

The influence of Change Management in Enterprise Resource Planning (ERP) Systems Implementation: Case of IFMIS of Kenya

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FILE	TOBIAS_CHECK_3.DOCX (2.1M)	WORD COUNT	9289
TIME SUBMITTED	15-NOV-2016 02:48PM	CHARACTER COUNT	62941
SUBMISSION ID	737602669		



THE UNIVERSITY OF NAIROBI
School of Computing and Informatics

**The influence of Change Management in Enterprise Resource Planning (ERP) Systems
Implementation: Case of IFMIS of Kenya**

By

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P54/79565/2015

Supervisor

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**A research project submitted in partial fulfilment of the requirements of MSc in
Information Technology Management**

2016

DECLARATION

7

This research proposal is my original work and has not been presented to any other institution for the award of academic certificate.

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This research project has been submitted for examination with my approval as the University

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ACKNOWLEDGEMENTS

I sincerely thank the Almighty God for His mercy and providing means to carry out this study. I owe an immense debt of gratitude to my supervisor, Dr. Agnes Wausi for her invaluable support towards this project. I also appreciate all those who agreed to be interviewed without which this project would not have been possible. Special thanks go to the panellist of lecturers who offered valuable advise and my colleagues for their encouragement. To each of the above, I extend my deepest appreciation.

DEDICATION

The research project is dedicated to my loving wife Rachael who has been a great source of inspiration and joy throughout my daily endeavours to attain my full potential and to my wonderful family members for their unconditional love, patience and support throughout the course of this project

ABSTRACT

Developing countries are increasingly investing heavily in information systems management to support public finance management reforms. In Kenya, the government adopted IFMIS to enhance efficiency and effectiveness in public financial management and service delivery to citizens. The process of planning, accounting, expenditure management and control, budgeting, audit and reporting are interconnected by IFMIS. The national government of Kenya has undergone and is currently undergoing a series of significant information system changes. In the present day work environment such changes in organizations are expected. However, this means that the workforce has to adjust their thinking and practices to respond to the changing needs and expectations demanded of them by their governments. In this regard the study sought to examine the influence of change management in Enterprise Resource Planning implementation mainly Integrated Financial Management Information System. Empirical data was collected via a survey questionnaire with the respondents being participants from Accounts, Finance, Procurement, and ICT departments in the Government Ministries. Stratified sampling was used for a sample of 126. Data was analysed using descriptive statistics and regression. The result suggests that organisation leadership and preparation for change positively influenced the behavioural and productive outcome of the ERP implementation. This study recommends that while implementing ERP projects it is important to understand the organisational environment, embrace firm leadership, and build a change capacity. In essence, this study demonstrates the need for public sector entities to embrace change management initiatives in ERP implementation to achieve the desired result.

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LIST OF ABBREVIATIONS

ICT Information and Communication Technology

PFM Public Finance Management

IFMIS Integrated Financial Management Information System

ERP Enterprise Resource Planning

TAM Technology Acceptance Model

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Information system is regarded as essential in enhancing the competitiveness of an organisation and its use is increasingly becoming a necessity. Each organizations depend on information to make critical decisions hence the need for large ERP systems such as IFMIS to automate key aspects of the business. The huge investment and growth in adoption depict organizations preference for ERP system. ERP allows organisation to integrate various processes across different functional areas in attempt to improve efficiency and improve productivity.

In spite of the benefits, there is evidence of failure in ERP projects. Ciric and Rakovic (2010) observed that 44% of the projects failed. However, the author also note that the percentage of successful implementations is growing.

In Kenya the government has continuously carried out public finance management (PFM) reforms intended to boost up accountability and transparency. Budget formulation and execution, public procurement, revenue collection, internal and external audit, parliamentary oversight, payroll and pensions, public debt and guarantee accounting, procurement and reporting have been targeted in the process. To achieve the objective, the government of Kenya through the National Treasury adopted Integrated Financial Management Information System (IFMIS), an Enterprise resource planning system as a means to automate key public financial management processes for efficient public service delivery. IFMIS is a complex, difficult, risky, costly and time consuming to implement and mostly affects the people.

IFMIS to a great extent affects organisational processes and public finance governance. (IFMIS Strategic Plan 2013-2018). The implementation of IFMIS has won innovation and public service award. Despite the achievements, it is worth to note that acquiring a good information system doesn't prevent the likelihood of user resistance, confusion or falling back to disserted old business processes. Ciric and Zakovic (2010), one of the frequently faced challenges is the management of change due to resistance which is neither new nor surprising, in fact resistance is normally faced whenever a change is introduced in human life. However, in the public sector, expecting resistance and planning for it allows a proactive and effective management of objections and reservations that could arise.

Change management is considered as an important aspect as regard transition to new implementations. (AL-Ghamdi1, Albeladi & Atiah, 2013). IFMIS like any ERP significantly impacted on culture, organisational structure, business processes, procedures and rules in the national government. It is therefore critical that appropriate methods, best practices, tools and procedures are

used in the implementation to increase chances of success in order to fundamentally change the way people work and behave. (Hawking & Stein, 2004). In addition, as organisation evolve, the ERP must adapt to the changing needs and processes (Hawking and Stein, 2004).

As result the objective of change management besides overcoming employees' resistance is to maximize the institution's capacity to achieve success. (Kahari and Gathogo and Wanyoike, 2015). Change is unavoidable and should not be ignored in information system projects. Change management could thus be used to mitigate against anticipated risk .

1.2 Problem statement

Government all over the world are adopting ways to modernize and streamline delivery of key services to improve public financial management. The importance of sound public sector financial management has led to the implementation of ERP as the most important use of information technology by governments. Unlike the impressive gain in increase productivity in the private sector, a number of governments agencies are still on their way to cope with the ERP implementation. The contexts within which the government agencies operate is perceived to be bureaucratic, competing interest, complacent employees and disgruntled clients. The adoption of ERP has also brought about changes in processes, roles and culture of the organisation.

The government of Kenya rolled out IFMIS in the year 2005. Since its inception, IFMIS has been largely implemented by the National Treasury as a system of public financial management in the Central Government. To better manage the project IFMIS department was formed under the National treasury of Kenya. The department has continuously undertakes reviews as reflected in the Strategic Plan to capture the successes, challenges and lessons learnt. IFMIS has been implemented but organisational change may still need to be comprehensively addressed in some functions. Wider staff involvement and collective participation are highlighted as important elements in the success of any change program (Senge, 1990).

