

UNIVERSITY OF CAPE COAST

ASSESSMENT OF THE IMPLEMENTATION OF INTEGRATED
FINANCIAL MANAGEMENT INFORMATION SYSTEM ON
FINANCIAL ACCOUNTABILITY AMONG MUNICIPAL AND
DISTRICT ASSEMBLIES IN THE VOLTA REGION OF GHANA

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BY

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: Date:

Candidate's Name: DORA ADJOA ATTIOGBE

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis we supervised is in accordance with the guide lines on the supervision of the thesis laid down by the University of Cape Coast.

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ABSTRACT

The appalling financial management systems across all public organizations are the major setbacks influencing the economy. Ghana Integrated Financial Management Information System (GIFMIS) is an information system that monitors and summarizes financial information on financial transactions. This study sought to assess the implementation of GIFMIS on government financial operations in relation to the management of public funds in MMDAs and the vital role it plays on financial accountability. The study adopted a quantitative approach, descriptive survey design and employed a regression analysis to determine the impact of GIFMIS on accountability. The findings from the study of a sample size of 316 indicated that, there is a negative relationship between implementation process and accountability. The study further revealed that, there is a significant positive relationship between implementation structures and accountability as well as a positive significant relationship between factors influencing GIFMIS implementation and accountability. With reference to the findings, the study draws the following implications, that are useful to government and other stakeholders involve. To the Controller and Accountant, trainings should be organised for the users of the system especially on the chart of accounts so that it can be more user friendly. To the development partners, they should intensify their supervisory role and funding should made available to improve structures especially the network connectivity and the backup power. To the district assemblies, Factors Influencing GIFMIS: good organisational structure, organisational Values Political Support should be improved and strictly adhered to.

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DEDICATION

To my husband, Mr. Dominic Doe Ocloo, my mother, Mrs. Rubby Attiogbe

Alagbo and my father, Mr. Eugene Attiogbe

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LIST OF ACRONYMS

BPEMS	Budget and Public Expenditure Management System
CAGD	Controller and Accountant General's Department
CoA	Chart of Accounts
ERP	Economic Recovery Programme
EU	European Union
GIFMIS	Ghana Integrated Financial Management Information System
ICAG	Institute of Chartered Accountant (Ghana)
IFMIS	Integrated Financial Management Information System
IMF	International Monetary Fund
IPSAS	International Public Sector Accounting Standards
IS	Information System
IT	Information Technology
LDCs	Less Developed Countries
MDAs	Ministries, Departments and Agencies
MDAs	Municipal and District Assemblies
MMDAs	Metropolitan, Municipal and District Assemblies
MTEF	Medium Term Expenditure Framework
NITA	National Information Technology Agency
NPM	New Public Management
OECD	Organization for Economic Cooperation and Development
PDS	Power Distribution Service
PER	Public Expenditure Review
PFMA	Public Financial Management Act
PUFMARP	Public Financial Management Reform Programme

SAP	Structural Adjustment Programme
TAM	Technology Acceptance Model
TPCs	Transaction Processing Centres
TTT	Train the Trainers
TSA	Treasury Single Account
USAID	United States Agency for International Development

CHAPTER ONE

INTRODUCTION

Background to the Study

Globally, once governments use resources on behalf of the individuals they represent, an important aspect of public sector governance is the method of registering and accounting for the use of these funds (Chan, 2008). The appalling financial management systems across all public organizations are the major setback influencing the economy. All countries around the globe are looking for better living standards for their people by offering products and services in appropriate amounts and at reasonable rates. However, meeting these demands is becoming increasingly complex, owing to problems in organizing resources as well as the growing demand for products, works and services (Owoeye, 2014).

In 2011, the World Bank in a twenty-five years' operationalisation of Integrated Financial Management Information System (IFMIS) has intimated that, IFMIS is a group of electronic self-controlled solutions that help nations to plan, execute and control the budget by assisting to prioritize, execute and report expenditure as well as show ownership and report revenue generated.

It is perceived that, IFMIS solutions may lead to efficiency and fairness in government operations and help government to operate according to domestic regulation and international financial reporting standards. Further, the use of automated accounting methods and revenue mobilization help support the decentralization operations through centralized Web-based systems that provide accounting and other related solutions by giving room for a large number of authorized budget users at every level necessary. Good

budgeting and financial management rely on the following values: legitimacy, flexibility, predictability, honesty, transparency, accountability for promoting management efficiency and effectiveness, and extensive financial reporting.

To attain these objectives, well-functioning accounting and financial management systems are among the main pillars of governmental potentials to efficiently and effectively allocate and use funds (World Bank, 2011). A powerful financial management system is therefore the main pillars of economic growth and development. It ensures the generation of public funds, how such funds are spent efficiently, managed, and transparently by the government and its agencies.

Integrated Financial Management System (IFMIS) as an integrated software program has assisted in planning, budgeting accounting and financial reporting by government. IFMIS helps state institutions to document the relevant information on public funds. Through the use of IFMIS, state institutions can document all government revenue and expenditure, hardware, software, people and procedures are combined to form the information system. IFMIS is a financial management information system that tracks financial events and summarizes financial information (Edwin, 2008).

Ghana Integrated Financial Management Information System (GIFMIS) is an information system that monitors and summarizes financial information on financial transactions. It is more than an accounting system configured in its fundamental form to function in accordance with the requirements and the environment of the setting in which it is installed. It specifically relates to the computerization of the procedures of public financial management, from budget preparation and execution to accounting and

reporting with the assistance of an integrated financial management system for line ministries, spending agencies and other government sector activities (USAID, 2008).

The GIFMIS offers an integrated economic package to improve the efficiency and transparency of public resource management through the management of the computerization budget and the accounting system of government transactions. It is, therefore, viewed as a shift from the manual processing of significant financial transactions in the public sector to a centralized electronic platform. IFMIS is an information system, which monitors financial events and summarizes financial information (Hendriks, 2012). It promotes appropriate reporting of management, policy choices, fiduciary duties and the preparation of auditable financial reports (World Bank, 2011).

From the World Bank (2011), financial management systems that improve efficiency, transparency and accountability, timely data dissemination, income collection, maximizing payment and control of operations have become imminent. The desire of every country in the world is to have an efficient financial system. As a result, developing countries have invested heavily in information management systems in order to benefit from advances in information technology, which enables entities or organization to redefine business processes and develop new business models (Hoe, 2013).

The World Bank admittedly indicates that the implementation of a financial management information system is an arduous task; hence, its introduction requires significant resource allocation and huge human capacity building efforts. As a remedy, several reforms have been undertaken in many

countries over the years under distinct labels (New Public Management, Public Sector Reforms, Public Sector Management) targeting specific public sector sections. These reforms have become essential due to the pursuit of various governments to guarantee and improve the effectiveness of public sector agencies and the delivery of public service.

Most of the public sector reforms in developing countries have been achieved through projects supported by supranational institutions such as the International Monetary Fund (IMF), the World Bank and the European Union (EU). This is demonstrated by the important growth in the amount of the World Bank's initiatives with public sector reform extent. IFMIS is a complicated, high-risk undertaking, with many hazards beyond technology and functionality failures. These remarks are conceptual points in the literature. In a work by Chêne, (2009), it is intimated that the implementation of IFMIS has been highly demanding, particularly for low-and middle-income nations, by the World Bank's own account, and achievement has been patchy over the years.

Financial management reforms are at the core of many public sector Accounting. For instance, there have been several financial management reform programs, the medium-term expenditure framework, and an integrated financial management information system have been implemented in most developing countries. These reforms were implemented to form and improve government funds and resources' effectiveness and responsibility (Pretorius & Pretorius, 2008).

In sub-Saharan Africa, Ghana launched the first wave of public-sector reform programs in the mid-1970s, which then concentrated on restructuring

public-sector service delivery. Public service delivery reorganization is what is otherwise called the Structural Adjustment Programs (SAPs). The primary goal of the SAPs was to reduce government spending and stabilize macroeconomic problems such as balance of payments, fiscal deficits and higher inflation rates (Mwenda & Tangri, 2014; Kiragu, 2002). Structural Adjustment Programs (SAPs) were launched by the World Bank to direct most Least Develop Countries (LDCs), including Ghana, towards the principles of New Performance Management (NPM).

In a bid to ameliorate the financial management challenges confronting Ghana, the Economic Recovery Program (ERP) was introduced in the public sector in 1983 under the guidance of the World Bank and the International Monetary Fund (IMF). One challenge to this program was the information technology aspect that was reported to be complex and beyond the capacity of civil servants (Hendriks, 2012).

A number of reforms went alongside the ERP to ensure effective and efficient public sector financial management. For instance, the Ghana government launched the Public Financial Management Reform Program (PUFMARP) in 1995, which was an extensive medium-term strategic management framework to address the problems identified in the 1993 and 1994 Review of Public Expenditure Review (PER) program (Anipa, Kaluma & Muggeridge, 2003).

In 1999, the Ghana government introduced the Medium Term Expenditure Framework (MTEF) to address the weaknesses in the country's budgeting framework. The government has also implemented Budgeting and

Public Expenditure Management Systems (BPEMS) to aid in reforming budget formulation and execution, accounting and reporting

Ghana experienced significant difficulties in implementing the BPEMS program and therefore failed to enforce the BPEMS program efficiently. The inability to efficiently implement the BPEMS program has resulted in Ghana's Integrated Financial Management Information System (GIFMIS) being developed and introduced.

There is a need therefore to assess the GIFMIS implementation in Ghana in order to void failure of the policy, curb these financial malpractices and recommend a solid IFMIS policy for Ghana.

Statement of the Problem

From 1984 to 2010, the World Bank funded 87 IFMIS projects in 51 nations, totalling over US\$ 2.2 billion, with various governments co-financing them to 25 percent (Dener, Watkins, & Dorotinsky, 2011). With 89% remaining operational and technical efficient and high organizational failure rates are observed in Africa.

A number of studies have found that the achievement of these reforms is based on the efficient implementation of these reforms (Short, 2003, Polidano, 2001, Opiyo, 2017). Short (2003), for example, notes that, the expected advantages of these reforms will not be realized without the required structures to guarantee the efficient execution of the reforms. For the implementation of GIFMIS to be successful, the necessary structures for the implementation should be put in place.

Polidano (2001) adds that, most reforms in the public sector fail not because of the reform programs' content or technical elements, but because of

the manner in which they have been implemented. This is confirmed by Opiyo (2017) when he argues that most reforms fail owing not to the content or technical aspects of the reform programmes, but due to the ability of human resources and the strategy for implementation. These clearly shows that the processes that are used in developing and implementing the policy is very important and should be looked at critically. For the implementation of GIFMIS to be successful, the implementation process should be tailored to suit the environment in which it is installed and be followed.

Okello, Migiro and Mutambara (2017) state that IFMIS adoption and implementation goes beyond technology and individuals being able to work around systems to achieve their anticipated goals, it involves other lengths such as organizational, environmental, ethical, legal and cultural factors that needs to be considered for successful implementation and execution. This means that for the implementation of GIFMIS to be successful in Ghana, these factors should be critically examined because these factors to a large extent influence the implementation of GIFMIS.

The internal control weaknesses and organizational inefficiency are the main causes of irregularities in the Assemblies' financial management in the Volta Region. According to Auditors General Report (2014), Misappropriation of funds and unaccounted value books, were significant among the irregularities observed. The Auditors General Report (2015) also indicated despite our ongoing reminders regarding compliance with the financial laws, the offences experienced a substantial increase compared to the statistics for 2014.

In addition, most of the researches undertaken on GIFMIS were performed in other jurisdictions in Ghana based on existing literature reviewed. However, Ghana's studies concentrates mostly on the advantages and disadvantages of GIFMIS and the possible factors that might affect the implementation of GIFMIS. Taken for example, the work of Kwakye (2016) which sought to assess the benefits and challenges of Integrated Financial Management Information System (GIFMIS), using the Ghana Education Service (GES).

In addition, Assessment of the Ghana Integrated Financial Management Information System (GIFMIS)) in Public Sector Procurement in Ghana by Asah (2015) which seeks to find out the usage of the GIFMIS system and to identify problems associated with the system.

This study aims to assess the implementation of the Ghana Integrated Financial Management Information System (GIFMIS) among MDAs in the Volta region of Ghana against the above background taking into consideration the implementation process, the structures and the factors that influence GIFMIS and their impact on accountability.

