section is divided into seven subsections. The first section outlines the general research approach and design; the second section discusses the actual research area and population which was applied throughout the thesis, the third section discusses sampling method and sample size determination, the fourth section clarify data collection tool, and the remaining four sections elaborate data collection procedure, Procedure, and data analysis and presentation.

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3.2 Research Approach and Design

Baker (2009) recommends descriptive design as it allows the researcher to describe, record, analyze and report conditions that exist or existed. Since this study sought to describe the factors that affect the implementation of Integrated Financial Management Information Systems in the Ministry of Finance (MoF), Ethiopia, descriptive research design is the design of choice in describing the existing situation under study. This study majorly pays concentration for those major implementation concepts, i.e.: Quality of the report, Sustainability, small frequency of support, On-time report, and availability of the system are assumed to be dependent variables whereas Top management commitment, human capital development, ICT infrastructure, on-going support activities, and end-user's commitment are assumed as independent variables, which are the main thought of this research paper.

3.3 Study Area and Population

The study area for this research is focused on the Ministry of Finance. According to the data from human resource department of MoF, the ministry has more than 1,100 employees working at different positions; among which 130 staffs are involved in a different role in the implementation and use of IFMIS. From those staff's 10 of them are on managerial position and the rest are on technical position. The target population of this study was the MoF directorate which is using IFMIS as a system of record which means Management offices, Finance and Procurement directorate, Planning directorate, Property Admin directorate, on-going support, System administration, and IFMIS project office.

3.4 Sampling Method and Sample Size Determination

In this research Simple random sampling technique was used to give all individuals an equal chance of being selected and a total of 98 samples were selected from the different departments in the MoF. Inclusion criteria to select the participants were those who were involved in the implementation of IFMIS at MoF and taking different responsibilities and roles.

The study focus is an assessment of factors affecting the implementation of IFMIS in MoF, hence the sample frame of the targeted population was only the IFMIS users of each directorate which is 130. After the samples of each directorate who use the system have been determined, the researcher plans to use the following sample size determination formula to determine the sample size. The researcher uses Taro Yamane (1967) formula to determine the sample size of the population in MoF. It is calculated as follows:

Where:

N - population size

n - sample size and

e- level of precision or sampling error = (0.05)

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{130}{1 + 130(0.05)^2}$$

n = 98

Hence, the total sample size is 98. Since the number of people in each department is not the same, the number of samples for each department was calculated by the following formula:

$$n1 = \frac{nN1}{N}$$

Where:

n1 is total number of sample in each directorate/ department

n is total number of sample

N1 is total number of population in each directorate/ department

N is total number of population

$$n1 = \frac{nN1}{N}$$

$$n1 = \frac{nN1}{N}$$

Table 3.1 Respondent distribution

No	Department	Number of responsibilities	Number of user	Sample size
1	Top management user	10	10	8
2	System admin user	23	19	14
3	Financial user	30	26	20
4	Property administration	8	11	8
5	Human resources	6	8	6
6	Procurement user	4	8	6
7	IBEX/IFMIS project user	22	15	11
8	Budget/planning user	24	18	14
9	On-going support user	15	15	11
Total		142	130	98

3.5 Data Collection Tool

Data were obtained from both primary sources and secondary sources. Primary data was collected from employees of the ministry of finance (MoF) using structured questionnaires were developed based on the 5- point Likert Scale because each variable comprises a series of questions that fit with the simple purpose of using a rating scale and it allows respondents to express both the direction and strength of their opinions about the topic. The research evidence was gathered using a simple form with both close-ended and open-ended questionnaires (Appendix I). The data was collected using a five-point Likert Scale with ratings of strongly disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). The secondary data for this research purpose was obtained from IMF and the government IFMIS project implementation strategies published IFMIS implementation review reports by the World Bank, the IBEX/IFMIS project office reports available for the year 2016-2019and other IFMIS project-related data.

3.6 Data Collection Procedure

Because of the risk of the covid-19 pandemic in our country, the researcher designs an electronic questionnaire with Google formats. The Questionnaires have been distributed using emailing (electronic mailing) system, after securing the consent and email address of the voluntary study participants. The questionnaires (Appendix-I) have three parts. Part one is aimed to collect personal information, part two was about to determine the factors that affect the implementation of IFMIS offered using a 5 -point Likert Scale, the remaining parts three presented one open-ended and close-ended question regarding the topic. The secondary data were collected from organization reports such as the ministry of finance (MoF) strategic document and IBEX/IFMIS project assessment report and literature review was sourced from libraries, websites, and journals.

3.7 Data Reliability and Validity

3.7.1 Validity

Validity refers to how sound is the research design and method and which an instrument measures what is supposed to measure. The researcher tried to keep internal and external validity. Internal validity was achieved through the linkage between the empirical review and theoretical review since the study discovered factors that influence successful implementation of IFMIS by considering on hand theories. External validity was achieved through refers to generalize ability of findings to other study findings and settings.

3.7.2 Reliability

To measure the Reliability of instruments, use the consistency of the instruments. The most common measure of internal consistency reliability is "Cronbach's alpha" which is used to estimate the reliability of a homogeneous test (the test that measures one construct).

Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalization Zinbarg (2005). It has a high value when the items on the test are correlated with one another. The minimum acceptable coefficient in the literature is 0.7.

Table 3.2 shows the result of the estimated Cronbach's alpha coefficient which was 87.8%. And above, hence, the survey result indicates 0.878 the Cronbach's Alpha coefficient is acceptable range to measure the effectiveness of implementation of IFMIS.

Table 3.2 Reliability statistics

Reliability Statistics	
Cronbach's alpha	N of Items
.878	44

Source: Survey Data Analysis (2021), SPSS 25

3.8 Data Analysis and Presentation

To assure the quality of data, it was checked for completeness, coded, and entered in to SPSS Version 25 software using the descriptive statistical methods and results are presented by tables, frequency distributions, and percentages to give a condensed picture of the data. Regression analysis was used to depict the most important factors.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS

4.1 Introduction

This chapter describes the main issues of the actual findings which are based on the primary data collected using questionnaire results and secondary data collected from various sources such as MoF IBEX/IFMIS project office reports, Top management reports, and many other administrative records.

The data was analyzed by SPSS Version 25 software using the descriptive data analysis method for each variable in the study and the findings are presented by tables and the implications of the findings discussed and compared with findings of the similar studies in the literature.

To evaluate the raw data collected from the sample Program Implementers at MoF directorate IFMIS users from IBEX/IFMIS project, Top Management, Financial, Procurement, Property Administration, System Administrator, and Setup team, the researcher used SPSS 25.0 version which is focused statistics program that can perform highly complex data manipulation and provide sufficient tools for analyzing the collected data with simple instructions. Therefore, the primary data from the questionnaires and secondary data from the review of different documents were analyzed using simple descriptive statistics (mean, standard deviation).

This enabled the researcher to make the analysis and to see the factors affecting the implementation of IFMIS in the ministry of finance.

44 questionnaires were distributed to 98 respondents out of 130 IFMIS users sampled from MoF department or directorates and 93 questionnaires returned, representing 95.45 percent response rate since out of 100% sampled respondents and 5 questionnaires are not included in the analysis just because the responses received were incomplete and not relevant for the analysis purpose. And based on the nature of the question, the researcher grouped the questionnaires into eight groups which are questioners related to Top management commitment, availability of ICT infrastructure, Human capital development, on-going support activities, end-user commitment, planning user, system administrator capacity & skill of users and IFMIS user resistance to make data analysis easy and manageable. Therefore, the analysis was conducted based on the responses of these 93 respondents' response with supplements of secondary data to interpret and elaborate more to discover the determinants of IFMIS implementations the MoF.

4.2 Demographic Characteristics of Respondents

Demographic characteristics of study participants obtain information on the background of the target population which helps to verify whether the individuals in a particular study a representative sample of the target population and testing appropriateness of the respondent in are answering the questions for generalization purposes. The sample respondents of this research from Directorates of MoF which used IFMIS such as IBEX/IFMIS project office, Finance, and Procurement directorate, Treasury directorate, national account directorate, budget directorate, and general service directorate (Inventory and Fixed Asset administration users) get the research questions and filled their profile as required. And this description of the characteristics of the target population gives some basic information about the sample population involved in the study. From the data collected and tabulated, the following significant characteristics of respondents have been obtained. Therefore, below the researcher comprised the demographic information of respondent's gender, age, educational background, work experience, department.