Previous studies have focused mainly on the critical success factors in implementation of IFMIS. However, IFMIS implementation especially in the public sector have not been sufficiently un earthed hence the lack of clarity on the implementation experiences. To better understand how individuals inside public sector organizations are navigating the complex changes they face on a daily basis. It is on this basis that the study intends to investigate the influence of change management on ERP implementation in governments the focus being on IFMIS that appear successful in the national government of Kenya.

1.3 Research Questions

The research is based on the following questions:

- a) How does Organisational leadership influence ERP implementation?
- b) How does Organisational change capacity influence ERP implementation?
- c) What is the influence Organisational environment in driving change in ERP implementation?
- d) What is the outcome of change in terms of productive and behavioural dimensions?

1.4 Significance of the Research

This research was intended to refine existing knowledge of the area of change management in ERP projects in public sector.

Policy makers are expected to make more informed decisions while having a clear understanding of the issues that face implementation of information systems hence proper formulation and enforcement of effective implementation regulations and procedures.

The academicians and other researchers may stimulate further research on matters of change relating to management information systems since the findings provided a reference framework.

2.1 Introduction

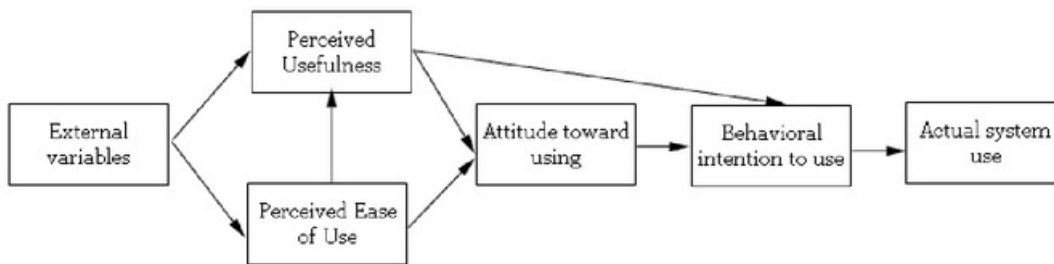
This chapter focuses on the review of various studies that have been conducted by other researchers mostly books, journals and study materials.

2.2 Theories of Information Systems Implementation

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2.2.1 Technology Acceptance Model

Technology Acceptance Model (TAM) has been the most popular model even though several models have been proposed and suggested. The theory by Davis, (1989) was used to predict how systems would be accepted by users. The model suggests that perceived usefulness and perceived ease of use could affect acceptability information systems. The two factors hypothesised by Davis (1986) as having great influence on attitude towards an information system and could determine whether a system is rejected or accepted. TAM has been criticised for ignoring the social influence.



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Figure 1: Technology Acceptance Model, Source. Davis, Bagozzi et Warsaw (1989)

2.2.2 Diffusion of Innovation

Rodgers (2003), points out that innovation is communicated within members of a social setup. It seek to explain how innovation is taken up in a population (Robinson, 2009) outlines the need to understand the catalyst for innovation adoption, the various segment and the importance of peer to peer conversations.

Khan and Woosley (2011), observes that some o business initiatives involving IT tend to fail. Robinson, 2009 indicates that triability; complexity, relative advantage; compatibility; and observability.

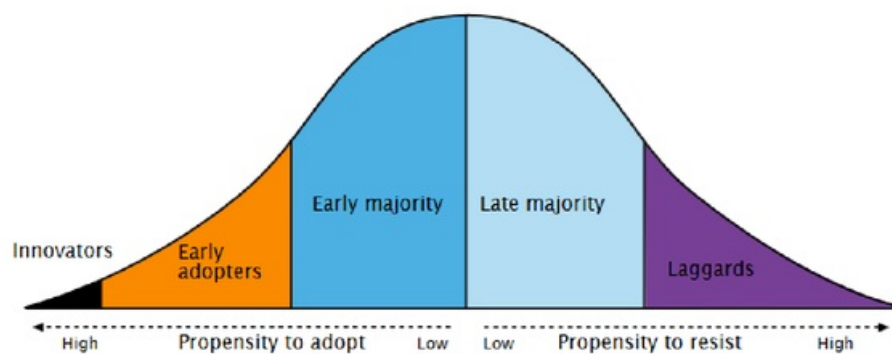


Figure 2: A summary of diffusion of Innovation, Source: Robinson 2009

Population viewed in terms of early adopters, early majorities, late majorities and laggards depending on the tendency to adopt a particular innovation:.

Similarly, ERP popularity is attributed to the ability to integrate most aspect business to realise efficiency and effectiveness(Akoa and Ozer, 2014). Scholars have tried to identify the important factors leading to the successful implementation. According to AL-Ghamdil and Albeladi and Alsolamy, (2013) some of critical success factors could include: *Top Management Support; Business Process Reengineering; Change Management; Consultant and Vendor Support; Management of Risk; User Involvement; Organizational Culture; User Training and Education*

On the other hand Hawking & Stein (2004) highlighted some of the barriers to ERP implementation as: *Insufficient Training, Poor governance structure, Inadequate Process Engineering, Inadequate Staffing levels, in cohesive team, improper allocation of resources, poor software functionality, inadequate support and maintenance, poor software performance and poorly done upgrades.*

12 2.2.3 Unified Theory of Acceptance of Technology (UTAUT) Model

An information system acceptance model consolidated from other acceptance models that seek to explain the likely success of adoption of a technology. Taiwo and Downe (2013) observes that the

model is dependent on the influence on job performance, ease of use of the system, understanding of the need of the new system, and supportive conditions within the organisation to determine intentions and usage. Gender, age, experience and voluntariness could be used in predicting behavioral intention to use a technology.

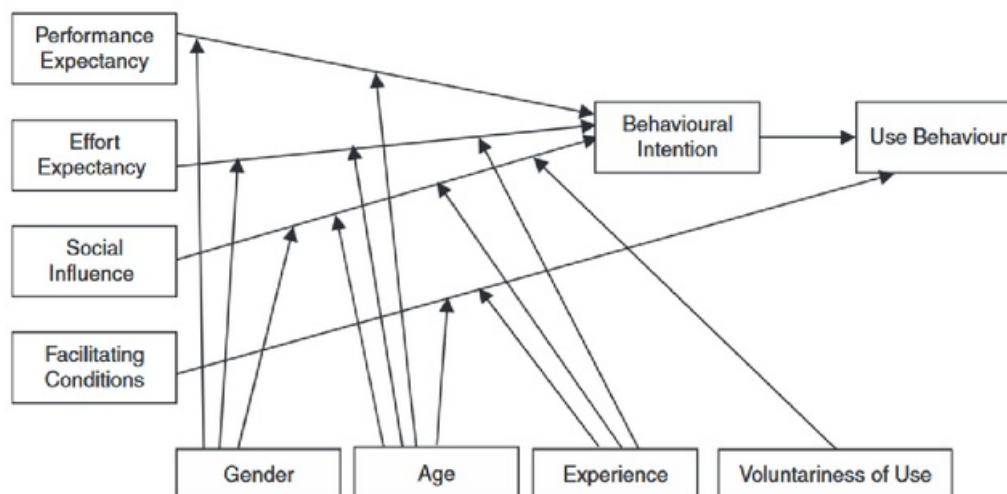


Figure 3. five segments of population or social network, Source: Venkatesh et al. (2003)