Research Objectives

The objective of the study is to assess the implementation of the Integrated Financial Management Information System among the Municipal and District Assemblies in the Volta Region of Ghana. Moreover, the specific objectives of the study are to:

- i. Examine the GIFMIS implementation processes among the Municipal and District Assemblies in the Volta region;

- ii. Assess the GIFMIS implementation structures among the Municipal and District Assemblies in the Volta region;
- iii. Examine factors that influence the implementation of GIFMIS on accountability.

Hypotheses of the study

The study sought to test the following hypotheses which were developed from theories underpinning to the study and review of existing literature.

Hypothesis 1

H₀: There is no significant relationship between GIFMIS implementation Process and Accountability.

H₁: there is a significant relationship between GIFMIS implementation Process and Accountability.

Hypothesis 2

H₀: There is no significant relationship between GIFMIS implementation Structures and Accountability.

H₁: There is a significant relationship between GIFMIS implementation Structures and Accountability.

Hypothesis 3

H₀: There is no significant relationship between Factors influencing GIFMIS and Accountability.

H₁: There is a significant relationship between Factors influencing GIFMIS and Accountability

Research Questions

Based on the objectives of the study, the following are the research questions:

- i. What are the GIFMIS implementation processes among Municipal and District Assemblies in the Volta region?
- ii. What are the structures put in place for GIFMIS implementation among Municipal and District Assemblies in the Volta region?
- iii. What are the factors that influence the implementation of GIFMIS on accountability?

Significance of the Study

The research focuses on assessing the implementation of GIFMIS in Ghana especially the Municipal and District Assemblies (MDAs) in the Volta Region. The research results are anticipated to be relevant in a number of ways for policymakers, practitioners, donors and literature. First and foremost, the study's result offers vital information for the state and its institutions to implement future reforms in the financial management of the public sector.

Secondly, the research results will also be helpful to the development partners interested in ensuring efficiency and effectiveness in the management of government finances.

Furthermore, the study will also add to the national financial management reform literature.

Delimitations

In terms of the scope, the study focus would mainly be on MMDAs in the Volta region of Ghana since their financial reporting performance as per the 2014 and 2015 accounting years were not encouraging (Auditor General

Report, 2014; 2015). Hence, the study would be bias towards other MMDAs and other public institution that enrolled the GIFMIS system.

In addition, the study focuses on GIFMIS implementation in enhancing accountability and therefore, other financial reforms that may enhance accountability would not be captured by this study.

Again, the study adopts purely quantitative approach in gathering and analysing data and hence ignores other appropriate approaches such as the qualitative method of research.

Limitations

Several variables that may have influenced both the outcomes and the scope have restricted the studies. The research project used primary data to draw conclusions and findings from the study. Primary data suffers from error where it is not possible to verify information precision. Moreover, the information tends to be subjective as it represents the views of decision-makers at the middle level and highest stage. The Likert scale addresses this challenge and designs study questions to be as objective as possible.

Another restriction is that in Ghana the GIFMIS system is still very new, information from local literature sources and the study had to depend on ICT generalization and implementation. Despite these difficulties, it is not possible to compromise the validity of the results of this research project.

Organization of the Study

There would be five chapters of this research report. The five chapters include chapter one which discusses the introduction of the study. It would include the study background, problem statement, objectives, significance of the study and limitation. Chapter two would include a review of the literature.

This section reviews existing knowledge and literature on the research topic and it is split into theoretical and empirical literature.

The research methodology will be discussed in chapter three. This includes the means to achieve the study goals and questionnaire administration. Chapter four is about analysis of the outcome of the study. The fifth and final chapter would include an overview of the study, findings, and suggestions. This section brings together the results and the conclusions drawn with the recommendations or suggestions that would assist to address the recognized concerns.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This study focuses on IFMIS implementation in Ghana. The research discusses the influence of GIFMIS implementation process, structures and factors influencing the implementation of GIFMIS on accountability in the Municipal and District Assemblies in the Volta Region. This section reviews the related literature that underpins and explains the study.

This chapter is divided into three parts. The first section considers the reviews of the theories underpinning the study. The second section looks at the Empirical Review, which reviews the prior studies conducted by the public in line with GIFMIS. The third section of this chapter focuses on the conceptual framework, which looks at the concepts that underlines the research explaining the scope and study variables as adopted by the studies and the interrelationship between the dependent and independent variables.

Theoretical Review

This part of the study is a review of the underpinning theories that have been developed by researchers and are relevant to the study. These theories are the Structuration theory, the System theory and the Technology Acceptance Model. The detailed reviews of the theories are presented as follows:

Structuration theory

The Structuration theory of Giddens is based on the study of the interrelationships in the development and production of social systems between social structures and agents. The theory argues that, the public support the achievement of routines or assignments over time.

According to Miles (2012), the theory of Structuration aims to accomplish two primary goals; Examines to what extent individual activities and procedures generate and shape social structures and to what extent social structures in turn influence individual procedures. Wanyama and Zheng (2010) borrowed ideas from the structuration theory in an attempt to comprehend the organisational viewpoint in the application of IFMIS in Kenya. They also used the Structuration theory to clarify the meanings and norms that they encountered during IFMIS execution. On the other side, Bwalya, Plessis and Rensleigh, (2014) used the structuring theory to assess the factors affecting the implementation of e-governance systems in Zambia.

The United Nations Economic and Social Council (2006), stated that the reform of the public sector consists of deliberate changes to the structures and processes of organizations in the public sector with the aim of making them run better (Whittaker, 2006). Structural change may involve changing the process of public sector organisations, which may include redesigning systems, setting quality standards, and concentrating on building capacity.

These emphasize the relative suitability of the Structuration theory to evaluate the development and execution of GIFMIS in Ghana's public financial management. Structuration theory is relevant to GIFMIS based on the fact that GIFMIS is a system accompanied by lots of principles and rules which will affect the personnel that will be implementing it and the other stakeholders. Structuration theory will help us pay attention to how the new system will affect the personnel and how the personnel will intend affect the system. Bearing this in mind, we can recognize changes that might occur during the implementation and respond to them as early as possible.

System theory

A system theory could be defined as a group of similar components that jointly worked and interact to attain preferred objectives (Kang'ethe, 2002). The effectiveness brings harmony and synergy between the financial Information and Communication Technology (ICT) and the human resource to achieve financial management objectives of the organization. This system brings together the various components of GIFMIS in order to effectively and efficiently manage the public resource available. The System theory will help us to blend the Process of GIFMIS implementation, the Structures for GIFMIS implementation and the Factors influencing GIFMIS implementation in order to achieve successful implementation of the policy.

Technology acceptance model (TAM)

The Technology Acceptance Model (TAM) is an information system theory developed by Davis (1989) which shows how users appreciate and use technology. The model focuses on how technology is adopted and used with emphasis on the user acceptance.

It has two major theoretical frameworks: the perceived usefulness (PU) of the system and perceived ease of use (PEOU) (Vogel & Cheung 2013). Perceived use, as defined by Davis (1989), states that, it is the degree to which an individual think that using a specific system will enhance their job performance, whereas the degree of ease of use perceived relates to the extent of the ease of using a particular system. This indicates that people or users are more willing to embrace or use a different IT system if it can improve job procedures.

Moreover, it is not only perceived usefulness that affects the attitudes of the user, but also the IT system's complexity or flexibility (Lin, Fofanah & Liang, 2011). Flexible IT system involves very little or minimal effort to use and hence a high likelihood of acceptability. This implies that the removal of manual system of operating under the BPEM to the use of GIFMIS which requires the use of machines, the workers will appreciate and accept the new technology only when the user thinks that using this system will enhance their job performance. The personnel attitude to use or not to use GIFMIS systems will depend on the complexity or the flexibility of the IT system installed.

This theory is relevant to the study because this theory will require vigorous trainings be conducted for the stakeholders so that they will be in a better position to accept the new technology and implement the GIFMIS.

Empirical Review

Extant literature was reviewed in line with the study objectives. This review has been done to identify the related studies and their outcomes, which will be used as a basis for comparison of current research. Many studies have been conducted in relation to Integrated Financial Management Information System.

GIFMIS Implementation Process

Uganda implemented a comprehensive financial management reform to help improve budgeting and expenditure processes at the national and local levels across the country in 2003 after a delay in the design and implementation of the program (IMF, 2005). The donor fund towards the project was the World Bank and the designs include the provision of turnkey solution that has hardware, software, a Wide Area Network as well as

management support and training. The key design problem was the Chart of Account approved by the state of Uganda and the high cost of rebuilding the system, since this was the second attempt. It is reported that the IFMIS system put in place was underperforming due to the defects. Other challenges observed in implementing IFMIS include inadequate planning, poor communication between government, implementers and donors, shortage of management capacity in running the system and resources, changes in the design of the existing system without complete agreement with all stakeholders and poorly implemented training programs. Thus, IFMIS has always been bedevilled with implementation challenges such as lack of high-level commitment, poor project coordination loose design of the project and planning, resistance from the institutions to change and lack of human resource capacity.

According to Opiyo (2017), in an empirical study in China intimates that most reforms fail owing not to the content or technical aspects of the reform programmes, but due to human resources and the strategy for implementation. It further said, the absence of a clear public policy to train staff members also presents a challenge to the effectiveness of the systems in managing resources. Government should put the necessary policies in place to ensure that the implementation team has all that it takes to implement the GIFMIS.

Hendriks (2012) in South Africa discovered that the application of IFMIS is a complicated, risk-intensive and resource-intensive method requiring significant procedural adjustments by senior authorities and a dedication to change. In addition, it is reported that technological change,

processes and procedures as well as changes in skills, responsible behaviours are vital for achieving the structural transformation of an IT system. Based on the literature reviewed on the GIFMIS implementation processes it is necessary to examine the GIFMIS implementation processes among the Municipal and District Assemblies in the Volta Region.

GIFMIS Implementation Structures

Tanzania's implementation happened to be the most successful among the Anglophone countries in Africa that implemented IFMIS. In 1998, the country implemented an ambitious public financial management reforms that covered ten of their MDAs. It was an IT-solution that included medium-sized management and accounting packages, less complex than the one introduced in Ghana. The IFMIS program was rolled out on incremental bases that initially started with the Controller and Accountant General's Department and other ministries. The system was eventually rolled out from the central level to the local level. One main cause of the success of the IFMIS in Tanzania is the solid political backing enjoyed that went to even the management level (World Bank, 2005).

In a survey to investigate the guidelines for public expenditure management in state institutions by Bary (2016), it was established in Kano state that the operationalisation of IFMIS is more complex than other ICT-based reforms. This was due to the inherent complication in the public financial management system. It was reported in the study that Integrated Financial Management System is a challenging role and needs several conditions for successful implementation if the program is to have a long-term sustainability. By way of recommendation, it is indicated in the study that to

bring IFMIS on board, the aim should not be to fix technology by automation, but IFMIS implementation should aim as a public financial reform that influences how things are operationalised in ministries, agencies and departments (Bary, 2016).

In a study by Yeboah (2015) on reforms in the Ghana Public Sector Financial Management, with a focus on Ghana Integrated Financial Management Information System (GIFMIS), the research investigates the accountability framework. As mentioned earlier, the GIFMIS system, according to the respondents, has a budget module that facilitates budget formulation and implementation. The budget module allows for tracking and collecting of actual expenditure data, which provides information or forms the basis for the formulation of subsequent periods' budgets. The research used qualitative case study method while this study uses a quantitative approach so that the findings from the study could be generalized.

Using Heeks 100 point scaling method, Spriano (2013) indicated in a study on success and failure of e-government projects in developing countries with Zambia as a case study obtained a rating score of 55.1 on the Heeks scale, which indicates total or partial failure. This is to say that, many e-government projects in developing countries are failing for various reasons, including the inadequacy of the programs across the countries.

In a thesis by Musee (2011) on implementation of IFMIS in Ethiopia, he intimated that Ethiopia's implementation of unconventional ways to automation of state financial system illustrates a success of the transition. This is because the system challenges the orthodox wisdom that normally is associated with the implementation schemes. The major challenges faced in

the implementation of IFMIS in Ethiopia include resources, capacity, infrastructure changes in government and foreign aid policies dependence. It was reported that prioritisation of the basics required prior to implementation of the complex systems did the trick in that country.