4.2.1 Distribution of Gender of Respondents

From the findings, it was established that the majority of the respondents as shown by 60.2 were male whereas 39.8% of the respondent were female; this is an indication that both were well

represented in this study and thus the finding of the study did not suffer from gender bias all through the study. This implies there was more male than female respondents though with less disparity meaning that there is gender balance involved in the implementation of the projects. Carter and Shaw (2007) found that organizations with gender balance were motivated to perform better towards the organization goal as women and men compete favorably to deliver on their assignments.

4.2.2 Age Distribution of the Respondents

The study revealed that the majority of the respondents were in the age group 31- 40 years 40 (43%), followed by 20-30 years 30 (32.3%), 41-50 years 20 (21.5%), and above 51 3 (3.2%) in descending order (Table 4.1). The finding implies that respondents were well distributed in terms of their age during the study and the majority of the respondents were at their maturity stage and therefore able to handle their roles responsibly. The findings support the move by the organizations emphasizing maturity and experience during the implementation of various projects.

4.2.3 Educational Background of the Respondents

The study findings, on the educational background of the respondents in the study, shows most of the respondents 54 (58.1%) held Undergraduate degree (Bachelor's degree), 32 (34.4%) held Graduate degree (Master's degree) or above and only 7(7.5%) of respondents were Diploma or less in academic status (Table 4.1). Hazerberg(2012) associated the education level of project managers with findings that, those with higher levels of education are more successful because higher education provides the knowledge and modern managerial skills, making them more conscious of the reality of the organizational management world and thus in a position to use their learning capabilities to enhance project implementation and delivery. The findings, therefore, indicate that the respondents have the capacity, skills, and management acumen to facilitate the performance of IFMIS in the organization. These skills may help them handle and interpret their respective services and the emerging issues on implementation and effectiveness of the IFMIS to the best level possible.

Table 4.1 Demographic Characteristic of the Respondents

Variable		Frequency	Percent (%)
Sex	Male	56	60.2
	Female	37	39.8
Age	20-30 Years	30	32.3
	31-40 Years	40	43.0
	41-50 Years	20	21.5
	Above 51	3	3.2
Education	Graduate degree(Master's degree) or Above	32	34.4
	Undergraduate (Bachelor's degree)	54	58.1
	Diploma or less	7	7.5
Position	Top management	11	11.8
	Middle	27	29.0
	Supervisor	16	17.2
	Operative	39	41.9
Department	IBEX/IFMIS project	16	17.2
	Finance	20	21.5
	Human resources	6	6.5
	Procurement	21	22.6
	Property administrator	6	6.5
	System Administrator	9	9.7
	planning user	10	10.8
	Top management	5	5.4
Work Experience	≤2 years	9	9.7
	3-10 years	26	28.0
	11-15 years	38	40.9
	≥16 years	18	19.4

4.2.4 Job position and Department of the Respondents in the Organization

Regarding the job position and department the finding of the study shows; about thirty-nine (41.9%) of respondents were in operative position, while the remaining 54 (58.1%) were working at different managerial positions.

4.2.5 Work Experience of the Respondents in the Organization

Moreover, regarding the respondents' experience 18(19.4 %) of respondents had more than 16 years of experience, 38 (40.9 %) of respondents had experience from eleven years up to 15 years, while 28 percent had 3 up to 10 years of experience and the rest had the experience of below 3 years.

4.3 Descriptive Statistics for Questionnaires

This part to identify the factors thataffect implementation of IFMIS in the Ministry of Finance (MoF) using this statistical parameter is to interpret the average response rate of respondents for each statement. To realize these objectives respondents were asked using a Likert scale where 1=>Strongly Disagree, 2=>Disagree, 3=>Neutral, 4=> Agree and 5=> strongly agree.

4.3.1 IFMIS Success Measuring Factors

The researcher designed this question by identifying three major project success factors these are in terms of Time, Coast and customer satisfaction. There were six questionnaires designed to establish the IFMIS success measures. Table 4.2 summarizes the result of the response.

Table 4.2 Success of Implementation of IFMIS

No	SUCCESS OF IMPLEMENTATION OF IFMIS	SD	Ds	Nt	Ag	SA	Mean	SD
1	Management has commitment to implement IFMIS.	-	26(28)	31(33)	32(34)	4(4)	3.15	0.884
2	The IFMIS system offer timely information to support Decision making		19(20)	25(27)	40(43)	9(10)	3.20	0.93
3	The training is held in the proper order and level of trainees understanding.	4(4.3)	16(17)	35(37.6)	33(35.6)	5(5.4)	3.20	0.912
4	End-users have active participation of the implementation of IFMIS.	-	6(7)	39(42)	41(44)	7(7.5)	3.53	0.696
5	IFMIS is available all working time.	-	23(25)	25(27)	36(38.7)	9(9.7)	3.33	0.951
6	End-users have commitment to accept implementation of the IFMIS.	-	12(13)	41(44)	36(38.7)	4(4.3)	3.34	0.736
						Total Average	3.34	

SD = strongly disagree Ds=disagree Nt=neutral Ag=agree SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

According to the respondents working at MoF, regarding management commits to implement IFMIS34% of respondents are agreed and 4% are strongly agreed management has the commitment to implement IFMI while more than 28% disagree, and the rest are kept neutral. The majority of the respondents agree and strongly agreed (43%,10%) that The IFMIS system offers timely information to support decision making but 27% are neutral and the rest 20% disagreed on this issue. The researcher has raised a question that the training is held in the proper order and level of trainees understanding about 37% of respondent agree and 5.4% strongly

agree and 38% neutral, 17% disagree and the rest 4% was strongly disagree.44% of respondents are agree and 8% are strongly agree described that end users have active participation of the implementation of IFMIS and about 42% are neutral end users have active participation and the rest of 7% are disagree. The implementation process of IFMIS needs end-users, the top or middle management staff of active participation. The other question was raised that IFMIS is available all working time about 25 % disagree and 39% are agreed and 10% strongly agrees that available of IFMIS system at working time and the rest of 27% are neutral. On the measurement of End-users commit to accept the implementation of the IFMIS most of them are neutral 44% and about 39.4% and 4.3% of respondents agree and strongly agree respectively and about 12% disagree.The above finding implies IFMIS project is efficient system in terms of time, accuracy, transparency and cost The questionnaires, depending on relevance, were categorized into six major groups: Management Commitment factors, ICT infrastructure factors, Human Capital Development factors, On-going Support activities factors, End-user commitment Factors and System admin Factors. Each questionnaire is presented and analysed under the specified groups, as described as in the following sections.

4.3.2 Management Commitment

Seven questions were designed to assess commitment of management at MoF for effective implementation of IFMIS.Table 4.3 summarizes the result of the response.

Table 4.3Management commitment

No	Management commitment.	SD	Ds	Nt	Ag	SA	Mean	S.D
1	Management at all level of the MoF, monitoring the progress in implementation of IFMIS project closely.	2(2.2)	17(18.3)	39(41.9)	33(35.5)	2(2.2)	3.17	0.829
2	The high-levelmanagement of MoF conducts regular monitoring and evaluation on the implementation of IFMIS.	6(6.5)	19(20)	35(38)	33(36)	-	3.02	0.909
3	There is a functional committee to monitor the overall Progress of the system.	3(3.2)	12(12.9)	32(34.4)	35(37.6)	11(11.8)	3.42	0.970
4	There is easily accessible functional, well established managerial system to deal with challenges encountered during implementation of IFMIS.	2(2.2)	15(16.1)	38(40.9)	29(31.2)	9(9.7)	3.30	0.930
5	MOF secures adequate financial resources to implement IFMIS effectively.	4(4.3)	7(7.5)	26(28)	44(47.3)	10(10.8)	3.54	0.946
6	The different directories and departments in MoF use IFMIS consistently and comfortably.		20(21.5)	28(30)	34(37)	11(12)	3.39	0.956
7	The IFMIS project offices promote the system to the different directories and departments in MoF and provide technical assistances as per their need	2(2.2)	9(10)	20(21.5)	48(51.6)	14(15)	3.68	0.923
						The overall average	3.362	

SD = strongly disagree Ds=disagree Nt=neutral Ag=Agreement SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