2.3. Theoretical Perspectives to ERP Implementation

2.3.1 Project Management Perspective

Seo (2003) argues that for a successful ERP implementation excellent project management is needed. Huge projects may take longer time to implement without proper project management. The focus is mainly on the aspect of scope, schedule and cost. The team composition that is diverse across function in an organisation is critical. In some instance the scope and schedule could underestimated or cost overestimated and therefore the projects require a holistic view to ensure a smooth implementation.

Similarly Dezdar & Ainin (2011), is of the opinion that project management requires a implementation plan, strict timelines and monitoring and evaluation.

Chen, Law, and Yang, (2009) considers a project implementation to be in phases beginning with *initiation*, *planning phases*, *execution*, *controlling* and *closing phase*. The implementation taking into account clear communication, project participants, monitoring of performance. Team composition, competencies, and governance structure may determine the success project implementation.

2.3.1 Change Management Perspective

The realisation of significant changes implemented in a controlled and systematic manner. (Devi and Charan, 2013), Organizations will remain, however people are bound to change and therefore the notable difference could be on the number employees impacted. Goals or objectives may not be fulfilled without a proper change management. (Bourda, 2013)

Bagheri & Cole & Clerk, (2014) argues that the central premise of change management is that engaging people increases the likelihood that change will not only be accepted but that productivity will also increase. ERP implementation could be taken negatively especially if viewed to cause job loss. Aladwani, (2001) observes that ignoring the soft issues could significant derail the expected benefits from the implementation of ERP.

Ciric and Zakovic (2010), points out that there are several approaches to ERP change management strategy implementation depending on aspects, such as organisational structure, culture, top management, resources availability, attitude toward change, or satellite facilities.



Figure 4: Change management Best Practise Source USAID 2015

In best practise ‘bottom-up’ change approach may be appropriate and easier to incorporate. Key stakeholders are more likely to own a change if it is initiated at the working level rather than having it imposed by leadership or outside parties. However, it is not always possible or practical in the public sector for organic change to occur, so a ‘top-down’ approach may be required (USAID,2015)

Perceptions of the top management, employees, experts, and other stakeholders of an organization could be used to gauge the benefits of implementation of ERP. (Amini and Safavi, 2013). When

there is positive perception there is likelihood that they will be more willing to try the system especially if it emanates from the top management. (Al-Shamlan & Al-Mudimigh, 2011)

Sources of resistance to change

The main aim of change management is to overcome resistance by the aligning the people and culture with strategic direction of the organization. Most researchers argue that it is not possible to be aware of all expected sources of resistance. However, acknowledging and understanding the most common reasons people object to change allows a window to address these factors. Some of the factors could be summarised as follows based on the review of the literature: *Fear of the unknown; Poor communication; Misunderstanding; Lack of capacity in terms of resources or budget, skills to make the transition very well; Lack of Engagement; Change in the status quo; Low trust and lack of Benefits and rewards.* According to Heiska (2014), Mishandling change may as well lead to resistance.

2.4 Integrated Financial Management Information System(IFMIS)

An IFMIS Department which has the mandate of designing, spearheading and managing the Integrated Financial Management Information System re-engineering process was established within the National Treasury with IFMIS academy section for training users of the system. The IFMIS system is utilised by ministries, departments and agencies in the central government, and county governments as well. IFMIS introduction was based on the flaws identified by the Ministry of Finance and Economic Planning's ICT Master plan 2001-2005.

The system automates planning, budgeting, expenditure management and control, accounting, audit, procurement and reporting as used for public financial management in Kenya.

IFMIS is operational in both the National and County Governments. The general principle of IFMIS is to ensure that public resources are safeguarded by minimising the risks. The implementation has seen the reduction in response time, enhanced ability to generate reports, improved data security, and provision of remote access that limit chances of possible fraud and improper spending.

IFMIS Strategic Plan (2013-2018) intends to promote awareness on stakeholders, ensure completion of the modules, cater for the implementation in the counties, build capacity for the officers and ensure sustainability

2.5 Change Management strategies for Successful ERP Implementation

Different authors have different views of the strategies and scope of the change management. It is required to prepare users, manage anxiety, reduce resistance and influence user attitudes towards that new system.

Kotter 's Model

According to Kotter (1996), offers a good starting for change management irrespective of the size of the organisation. The model could guarantee successful change if all the phases are followed since each stage is equally significant.



Figure 9: Kotter's Model, Source Mattyford,

McKinsey 7-S

The model is applicable to various kinds of project implementation regardless of the scope. It is viewed as a holistic approach that comprises strategy, structure and systems as hard elements while as skill, staff, style and shared as soft elements. An effective organizational change requires a balance of the seven elements (Bagheri and Cole and Clerk, 2014).

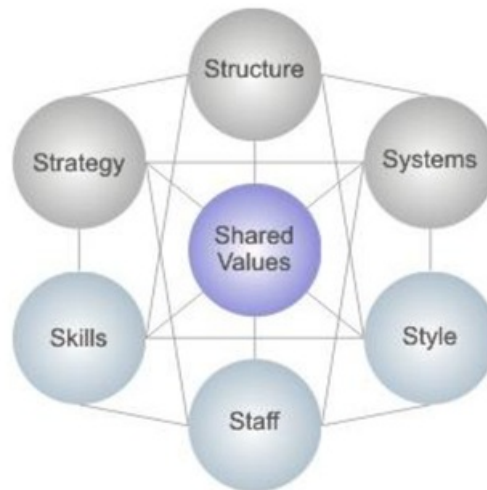


Figure 5. McKinsey 7-S framework, Source McKinsey.