Musee (2011) again reported that a strategy to drive automation that involves the definition of users through incremental and iteration approach with extensive involvement of all public workers who will use the system was adopted. Further, the reform concentrated first on bringing the existing system up to speed through simplification, elimination of backlogs before introducing the new complex IFMIS system. Finally, lower level skill workers of the public sector were considered and this reduced the burden imposed on the limited staff in the whole process and reduces the breakdown in the financial system.

In a study on efficiency and effectiveness on procurement process and performance in Uganda using a survey method noted other than financial measures, non-financial measures contribute significantly in the procurement process in the implementation of the IFMIS processes (Kakwezi & Nyeko, 2010). Based on the literature reviewed on the GIFMIS implementation structures it is necessary to assess the structures put in place for the implementation GIFMIS among the Municipal and District Assemblies in the Volta Region.

Factors Influencing Implementation of GIFMIS

In a study in Kenya by Chebet in 2017, where critical factors that influence implementation of IFMIS in public agencies were studied. Using a survey design involving finance officers, information communication

technology officers and other key users, it was found that the involvement of users in the implementation process, clear guidelines for recruitment and risks management and good communication are relevant for successful implementation of IFMIS. His study also found that, proper management of resources, top-level management, cash management and budgeting systems and appropriate and good communication among various stakeholders is key for a successful IFMIS implementation.

Furthermore, it is observed from the study that team spirit, good team support, skilled teamwork and capacity building are, among others that makes implementation of the process a success. In this same study on Kenya, Chebet (2017) intimates that clear and proper goals set by state institutions, cooperation among various work departments, experts availability have been identified to contribute to the successful implementation of IFMIS.

A study by Kwakye (2016) on benefits and challenges of Integrated Financial Management Information System (GIFMIS) using the Ghana Education Service (GES) in the Obuasi municipality as a case study, it was observed that injection of more funds to provide resources could help the GIFMIS program as well as training of more system administrators by the program consultants. Also giving sensitisation education for all stakeholders, especially staff members of the program is crucial for acceptance of the program. It was indicated in his work that factors that overrun the smooth operation of the GIFMIS program include lack of resources and adequate personnel, frequent power outages, resistance to change by management and other workers, lack of knowledge on ICT and the inability of the program to cover all departments.

Asah (2015) on the Public Sector Procurement; Assessment of the Ghana Integrated Financial Management Information System (GIFMIS), using a survey method indicates that lack of training in report generation, breakdown in networks and resistance to change has been a challenge to the implementation of the GIFMIS program.

In studying factors that may lead to successful implementation of IFMIS in developing countries, it is reported in a descriptive survey by Heeks (2014) and Kaled (2015) that, drivers such as the vision of the authorities and appropriate strategies, state support, external pressure from citizens and donor support, (either financially or technically), increasing expectations from consumers, change in technology as well as globalisation are critical for successful implementation. However, there are equally factors that lead to failure of IFMIS implementation. These include poor or lack of appropriate infrastructure, inadequate resources, poor data system and absence of compatibility. Others are lack of skilled personnel to man the programs or run them, the leadership styles, culture attitude of the staffs and bureaucracy (Khaled, 2013 & Ndou, 2014).

Chebet (2013) confirms this in his research on the Implementation of Integrated Financial Information Management Systems in Kenya, who adopted survey approach, which conforms to the study of Chène (2009).

Kimwele (2011) in an exploratory study in the republic of Kenya using senior administrative officers, financial officers and supply officers asserts that implementation of IFMIS has been hindered by funding due to dependence on donor funds. Other factors affecting effective implementation of Integrated Financial Management Information Systems (IFMIS) in government

Ministries in Kenya include donations that were created without prior consultation or needs assessment by the receiving organisation. There were insufficient budgets for such initiatives, lack of ICT policies and master plans to guide investment. The study acknowledged that in Kenya's public sector, most of the ICT projects on financial management were majorly donor-funded.

On organisational procedures, Weerakkody, El-Haddadeh and Al-Shafi, (2010) and Owusu, (2012) posit that the organizational structure produces a pattern of interrelated job operations that allows the organization to perform, coordinate and regulate work or activity procedures. The organizational structure can provide assistance or otherwise, for the development of technology and organization and thus serves as a significant factor in the application of public sector information systems. It is therefore essential to understand the current organizational culture and structures in order to obtain an understanding of how these structures will facilitate or restrict the efficient implementation of integrated public sector information systems.

In their cross-country research of developing nations, specifically Ghana, Malawi, Tanzania, Uganda and Kenya, Diamond and Khemani (2006) recommended that steps should be taken to strengthen the ability of both the IFMIS project team and the Office of the Attorney General (AG) and the Budget Office throughout all stages of the project to enhance the success of the program. In addition, they recommend that developing the needed abilities and capacities of the central IT department is equally essential in order to provide strong support to IFMIS.

According to Chêne (2009) in a study on implementation of IFMIS in state institutions in Ethiopia. Using descriptive survey, with the purpose of investigating the critical success factors that affect the implementation of IFMIS, it was reported that senior managers' dedication to the course of the project is one of the most commonly quoted variables that determine an information system's success or failure including the implementation of GIFMIS among MDAs. The case study in Ethiopia has shown that what matters most in the process of implementation is the commitment to reform middle-level management, as the modifications will eventually have to be implemented at this rank.

On the factors affecting implementation of IFMIS, it is reported by Murphy (2002) that, a potential change is resisted by forces in the opposite direction. Thus, staffs of the state agencies may resist the implementation of the IFMIS. It has however been argued that the solution to successful change is to “unfreeze” the established systems by improving the forces that drive change or reducing the resistance forces and “refreezing” a new system. Based on the literature reviewed on the factors influencing GIFMIS implementation it is necessary to examine the factors that influence the implementation of GIFMIS on Accountability.

Conceptual Framework of the Study

The proposed conceptual framework is based on the interrelationship between the study's dependent and independent variables. Based on these factors and concepts, the study deemed it necessary to diagrammatically represent the concept to show how they interconnect. The variables of interest are GIFMIS implementation processes, structures put in place for GIFMIS

implementation, factors influencing GIFMIS implementation and GIFMIS accountability were explored. How these variables relate is depicted in figure 1

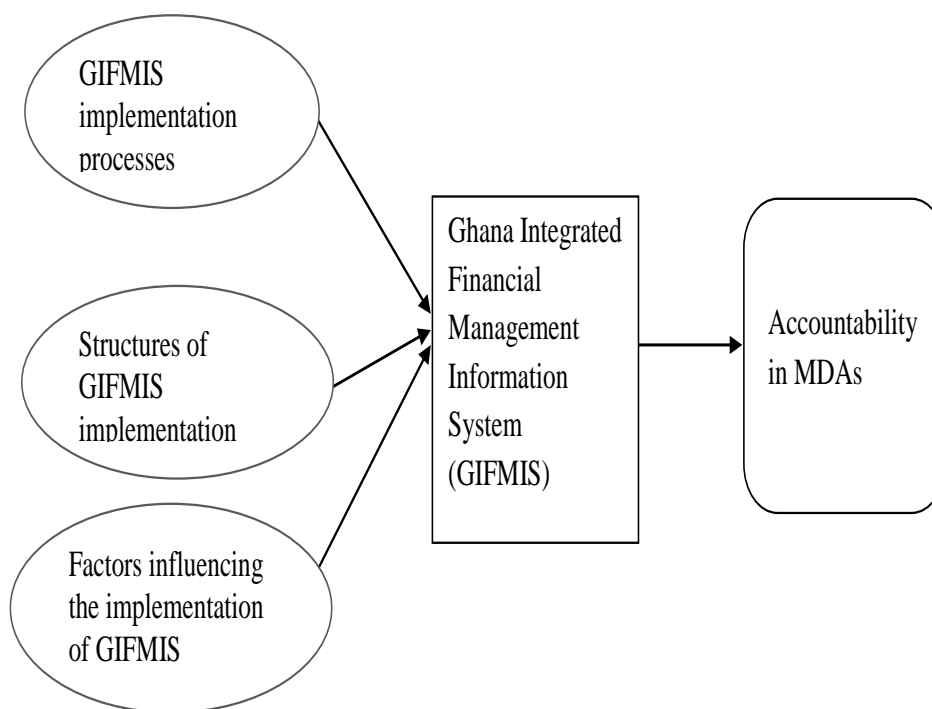


Figure 1: Conceptual Framework

Source: Author's construct (2019)

The conceptual framework of the study helps explain the variables that are adopted by the studies based on literature. These variables forms the conceptual basis and brings out clearly the justification for selecting a variable to be part of the research. The Implementation process, involves Formation of Implementation Teams, Development of New Chart of Accounts, New Legislative Review (PFM), Involvement of Stakeholders in GIFMIS Implementation and Training Sessions (Capacity Building).

Structures for the implementation of GIFMIS are the financial structures and Information Technology Structures. And the factors influencing the implementation process are ethical factors, environmental factors, organizational factors, political factors and technological factors. The

accountability is measured using Promoting transparency and efficiency in public accounting, Promoting performance and programmed based Budgeting, Cracking down on financial malpractices and wasteful public spending. Improvement in Procurement management, Efficiency and Effectiveness in Revenue Collection, Improvement and transparency in the Payroll systems and Improving Internal controls.

GIFMIS is used to assist budget preparation, execution and management of government economic assets. The system will cover all government spending units, process and handle all spending transactions in those units. All steps in the expenditure cycle will be registered and managed through GIFMIS, including budget appropriations, funding, verification and payment of transactions. The system will be efficient and user-friendly, providing inclusive information on all financial affairs of the government. This will serve as a reliable basis for multi-year budgeting, annual budgeting, commitment monitoring, payment control, financial and cash management and economic planning.

A detailed explanation of the variables in the conceptual framework are presented as follows:

GIFMIS Implementation Processes

GIFMIS implementation processes are the various procedures that are put in place for effective execution of GIFMIS. These processes consist of the Formation of the Implementation Team, the Development of New Chart of Accounts, Legislative Review, Stakeholder Engagement, Training (Capacity Building) and Pilot testing Yeboah (2015).

Formation of implementation teams

Before the GIFMIS program was introduced, various teams were created. The implementation teams that were formed included the management team, the legal support team, the financial and accounting team, the budget team, the cash management team, the treasury team, the system assurance team. These teams were designed for specific, technical and non-technical operations. According to Chêne (2009), IFMIS programs should set up an appropriate implementation team, "ideally consisting of a project manager, a public finance economist, a qualified accountant," as well as a change management expert or training expert, IT system experts, and logistics experts.

Development of new Chart of Accounts

Chart of Accounts (CoA) is a structured collection of codes that report, classify, and organize budget information and accounting operations. It was crucial to design or create a standardized CoA in order to encourage budgeting and financial reporting. The CoA is a logical and systematic coding of various accounts that are used to record transactions and make up the ledger system. The scope and content of these accounts for recording significant economic data is described in the COA (USAID, 2008). The new Uniform Chart of Account (CoA) has been developed through close collaboration between technical teams, Controller and Accountant General's Department (CAGD) and Ministry of Finance and Economic Planning (MOFEP). Karanja and Nganga (2014) and Hendriks (2012) also added that designing a standardized CoA makes it easier for all government agencies to share and process transactions. In order to emphasize the significance of

developing or designing a standardized CoA, Karanja and Nganga (2014) and Rodin-Brown (2008) observed that the execution of IFMIS in Uganda was subject to several months of delays and significant cost overruns owing to deficiencies in the current Chart of Account.

Legislative review

The development of the new standardized CoA was accompanied by a review of the government financial regulatory framework. This provides a sound legal foundation for supporting the execution of GIFMIS program. The legal support team's job was to review the current public financial management legislation in Ghana. Some of the legislation needs to be changed to allow the program to be fully executed. It is necessary to amend some of the legislation on our public financial management, especially the legislation on our statutory resources. The statutory funds therefore have separate legislation for their management to support their management on the GIFMIS platform.

According to Dzidonu (2011), a government policy which is a legislative framework supporting the IFMIS implementation consists of the constitution, the financial act and the regulations, and must include: the roles and responsibilities of the treasury and other departments responsible for the control and management of public finances, the main form of government funds, the receipt and custody of public funds, the annual process, and the submission of a proposal for a resolution.