The majority of the respondents 2% and 33% are strongly agree andagree respectively that Management at all level of the MoF,monitoring the progress in implementation of IFMIS project closely while18% are disagree monitoring the progress in implementation of IFMIS project closely the rest are neutral. Based on the responses one can conclude that the top management of MoF are well monitoring the progress in implementation of IFMIS project and following major issues that the users are facing. The respondents of 38% areneutral aboutthe high level management of MOF conducts regular monitoring and evaluation on the implementation of IFMISand about36% are agreeand 7% and 20% are strongly disagree and disagree respectively. It is clear thatthe respondents were 12% and 38% are strongly agree and agree respectively there is a functional committee to monitor the overall Progress of the system, where as 13% are disagree and 3% are strongly disagree that a functional committee to monitor the overall Progress of the system and the rest of respondents are neutral .The majority of respondents were41% are neutral with that There is easily accessible functional, well established managerial system to deal with challenges encountered during implementation of IFMIS and 31% are agree and about 10% strongly agree and 2% and 16 % are strongly disagree and disagree respectively .A questionnaire was designed to determine whether there is adequate resource allocation to implement IFMIS the respondents replied that 11% and 48% arestronglyagree and agree respectively and about 28% are neutral and 4% are strongly disagree and 8% are disagree with the fact that there is enough resource allocation for the project. This shows that management of the organization allocates enough resources to implement IFMIS. The respondents were asked to know different directories and departments in MOF use IFMIS consistently and comfortablyabout 37% of the respondent agree and 12% are stronglyagree and the rest 22% of disagree upon different directories and departments in MOF use IFMIS consistently and comfortably same respondents also feel the questionnaire as neutral 30%. The response shows that different directories and departments in MOF have not a problem on regular use of IFMIS consistently. The majority of the respondents (62)67% agree thatthe IFMIS project offices promote the system to the different directories and departments in MoF and provide technical assistances as per their need; about (11) 12% of respondents disagree that IBEX/IFMIS project office promote the system to different directories and significant proportion of the respondents 20 (22%) prefer neutral position. As shown by a mean value 3.4 this showsthat respondentagree that there is adequate top management commitmentfor effective implementation of IFMIS.

4.3.3 ICT Infrastructure

Regarding the effect of the ICT infrastructure on implementation of IFMIS, seven questions were designed to measure commitment of management at MoF for effective implementation of IFMIS.

Table 4.4 ICT Infrastructure

No	ICT Infrastructure	SD	Ds	Nt	Ag	SA	Mean	SD
1	There is capable personal computer to work on IFMIS for all IFMIS staff.	-	6(6.5)	18(19)	47(51)	22(24)	3.91	0.830
2	There is good LAN and WAN connection to work on IFMIS.	-	4(4.3)	34(37)	41(44)	14(15)	3.70	0.777
3	There is active technical support from ICT department	-	6(6.5)	25(27)	40(43)	22(24)	3.84	0.863
4	The performance of IFMIS is good for concurrent access request.	-	6(6.5)	29(31)	49(53)	8(8.6)	3.64	0.735
5	The technical support staffs are capable of solving every issue related with ICT technical problems.	-	12(13)	18(19)	44(47)	15(16)	3.70	0.910
6	The power interruption affects my regular job on the application.	2(2.2)	17(18)	32(34.4)	42(45)	-	3.23	0.823
7	The IFMIS is user friendly when you compare with other system like IBEX	2(2.2)	32(34)	37(40)	16(17)	6(6.5)	2.91	0.928
						The overall average	3.549	

SD = strongly disagree Ds=disagree Nt=neutral Ag=agree SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

As outlined in Table 4.4, the respondents strongly agree and agree(24%, 51%) to the argument thatthere is capable personal computer to work on IFMIS for all IFMIS staff but 19% are neutral and 7% disagree. The above result shows as the users have their own personal computers and laptop with all needed application which they can access the application. Moreover, there is good

LAN and WAN connection to work on IFMIS which is provided for the IFMIS activity the respondents strongly agree and agree (15%, 44%) other 4% are disagree and 37% are neutral there is good LAN and WAN connection to work on IFMIS this show that adequate network infrastructure for the staff to use for IFMIS in the MoF.The respondents 24% and 43% are strongly agree and agree respectively thatProject office brings active technical support from ICT department and other 7% are disagree and 27% are neutral. To support IFMIS users have effect on the Successful implementation of IFMIS projects attained the respondent agreed and strongly agree (43%, 24%), 27%neutral and 7% disagree. The majority of the respondents 57(63%) are agree thatthe performance of IFMIS is good for concurrent access request, the technical support staffs are capable of solving every issue related with ICT technical problems but 19% are neutral and 13% are disagreeand the power interruption affects my regular job on the application the respondents are agree, neutral, disagree and strongly disagree with values of 45%, 34%, 18%, 2%respectively. However, the respondents of 40% are neutral about The IFMIS is user friendly when you compare with other system like IBEX, 34(36%) are disagree and 7% and 17% are strongly agree and agree respectively.This implies that the IFMIS is user friendly system has less frequently when you compare with other system like IBEX.The mean value has been calculated as 3.55 this shows that respondents agree that there is no shortage on ICT infrastructural availability in IFMIS project.

4.3.4 Human Capital Development

This section finding to describe what effect human capital factors had on the effectiveness of the implementation of IFMIS process.

Table 4.5 Human Capital Development

No	HUMANCAPITAL DEVELOPMENT	SD	Ds	Nt	Ag	SA	Mean	SD
1	MOF is implementing IFMIS project with well qualified and capable employees		5(5.4)	18(19)	53(57)	17(18.3)	3.88	0.764
2	The professionals working on IFMIS project have relevant academicbackground		5(5.4)	11(12)	47(51)	30(32.3)	4.10	0.808
3	I got training on IFMIS project training modules relevant to my current position	6(7)	3(3.2)	18(19)	56(60)	10(11)	3.66	0.950
4	I am satisfied by the payment and incentive related to IFMIS project.	9(10)	15(16)	44(44)	27(29)	1(1.1)	2.96	0.943
						The overall average	3.648	

SD = strongly disagree Ds=disagree Nt=neutral Ag=agree SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

Regarding the statement that MOF is implementing IFMIS project with well qualified and capable employees, 57% agreed and 18% strongly agreed, 5.4% of respondents disagreed and 9.4% of respondents were neutral. Majority of respondents agree and strongly agree (51%, 32.3%)that IFMIS project have relevant academicbackground. other 5.4% are disagree and 12% are neutral thatthe professionals working on IFMIS project have relevant academicbackground.

About 60% of respondents agreed and 11% are strongly agree to the claim while 3.2% disagreed and 7% strongly disagreed and 19% are neutral that participation and clear understanding of that I got training on IFMIS project training modules relevant to my current position. Finally, the researcher asked question that the payment and incentive related to IFMIS project are satisfied respondent 16% disagree and 10% are strongly disagree and 29% respondents Agree that I am satisfied by the payment and incentive related to IFMIS projectand the remaining respondent

which is 44% are neutral. In general, the mean value of 3.65 shows that there is no difficulty in human capital development.

4.3.5 On-Going Supports Activities

Seven questions were designed to assess On-going support activities at MoF for effective implementation of IFMIS.Table 4.6 summarizes the result of the response.

Table 4.6On-Going Supports Activities

No	ON-GOING SUPPORTS ACTIVITIES	SD	Ds	Nt	Ag	SA	Mean	SD
1	IFMIS support staffs are committed to fix functional issues within reasonable time.	2(2.2)	17(18.3)	23(25)	47(51)	4(4.3)	3.37	0.906
2	IFMIS support staffs are aware of to inform users about issues and the given solutions.	10(11)	10(11)	32(34.4)	32(34.4)	9(9.7)	3.22	1.112
3	Issue logging and communication system with IFMIS support staffs is automated.	11(12)	18(16)	26(28)	33(36)	8(7)	3.13	1.154
4	There is adequate number of IFMIS support staff to cover all support issues.	2(2)	25(27)	40(43)	24(26)	2(2)	2.99	0.840
5	IFMIS support staffs are available at any work time.	10(11)	27(29)	29(31)	18(19)	9(10)	2.88	1.141
6	IFMIS support staffs have good communication with end –user and management.	6(7)	18(19)	24(26)	37(40)	8(7)	3.25	1.070
7	IFMIS support staffs have system/application to manage the issue with end-user.	3(3)	8(9)	29(31)	46(50)	7(8)	3.49	0.880
The overall average							3.189	

SD = strongly disagree Ds=disagree Nt=neutral Ag=agree SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