Kurt Lewin's Change Model

A three stage process that commence by comprehending the reasons for change by preparing the organisation for participation. It may take time and clear communication for people to embrace the new direction. The new ways would then be inculcated within the culture of the organisation to sustain the change (Bagheri and Cole and Clerk, 2014)

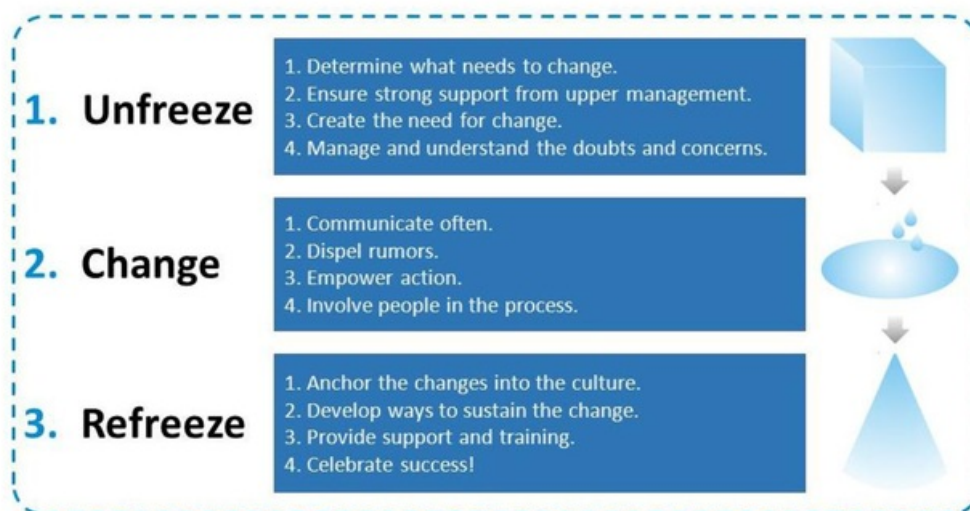


Figure 6: Lewin's 3 stage Change Model, Source Rehberg.

ADKAR Model - Prosci

Bagheri and Cole and Clerk(2014), points out that model Model can be applied to management of projects. The change is determined through awareness, the desire, ability and reinforcement of change.

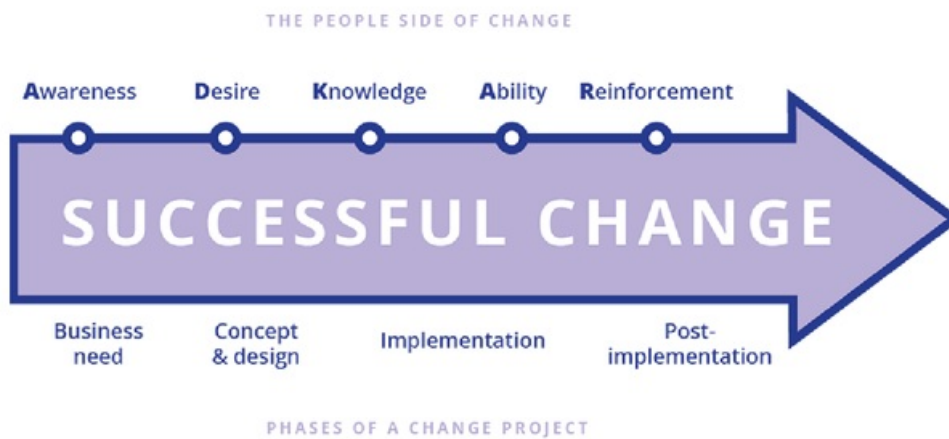


Figure 7: ADKAR Model, Source Prosci.

2.6 Conceptual Framework

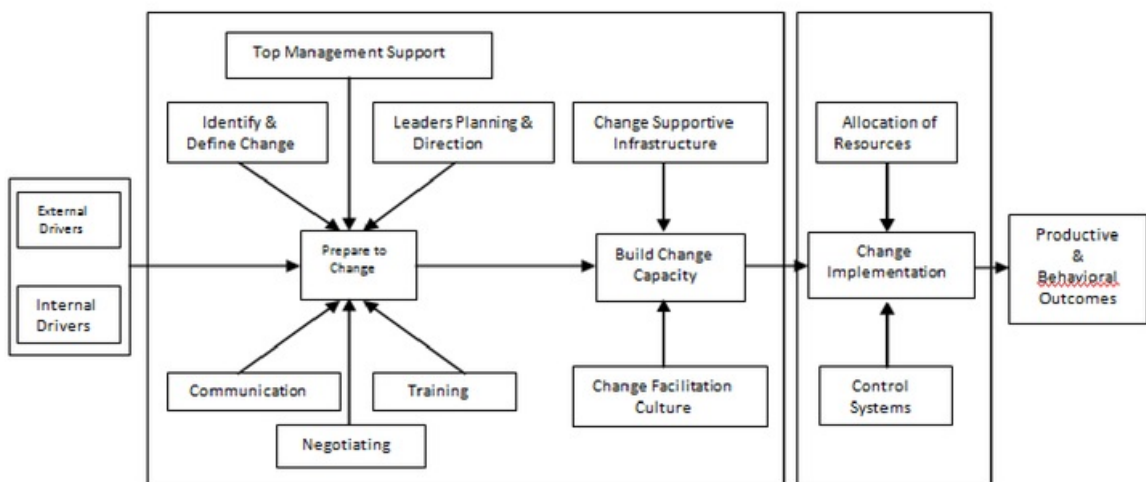


Figure 8: Adopted Change Management Model (Source: Devi and Charan, 2013)

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter provides approaches that was applied in collection, analysis and interpretation of data.

3.2 Research Philosophy

Positivism based philosophy was used for the study on the basis that science is an only way to learn about the truth. A structured method, combining logical deductions with empirical observation

3.3 Research Design

Descriptive research will be applied to the study. This approach is considered appropriate for this study because of demonstrating the relationships and identifying the patterns, trends among the various change management variables.

3.4 Population sample

The population comprised of the national government of Kenya (18 ministries) employees working in the Accounts, Finance, Procurement and ICT departments. It is crucial to determine an optimum sample taking into account efficiency, representativeness, reliability and flexibility. (Kothari, 2004). According to ICT Authority, IFMIS had 1352 trained users at the national level by the year 2015. However, it is worth noting that not all trained employees use the system.

3.5 Sampling

Stratified random sampling was used to select the Accounts, finance, procurement and ICT staff to participate in the study since only specific departments are using the system with the departments being the strata. According to Kothari (2004) if a population is not homogeneous, then stratified sampling technique could be applied.

At least 30 respondents is required as a general rule of thumb, however for larger populations a sample of 10% is representative. (Gay,1981)

Sample size

Department	Number per Ministry	Ministries	Total Sample
Accounts	3	18	54
Finance	2	18	36
Procurement	1	18	18
ICT	1	18	18
Overall			126

Table 1: Sample size

The size of the sample was sufficient in tackling the objectives within the short period of the research.