Stakeholder engagement

Identification and participation of stakeholders is the next step in applying the GIFMIS program. These stakeholders are critical to the successful implementation of the GIFMIS program. It was noted among the

stakeholders identified that the heads or managers of the various MDAs and MMDAs are the most influential in the GIFMIS' successful implementation.

Training (Capacity building)

Following the stakeholder commitments, the training programs were intended to create staff capacity at the respective MDAs and MMDAs. Training workshops were organized for selected staff of MDAs and MMDAs. The MDAs and MMDAs selected these staff. After receiving the necessary training, the selected employees must train the other employees in the MDAs and MMDAs. This training program has been named Train the Trainers (TTT). Tsamenyi, Cullen and González, (2006) argue that contemporary information systems are likely to be resisted, especially if the system is considered to pose a personnel threat.

Thus, individuals with relatively low IT literacy are likely to battle against implementing the fresh IT-related programs. Resistance to the introduction of present information systems will lead to inadequate commitment and support for the effective application of IFMIS in financial management of government (Dorotinsky, 2003; Tsamenyi et al., 2006).

Pilot testing (Testing GIFMIS system)

The next phase after capacity building in selected government agencies is to pilot the IFMIS programme. The system is being screened for system functionality at this point of the application phase. System piloting allows implementers to identify and solve any potential future problems that may arise. It also allows the implementers to receive feedback from the system implementers. According to Rodin-Brown (2008), before the complete execution of the IFMIS program, the IFMIS schemes implemented in

Slovakia, Kosovo and Slovenia were all pilot-tested. The GIFMIS system was initially piloted in seven (7) MMDAs in Ghana, namely the Tema Metropolitan Assembly, the Tarkwa Municipal Assembly, the Ho Municipal Assembly, the Cape Coast Metropolitan Assembly, the Accra Metropolitan Assembly, Obuasi Municipal Assembly and the Kumasi Metropolitan Assembly. These district assemblies were selected based on the relative availability of IT infrastructure to support the operation of the GIFMIS system.

Structures Instituted for the Implementation of GIFMIS

For the implementation of GIFMIS to be successful, some necessary structures are put in place. These structures are the financial structures and Information Technology Structures.

Financial structures

- *Program-based budgeting*

Program-based budgeting is a way of coordinating and grouping budgets, according to activities and programs instead of managerial and resource base. Those in favour of program budgeting claiming this approach properly focuses on results rather than inputs. Those who are not in favour say that it complicates the process and makes accountability, less effective (Simson, Sharma & Aziz 2011).

- *Performance-based budgeting*

These approaches range from fundamental efforts to delivering government duties on contracts where performance indicators are used for evaluation. Performance budgeting is commonly used with a medium-term expenditure framework on a program budget structure (Simson et al 2011). In

response to criticisms that public financial management is based on administrative rules and regulations, which lack the desired outcome, many executives have used budgets that set performance benefits.

- *Public procurement*

The supply of products, works and services should be based on the country's procurement legislation, the Public Procurement Act, 2003 (Act 663). The rationale for procurement laws is for governments to have the highest value for cash when purchasing. Procurement is a common cause of corruption, so procurement systems tend to include checks to detect and prevent corruption.

Procurement is a technique of obtaining goods and services produced during project execution. The procedures used can be simple or complex depending on the nature of the item to be procured. Centralized procurement through which Ministry, Department and Agency (MDA) such as Metropolitan, Municipal and District Assemblies (MMDAs) has provided ways for MMDAs to carrying out procurement operations in which the Public Procurement Authority performs a supervisory position (Simson, Sharma & Aziz 2011).

- *Internal control*

Internal control systems are developed to ensure that in the management of government agencies, the organization achieves its objectives, policies and procedures. These strategies and procedures often include financial accounting, reporting, acquisition, and asset management. Large organisations would have a department for internal audit that offers the head

of the organisation with an independent review of operations and reports (Simson, Sharma & Aziz 2011).

Information technology structures

- *Computer hardware*

Hardware is essential for effective FMIS implementation and adoption (Afe, 2002; Olekulehin, 2007). This is the information-functioning, physical technology. Hardware can be as tiny as a smart phone that fits in a pocket or as big as a building-filled with a supercomputer. Hardware also involves computer-functioning peripheral equipment such as keyboards, internal disk drives, and routers. With the increase of the Internet, the human environment is suffused by sensors that communicate with computers.

- *Computer software*

The hardware must understand what to do, and that's the software's role. Software can be split into two kinds: software system and software application. The project should place heavy emphasis on software for the technological infrastructure required for the effective implementation of the IMFIS initiative (Tariku, 2017). The main piece of system software is the operating system, like Windows that manages the operation of the hardware. Application software is intended for particular duties, such as spread sheet handling, document creation or design.

- *Telecommunications*

This element connects the hardware to create a network together. Connections can be through wires, such as Ethernet cables or fibre optics, or wireless connections, such as wifi. IFMIS integrates all government institutions' systems and therefore needs internet connectivity to operate properly (Turban

& Volonino, 2010). A network can be intended through a local area network (LAN) to connect PCs in a particular area, such as MMDAs, an office or a college.

- *Human resources and procedures*

The final, and possibly most important, component of information systems is the human element: the people needed to run the system and the procedures they follow in order to transform the knowledge in the huge databases and data warehouses into learning that can interpret what happened in the past and guide future action. Over the years, governments have tried to automate a range of management procedures, often starting with duties for accounting and reporting. Although automation can enhance a system's effectiveness, the method can be disturbing and hard as it generally involves a significant reform of current technology and new abilities in human resources.

Large-scale automated reform advocates argue that it simplifies processes and decreases the incidence of corruption. Many specialists are suggesting a gradual transition to a Financial Management Information System (FMIS) to mitigate the danger of failure (Simson et al 2011)

Factors Affecting Implementation of GIFMIS

IFMIS is a very complicated information system, presenting some major difficulties and challenges to its effective execution in the research of information systems in developing nations (Hendriks, 2012).

The suggested factors to consider should therefore include the following according to Okello, Migiro and Mutambara (2017) ethical factors, environmental factors, organizational factors, political factors and technological factors.

Ethical factors

Chowdhury (2011) describes ethics as a set of moral philosophy which directs a person or an organisation to distinguish between what is pleasant and unpleasant. Furthermore, Zhao, Wallis and Singh, (2015) argues that culture and morality are described as one's values or beliefs that distinguish one group member from the other group and influence user conduct in technology application. Considerable numbers of studies have highlighted how corruption, which is an ethical aspect, as Kerr and Houghton (2014) claim, has negatively affected IFMIS. One of the main benefits that the IFMIS system would give is a reduction in corruption and fraud through system-wide checks.

Environmental factors

IFMIS implementation is affected by numerous factors, including the accessibility of internal abilities, stakeholders, supplier support, competing software developers, trusts of software vendors and ethical influences (Zhao et al., 2015). Chêne (2010) further adds that IT reforms are complicated and costly and involve significant procedural modifications that encounter a great deal of opposition from the multiple stakeholders who benefit from the current standards whose work could be radically altered.

Organisational factors

The literature identifies organisational factors such as organizational structure, organizational culture, user attitudes, staff, and organisational values (Weerakkody & Dhillon, 2008; Janssen & Shu, 2008). The structure of the organisation generates a pattern of interrelated job operations that allows the organisation to perform, coordinate and regulate job procedures or operations

(Owusu, 2012). It is therefore essential to understand the current organizational culture and structures in order to obtain knowledge of how these structures will facilitate or restrict effective implementation of integrated public-sector information systems.

In the research on the implementation of Information Systems (IS) in the local government, Hashim (2010) recognized financial problems as one of the variables affecting or hindering the smooth execution of IT or IS reform programmes.

Political factors

Political and administrative assistance is essential in implementing reform programs in the public sector, according to Polidano (2001), as quoted in Ohemeng (2009). He further asserted that political and administrative assistance would help to scale beyond the obstacle of implementation.

Weerakkody and Dhillon (2008) argue that political and administrative assistance for reform programs allows government reform programs to be implemented with confidence by authorities. Krishna and Walsham (2005) add that continuous political and administrative assistance is needed to prevent possible original opposition to the smooth application of reforms in the public sector. There are several methods to demonstrate political and administrative dedication and support for the application of reform programs for public management. One way to demonstrate support and dedication to implementing reform programs in the public sector is through timely provision of appropriate funds (Robinson, 2007; Hendriks, 2012).

For the efficient execution of IT / IS reform programs in the public sector, timely release of appropriate funds, human resources or provision of

appropriate infrastructure is very crucial to promote IFMIS's efficient execution.

Technical issues

Implementing IFMIS and other IT-related information systems for public financial management requires careful consideration of technical issues. According to Touray and Salminen (2013), technical issues or variables relate to issues such as infrastructure, choice of customized system and on-the-shelf system, system configuration, security and privacy issues. Technical issues are very important for the effective execution and use of IFMIS and must therefore be resolved during the development stage of the reform program. Hendriks (2012) adds that the failure of many IFMIS initiatives can be traced to unresolved technical problems, especially the integration of the systems or functionality.

GIFMIS Implementation and Accountability

There is no prevalent or commonly accepted definition of accountability despite the significance of accountability in governance. Accountability was thus conceptualized by various authors in the. Dunn (1999) describes accountability as the method by which actors justify their actions against the background of possible implications. The result may be either positive or negative. This is measured using Promoting transparency and efficiency in public accounting, Promoting performance and programmed based Budgeting, Cracking down on financial malpractices and wasteful public spending. Improvement in Procurement management, Efficiency and Effectiveness in Revenue Collection, Improvement and transparency in the Payroll systems and Improving Internal controls.

Efficiency and effectiveness in revenue collection

Ministries, Departments and Agencies use accounts receivable module of the GIFMIS to manage and control the income that are coming into the Ministries, Departments and Agencies which comprises of services, sale of goods (that are from non-tax revenues), fees and commissions. The module is capable of producing bills, recording receipts and payments. Revenue through Account Receivable module was rolled-out in Ghana Revenue Authority at the end of February, 2014. The platform uses Electronic Fund Transfer for the collection of taxes from public institutions under the MDAs.

Transparency, efficiency and accountability in public financial management

Financial transactions of governments are recorded, processed in a short time using GIFMIS software that enables clients to immediately access reliable, efficient economic data. The system makes MDAs more accountable and transparent to the legislature and the general public. It improves economic controls, gives a clear picture of spending commitments on a timely and continuous basis.

At each stage when an undertaking is created, the system can monitor the transaction process, such as from budgeting to commitment, purchasing, requesting payment, reconciling bank statements, and accounting. This provides a clear perspective of the execution of the budget. (OECD, 2003). Dorotinsky (2003) argues that the use of GIFMIS can improve public financial management in many ways, but officially, through transparent and comprehensive financial data, the system ensures budget credibility and

reliability. The GIFMIS requirements are based on International Accounting Standards for the Public Sector (IPSAS).

Maximising payments and commitment control of fund

Under GIFMIS, the targeted public funds are made up of the departments and agencies ' statutory funds, the consolidated fund, internally generated funds and donor funds. The organizations have different bank accounts that contain enormous unused public funds that attract huge commissions and bank charges, but the state is unable to trace such funds and goes on borrowing at a heavy interest rate.

GIFMIS utilizes the Single Treasury Account (STA) to monitor and maximize the payment of these funds. It helps reinforce the cash balances of the government, gives oversight to the finance ministry of all public cash flows, and increases budget control and monitoring (IMF, 2011).

Budget preparation and budget execution

The preparation of Ghana's budget starts with the budgeting procedures. The Ministries and agencies present their budget forecast to the Ministry of Finance and the MOF to the government. Legislative review whether it is consistent with the state's policy and resources. (Simson et al 2011). Once authorized by Parliament at the beginning of the fiscal year, the Ministry of Finance and the Agencies begin to enforce the budget. The funds are used for the purpose for which they have been allotted.

Internal controls and prevents duplicating of effort

Internal control systems are established in the government agencies to ensure that the organization achieves its objectives, policies and procedures. These policies, procedures often include financial accounting and reporting,

procurement and asset management. Large organizations have an internal audit departments that provide independent reviews of activities and report to the heads of the organizations (Simson et al, 2011).

In order to guarantee adequate control of spending, it is anticipated that government ministries and departments will set up a control system and committee planning so that the budgeted funds are not above what the parliament has approved for the operation. These control components are implemented to match the accrued funds in the budget of the Ministry of Finance (Simson et al, 2011).