From Table 4.6, the respondents agree and strongly agree(51%, 4.3%) to the argument thatIFMIS support staffs are committed to fix functional issues within reasonable time but 25% are neutral and 18.3% are disagree and 2.2% are strongly disagree . The above result shows as IFMIS support staffs are committed to fix functional issues within reasonable time. Moreover, IFMIS support staffs are aware of to inform users about issues and the given solutions.the respondents strongly agree and agree (9.7%, 34.4%) others equalamount of respondent 11%,11% disagree and 34.4% are neutral. This shows that respondents are neutral and agree IFMIS support staffs are aware of to inform users about issues and the given solutions. The majority of the respondents 7% and 36% are strongly agree and agree respectively that issue logging and communication system with IFMIS support staffs is automated and other 16% are disagree and 12% strongly disagree and 28% are neutral. There is adequate number of IFMIS support staff to cover all support issues the respondent agreed and strongly agree (26%, 2%), 43% are neutral and 27% disagree. the respondents agree and strongly agree (19%, 10%) to the argument thatIFMIS support staffs are available at any work time but the majority of the respondents 31% are neutral and 29% are disagree and 11% are strongly disagree. IFMIS support staffs have good communication with end user and management are agree, strongly agree, neutral, disagree and strongly disagree with values of 40%,7%,26%19%,7%respectively. However, the respondents of 31% are neutral about TheIFMIS support staffs have system/application to manage the issue with end-user, 9% are disagree ,3% strongly disagree and 8% and 46% are strongly agree and agree respectively.As shown by a mean value 3.2 this show that respondent neutral that on-going support has been properly.

4.3.6 End-user commitment

This section finding to describe what effect end-user commitment factors had on the effectiveness of the implementation of IFMIS process.

Table 4.7 End-user commitment

No	END-USER COMMITMENT	SD	Ds	Nt	Ag	SA	Mean	SD
1	End-users have active awareness of IFMIS system.	2(2)	22(24)	35(38)	32(34)	2(2)	3.11	0.866
2	End-users are greatly worked on to reduce change resistance.	-	22(24)	33(36)	32(34)	6(7)	3.24	0.890
3	End-users have a dedication to identify and report issues immediately	-	25(27)	27(30)	38(41)	3(3)	3.20	0.879
4	End-users have active communication with IBEX/IFMIS project office.	1(1)	10(11)	34(37)	40(43)	8(7)	3.47	0.842
5	End-users of IFMIS are familiarized with other system before the IFMIS system.	16(17)	6(7)	28(30)	37(40)	6(7)	3.12	1.187
The overall average							3.228	

SD = strongly disagree Ds=disagree Nt=neutral Ag=agree SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

Regarding the statement that End-users have active awareness of IFMIS system 34% agreed and 2% strongly agreed, 24% of respondents disagreed and 38% of respondents were neutral. Majority of respondents agree and strongly agree (34%, 7%)thatEnd-users are greatly worked on to reduce change resistance. other 24% are disagree and 36% are neutral thatEnd-users are greatly worked on to reduce change resistance. About 41% of respondents agreed and 3% are strongly agree and 27% disagreed and 30% are neutral thatEnd-users have a dedication to identify and report issues immediately. The respondents agree and strongly agree (43%, 7%) to the argument End-users have active communication with IBEX/IFMIS project office but 37% are neutral and 11% are disagree and 1% are strongly disagree. Finally, the researcher asked

question that the End-users of IFMIS are familiarized with other system before the IFMIS system. Respondent 17% strongly disagree and 7% disagree and 30% respondents' neutral and 40% agree and 7% strongly agree.As shown by a mean value 3.2 this show that respondent neutral that end-user commitment.

4.3.7 System Admin

Nine questions were designed to assess system admin support activities at MoF for effective implementation of IFMIS.Table 4.8 summarizes the result of the response.

Table 4.8 System Admin

No	SYSTEM ADMIN	SD	Ds	Nt	Ag	SA	Mean	SD
1	The system offer timely information to support Decision making	-	19(20)	25(27)	40(43)	9(10)	3.42	0.925
2	The system provides accurate information.	-	8(9)	27(29)	42(45)	16(17)	3.71	0.854
3	The system allows performing the tasks with little stuff compare to the pre implementation.	-	6(7)	28(30)	52(56)	5(5)	3.62	0.696
4	IFMIS promote good governance and accountability for users	-	3(3)	28(30)	48(52)	14(15)	3.78	0.735
5	IFMIS reduces bureaucracy in financial process.	-	1(1)	27(29)	53(57)	12(13)	3.82	0.658
6	IFMIS improve service delivery to the customer.	-	12(13)	13(14)	52(56)	16(17)	3.77	0.886
7	IFMIS has reduced operating cost by reducing administrative cost.	-	7(8)	39(42)	42(45)	5(5)	3.48	0.716
8	IFMIS has reduced civil servant work load	-	15(16)	31(33)	38(41)	9(10)	3.44	0.878
9	IFMIS enhances the quality of service	-	1(1)	15(16)	58(62)	19(20)	4.02	0.642
						The overall average	3.6557	

SD = strongly disagree Ds=disagree Nt=neutral Ag=agree SA=strongly agree S.D=standard deviation

Source: Survey Data Analysis (2021), SPSS 25

The finding as shown in table 4.8 illustrated that respondents agree and strongly agree (40%,10%) that The system offer timely information to support Decision making but 20% are disagree and the rest are neutral. About 45 %and 17% of respondents agreed and strongly agreed respectively to the system provide accurateinformation, 9% of respondents disagree, and 29% of them were neutral. On measurement of the system allows performing the tasks with little stuff compare to the pre implementation about 56%, 5% strongly agree and agree respectively and 30% are neutral and 7% disagree.Most respondent (58%, 15%) are agree and strongly agree respectively that IFMIS promote good governance and accountability for users and 30% are neutralthis shows that IFMIS promote good governance for user.The respondents strongly agree and agree (13%, 57%) to the argument thatIFMIS reduces bureaucracy in financial process but 29% neutral and 2% disagree. The above result shows as the users have the argument thatIFMIS reduces bureaucracy in financial process. Moreover, IFMIS improve service delivery to the customerwhich is provided for the IFMIS activity the respondents strongly agree and agree (17%, 56%) other 13% are disagree and 14% are neutral. The majority of the respondents 45% and 5% are agreeand stronglyagree respectively thatIFMIS has reduced operating cost by reducing administrative costand other 8% are disagree and 42% are neutral.IFMIS has reduced civil servant work loadthe respondent agreed and strongly agree (41%, 10%), 33%neutral and 16% disagree.Finally, the researcher asked question that the IFMIS enhances the quality of service 62% agree and 20% are strongly agree and the remaining respondent which is 16% are neutral. The above finding of mean and standard deviation shows that there is adequate system administration support on availability in IFMIS project.

4.4 Correlation Analysis

According (Marczyk, Dematteo and Festinger, 2005) Correlations are perhaps the most basic and most useful measure of association between two or more variables. This study employs correlation analysis, which investigates the strength of the relationships between the studied variables.

Table 4.9 Correlation Analysis

Correlations								
		SuccessofIFMIS	ManagementCommitment	ICTinfrastructure	Humancapital	On-goingsupport	EnduserCommitment	SystemAdminSupport
SuccessofIFMIS	Pearson Correlation	1	.415**	.547**	.207*	.626**	.600**	.337**
	Sig. (2-tailed)		.000	.000	.047	.000	.000	.001
	N	93	91	88	93	93	93	91
ManagementCommitment	Pearson Correlation	.415**	1	.416**	.372**	.402**	.187	.165
	Sig. (2-tailed)	.000		.000	.000	.000	.077	.122
	N	91	91	88	91	91	91	89
ICTinfrastructure	Pearson Correlation	.547**	.416**	1	.370**	.537**	.438**	.310**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.004
	N	88	88	88	88	88	88	86
Humancapital	Pearson Correlation	.207*	.372**	.370**	1	.106	-.192	-.313**
	Sig. (2-tailed)	.047	.000	.000		.313	.066	.003
	N	93	91	88	93	93	93	91
On-goingsupport	Pearson Correlation	.626**	.402**	.537**	.106	1	.673**	.405**
	Sig. (2-tailed)	.000	.000	.000	.313		.000	.000
	N	93	91	88	93	93	93	91
EnduserCommitment	Pearson Correlation	.600**	.187	.438**	-.192	.673**	1	.495**
	Sig. (2-tailed)	.000	.077	.000	.066	.000		.000
	N	93	91	88	93	93	93	91
SystemAdminSupport	Pearson Correlation	.337**	.165	.310**	-.313**	.405**	.495**	1
	Sig. (2-tailed)	.001	.122	.004	.003	.000	.000	
	N	91	89	86	91	91	91	91

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

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

Source: Survey Data Analysis (2021), SPSS 25.0

From Table 4.9 above, the study shows that there waspositive relationship between the success implementations of IFMIS System Admin Support, Management Commitment, ICT infrastructure, End user Commitment, On-going supportbuthuman capital a correlation coefficient of 0.27 and a 95% precision level. The correlation was statistically significant since it had a P- Value < 0.005 at 0.47.End-user commitment and system had correlation coefficient of 0.187 and 0.165 respectively a 95% precision level. The correlation was statistically significant since it had a P< 0.05 at 0.07 and 0.122.In general, therewere positive correlations between the success implementations of IFMIS with System Admin Support, Management Commitment, ICT infrastructure, End user Commitment, human capital, On-going support.