3.6 Data Collection

Questionnaires, incorporating both structured and unstructured questions items was used to gather the data. The questionnaire was developed having in mind the research questions. The questionnaires was self-administered delivered and collected from the respondents by the researcher. The questions were based on the study questions and presented in the Likert scale.

The questionnaire was adopted because it allows the researcher to collect data even from participants who are far away and data collected is easy to analyze. According to Mugenda and Mugenda (2003), questionnaires is cost effective, free from the bias of the researcher, giving the respondents enough time for tackling the questions. The questionnaire will be tested prior to ensure that the questions are clear, well understood by the respondents, and to reduce inadequacies or biasness. Secondary data such as strategic plan was scrutinized.

3.7 Data Analysis

Before processing the data, the completed questionnaires was sorted, checked and edited for completeness and consistency and coded. Using SPSS software to generate the percentages, frequencies, means and variance on each variable for clarity of the findings and to enhance explanation and interpretation of the data.

3.8 Operationalization of the research variables

Question	Variables	Component	Operational Definition	Data Collection method	Analysis method
Q1	External drivers	Factors that create urgency to change	<ul style="list-style-type: none"> Political, Changing customer needs, Need for efficiency and performance, technology, Government policy 	Survey	Quantitative
	Prepare to Change				
Q2	Identify and define change	Vision, goals and objectives	<ul style="list-style-type: none"> Level of understanding of the goal and objectives shared vision 	Survey	Quantitative
Q3	Leadership Planning and direction	Readiness for change /Environment /	<ul style="list-style-type: none"> Work environment assessment (context of the ministry) Degree of motivation towards change Existence Change teams Existence of implementation strategy Level of resistance pre implementation Level of resource mobilization Level of power distribution/engagement Level of Determination of risks and identification obstacles 	Survey	Quantitative
Q4	Top management support	Commitment	<ul style="list-style-type: none"> Level of management support during implementation Budget allocation Level of trust/Confidence on top management level of participation of users Good Decision making and actions (delays or prompt) Receptive to new/different ideas Level of reward or celebrating short time gain Level of ownership/empowerment 	Survey	Quantitative
Q5	Communication	communication effectiveness	<ul style="list-style-type: none"> Level of awareness Accuracy of information Availability of Feedback mechanism 	Survey	Quantitative
Q6	Negotiation	Give and take	<ul style="list-style-type: none"> Level of Team cohesion Conflict resolution mechanism existence 	Survey	Quantitative

Q7	Training	training effectiveness	<ul style="list-style-type: none"> • Level of skills/Competencies • Quality of training • Knowledge creation/transfer 	Survey	Quantitative
	Build Change Capacity				
Q8	Change Supportive Infrastructure	Infrastructure	<ul style="list-style-type: none"> • Sufficient infrastructure 	Survey	Quantitative
Q9	Change Facilitation Culture	Reactions to change Employee readiness for change	<ul style="list-style-type: none"> • Level of support values system (Openness, Transparency, Accountability) 	Survey	Quantitative
	Change Implementation				
Q10	Allocation of Resources	Adequacy of Resources	<ul style="list-style-type: none"> • Availability of funds/budget • Availability of competent human resource 	Survey	Quantitative
Q11	Control Systems	Availability of Controls	<ul style="list-style-type: none"> • Evaluation of the effects of the change program • Review meetings • Tracking progress 	Survey	Quantitative
Q12	Productive outcomes	Effect of change	<ul style="list-style-type: none"> • Degree of usage/Utilization • Increase in work performance • Higher rate of Change acceptance • Improved Service 	Survey	Quantitative
Q13	Behavioral outcomes	Effect of change	<ul style="list-style-type: none"> • level of acceptance and compliance • Level of meeting expectations (objectives, goals) • Desire to continue in the work environment • Desire to repeat the experience • Level of resistance post implementation 	Survey	Quantitative

4.1 Introduction

A total of 126 questionnaires were distributed and only 91 were collected having been filled completely. This constituted a response rate of 72% which can be considered as a fair result. Respondents from different ministries in identified departments were involved to ensure the fairness of the research process. The analysis was done by analyzing questionnaires collected from officers using the IFMIS system. A five point likert scale was scaled down to a three point scale for the use of the report.

4.2 Demographic Characteristics

The demographics is presented as follows.

		Percentage
Gender	Male	54.9%
	Female	45.1%
Age	Under 20 Years	2.2%
	21 - 30 years	20.9%
	31 - 40 years	38.5%
	41 - 50 Years	29.7%
	Over 50 Years	8.8%
Highest Level of education	Certificate	16.5%
	Diploma	18.7%
	Undergraduate	56.0%
	Masters	8.8%
	PHD	0.0%
Years of service in the Ministry	Under 5 Years	24.2%
	6 to 10 Years	30.8%
	11 to 20 Years	37.4%
	21 Years and above	7.7%

Table 2: Demographic Information

Majority of the respondents were male at (54.9%) whereas 45.1% of the respondents were female

The level of education may show whether the respondents understood the concept under the study. Majority of the respondents indicated their highest level of education as undergraduate.

Duration of employment has a direct influence on the information given by the respondent. Most of the respondents have been working with the ministry long enough hence giving them a better understanding of the company's change management practices and business processes.

4.3 Change Drivers

Factors driving change are classified into external and internal and based on their scores their influence is determined

Question	Disagree	Neutral	Agree
Political and legal changes	17.8%	14.4%	67.8%
Government rules and regulations	2.2%	14.6%	83.1%
Technological changes	2.2%	10.0%	87.8%
Changes in customer needs	19.8%	8.8%	71.4%
Change in leadership	20.0%	11.1%	68.9%
Structural changes in the Ministry	41.1%	12.2%	46.6%
Resource Constraint	63.8%	12.1%	24.2%

Table 3: factors that drive change

The pressure and urgency for change came from both external and internal environments. Among the external factors include political and legal changes, Government rules and regulations, technological changes and changes in customer needs. However, change is more externally driven than internally.

4.4 Change Preparation

Change preparation requires organization leadership commitment, convincing communication, negotiation, sufficient infrastructure and adequate training.