Chapter Summary

This chapter reviewed theories underpinning the study, existing literature on the subject matter across different geographical areas of study as well as presenting a proposed conceptual framework and an explanation of the variables captured in the framework.

The study adopted the Structuration theory which explains the relationship between individuals and the systems they associate with; System theory which explain how components work collectively together to achieve a goal; and the technology acceptance theory which explains why individuals would accept a change in their way of doing things.

Empirical review was done on IFMIS implementation process, structures for a successful implementation and factors influencing the implementation.

CHAPTER THREE

RESEARCH METHODS

Introduction

This part of the research focused on defining the various steps and approaches used in the execution of the research. This covers research design, study area, target population, sample and sampling techniques, data collection tools and approach to analysing data collected.

Research Approach

The study uses quantitative approach and it is connected with the positivist paradigm as the research philosophy. Gorared (2013) stipulated that a quantitative approach involve gathering and converting information into numerical form in order to draw statistical computations and conclusions. This method is appropriate as it includes a thorough indebt evaluation of Implementation processes, the assessment of implementation Structures and factors that influence the implementation of GIFMIS on accountability.

Research Design

This study sought to use the descriptive design. This design is unique to the study because it describes and interprets the conditions and relationships that existed, the opinions held, the processes that were going on, the obvious effects and the treatments that are being developed to evaluate the implementation of the Ghana Integrated Financial Management Information System between MMDAs. The approach to be adopted is a quantitative approach. This approach is adopted so that findings from the study can be generalised Das (1983). It also gives room for verification of the reliability of the instrument used.

Study Area

Volta Region is one of the sixteen administrative areas of Ghana, with Ho been chosen as its capital. It is situated south of Togo Republic and south of the Volta Lake. The area is divided into 18 administrative constituencies, multi-ethnic and multilingual, including communities like the Ewe, the Guan, and the Akan peoples. The choice of this area is based on the Auditor General's report (2014) stating that assembly performance in the Volta region continues to decrease over the years.

Out of the 25 Assemblies 22 prepared and presented their financial statements in 2012 for audit validation. This dropped to 19 in 2013, with the poorer results of 14 Assemblies out of the 25 submitting financial statements for validation in 2014. This study is aimed at finding out how GIFMIS is being applied in this area to obtain responsibility for its allocated resources.

Population

There are Eighteen MDAs in the Volta Region. The region contains five (5) municipalities and thirteen ordinary districts. The target population comprises employees in finance and account, procurement, store, internal audit and budget Department in addition to the coordinating Director and the District or Municipal Chief Executive in the various MDAs in the Volta Region. In exception to Anlo District, which was created later when the research was being conducted.

There are about eight (8) personnel in the Finance department, two (2) each in the procurement department, internal control department and the stores Department. There are also three (3) personnel in the budget department, a director and Municipal or a District Chief executive, responding to the

questionnaire. A total of nineteen (19) personnel in each MDAs. In the seventeen districts, it is made up of a population size of three hundred twenty three (323).

Sampling Procedure

The study adopted a census survey owing to the small number of MMDAs in the Volta Region. A census of the seventeen (17) districts was used for the study comprising the five (5) municipalities and twelve (12) ordinary districts. Therefore, the sampling size is equal to the population size. This implies that the sampling size is also 323. However, where the population is small, census is preferred instead of sampling Denscombe (2007).

Data Collection Instruments

The study employed a primary data, which were collected using questionnaires. The study used structured questionnaires designed in line with the study objectives to collect data from respondents. The questionnaires were designed using a 5-point Likert-scale ranging from 5 = highest in agreement to 1 = low in agreement. The rating was used because it was relatively easy to construct and more reliable. It provides single scores from a set of items (Sarantakos, 1993). However, according to Kimmon (1990) the main drawbacks of the Likert scale is that, it fails to measure the true attitude of respondents.

The questionnaire was divided into four sections namely A to E. The 'A' part of the questionnaire captures demographic variables such as gender, age, level of education, years of service and the department located. Section B consists of questions measuring GIFMIS implementation processes. The next section, which is C, contains questions on the structures for the

implementation of GIFMIS. Section D of the questionnaire addresses the factors influencing the implementation of GIFMIS. Section E, which is the final part of the questionnaire focused on GIFMIS implementation and accountability in the public sector.

Pilot study

A pre-test or pilot study was conducted to test the validity and reliability of the survey. Two Districts from the Oti Region, namely Jasikan and Biakoye Districts were hand-picked to test the questionnaire before the actual administration. These districts were selected because they have the same characteristics and share the same socio-economic factors with the study area in terms of their operations and personnel. This was meant to ensure that all possible difficulties in responding to the questions by respondents were dealt with and enabled the researcher to redesign the questions in a clearer and simpler manner. Testing for internal consistency helps to eliminate statements that are ambiguous or statements that are not of the same type as the scale. For this reason, however pressed for the time the researcher is, it is still advisable to give the questionnaire a test of run (Bell, 2005)

Accordingly, seventeen (17) questions were selected out of the initial draft of thirty-five (35) to complete the questionnaire. As a result, reliable instrument of a cronbach's alpha of 0.939 was given to respondents. The Cronbach's alpha of 0.5 is mediocre and above 0.7 is good. Having a Cronbach's alpha of 0.939 is excellent and more reliable.

Data Collection Procedures

Data was collected within two months. Each day of the week was used to collect the data except for weekends, and this was done during the working

hours of the day thus from 8.00 am to 5.00 pm. In other to ensure credibility of the data, the researcher personally collected the data. The Municipal or District coordinating Directors were informed earlier and the date for the survey was communicated to those responsible for the implementation of the GIFMIS by the Municipal or District coordinating Directors. No problem was encountered but there were challenges, which were overcome.

Data Processing and Analysis

Primary data collected was edited to check for inconsistencies in the answers provided by the respondents. The information was then coded in version 22 of the Social Sciences Statistical Package (SPSS) for processing. Descriptive and inferential tools were used to generate tables and frequencies in data assessment.

Reliability and accuracy of the data were checked using the Cronbach's alpha generation (Nunnally, 1978). To examine the suitability and adequacy of the variables for factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity tests were done to examine how appropriate the variables are for factor analysis. In order to establish the link between dependent and independent variables, multiple regression was conducted using the Ordinary Least Square evaluation technique.

The general model is stated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots \dots \dots \beta_k X_k + \epsilon \quad (1)$$

The specified regression model is

$$AC = \alpha + \beta_1 IPG + \beta_2 SIG + \beta_3 CAGI + \epsilon \quad (2)$$

Where AC = Accountability

IPG = Implementation Process of GIFMIS

SIG = Structures for Implementing GIFMIS

CAGI = Factors Affecting GIFMIS implementation

α = Constant

e = error term.

Measurement of variables

- *Dependent variable*

This measures how GIFMIS implementation affects accountability in the public sector. The use of sub-questions based on accounting components of GIFMIS which are Promoting transparency and efficiency in public accounting, Promoting performance and programmed based Budgeting, Cracking down on financial malpractices and wasteful public spending, Improvement in Procurement management, Improvement and transparency in the Payroll systems and Improving Internal controls. The response option ranges from 1 to 5, 1 representing "very low" and 5 "very high". Each measurement was weighted by the factor loading from the principal component factor analysis, and the average value of the highly loaded sub-questions of all respondents was generated.

- *Independent Variables*

To measure the independent variables, the study followed the proposed definitions of the variable in the literature. The three independent variables are GIFMIS Implementation Processes (IPG), Structures for Implementing GIFMIS (SIG) and Factors Influencing Implementation of GIFMIS (FIIG). Specific questions capturing each of the three variables were based on questions developed from literature and other IFMIS questionnaires. The

answer options range from 1 to 5. The answers were aggregated by taking the mean of all respondents using the main component factor analysis.

Ethical consideration

An introductory letter was obtained from the Department Accounting of the School of Business, University of Cape Coast to introduce the researcher to the MMDAs. To gather sample from the sample staff, permission was sought from the management of the institution precisely the Coordinating Directors. Respondents were contacted with the help of coordinating Directors of the institution. The consent of the staff were sought through the Coordinating Director of the institution.

Participants were informed about the purpose of the research and what objective it sought to achieve. They will be encouraged to feel free and aired their views as objectively as possible and they may have the liberty to choose whether to participate or not. They may also be given an option to withdraw their consent at any time without any form of adverse consequence.

Anonymity in confidentiality will be guaranteed and the researcher ensured that there was no cause of harm or mental stress to those who choose to participate. An organisation entry protocol was observed before the data are collected. The research and its associated methodology were adhered to not forgetting all of these ethical considerations.

Chapter Summary

This chapter focused on defining the various steps and approaches used in the execution of the research. This covers research design, study area, population, sampling procedure, data collection instruments and procedures and data processing and analysing.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The purpose of this study is to assess the implementation of the integrated financial management information system by the Municipal and District Assemblies in the Volta Region of Ghana. This chapter involves the participants' responses, bio data of respondents, descriptive statistic, factor analysis and regression results pertaining to the study.

This section expresses the relationship between the dependent variable Accountability (AC) and independent variables, GIFMIS Implementation Processes (IPG), Structures for Implementing GIFMIS (SIG) and Factors Influencing Implementation of GIFMIS (FIIG) in the Municipal and District Assemblies in Volta Region of Ghana. The results were also discussed in under sub-titles in line with the study objectives.

Demographics

To do the analysis, three hundred and sixteen respondents out of three hundred and twenty three (97.8%) of the targeted sample have their information captured. The stated response rate of (97.8%) is meritorious considering the fact that a response rate of (50%) was appropriate for efficient analysis (Mugenda, 2004).

Table 1 shows the results for the demographics of the respondents.

Table 1: Demographics

Variable	Measurement	Frequency	Percentage
Gender	Male	251	79.4
	Female	65	20.6
Age	Up to 25 years	16	5.1
	26-35 years	99	31.3
	36-45 years	125	39.6
	Above 45 years	76	24.1
Level of Education	Certificate	7	2.2
	Diploma/HND	57	18.0
	Graduate	145	45.9
	Post Graduates	100	31.6
	Professional (ICAGH)	7	2.2
Department	Account	135	42.7
	Internal Audit	33	10.4
	Budget	51	16.1
	Stores	34	10.8
	Procurement	34	10.8
	Administration	29	9.2
Position	Finance/Accounts Officer	135	42.7
	Internal Auditor	33	10.4
	Budget Analyst	51	16.1
	Store Keeper	34	10.8
	Procurement officer	34	10.8
	MDCEs and Directors	29	9.2
	Less than 1 Year	30	9.5
	1-5 Years	68	21.5
	6-10 years	132	41.8
	Over 10 years	86	27.2
N		316	

Source: Field survey (2019)

From Table 1, the percentage of male respondents were (79.4%), while females constitute (20.6%). The Assemblies are basically made of middle age people constituting (39.6%) (35-45 years). The second highest category of the age group is 26 to 34 years forming (31.3%). Those above 45 years constitute (24.1%). This is to say that, the assemblies generally consist of young people who have all the energy and the exuberance to implement the GIFMIS. In terms of education, almost (46%) of respondents hold a first degree in various fields while (31.6%) have post graduate degrees with HND holders constituting (18%) percent. Meanwhile, professional accountants constitute only (2.2%) of the respondents from the assemblies. This implies that the respondents in the municipal and district assemblies are of the right age with an accompanying qualification to implement the GIFMIS policy.

GIFMIS Implementation Processes

Bad management of the nation's financial resources is a significant problem that hinders the economic growth of Ghana. This is alleged to be the result of state corruption, mismanagement, and misallocation of financial resources. Ghana Integrated Financial Management Information System (GIFMIS) has been implemented to regulate this canker if not eliminated. This approach has an implementation process that has to be followed. These processes consist of the Formation of the Implementation Team, the Development of New Chart of Accounts, Legislative Review, Stakeholder Engagement, and Training (Capacity Building) (Yeboah, 2015).