4.5 Multiple Regression Analysis

In this study multiple regression analysis was employed to study the effect of System Admin Support, Management Commitment, ICT infrastructure, End user Commitment, human capital, On-going support on Effective implementations of IFMIS. Multiple linear regressions are the most common form of linear regression analysis.

Regression model, basically, specifies the relation of dependent variable (Y) to a function combination of independent variables (X) and unknown parameters (β)

$$\boldsymbol{y = \beta 1 x 1 + \beta 2 x 2 + \beta 3 x 3 + \beta 4 x 4 + \beta 5 x 5 + \beta 6 x 6}$$

The predicted Model

$$\hat{Y} = b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + + b_5 x_5 + b_6 x_6 + \epsilon$$

Where:

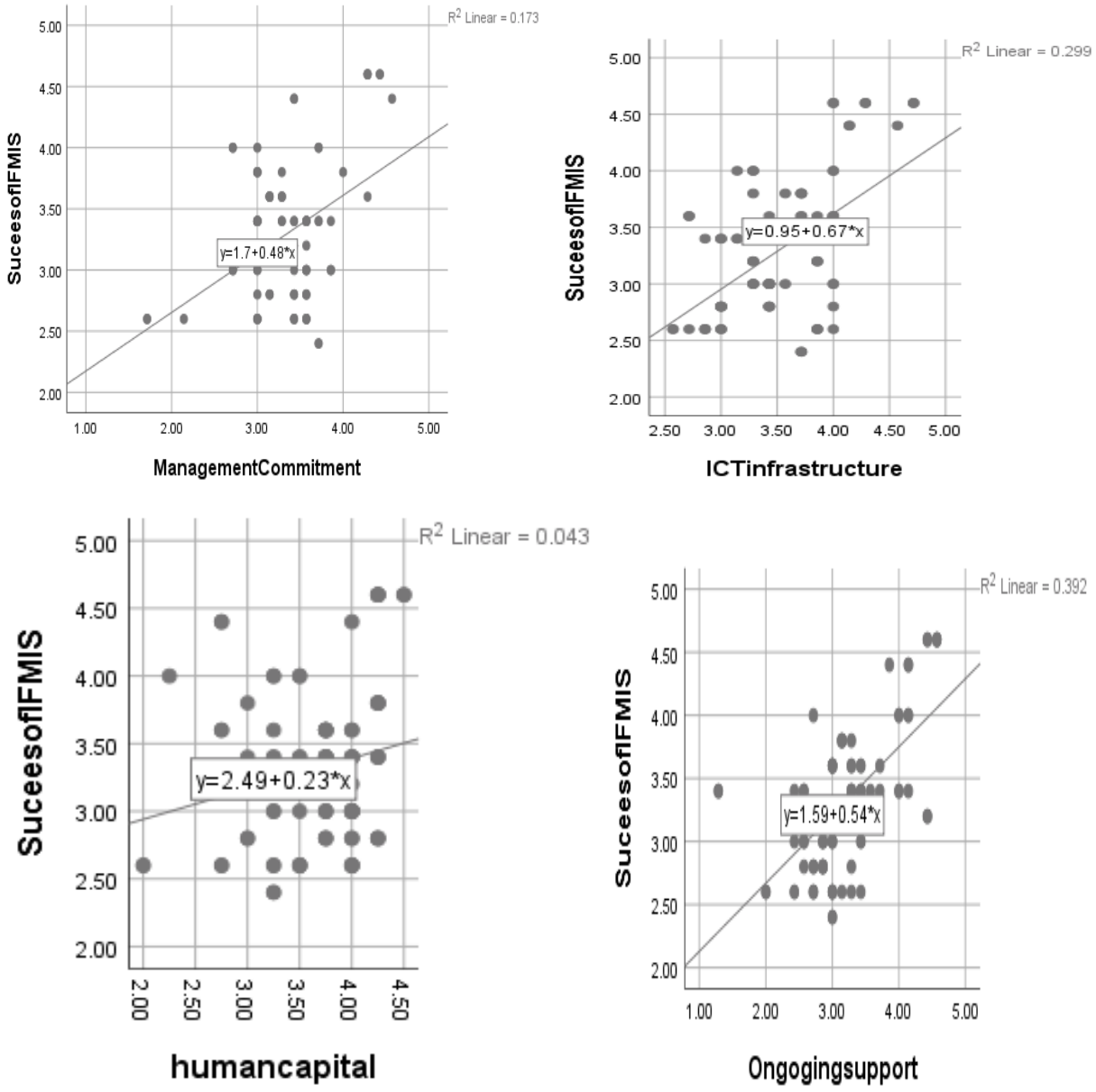
Y= Effective implementations of IFMIS, *X1*= Management Commitment

X2=ICT infrastructure, *X3*= Human Capital, *X4*=On-going support

X5= End user Commitment, *X6*= System admin support

Figure 4.1: A scatter plot of effective implementation of IFMIS with the Independent Variable

First assumption multiple linear regressions require the relationship between the independent and dependent variables to be linear. The linearity assumption can best be tested with scatter plots.