4.4.1 Organization Leadership

5

The study sought to establish the influence of organization leadership

Question	Disagree	Neutral	Agree
There was a clear plan/vision for IFMIS implementation	11.0%	12.1%	77.0%
The vision and goal for IFMIS implementation were shared by all employees	26.4%	8.8%	64.8%
Top management was actively involved and visible in preparation for change	14.3%	24.2%	61.6%
Top Management asked employees what should change more than they told employees what will change	59.4%	17.6%	23.1%
Top Management support was always there in the preparation for change	10.0%	16.7%	73.3%
Top Management appeared united in their determination to implement IFMIS	14.3%	13.2%	72.5%
Top Management involved the right people/teams in driving change	14.3%	11.0%	74.7%
I trusted in good decision making and actions by Top Management during process of change	23.6%	27.0%	49.4%
Risk were identified, understood and mitigation measures put in place	30.0%	16.7%	53.3%

Table 4: Influence of leadership

Most respondents agree that there was a clear plan/vision for implementation and the vision and goals were shared by all employees, top management were actively involved, supportive and visible throughout the process and united in implementing IFMIS. The strategic direction is clearly outlined in the IFMIS Strategic Plan for 2013 -2018. Top management exercised leadership by being firm and giving direction; it had to work. Even though the change may have been directive users were involved and listened to. The top management were united in the implementation and the right people were driving change.

However, majority of the respondents also disagreed with the statement that top management asked employees what should change more than they told employees what will change indicating that directive approach was used. The change style influenced the perception on the level of trust in good

decision making and action by top management 20.2% indicating they have no trust in top management.

4.4.2 Communication and Negotiation

The influence of communication and negotiation on the implementation of IFMIS presented as follows.

Question	Disagree	Neutral	Agree
Communication effectively contributed to preparing the ministry for change	4.4%	13.2%	82.4%
The communication was honest	9.9%	15.4%	74.8%
There was well defined channels for feedback from staff and team members	16.5%	22.0%	61.5%
Am always aware of the current status of implementation	19.8%	31.9%	48.4%
Communication about the change is not limited to only those directly concerned with the IFMIS implementation	37.4%	16.5%	46.2%
My ideas and suggestions were heard and taken during in implementation	19.8%	27.5%	52.8%
Those who resisted were educated, communicated to and assisted.	13.2%	20.9%	66.0%
I felt that Top Management was willing to compromise with differing opinions to make the project a success	13.2%	22.0%	64.9%

Table 5: Communication and Negotiation

Communication is paramount when it comes to change management. The respondents were in agreement that they were well informed in during the preparation for change and the communication was honest. Communication played a bigger role in passing information and defusing resistance mainly done through the circulars and memos. Even though a good number of respondents agreed that there was a channel for feedback, communication was mainly top down. Majority of the respondents believe top management was willing to compromise with differing opinions to make the project a success, those who resisted were educated, communicated to and assisted and their ideas were heard.

However, 36.9% of the respondents believe communication about the change is limited to only those directly concerned with the IFMIS implementation

4.4.3 Training

The influence of training on the implementation of IFMIS presented as follows:

Question	Disagree	Neutral	Agree
Important skills required for successful project implementation were identified	16.5%	13.2%	70.4%
I have been trained on the use of IFMIS	1.1%	2.2%	96.7%
The training conducted was adequate	24.2%	19.8%	56.1%
The contents of the training were relevant to IFMIS implementation	8.8%	7.7%	83.5%

Table 6: Training

More than half of the respondents believe important skills required for successful implementation of the project were identified. Almost all respondents had been trained and the contents of the training were relevant. The researcher noted that the National Treasury of Kenya established the IFMIS Academy to provide continuous training to IFMIS users. Trainings were conducted through IFMIS academy which acted as a point of getting feedback as well to allow improvements and reengineering of IFMIS.

4.5 Building Capacity for Change

The influence of change supportive infrastructure and change facilitating culture on the implementation of IFMIS presented as follows:

Question	Disagree	Neutral	Agree
I was ready for change before implementation of IFMIS	18.7%	23.1%	58.3%
There was little resistance to change, while the IFMIS project was being planned	62.7%	26.4%	11.0%
There was Information and knowledge sharing while building change.	20.9%	9.9%	69.2%
I had an opportunity to influence the changes related to my work	27.7%	35.6%	36.6%

There was reward for change efforts	78.1%	16.5%	5.5%
There was leadership and succession development	27.5%	11.0%	61.5%
Strategies were aligned or adjusted as per the need	15.4%	17.6%	67.1%
There was adequate infrastructure to support the change	12.1%	12.1%	75.8%
I had positive attitude towards IFMIS implementation before it was accomplished	9.9%	13.2%	76.9%

Table 7: Change supportive infrastructure and change facilitating culture

More than half of the respondents were ready for change and also believe there is adequate infrastructure to support the change.

4.6 Change Execution

The study sought to establish the influence of change allocation of resources and control systems on the implementation of IFMIS

Question	Disagree	Neutral	Agree
There was adequate funding for IFMIS implementation	2.2%	5.5%	92.3%
Resources were dedicated to the project as needed and were adequate	4.4%	12.1%	83.5%
There was adequate controls during IFMIS implementation	13.2%	16.5%	70.3%

Table 8: Allocation of resources and control systems

92.3% of the respondents agreed that the project was adequately funded, with the funding originating from the government exchequer and donors. Resources were dedicated to the project and adequate controls put in place during the change execution.

4.7 Productive and behavioural Outcome

The study sought to establish productive and behavioural outcome of IFMIS implementation.

Question	Disagree	Neutral	Agree
IFMIS implementation was completed in time	69.3%	11.0%	19.8%
IFMIS is more efficient than the old way of doing things	4.5%	26.1%	69.3%
Implementation of IFMIS has contributed to better service delivery	4.4%	7.7%	88.0%
IFMIS has improved productivity/ work performance	6.6%	3.3%	90.1%
IFMIS implementation has made positive impact on the culture of the ministry	6.6%	6.6%	86.8%
There is little resistance to change today on IFMIS implementation in my area	28.6%	15.4%	56.1%
Employees are happy and committed to work today	3.3%	45.1%	51.7%
I am satisfied with the way change was taken care of in general	12.1%	13.2%	78.8%
There is High employee acceptance and compliance to the system after the implementation	8.8%	18.7%	72.6%
As a user, Implementation of IFMIS has met my expectations	5.5%	38.5%	56.1%

Table 9: Productive and behavioural outcome

69.3% of the respondents indicated that the project was not completed in time. It is clear that there is positive impact, better service delivery, more acceptance of the system, improved work performance and more efficiency. This could be attributed the proper preparation for change, execution. According to Mitra, P., & Mishra, S. (2016), the success rate of an ERP is measured by the acceptance level of the users.