Table 2: GIFMIS Implementation Processes

GIFMIS Implementation Processes	Min	Max	Mean	Std. Dev.
Technical knowhow of the GIFMIS Implementation Team	1	5	3.72	.836
How well do you understand the concept of GIFMIS	1	5	3.85	.773
Respond to emerging issues by the implementation Team	1	5	3.32	.886
Functionality of the New Chart of Accounts developed	1	5	3.67	.819
The ability to understand the New Chart of Account	1	5	3.51	.826
User friendliness of New Chart of Account	1	5	3.48	.987
How well do you understand the new Legislative Review	1	5	3.37	.890
How workable is the Legislative Review	1	5	3.38	.923
How often do you meet for update on emerging issues	1	5	2.99	.939
Availability of stakeholders to listen to immediate complaints	1	5	3.01	.921
Readiness of stakeholders to listen to complains	1	5	3.10	.949
How quickly do stakeholders respond to issues	1	5	2.93	.901
Level of Training of staff to process documents (requisition, purchase order, invoices etc)	1	5	3.42	.977
Level of Training of staff to approve documents	1	5	3.56	.926
Level of Training of staff to generate reports	1	5	3.16	1.013

Scale (mean) 0 - 2.9= low 3.0 - 3.5 =average 3.51 and above = high

Source: Field survey (2019)

Table 2 reveals the mean values of the processes required to implement GIFMIS. The minimum mean value is one and the maximum is five. It can be observed from the descriptive statistics that largely, out of the fourteen implementation processes only two of the processes have a mean value less than 3. Thus, the majority of the processes have a mean score of above 3. Thus, on average the processes of implementing GIFMIS have been adhered to, which means that the implementers understand the concepts and the technicalities that are involved.

This in the long way will make the policy highly acceptable and will provide a solution to the problem of financial management. But attention should be drawn to stakeholders' responses and updates on emerging issues so that maximum benefits can be derived from the policy. For example, the quick response of stakeholders has a mean value of ($M = 2.93$, $SD = .90$). This means on average about half of stakeholders respond quickly to the process. Meanwhile, on how well do the people understand the concept of GIFMIS, a mean value of ($M = 3.85$, $SD = .77$) was obtained, this shows that on average, a high number of respondents understand the processes of GIFMIS.

Implementation Structures of the GIFMIS

In order to guarantee successful implementation of the process, structures are been put in place to accomplish the task. These structures are financial structures and information technology structures, which have their sub-divisions constituting the GIFMIS implementation structures.

Table 3: Implementation Structures of the GIFMIS

	Min	Max	Mean	Std. Dev
Programmed and performance based budgeting	1	5	3.77	.843
Procurement using Public Procurement Procedures	1	5	3.83	.797
Internal controls measures put in place	1	5	3.66	.850
Human resources put in place to manage and implement GIFMIS	1	5	3.48	.964
Hardware and peripheral devices	1	5	3.49	1.073
Software programs installed	1	5	3.73	.951
Network connectivity	1	5	2.72	1.041
System interface	1	5	3.24	.871
Disaster recovery site to retrieve lost information	1	5	3.08	1.162
Real Application cluster to minimize complexity	1	5	3.14	.864
System security monitoring	1	5	3.31	.991
Scale (mean) 0 - 2.9= low 3.0 - 3.5 =average 3.51 and above = high				

Source: Field survey (2019)

Table 3 shows the values of the implementation structures of GIFMIS. The minimum mean value is one and the maximum is five. It can be observed from the descriptive statistics that almost all the eleven constructs for implementation structures have mean value above three except a network

connectivity, which has an average of 2.72. Procurement using public procurement procedures has the highest mean of ($M = 3.83$, $SD = .80$).

This means overall, the structures, which should be in place for the implementation of GIFMIS, are available and are performing above average of their capacity. Thus, on average the structures have high acceptability of providing a solution to the problem of financial management. Network connectivity, which is the power source for the implementation of GIFMIS, should be looked at because without good network connectivity the policy cannot be implemented. The problem of network is critical to the implementation of GIFMIS especially the MDAs that are close to the borders of Togo that have their connectivity disrupted by foreign networks.

Factors Influencing the Implementation of GIFMIS

According to Hendriks (2012), IFMIS is a very complex information system and therefore presents some major challenges and dangers to its efficient implementation in researching information systems in developing countries. Factors include environmental, organizational, technological, and ethical factors. Others include skills, training, management support, and corruption.

Table 4: Factors Influencing the Implementation of GIFMIS

	Min	Max	Mean	Std. Dev
Governance system (political support)	1	5	3.23	1.167
Commitment of senior managers	1	5	3.45	1.039
Employee commitment	1	5	3.75	.890
Organizational culture	1	5	3.25	.896
Organizational structure	1	5	3.30	.855
Organizational values	1	5	3.27	.840
User attitudes	1	5	3.27	.986
ICT infrastructure / system set up	1	5	3.20	1.076
Back-up power plant	1	5	2.09	1.164
Security and Privacy	1	5	3.23	.978
Funding	1	5	3.10	.918
Scale (mean) 0 - 2.9= low 3.0 - 3.5 =average 3.51 and above = high				

Source: Field survey (2019)

From Table 4, all the factors influencing the implementation of GIFMIS have means above three except back-up power plant, which had a mean of ($M = 2.09$, $SD = 1.64$). Back -up power is less than the average. According to respondents when the main power suppliers, Power Distribution Service (PDS), goes off all other equipment go off, which clearly indicates the difficulty in implementing the GIFMIS policy. There are no other sources of power to operate the computers and other peripheral devices that are used for the implementation of GIFMIS.

The highest mean is ($M = 3.75$, $SD = .89$) which means on average employee commitment to the program is higher than average. This indicates the willingness of the employees to perform and implement the GIFMIS, but if logistics that they need to perform is not provided, working becomes difficult. Additional power plants should be provided in the MMDAs to be used in times when there are power interruption to prevent work from being disrupted.

Impact of GIFMIS on Public Sector Accountability

The main purpose of GIFMIS is to ensure accountability in the public sector. The constituents of accountability in this study include, but not limited to efficiency and effectiveness in revenue collection, transparency, effective dissemination of information for decision-making, maximising payments and commitment control of the fund, improvement in procurement management and improving internal controls.

Table 5: Impact of GIFMIS on Public Sector Accounting

	Min	Max	Mean	Std. Dev
Promoting transparency and efficiency in public accounting	1	5	4.01	.878
Promoting performance and programmed based Budgeting	1	5	4.01	.752
Cracking down on financial malpractices and wasteful public spending.	1	5	3.71	1.106
Improvement in Procurement management	1	5	3.67	.970
Improvement and transparency in the Payroll systems	1	5	3.68	.885
Improving Internal controls	1	5	3.74	.913

Scale (mean) 0 - 2.9= low 3.0 - 3.5 =average 3.51 and above = high

Source: Field survey (2019)

From Table 5 all the constructs for accountability have very high means. This means respondents have largely agreed that the constituents of the impact of GIFMIS on public sector accounting are very high. For instance, two sub constructs, promoting transparency and efficiency in public accounting and promoting performance and programmed based budgeting have means of ($M = 4.01$) and a standard deviation ($SD = .88$ and $.75$) each respectively. This is very high agreement considering the fact that the highest mean is 5. This means that actually the implementation of GIFMIS has a very high rate of maintaining accountability in the District assemblies Financial Management. This high level of agreement to the accountability constructs implies that the MMDAs are ensuring compliance and doing the needful to enhance accountability.

Factor Analysis

Factor analysis is a method used to identify relationships that exist among groups of variables and their sub constructs. It is used mostly in scale development and also for pruning down items to a smaller number for efficient analysis. As posited by DeVellis (2003), this method helps discover underlying constructs that may not have been anticipated. It also indicates factor patterns with larger samples that are more stable than smaller samples. Hence, following Stack (2009), a sample size of 300 as recommended has been chosen.

Reliability Tests

The reliability tests are usually carried out to obtain adequacy of the sub constructs. The scales are usually tested using reliability tests because variables developed from summation of related items designed to measure a

targeted construct must be examined to ensure they are able to measure the said variable. The purpose of the tests is to ensure that the same list of items will elicit the same response if the questions are administered again with the same respondents. The variables from the constructs are only reliable when they are stable and produce the same response repeatedly (Reynaldo and Santos, 1999). The purpose is to ensure accuracy and precision of the measurement approach and to ensure the instrument can produce the desired results and also suitable for factor analysis.

Cronbach's Alpha

The reliability index in this study is the Cronbach Alpha. The index ranges between 0 and 1 with values close to 1 as being high and very good index for the study, since it indicates a very good scale generation (Nunnally, 1978).

Table 6: Cronbach's Alpha

Measure	Value
Cronbach's Alpha	.942
Number of items	316

Source: Field survey (2019)

From Table 6, the Cronbach Alpha is .942. This index clearly shows a high level of consistency that results from the scale is very good for factor analysis. Considering the fact that even an alpha of 0.6 is still good for analysis as indicated by Stack (2009). Thus, when this instrument is issued the consistency that it will elicit from respondents will be (94.2%) repeated.

Test of appropriateness

Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity tests are done to examine how appropriate the variables are for factor analysis. They are correlation testing variables to determine whether the variables correlate for factor analysis.

Table 7: KMO and Bartlett's sphericity

Measure	Value
KMO Measure of Sampling Adequacy	.875
Bartlett's test Critical Value	1748.607
Bartlett's test degree of freedom	55
Bartlett's Test significant value	.000

Source: Field survey (2019)

The range of the KMO values is between 0.5 and 1 for factor analysis. From Table 7, the KMO value of .88 the test is meritoriously adequate for factor analysis. The Bartlett's test of sphericity is also very high with a p-value of 0.000 significance with a high chi square value of 1748.61. These statistical values mean that there are correlations between the variables for factor analysis to be done.

Extraction of factors and interpretation

An Eigenvalue basically represents the amount of information carried by a construct (DeVellis, 2003). As a result, it is used to determine the number of factors to extract from a given construct. The guiding principle is that all factors with Eigenvalue greater than one should be retained and this gives the number of factors to extract while those with Eigenvalue less than one are

ignored. The study conducted factor analysis in order to check whether the variables actually measured the constructs.

Table 8: Total Variance Explain

Components	Eigenvalues	% Variation	Cumulative %
1	13.14	31.858	31.858
2	3.87	16.806	48.664
3	3.01	9.845	58.509
4	2.26	7.137	65.646

Source: Field survey (2019)

From Table 8, the total variance explained result, gives the number of factors suitable for the extraction using the eigenvalue rule as shown. As a result, four factors were obtained based on the Eigenvalue greater than one rule. The rule according to Field (2005) indicates that when the sample size is more than 250 and the average communality is greater than 0.6, then all the factors with Eigen value more than one should be maintained. From the Table 8 four factors can be extracted because they have Eigen value greater 1. The total variance explained from this table is (65%), which is the variations explained by these factors. This variation of (65%) is greater than the required (60%) indicated by Field (2005).

Rotated factor matrix

In factor analysis, not all factors load automatically. In other words, respondents may reject some of the sub constructs as in influencing their decision in IFMIS. As a result, such factors may not load in the analysis. Rotation matrix therefore, achieve clarity by showing the factors that are

relevant or accepted by respondents as being relevant to their work as far as GIFMIS is concerned.

Table 9: Rotated Component Matrix for Implementation Process

Variable	Implementation process
Technical knowhow of the GIFMIS Implementation	
Team	.651
How well do you understand the concept of GIFMIS	.607
Respond to emerging issues by the implementation Team	.594
Functionality of the New Chart of Accounts developed	.664
Understandability of the New Chart of Account	.596
User friendliness of New Chart of Account	.482
How well do you understand the new Legislative Review	.665
How workable is the Legislative Review	.640
How often do you meet for update on emerging issues	.552
Availability of stakeholders to listens to immediate complains	.689
Readiness of stakeholders to listen to complains	.613
How quickly do stakeholders responds to issues	.631
Level of Training of staff to process documents (requisition, purchase order, invoices etc)	.698
Level of Training of staff to approve documents	.716
Level of Training of staff to generate reports	.564

Source: Field survey (2019)

Component one has ten factors loading which are: How well do you understand the concept of GIFMIS, Response to emerging issues by the implementation Team, Functionality of the New Chart of Accounts developed, The ability to understand the New Chart of Account, User friendliness of New Chart of Account, How well do you understand the new Legislative Review and How workable is the Legislative Review loading. These factors are therefore denoted as GIFMIS Implementation Processes (IPG).