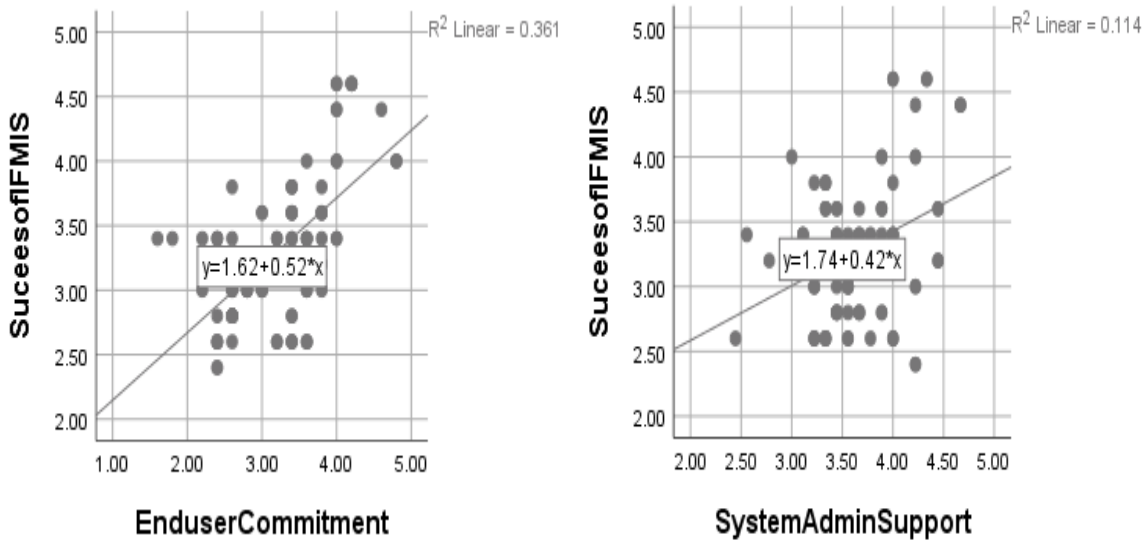
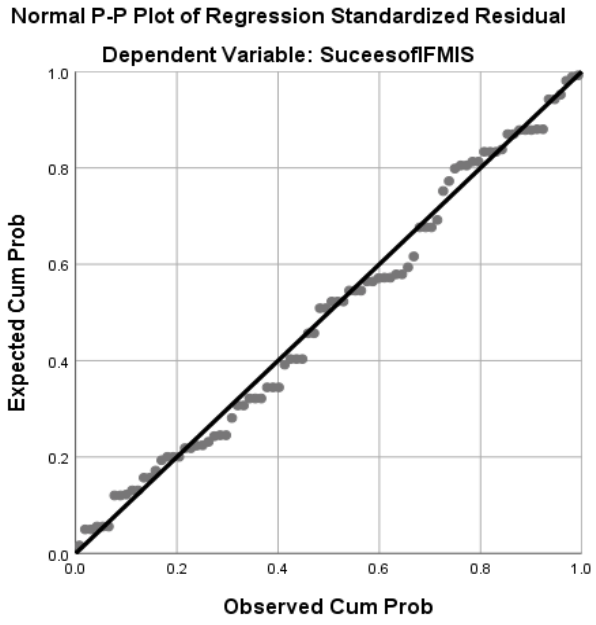
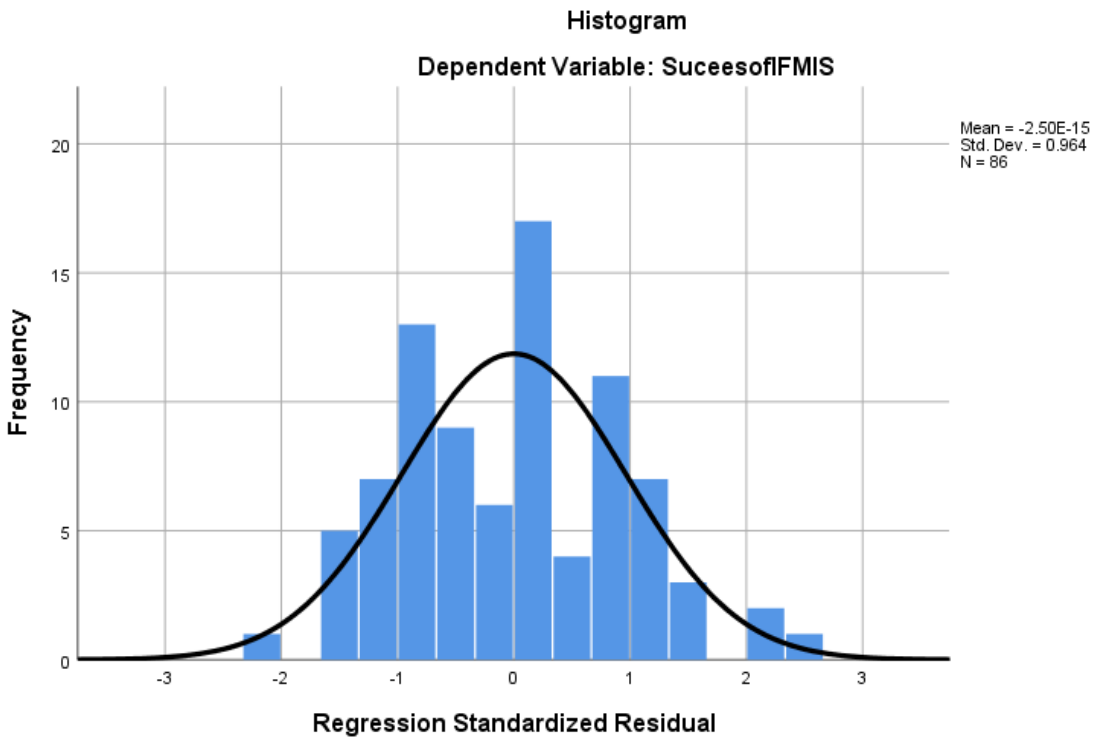
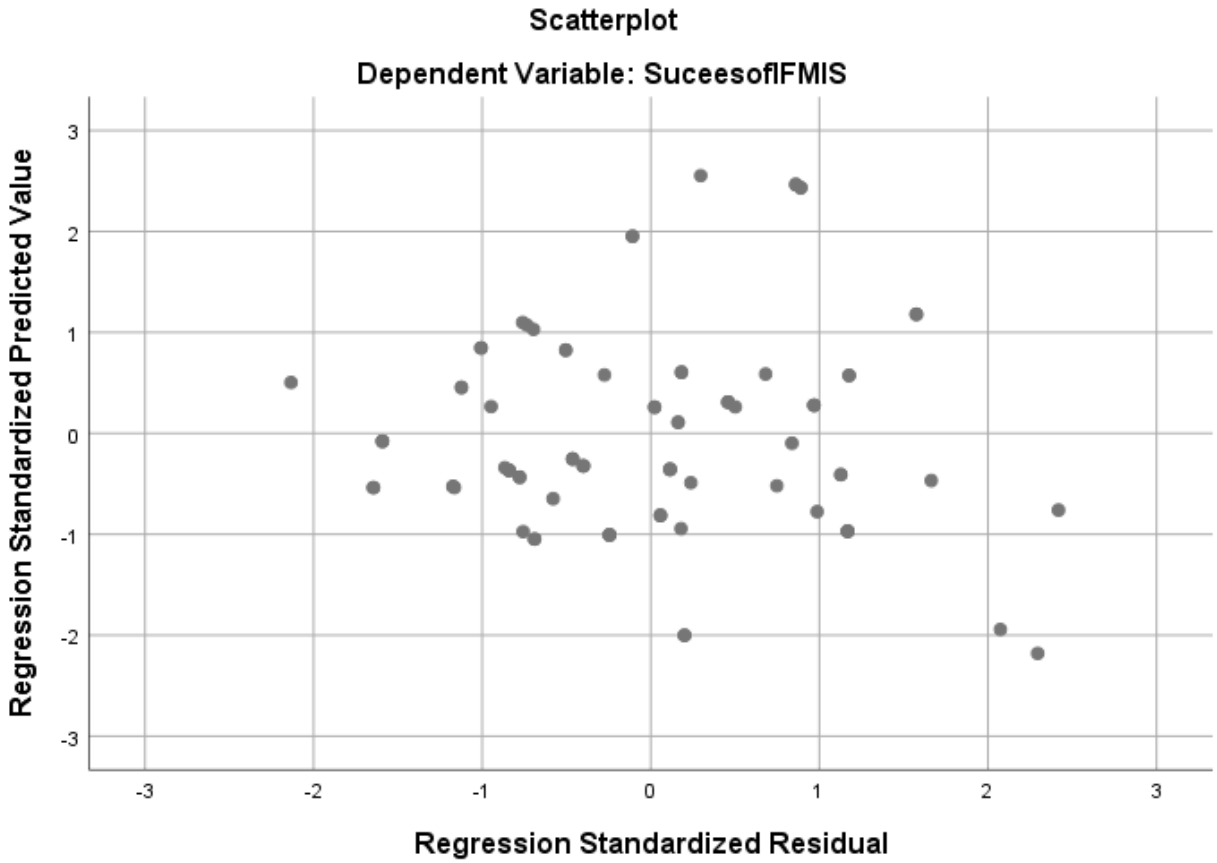


Figure 4.2: A histogram, P-P plots and Q-Q plots on the residual of regression




Histogram
Dependent Variable: SuceesofIFMIS
Mean = -2.50E-15
Std. Dev. = 0.964
N = 86
Frequency
Regression Standardized Residual


Scatterplot
Dependent Variable: SuceesofIFMIS
Regression Standardized Predicted Value
Regression Standardized Residual

Model Summary

The following table presents the results of multiple regressions analysis. Here the squared multiple correlation coefficients (R^2) which tells the level of variance in the dependent variable (Effective implementations of IFMIS) that is explained by the model.

Table 4.10 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695[a]	.483	.444	.41488

Source: Survey Data Analysis (2021), SPSS 25

a. Predictors: (Constant), SystemAdminSupport, ManagementCommitment, ICTinfrastructure, EnduserCommitment, humancapital, On-goingsupport

b. Dependent Variable: SuccessofIFMIS

The results of multiple regressions, as presented in table 4.10, above, the adjusted R^2 of 0.444 indicates 44.4% of the variation in Success implementations of IFMIS can be explained (predicted) by the System Admin Support, Management Commitment, ICT infrastructure, End user Commitment, human capital, On-going supportand the remaining 55.6% of the variation of Effective implementations of IFMIS that can be explained by other variables.

Table 4.11 ANOVA

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.695	6	2.116	12.292	.000[b]
	Residual	13.598	79	.172		
	Total	26.293	85			

Source: Survey Data Analysis (2021), SPSS 25

a. Dependent Variable: Success of IFMIS

b. Predictors: (Constant), System Admin Support, Management Commitment, ICT infrastructure, End user Commitment, human capital, On-going support

From the table 4.11, show that accepting at least one of theSystem Admin Support, Management Commitment, ICT infrastructure, End user Commitment, human capital, On-going support had a significant influence on the implementations of IFMIS that can be explained by another variable. The F-stat is 12.292 with a p-value of 0.000 less than (<) the implication value of 0.005.