4.9 Discussions

To assess the influence change management linear regression was used and findings presented as follows:

11

Model Summary							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Management		
					F Change	df1	Sig.
Leadership	.804 ^a	.647	.607	.629	16.072	9	.000 ^b
Communication	.613 ^a	.376	.315	.832	6.181	8	.000 ^b
Training	.740 ^a	.547	.526	.692	25.965	4	.000 ^b
Infrastructure	.187 ^a	.035	.024	.993	3.213	1	.076 ^b
Culture	.794 ^a	.630	.604	.633	23.852	6	.000 ^a
Resources	.341 ^a	.117	.096	.955	5.803	2	.004 ^a
Controls	.500 ^a	.250	.242	.875	29.669	1	.000 ^a

How does organisational leadership influence ERP implementation?

Organisation leadership being at the top of influencing ERP implementation. Notably, there was high user involvement of 74.7%, well outlined plan, vision and goals reflected in the strategic plan shared by employees. 94.5% of the respondents confirmed that the sampled departments were involved in the IFMIS Reengineering and 74.7% of the respondents actively participated in the IFMIS reengineering. The top management were united in the implementation and the right people driving the implementation. These findings are in line with those from literature stating that the top management support and the user involvement as key to the success of ERP implementation

Compelling communication was used to disseminate information and defusing resistance. Communication also contributed in preparation for change. However, only 13.2 % believed the management was willing to compromise with differing opinions to make the project a success which is attributed to the top down approach adopted by management. It is also contrary to the bottom up approach considered as the best practise (USAID, 2008). Further analysis reveal the significance of communication as outlined in Table 1(R=0.613) and a low significant at .000 levels.

96.7% of users were trained and the contents of the training were relevant. Trainings were conducted through the academy that also acted as a point of getting feedback for improvements and reengineering of IFMIS. Table 1 shows the significance of training (R=0.740) a low significant at .000 levels.

Linear regression analysis was carried out as shown in Table 1, and the leadership ($R=0.804$) caused a 64.7% variation on overall user acceptance of the ERP implementation with a statistical significance ($p=000$) which is lower than the level of 005.

How does Organisational change capacity influence ERP implementation?

Change capacity could be the ability of an organisation response to changes in its environment (Davi and Charan, 2013). 58.3% of respondents were ready for change and 75.8% believed there were adequate infrastructures to support the change.

The study found out that there was a drop of 34% in resistance from the planning stage to the execution stage.

What is the influence Organisational environment in driving change in ERP implementation?

Change drivers in an organizations could be categorised into external and internal (Davi and Charan, 2013). The findings suggest that the pressure and urgency for change originated externally. Among the external factors include a firm political commitment and change in government rules and regulations attributed to process enhancing efficiency and effectiveness in Public Financial Management (PFM) the government.

What is the outcome of change in terms of productive and behavioural dimensions?

The study found there was a positive impact, 88.0% better service delivery, 51.7% were happy, 72.6% acceptance level of the system, 90.1% improved work performance and 69.3% in efficiency. This could be attributed the proper preparation for change, execution. Based on the current change experience 83.5% have positive expectation for the future changes. 64.8% of the respondents rated change management to have had positive impact on IFMIS implementation success

Some notable barriers to realisation of full benefits of change include; inadequate sensitization of employees, continuous enhancement to the system, inadequate training for users, staff resistance and poor network connectivity to the system

These findings are in line with the highlighted literature review as regard the impact of change interventions on implementation ERP systems.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter provides a summary, conclusions and recommendations of the study.

5.2 Summary of findings

Specific Findings

After analyzing the questionnaire survey results, some major key findings are as follows:

- ✓ “Organisation leadership“ is the top most critical influence for ERP implementation management. Using top down approach with compelling communication.
- ✓ Based on the current change experience 83.5% have positive expectation for the future changes.
- ✓ 64.8% of the respondents rated change management to have had positive impact on IFMIS implementation success.
- ✓ Training for user is vital for the success of ERP system implementation, 96.7% have been trained.
- ✓ 94.5% of the respondents believe that the sampled departments were involved in the IFMIS Reengineering. However, 74.7% of the respondents actively participated in the IFMIS reengineering.
- ✓ The results on the employees’ preparedness to accept the new changes was that 58.3% of the respondents
- ✓ Some of the barriers to the realisation of the full benefits of change include; inadequate sensitization of employees, continuous enhancement to the system, inadequate training for users, staff resistance and poor network connectivity to the system.
- ✓ The project was not completed in time rating being at 19.8%.
- ✓ The users are aware about the ERP and its importance to the organization

What is the influence Organisational environment in driving change in ERP implementation?

The study found that in the process enhancing efficiency and effectiveness in Public Financial Management (PFM) the government, Ministry of Finance played a major role in driving the change hence change is externally triggered.

How does Organisational leadership influence ERP implementation?

The research showed that there was user involvement in the process, political good will, top down communication, clear and properly outlined goals in the strategic plan that is constantly reviewed every five years; top level management support and appropriate infrastructure.

It appears that majority of the users have been trained. However the training was still not adequate especially with the enhancements that are ongoing. However, not all trained users use the system.

How does Organisational change capacity influence ERP implementation?

The study found out that there was significance resistance at the planning stage which was due to lack of enough information, organizational culture and competing interest. However, the resistance reduced at the execution stage though not significantly. Supportive infrastructure was however in place.

What is the outcome of change in terms of productive and behavioural dimensions?

The outcome suggest that majority of users are happy and generally satisfied with the way change was taken care of. The project was not completed in time. There was improved productivity and efficiency.

In conclusion, the organisation leadership appear slightly different to the current literature on change management but perfectly fitting the work environment. The implication of the research is that change management can be implemented successfully from a top down approach.

5.3 Conclusions

The study conducted has highlighted issues concerning the influence of change management on ERP implementation success. In view of the above, we make the following conclusions:

- a) Change was externally driven; Successful ERP implementation requires understanding of the operating environment and matching the appropriate implementation strategies to overcome resistance.
- b) Organisation leadership play a big role in organisational change preparation. A firm political commitment, top management commitment, proper planning and direction manifested in the strategic plan, compelling communication and training contributed to the success of the implementation.
- c) Building capacity for change requires that Organizations focus on well laid infrastructure and accommodative culture to improve attitude of employees towards change. Though the supportive infrastructure was in place, the culture had not changed considerably nor resistance reduced significantly.

- d) The implementation of change entail sufficient provision of resources and stringent controls to guarantee that the objective and goals are achieved effectively. Adequate resources were allocated to the project however, the monitoring and evaluation of the implementation was not adequate.
- e) Change outcome could manifest in form of productive and behavioural facet. Even though the project was not completed in time, employees were satisfied and happy with the way change was undertaken in general at 78.8%; improved productivity at 90.1 % and efficiency in service delivery at 88.0%

Therefore, initiatives as a result of change management positively influenced user acceptance , satisfaction level and productivity. This research brings out the importance of change management as regard ERP implementation in the public sector that could help reduce the probable resistance.