Table 10: Rotated Component Matrix for Implementation structures

Variable	Structures for implementation
Program and performance-based budgeting	.658
Procurement using Public Procurement Procedures	.661
Internal controls measures put in place	.706
Human resources put in implement GIFMIS	.663
Hardware and peripheral devices	.726
Software programs installed	.786
Network connectivity	.518
System interface	.677
Disaster recovery to retrieve lost info	.513
Real Application cluster to min complexity	.677
System security monitoring	.722

Source: Field survey (2019)

The component Table 10 has Nine variables loading fall under structures for implementation. These are: How often do you meet for update on emerging issues, Availability of stakeholders to listen to immediate

complains, Readiness of stakeholders to listen to complains, How quickly do stakeholders responds to issues, Level of Training of staff to process documents (requisition, purchase order, invoices etc.) and Level of Training of staff to approve documents. These factors are therefore named structures for implementation (SIG). These four major variables are then used to run the regression analysis.

Table 11: Rotated Component Matrix for Implementation Factors

Variables	Implementation factors
Governance system (political support)	.593
Commitment of senior managers	.786
Employee commitment	.671
Organisational culture	.814
Organisational structure	.859
Organisational values	.756
User attitudes	.691
ICT infrastructure/system set up	.734
Back-up power plant	.246
Security and Privacy	.542
Funding	.727

Source: Field survey (2019)

These are the factors that are relevant to the construct under consideration. In the table, component one has eight factors loading, but one, being Improvement in Procurement management, Commitment of senior managers, Employee commitment, Organisational culture, Organisational structure, Organizational values, Funding, User attitudes and ICT

infrastructure or system setup. These factors fall under factors affecting GIFMIS implementation. Therefore, they are called Factors Affecting GIFMIS Implementation (CAGI).

Table 12: Rotated Component matrix for Accountability

Variable	Accountability
Promoting transparency and efficiency	.809
Promoting performance and program based budget	.778
Crack down and wasteful public spending.	.711
Improvement in Procurement Management	.813
Improve quality of Human Resource	.740
Improve transparency in Pay roll systems	.748
Improving Internal Controls	.837

Source: Field survey (2019)

Component one has seven loadings and all fall under impact of GIFMIS on public sector accounting. These are Promoting transparency and efficiency in public accounting, Promoting performance and program based Budgeting, Cracking down on financial malpractices and wasteful public spending, Improvement in Procurement management, Improvement in quality of Human resource, Improvement and transparency in the Payroll systems and Improving Internal controls. These factors are therefore named as accountability (AC).

Regression Results

To establish the effects of GIFMIS implementation processes, structures for implementation and factors influencing the implementation on accountability, simple multiple linear regression was carried out to establish a

relationship and to achieve the objectives set out in this study. The multiple linear regression was used to test the hypothesis that was set to determine how each of the three independent variables relate to accountability in the district assemblies in the Volta Region.

Table 13: Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.428 ^a	.183	.175	.64460	1.891

Source: Field survey (2019)

The multiple linear regression analysis as presented in Table 13 shows the effect of the regressors on the regressand this is indicated by the magnitude of the coefficient of the regressors expressed as a percentage. To examine the extent to which the regressors explain the model and the R-squared. The Range of the R-squared is 0% to 100% with values close to the upper case being able to explain more of the variability in the dependent variable around the mean. However, the low R-square does not mean a bad or poor model, rather this depends on the type of study being done. From table 13, the model R-square value was $r^2(314) = .18$, which implies the stated model explains (18%) of variations in the regressand. Thus, the independent variables explain (18%) of the dependent variables.

The Dubin-Watson statistic shows the level of existence of autocorrelation in the error term. From table 13, at the (5%) level of significance, the Dubin-Watson statistic was 1.89. This means autocorrelation does not exist in the model. Hence, the multiple linear regression can be conducted for the data.

Table 14: Analysis of Variance (ANOVA)

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	28.997	3	9.666	23.262	.000 ^b
1	Residual	129.640	312	.416		
	Total	158.637	315			

Source: Field survey (2019)

The analysis of variance (ANOVA) is done to check for the any statistically significant differences in the means of the independent variables the error term. Considering the null hypothesis of no differences in the means:

$$H_0: \mu_1 = \mu_2 = \mu_3 = \dots \mu_k$$

And the alternative hypothesis of difference in means

$$H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \dots \mu_k$$

From the ANOVA Table 13, with $[F(3,312) = 23.26, p < 0.05]$, the alternative hypothesis is accepted that the model is statistically significant at the (5%) level of significance. Thus, there is a linear relationship between the three independent variables and the dependent one. Thus, there is a linear relationship between accountability and implementation process of GIFMIS, the structures put in place for GIFMIS implementation and factors affecting the GIFMIS implementation.

Table 15: Model Coefficients of GIFMIS Implementation on Accountability

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.269	.240		9.436	.000
Implementation process for GIFMIS	-.058	.068	-.050	-.849	.397
Structures put in place for GIFMIS	.432	.079	.407	5.465	.000
Factors affecting GIFMIS implementation	0.64	.077	.059	8.31	.000

Source: Field survey (2019)

- a. *Dependent Variable: Accountability*
- b. *Predictors: (Constant), Implementation process for GIFMIS, the structures put in place for GIFMIS and factors affecting GIFMIS implementation.*
- c. *Level of significance: 5%*

Multiple linear regression analysis basically helps the researcher to establish if there is any relationship between a dependent and an independent variables. It tells the extent to which a dependent variable will change in case of a change in the independent variable(s). Thus, multiple linear regression results in the prediction of the response of the dependent variable.

- *Hypothesis 1: There is no significant relationship between GIFMIS implementation process and accountability.*

The first hypothesis of this study is to examine the relationship between GIFMIS implementation processes and accountability among the Municipal and district assemblies in the Volta region. Table 15 represents the estimated coefficients of the independent variables from the data processed from the study. From the table, the study fail to reject the null hypothesis that there is no significant relationship between GIFMIS implementation process and accountability and reject the alternate hypothesis that there is no significant relationship between GIFMIS implementation process and accountability. A change in the implementation process has negative impact on accountability of a magnitude (standardized beta) of $\beta = -.05$, $t(312) = -.85$, $.40 > .05$. Thus, the effect of the implementation process on accountability is not statistically significant but economically significant.

This is negative as a result of the resistance and behavioural attitudes that usually accompany the introduction of new technologies as asserted by Opiyo (2017), that most reforms do not fail because of the content or technical aspects of the reform programs only, but due to human resources capacity and implementation strategy. This confirms the result that the implementation process of GIFMIS can reduce accountability in the District Assemblies if human resources are not taken keenly.

In a related study, Kwakye (2016) suggests resistance to change by some staffs and lack of skills in IT can facilitate the process of implementation are lacking. This study, therefore, confirms the finding that the implementation process affects the GIFIMIS programs in the District

Assemblies. In addition, Chêne's (2009) study is in line with this study's finding that financial system reforms are complex and risky, and therefore makes intensive use of resources and require major procedural changes for its implementation and success.

From the analysis of the regression result, it is observed that the implementation process has a negative coefficient as seen from Table 15. However, the process in general is to inure to the benefit of the process as a whole. Due to this, a further regression is run for the major components of the regression process in order to identify the exact sub construct of the process that has the negative influence on the accountability.

The regression result and the interpretation are as follows;

Table 16: Model Coefficients of Implementation Process on Accountability

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.717	.236		11.519	.000
Implementation team	.155	.069	.148	2.242	.026
for GIFMIS					
1 Chart of Account	-.131	.059	-.137	-2.20	.028
Capacity building for	0.18	.056	.022	.322	.747
Imp					
New Legislation	.291	.064	.303	4.587	.000

Source: Field survey (2019)

Dependent Variable: Accountability

Predictors in the Model: (Constant), New Legislation, Chart of Account, Implementation Team, Capacity Building

Level of significance is 5%

The objective of this extra analysis is to identify the exact independent variables under the implementation process that have a negative effect on accountability in the MMDAs in the Volta Region. The table above represents the estimated coefficients of the independent variables from the data under the implementation process in the study. From the results presented in Table 16, only chart of account has a negative impact on accountability. Thus, unit increase in the chart of account results in .13 fall in the accountability when GIFMIS is implemented. In percentage terms, a (1%) change in the chart of account would result in a (13%) fall in the accountability of MMDAs in the Volta region. This change is statistically significant since the p-value is .03 is less than the .05 for statistical significance. Thus, the negative influence of the implementation process is as a result of the chart of account in the sub construct of the implementation process of GIFMIS.

Meanwhile, the formation of the implementation team has a statistically significant impact of the accountability in the MMDAs. For example, a percentage increase in the implementation would bring about almost (16%) increase in accountability and this variable is both statistically and economically significant. This means an implantation team with the requisite training and skill who embrace GIFMIS would lead to accountability. This confirms several studies that indicates that when the implementers accept an IT program, it may lead to success (Opiyo, 2017). The formation of the implementation team is directly linked to the capacity of the implementers.

Anytime the capacities of implementers are enhanced or meet the required level for implementation of an IT program, the result is a positive outcome. It is therefore not surprising that this variable has a positive impact

on accountability, although it is statistically not significant in this study but economically significant. This is because a (1%) increase in capacity of implementers may lead to (18%) positive effect in accountability in the MMDAs. This finding is even supported by Kwakye (2016) as indicated earlier, who intimates, resistance to change by some staffs and lack of skills in IT which can facilitate the process of implementation are lacking. In this study new legislation has a positive influence on accountability in the implementation of GIFMIS in the MMDAs. From the table above, new legislation will have a huge impact on accountability both statistically ($p\text{-value} = 0.000$) and economically. Statistically, for example a percentage increase in new legislation will result in a whopping (29%) increase in accountability of the MMDAs in the Volta Region. This finding is instructive enough in that the absence of legislations may cause implementers to undermine the process and compromise the system.

- *Hypothesis 2: there is no significant relationship between GIFMIS implementation Structures and Accountability.*

The second hypothesis of this study is to assess the relationship between GIFMIS implementation structures and accountability among the Municipal and district assemblies in the Volta region. From the regression results in Table 12, $\beta = .41$, $t(312) = 5.47$, $p < .05$. Which confirms that the study rejects the null hypothesis that there is no significant relationship between GIFMIS implementation Structures and Accountability and fail to reject the alternate hypothesis that is a significant relationship between GIFMIS implementation Structures and Accountability means the structures put in place for the implementation of the GIFMIS adequately predicts or

influences accountability in District Assemblies. Thus, a unit increase in the structures put in place for the implementation of GIFMIS will lead to a .41 increase in the accountability of the Assemblies. This means there is a direct relationship between accountability and structures put in place for the implementation of GIFMIS.

According to the Public Procurement Act, 2003 (Act 663) of Ghana, the rationale for procurement rules is for governments to have the best value for money when purchasing (Simson, Sharma and Aziz 2011). The finding from this study aptly supports this process in ensuring accountability. According to Simson et al., (2011), an Information Technology structure that provides large-scale automation reduces the incidence of corruption in the public sector. Owusu (2012) and Weerakkody et al., (2008), indicated that organisational structure can provide support or otherwise, for the technology and organisational growth and thus, serves as an important factor in the implementation of information systems in the public sector. This assertion of these authorities is confirmed by this study as it indicates a significant positive relationship between the structures and accountability.

- *Hypothesis 3: There is no significant relationship between Factors influencing GIFMIS and Accountability*

The third hypothesis of this study is to examine the factors that influencing GIFMIS implementation and Accountability. From the regression results presented in Table 13, the study reject the null hypothesis that there is no significant relationship between Factors influencing GIFMIS and Accountability and fail to reject the alternate hypothesis that there is a significant relationship between Factors influencing GIFMIS and

Accountability. A unit increase in the factors influencing the implementation of GIFMIS will lead to a .60 increase in accountability. This is both statistically significant and economically significant with a $\beta = .06$, $t(312) = 8.31$, $p < 0.05$.

The economic significance results from the fact that a unit increase in the factors will lead to (5.9%) improvement in accountability of the MMDAs. Thus, the factors that influence implementation of GIFMIS predicts accountability in the MMDAs. This finding confirms the studies of Chebet, (2013), Diamond and Khemani (2005) who intimate that middle level personnel commitment to reforms, skill development in IT, lack of financial resources and stability in the political governance system promote IFMIS.