Coefficients

Regression coefficients informationshows the unstandardized beta coefficients, which tell us the unique contribution of each factor to the model. A high beta value and a small p value (<0.05) indicate the predictor variable has made a significance statistical contribution to the model.On the other hand, a small beta value and a high p value (p >0.05) indicate the predictor variable has little or no significant contribution to the model.

Table 4.12 Regression Coefficients

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-.007	.642		-.011	.000
	ManagementCommitment	.145	.106	.130	1.365	.176
	ICTinfrastructure	.206	.134	.177	1.546	.002
	Humancapital	.130	.123	.125	1.055	.295
	On -goingsupport	.167	.101	.199	1.655	.042
	EnduserCommitment	.297	.104	.353	2.845	.004
	SystemAdminSupport	.036	.138	.028	.257	.798

a. Dependent Variable: SuccessofIFMIS

Source: Survey Data Analysis (2021), SPSS 25

From the above regression model in Table 4.12, holding all the factors constant implementation of IFMIS in MoF organization would be 0.007. The study found that ICT Infrastructure and On-going support and End user commitment, have a significant positive influence on Effective implementations of IFMIS at 95% confidence level, since their p-values (0.002, 0.042 and0.004

for ICTinfrastructure, On-going support and End user commitment responsiveness) less than the significance level 0.05. But Management commitment,Human capital and System admin support factor areinsignificant contribution to Effective implementations of IFMIS at 95% confidence level, because their p-values 0.176 ,0.295 and 0.778 respectively greater than the significance level 0.05. The significant and insignificance factor extent to which resistance affects effective use of IFMIS have been included for the establishment of the function. Extent to which resistance and sabotage affects effective use of IFMIS =0.007 + 0.145 management commitment + .206 ICT infrastructure + 0.130Human capital + 0.167 On-going support + 0.297 End user commitment + 0.036 System admin support.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

The study determines Factors affecting effective implementation of Integrated Financial Management Information System (IFMIS) in the Ministry of finance (MoF).This chapter discusses conclusions of the key findings which arose out of the study and pass possible and recommendations as remedies to improve the existing and observable potential hurdles.

5.2 Conclusions

As it has been indicated earlier in the previous chapters, the main objective of this study is illustrate the Factors affecting effective implementation of Integrated Financial Management Information System (IFMIS) in the Ministry of finance (MoF). Due to this the researcher distributed questionnaires consisting 44 questions related to eight focus area to 98 respondents to analyze the factors affecting the implementations of IFMIS in MoF. Thus, from the questionnaires'' distributed to respondents, the researcher collects only 93 respondent's response and analyzed with descriptive statics using SPSS version 25. The analysis shows that the management commitment, human capital development, on-going support activity, end-users' commitment, ICT infrastructure, and system administration support are the main areas of the factors which are able to affect the effective implementation of IFMIS.

Based on the findings in the study the following conclusions can be drawn:

- Management is actively involved and supportive of the implementation process and assists & encourages employee in IFMIS adoption. In addition to this top Management at all level of the MoF, monitoring the progress in implementation of IFMIS project closely and about easily accessible functional, well established managerial system to deal with challenges encountered during implementation of IFMIS.

- The study noted there are adequate technological infrastructures required for the implementation of IFMIS in terms of software, hardware. However, there is system inconsistency due to telecommunication network and power interruption which affect their day to day tasks. Despite the problems, there is adequate support from technical team when there is system disconnection in the organization.

- Human capital development issues seem not to have been dealt with properly. Although, the project provides adequate and regular training on IFMIS, there are no regularly planned practical skills upgrading on IFMIS and there is high turnover andlow motivation to retain IFMIS trained staff.

- On-going support activity is the major factor which can determine the sustainability of the IFMIS in which determines the effectiveness of the implementation of IFMIS system. The result shows thatadequacy and availability of IFMIS support staff is questionable as respondents prefer neutral position about IFMIS support staffs are aware of to inform users about issues and adequate number of IFMIS support staff to cover all support issues. So, the implementation process is affected by these conditions.

- End user commitment is also the major determinant to make IFMIS system functional.The study finds out computer literacy and awareness are a big issue to make the implementation process successful.

- System admin support is another important factor for successful implementation of IFMIS. The finding shows there are adequate system administration supports in MoF but there is system inconsistency support due to little staff number of support. And also IFMIS promote good governance for user and also reduces bureaucracy in financial process this affect their day to day tasks. The finding implies that there is adequate system administration support from technical team when there is system disconnection and technical issues happen in the MoF.

5.3 Recommendations

In this section the researcher put recommendation standing from the study finding and the researcher conclusion. So, the study recommended that:

- It is important to know that management commitment is basic task for every project to deliver successfully so that MoF should facilitate motivational works and incentives to reduce the high turnover of IFMIS trained staffs.

- The above finding shows that the main factors in IFMIS implementation is ICT infrastructural challenge so that MoF should overlook the infrastructural and network connectivity issue by continuous fallow up with stakeholders like Ethiopian telecommunication, Ethiopian Electric corporation and INSA.

- The inadequacy number of system administration staff is the major factor and the project office need to increase the support staffs because of the proportion of support staff with end users will be decreased when there is new user joined the system. The availability of all support staff is also one challenge that the respondents try to describe. Thus, onsite support and central support structure must be redesigned to satisfy the end-users support demand

- There should be strong leadership on promoting IFMIS at the ministerial or directorial level is vital to push its implementation forward. Top management of the organization must know the benefit of IFMIS and promote the system to their end user in order to find accurate data for their decision making purpose.

6 REFERENCES

Abdu Muhammad (Corresponding author) Government Expenditure Management and Control in EthiopiaEthiopian Civil Service University, School of Graduate Studies Addis Ababa, Ethiopia.

AlemayehuGeda and DawitBirhanu (2011), Spending without Proper planning: Why Ethiopian Agriculture is not Growing Despite High Public Spending in the Sector by Africa Standard, A Macro Perspective. IAES Working Paper Serious NO. A10/2011.

Baloyi, M.R., 2011, "Address by the Minister for Public Service and Administration," The Integrated Financial Management System (IFMS) Human Resource (HR),.http://www.info.gov.za/speech/DynamicAction? Pageid=461&Sid=17409&tid=3100 4.Balthazard, A. P. and Cooke, A. R. (2004). "Organizational Culture and Knowledge Management Success: Assessing the Behavior-Performance Continuum." In: Proceedings of the 37th Hawaii International Conference on Systems Sciences, 2004.

Barrett, M. and Walsham, G. (1999) "Electronic trading and work transformation in the London Insurance Market." Information Systems Research 10 (1): 1-21.

Bassi, L. (1997)."Harnessing the power of intellectual capital.In J."Cortada& J. Woods (Eds.), the Knowledge Management Yearbook 1999-2000. Ameen

C.R Kothari. (2004). Research Methodology, Methods and Techniques

Channel One Programs Coordinating Unit (COPCU) PROMOTING BASIC SERVICES PROGRAM - PHASE III PROGRAM OPERATIONAL MANUAL (POM) December, 2012 GOVERNMENT OF THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA Ministry Of Finance And Economic Development.

Creswell, J. W. (2003). Educational research: Planning, conducting, and evaluating quantitative. Prentice Hall.

Diamantopoulos A &Schlegelmilch BB. 2004. Taking the fear out of data analysis. London: Thomson.

Diamond, J. and Khemani, P. (2005 & 2006).Introducing Financial Management Information Systems in Developing Countries. IMF Working Paper, Fiscal Affairs Department, WP/05/196

Elfano, O. F., Peninah, A., & Sarah, C. (2014).Integrated Financial Management Information System and Its Effect on Cash Management in Eldoret West District Treasury, Kenya.International Journal of Business and Social Science, 5(8).

ICPAK, (2014). A Baseline Survey on Devolution in Kenya with Respect to Public Financial Management Systems – One year on, ICPAK ISBN No. 978-9966-1808-0-3

International Monetary Fund.(2005), World Economic Outlook. Washington, DC.

Joppe, M. (2000). The Research Process: Tests and Questionnaires. Quantitative Applications in the Social Sciences (pp. 211--236).

Joslin, R., Müller, R. (2015). Relationships between a Project Management Methodology and Project Success in Different Project Governance Contexts. International Journal of Project Management

Kimwele, J. (2011). Factors Affecting Effective Implementation of Integrated Financial ManagementInformation Systems in Government Ministries in Kenya. Unpublished Dissertation, University of Nairobi

Kimwele, J.(2011).Factors Affecting EffectiveImplementation of Integrated Financial ManagementInformation Systems in Government Ministries in Kenya. Unpublished Dissertation, University of Nairobi

Leedy PD &Ormrod JE. 2005. Practical research: planning and design (8th edition).Upper Saddle River, NJ: Pearson.

Miheso, S. (2013).Adoption of Integrated Financial Management Information Systems by National Government in Kenya. Unpublished Dissertation, University of Nairobi

Mugenda, A. G., & Mugenda, O. M. (1999): Research methods: Quantitative & Qualitative approaches; Addis Ababa, ACTS press. Kenya Nairobi.

Murphy, P. (2004).Road map for implementation of an integrated financial management (Accrual based system in a developing country environment (mimeo)

OECD (2001). The hidden threat to E-Government: Avoiding large government IT failures. PUMA Policy Brief No.8.

Mwakio, B. (2015). Challenges Facing County Governments in the Implementation of IFMIS: Case of Taita Taveta County, IJRCM, Vol 5 No. 14

Mwakio, B. (2015). Challenges Facing County Governments in the Implementation of IFMIS: Case of Taita Taveta County, IJRCM, Vol 5 No. 14

Paper Prepared for the World Bank and CABRI Conference on Budget Management and Public Financial Accountability Pretoria, South Africa June 18-21, 2007 page 8-20.

Saurin, T. A.,Wachs, P., &Henriqson, É. (2013). RETRACTED: Identification of nontechnical skills from the resilience engineering perspective: A case study of an electricity distributor. Safety science

Saurin, T. A.,Wachs, P., &Henriqson, É. (2013). RETRACTED: Identification of non-technical skills from the resilience engineering perspective: A case study of an electricity distributor. Safety science, 51(1), 37-48.

Stephen Peterson (2007, Harvard University) "Imperfect Systems IFMISs in Africa" Page 7-21.

Umble, E. J.,Haft, R. R., & Umble, M. M. (2003). Enterprise Resource Planning: Implementation Procedures and Critical Success Factors. European Journal of Operational Research,146, 241-257 36. Joslin, R., Müller, R. (2015). Relationships between a Project Management Methodology and Project Success in Different Project Governance Contexts. International Journal of Project Management

Waruinge, S.M. (2008).Factors for IFMIS success in developing countries.Unpublished master's desertion, University of Addis Ababa.

World Bank (2004).The World Bank Annual Report 2003. Washington DC: World Bank.Brar, P. (2010). IFMIS in Africa: Some key issues.

ANNEX– I QUESTIONNARIE

Dear Respondents, this questionnaire is designed to study/gather data aboutFactors affecting effective implementation of integrated Financial Management Information System (IFMIS) in Ministry of finance (MOF). All responses will be used to conduct a study for the partial fulfillment of the requirements for the Degree of MBA in Business Administration. Knowing that the data obtained will be used for academic purpose you are kindly requested to reflect your genuine opinion. I want to assure you that your responses are kept confidential and the output is generated in aggregate terms, where anonymity of respondents is maintained. For this purpose, there is no need to write your names.

Thank you for your cooperation!

Any question concerning this research can be directed using below address

AntenehTeklu Cell phone- +2519780634

Email address- anteneh.teklu@aau.edu.et,antex78@gmail.com

PARTI: GENERAL INFORMATION

Please put tick mark (x) in the box in front of the choice that suits you.

Section A: PERSONALINFORMATION

1. **Sex:** Male ☐ Female ☐
2. **Age:** 20-30 ☐ 31-40 ☐ 41-50 ☐ Above 51 ☐
3. **Educational Background:**

   Graduate degree (Master's degree) or above ☐

   Undergraduate degree (Bachelor's degree) Diploma or less ☐
4. **What is your job level?**

   Top management ☐ Middle Level ☐ Supervisor ☐ Operative ☐
5. **Years of experience in ministry of financeorganization (In years):**

   Less than 2 years ☐ 3-10 ☐ 11-15 ☐ above 16 ☐
6. **Department:** IBEX/IFMIS project ☐ Finance ☐ Human resources ☐

   Procurement ☐ Property administrator ☐
7. **How frequently do you use IFMIS as part of your work?**

   Daily ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Annually ☐

PARTII: FUCTIONAL INFORMATION

SECTION A: MANAGEMENT COMMITMENT

No	Management commitment	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Management at all level of the MOF,monitoring the progress in implementation of IFMIS project closely.					
2	The high level management of MOF conducts regular monitoring and evaluation on the implementation of IFMIS.					
3	There is a functional committee to monitor the overall Progress of the system.					
4	There is easily accessible functional, well established managerial system to deal with challenges encountered during implementation of IFMIS.					
5	MOF secures adequate financial resources to implement IFMIS effectively.					
6	The different directories and departments in MOF use IFMIS consistently and comfortably.					
7	The IFMIS project offices promote the system to the different directories and departments in MOF and provide technical assistances as per their need					

SECTION B: ICT INFRASTRUCTURE

No	ICT Infrastructure	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
8	There is capable personal computer to work on IFMIS for all IFMIS staff.					
9	There is good LAN and WAN connection to work on IFMIS.					
10	There is active technical support from ICT department					
11	The performance of IFMIS is good for concurrent access request.					
12	The technical support staffs are capable of solving every issue related with ICT technical problems.					
13	The power interruption affects my regular job on the application.					
14	The IFMIS is user friendly when u compare with other system like IBEX					

SECTION C: HUMAN CAPITAL

The human capital factors on the success implementation of Integrated Financial Management Information System (IFMIS).

No	HUMAN CAPITALDEVELOPMENT	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
15	MOF is implementing IFMIS project with well qualified and capable employees					
16	The professionals working on IFMIS project have relevant academicbackground					
17	I got training on IFMIS project training modules relevant to my current position					
18	I am satisfied by the payment and incentive related to IFMIS project.					

SECTION D: ON-GOING SUPPORTS ACTIVITIES FOR IFMIS IMPLEMENTATION.

No	ON-GOING SUPPORTS ACTIVITIES	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
19	IFMIS support staffs are committed to fix functional issues within reasonable time.					
20	IFMIS support staffs are aware of to inform users about issues and the given solutions.					
21	Issue logging and communication system with IFMIS support staffs is automated.					
22	There is adequate number of IFMIS support staff to cover all support issues.					
23	IFMIS support staffs are available at any work time.					
24	IFMIS support staffs have good communication with end –user and management.					
25	IFMIS support staffs have system/application to manage the issue with end-user.					

SECTION E: END-USER COMMITMENT FOR IFMIS IMPLEMENTATION

No	END-USER COMMITMENT	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
26	End-users have active awareness of IFMIS system.					
27	End-users are greatly worked on to reduce change resistance.					
29	End-users have a dedication to identify and report issues immediately					
30	End-users have active communication with IBEX/IFMIS project office.					
31	End-users of IFMIS are familiarized with other system before the IFMIS system.					

SECTION F: SYSTEM ADMINISTRATOR

No	SYSTEM ADMIN	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
32	The system offer timely information to support Decision making					
33	The system provides accurate information.					
34	The system allows performing the tasks with little stuff compare to the pre implementation.					
35	IFMIS promote good governance and accountability for users					
36	IFMIS reduces bureaucracy in financial process.					
37	IFMIS improve service delivery to the customer.					
38	IFMIS has reduced operating cost by reducing administrative cost.					
39	IFMIS has reduced civil servant work load					
40	IFMIS enhances the quality of service					

SECTION G: SUCCESS OF IMPLEMENTATION OF IFMIS

No	SUCCESS OF IMPLEMENTATION OF IFMIS	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
41	IFMIS is available all working time.					
42	The training is held in the proper order and level of trainees understanding.					
43	End-users have active participation of the implementation of IFMIS.					
44	Management has commitment to implement the IFMIS.					
45	End-users have commitment to accept implementation of the IFMIS.					

PART III: RESPONDENT PERCEPTION

SECTION A: OVERALL FEEDBACK FOR IFMIS IMPLEMENTATION

1 What is your overall view due to the implementation of IFMIS?

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2 Do you think that IFMIS is supportive financial tool for Ethiopia?

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_____

3 What is your overall opinion due to the sustainability of IFMIS?

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Thank you very much for your time and kindness