Chapter Summary

This chapter analyse the demographics of respondents using descriptive and inferential statistic such as the mean, factor analysis and regression to analyse the results pertaining to the study. The chapter has presented the level of compliance of the implementation processes and assessed the structures for the implementation using the means. The chapter further presented the relationship between the dependent variable, Accountability (AC) and the independent variables, GIFMIS Implementation Processes (IPG), Structures for Implementing GIFMIS (SIG) and Factors Influencing Implementation of GIFMIS (FIIG) in the Municipal and District Assemblies in Volta Region of Ghana using regression. The results were also discussed in sub-titles, in line with the study objectives.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The last section, chapter five of the study presents the summary of the findings based on the study objectives with conclusions drawn from the findings. Furthermore, recommendations for policy considerations are given and other areas for further research are proposed.

As indicated earlier, the purpose of this study is to assess the implementation of the integrated financial management system by the Municipal and District Assemblies in the Volta Region of Ghana. While the specific objectives are: To examine the GIFMIS implementation processes among the Municipal and district assemblies in the Volta region; to assess structures put in place for the implementation of the GIFMIS among the Municipal and district assemblies in the Volta Region and to examine the factors that influence the implementation of GIFMIS on accountability in MMDAs in the Volta Region.

Summary of Findings

The findings as presented in the fourth chapter are summarised as follows;

GIFMIS Implementation Processes

The study results indicates that, the majority of the processes have a mean score of above 3 and thus, on average the processes of implementing GIFMIS is been adhered to by the MDAs, which means that the implementers understand the processes and the technicalities that are involved. This in effect will make the system highly acceptable and will provide a solution to the

problem of financial management. However, a close attention should be drawn to stakeholders' responses and updates on emerging issues so that maximum benefits can be derived from the policy.

GIFMIS Implementation Structures

The results as observed from the descriptive statistics indicates that almost all the eleven constructs for implementation structures have mean value above three except for network connectivity, which has an average of 2.72. This means overall, the structures, which should be in place for the implementation of GIFMIS, are available and are performing above average of their capacity. Thus, on average, the available structures have high acceptability of providing a solution to the problem of financial management. However, network connectivity, which is the power source for the implementation of GIFMIS, must be paid attention to.

Impact of GIFMIS on Public Sector Accounting

The regression results as presented in table 15 indicates that, a change in the implementation process will have a negative impact on accountability in the District Assemblies. This is because of initial resistance to change that is usually seen with the implementation of IT related programs. A further analysis on the implementation process indicated that, the sub constructs (formation of implementation team, legislative review, chart of accounts, involvement of stakeholders and training) have a positive relationship with accountability except for the chart of accounts. The study therefore suggests that, the implementer should be familiarized with the chart of accounts in order to minimize or eliminate its negative impact on accountability.

Again, per the findings, an increase in the structures puts in place for GIFMIS implementation will lead to increase accountability in the assemblies. The structures put in place for implementation of GIFMIS is seen to have a direct influence on the accountability of the Assemblies. By the findings, the structures for implementation of GIFMIS are both statistically and economically significant. This implies that when good Financial Structures such as Program-based budgeting are monitored and adhered to, Performance-based budgeting, making sure that all activities undertaken by the MDAs are matched with their results, Public procurement are strictly complied with and Internal control fortified the implementation of GIFMIS will achieve a marvelous success in fostering accountability in the Assemblies. Information Technology Structures such as Computer hardware, Computer software, Telecommunications, Human resources and procedures should as well be improved and advanced to meet the current demand of processes and procedures and an appreciable accountability will be achieved. Since an increase in the structures will lead to an increase in accountability. The study's findings conclude that, increasing the factors that influence GIFMIS implementation has significant positive effects on accountability in the District Assemblies in the Volta Region.

The study's results indicates that, a unit increase in the factors influencing GIFMIS will influence accountability by a factor of .64, which can to a great extent change the accountability in the Assemblies. This implies that when factors such as the ethical, environmental, organizational, political and technological are improved, accountability will be greatly enhanced. When these factors are reduced in value such as corruption which is an ethical

factors for example is generally accepted to be right then the purpose of GIFMIS which is to curb malpractices will not be realised. The study therefore suggests that political support for the GIFMIS implementation should be increased since any increase in them, will lead to compliance and the intended benefits in assured. The funding, political and legal power to successfully implement the GIFMIS. Again, environmental factors such as organisational structure, organizational culture, user attitudes, staff, and organisational values should be improved because their improvement or increase would result in an increase in accountability. When the organisational structures are followed, organisational culture is improved, users are motivated enough to portray a good attitude, staff are given quality training then the success of GIFMIS can be assured. Nevertheless, a reduction in these factors will be a hindrance to accountability.

Conclusions

The purpose of the study was to assess the implementation of GIFMIS among MMDAs in the Volta Region. The outcome of the study concludes that, GIFMIS implementation processes have a negative influence on the accountability of the studied District Assemblies. This indicates that implementation process of GIFMIS would be a hindrance in ensuring accountability in the District Assemblies. Upon a careful look, the results indicated that, the chart of accounts as a component of the implementation process is the cause of the negative relationship. This is perhaps the users of the system have no in-depth understanding of the charts of accounts as it is captured by the software. Therefore, care must be taken in introducing IFMIS

so that users do not work against the well thought out plans that aims at improving accountability in the District Assemblies.

The Structures put in place for the implementation of GIFMIS software influence accountability in the studied District Assemblies positively. This means that, the provision of both financial and technological structures by the assemblies would enhance accountability. Thus, when proper structures which consists of financial and technological are put in place, the implementation of GIFMIS would be a smooth one and as a result will enhance accountability. Hence, all the necessary structures for GIFMIS implementation should be made available in their right quantity and quality as well as the at right time.

Finally, it was revealed that factors influencing implementation of the GIFMIS program have a positive significant effect on accountability in the District Assemblies. Organisational factors, ethical factors, environmental factors, political factors and technological factors if improved will promote accountability in the District Assemblies. Therefore, these factors should be well improved to enhance accountability.

Recommendations

Based on the study's findings, the following recommendations are made to the respective stakeholders involved in the GIFMIS implementation.

To the Controller and Accountant General's Department, they must ensure that necessary trainings are organised for the users of the system especially on the chart of accounts to enable them gain proper understanding of the Chart of Account which in return will yield a positive results to enhance accountability.

To the development partners, it is recommended that, they intensify their supervisory role as well as provide the necessary funding which could be used to provide the necessary structures such as advance Computers with specifications and its peripheral devices, reliable internet facility and an uninterrupted power supply. More funding into the provision of network connectivity should be done to enhance smooth implementation of GIFMIS.

To the district assemblies, it is recommended that, they must ensure that, all the necessary factors that are put in place to enhance the implementation of GIFMIS are strictly adhered to. The factors which includes the organisational structures, values, culture, ethical considerations, political support among others must be strictly adhered to which would promote segregation of duty and prevent collusion and hence would enhance accountability.

Suggestions for Further Research

Much as the sample size is adequate for generalization, a nationwide study with larger sample size may yield other interesting results. Hence, it is suggested that the study be done to cover all MMDAs in Ghana. In addition, other variables may be included to investigate their effect GIFMIS implementation on accountability in the Assemblies.

Chapter Summary

This chapter presents the summary of the findings based on the study objectives with conclusions drawn from the findings. Furthermore, recommendations for policy considerations are given and other areas for further research are proposed.

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APPENDICES

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING

SURVEY QUESTIONNAIRE

TOPIC: ASSESSMENT OF THE IMPLEMENTATION OF GHANA INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM AMONG MUNICIPAL AND DISTRICT ASSEMBLIES IN THE VOLTA REGION.

Introduction:

I am a post-graduate student at the University of Cape Coast studying Masters of Commerce Accounting. As part of successful completion of this programme, I am conducting a research into GIFMIS implementation in public sector financial management specifically MMDAs in the Volta Region. Your response to this research will be confidential and will be used exclusively for academic purposes. Thank you in anticipation of your cooperation.

PART A: PERSONAL INFORMATION

1. Gender: Male ☐ Female ☐
2. Age: Up to 25 years ☐ 26-35 years ☐ 36-45 years ☐
Above 45 years ☐
3. Level of education: Certificate ☐ Diploma/ HND ☐ Graduate ☐ Post
Graduate ☐ any other (specify).....
4. Indicate your Department: Account ☐ Internal Audit ☐ Budget ☐
Stores ☐ Any other (specify).....
5. Indicate your position: Finance/Account officer ☐ Budget Analyst ☐
Store keeper ☐ Internal Auditor ☐ Any other (specify).....
6. Years of working in the department.
Less than 1 year ☐ 1-5 years ☐ 6-10 years ☐
Over 10 years ☐

PART B: GIFMIS IMPLEMENTATION PROCESSES

Assess the following GIFMIS implementation process. Please use the scale to rate your view on these issues: where 1= very low, 2= low, 3= moderate, 4= high and 5 = very high

QN	GIFMIS implementation processes	1	2	3	4	5
7	IMPLEMENTATION TEAM					
i	Technical knowhow of the GIFMIS Implementation Team					
ii	How well do you understand the concept of GIFMIS					
iii	Respond to emerging issues by the implementation Team					
8	CHART OF ACCOUNT					
i	Functionality of the New Chart of Accounts developed					
ii	The ability to understand the New Chart of Account					
iii	User friendliness of New Chart of Account					
9	NEW LEGISLATIVE REVIEW (PFM)					
i	How well do you understand the new Legislative Review					
ii	How workable is the Legislative Review					

10	INVOLVEMENT OF STAKEHOLDERS IN GIFMIS IMPLEMENTATION					
i	How often do you meet for update on emerging issues					
ii	Availability of stakeholders to listens to immediate complains					
iii	Readiness of stakeholders to listen to complains					
iv	How quickly do stakeholders responds to issues					
11	TRAINING SESSIONS (CAPACITY BUILDING)					
i	Level of Training of staff to process documents (requisition, purchase order, invoices etc)					
ii	Level of Training of staff to approve documents.					
iii	Level of Training of staff to generate reports					
12	Willingness of your assembly to accept and implement change					
13	Assembly's communication of GIFMIS assessment results					

PART C: THE STRUCTURES PUT IN PLACE FOR THE IMPLEMENTATION OF THE GIFMIS.

What is your level of agreement with the functionality of these structures for the implementation of GIFMIS? Please use the scale to rate your view on these issues: **1** = Very dysfunctional. , **2** = Dysfunctional, **3** = Undecided, **4** = functional and **5** = very functional

QN14	Structures Put In Place For GIFMIS Implementation	1	2	3	4	5
i.	Programmed and performance based budgeting					
ii.	Procurement using Public Procurement Procedures					
iii.	Internal controls measures put in place					
iv.	Human resources put in place to manage and implement GIFMIS					
v.	System Set Up					
a	Hardware and peripheral devices					
b	Software programs installed					
c	Network connectivity					
d	System interface					
vi	System Security and Maintenance					
a	Disaster recovery site to retrieve lost information					
b	Real Application cluster to minimize complexity					
c	System security monitoring					

PART D: FACTORS THAT INFLUENCE THE IMPLEMENTATION OF GIFMIS

Please use the scale to rate your view on how these factors are influencing the implementation of GIFMIS, Where 1= very low, 2 = low, 3= moderate, 4 = high and 5 = very high

15.	Factors affecting GIFMIS implementation	1	2	3	4	5
i	Governance system (political support)					
ii	Commitment of senior managers					
iii	Employee commitment					
iv	organisational culture					
v	Organisational structure					
vi	organizational values					
vii	user attitudes					
viii	ICT infrastructure / system set up					
ix	Back-up power plant					
x	Security and Privacy					
xi	Funding					

PART E: IMPACT OF GIFMIS ON PUBLIC SECTOR ACCOUNTING

The following statements relate to components of IFMIS. Rate the extent to which GIFMIS has affected each of these components in your MMDAs.

Where 1= very low, 2= low, 3 = moderate, 4 = high and 5 = very high

16	Components of GIFMIS	1	2	3	4	5
i	Promoting transparency and efficiency in public accounting					
ii	Promoting performance and programmed based Budgeting					
iii	Cracking down on financial malpractices and wasteful public spending.					
iv	Improvement in Procurement management					
v	Efficiency and Effectiveness in Revenue Collection					
vi	Improvement and transparency in the Pay roll systems					
vii	Improving Internal controls					

17. State peculiar challenges that the implementation of GIFMIS is facing in your MMDA

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