5.4 Recommendation

The study recommends the following:

- It is important to understand the organisation operating environment before effecting change and use the appropriate strategies and techniques based on the environment to introduce ERP successfully.
- Project planning, governance, and controls are required to make ERP implementation successful and ensure timely completion.
- Involve end users throughout the implementation process to ensure employee buy-in this will reduce resistance to change and increase acceptability of change among employees.
- Continuous training at all stages is critical for ERP implementation success. Appropriate and adequate training programs should be provided to different classification of users.
- Top Management should provide full support to all the employees and motivate them through incentives.
- Developing and implementing solid communication strategy can help in process of change. The need for a clear feedback mechanism that will ensure efficient communication is maintained between the management and employees, thus reduce the perception amongst employees that management is not willing to compromise or force change
- Evaluate major barriers to successful implementation and establish contingency plans to mitigate.
- To undertake more awareness programs amongst stakeholders; this will deal with the notion that communication is only limited to those directly involved in the project.

5.4 Limitations of the Study

Owing to financial constraint, the research was limited to the national government of Kenya in the various Government Ministries based at the Headquarters, Nairobi region. In addition, some of the targeted respondents could have misinterpreted the intentions behind the research and refused to provide accurate information for fear of disclosure besides assurances of confidentiality.

5.5 Suggestion for Further Studies

There is also need to carry out a study to find out if the change momentum has been sustained. According to the interviewees, maintaining the change momentum was one of the threats to this great transformation.

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APPENDIX

Appendix I: Questionnaire

The information sought in this questionnaire is meant for research only. The sources will be kept confidential. Do not write your name anywhere on this questionnaire.

The questionnaire has four sections. Please respond to all sections appropriately by way of ticking in the right column.

15 SECTION A: DEMOGRAPHIC INFORMATION

1. Gender:

Male Female

2. Age of respondent in years:

20 and under 21-30 31-40 41-50 Over 50

3. Highest Education Level:

Certificate Diploma Undergraduate Masters PHD

4. Function/Department

Finance Accounts
Procurement Others Specify _____

5. How long have you been employed in this Ministry?

17
1 to 5 years 6 to 10 years 11 to 20 years 21 and above

6. Did your department actively participate in the IFMIS Re-engineering?

Yes No

7. Did you actively participate in the IFMIS Re-engineering?

Yes No

If yes, please describe your role:

SECTION B: CHANGE DRIVERS

8. To what extent do you agree or disagree with the following factors driving change in implementation of IFMIS.

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

EXTERNAL FACTORS		1	2	3	4	5
1	Political and legal changes					
2	Government rules and regulations.					
3	Technological changes					
4	Changes in customer needs					

INTERNAL FACTORS		1	2	3	4	5
1	Change in leadership					
2	Structural changes in the Ministry					
3	Resource constraints.					

SECTION C: CHANGE MANAGEMENT INTERVENTIONS

9. To what extent do you agree or disagree with the following statements as relate implementation of IFMIS.

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

TOP MANAGEMENT/DIRECTION/PLANNING		1	2	3	4	5
1	There was a clear plan/vision for IFMIS implementation.					
2	The vision and goal for IFMIS implementation were shared by all employees					
3	Top management was actively involved and visible in preparation for change					
4	Top Management asked employees what should change more than they told employees what will change.					
5	Top Management support was always there in the preparation for change					

6	Top Management appeared united in their determination to implement IFMIS					
7	Top Management involved the right people/teams in driving change					
8	I trusted in good decision making and actions by Top Management during process of change?					
9	Risk were identified, understood and mitigation measures put in place					

- 3
10. To what extent do you agree or disagree with the following statements as relate implementation of IFMIS.
(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

	COMMUNICATION/ NEGOTIATION	1	2	3	4	5
1	Communication effectively contributed to preparing the ministry for change.					
2	The communication was honest					
3	There was well defined channels for feedback from staff and team members.					
4	Am always aware of the current status of implementation					
5	Communication about the change is not limited to only those directly concerned with the IFMIS implementation					
6	My ideas and suggestions were heard and taken during in implementation					
7	Those who resisted were educated, communicated to and assisted.					
8	I felt that Top Management was willing to compromise with differing opinions to make the project a success					

- 3
11. To what extent do you agree or disagree with the following statements as relate implementation of IFMIS.
(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

	TRAINING	1	2	3	4	5
1	Important skills required for successful project implementation were identified.					
2	I have been trained on the use of IFMIS					
3	The training conducted was adequate.					
4	The contents of the training were relevant to IFMIS implementation.					

- 3
12. To what extent do you agree or disagree with the following statements as relate implementation of IFMIS.
(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

	INFRASTRUCTURE/CULTURE	1	2	3	4	5
1	I was ready for change before implementation of IFMIS					
2	There was little resistance to change, while the IFMIS project was being planned					
3	There was Information and knowledge sharing while building change.					
4	I had an opportunity to influence the changes related to my work					
5	There was reward for change efforts					
6	There was leadership and succession development					
7	Strategies were aligned or adjusted as per the need					
8	There was adequate infrastructure to support the change					
9	I had positive attitude towards IFMIS implementation before it was accomplished					

Others (specify).....

- 3
13. To what extent do you agree or disagree with the following statements as relate implementation of IFMIS.
(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

	RESOURCES ALLOCATION/CONTROL SYSTEMS	1	2	3	4	5
1	There was adequate funding for IFMIS implementation.					
2	Resources were dedicated to the project as needed and were adequate					
3	There was adequate controls during IFMIS implementation					

SECTION D: CHANGE OUTCOME

14. In your opinion, how do you perceive the following outcomes in regard to implementation of IFMIS.

1
(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

	PRODUCTIVE	1	2	3	4	5
1	IFMIS implementation was completed in time					
2	IFMIS is more efficient than the old way of doing things					
3	Implementation of IFMIS has contributed to better service delivery					
4	IFMIS has improved productivity/ work performance					
5	IFMIS implementation has made positive impact on the culture of the ministry					

	BEHAVIORAL	1	2	3	4	5
1	There is little resistance to change today on IFMIS implementation in my area					
2	Employees are happy and committed to work today					
3	I am satisfied with the way change was taken care of in general					
4	There is High employee acceptance and compliance to the system after the implementation					
5	As a user, Implementation of IFMIS has met my expectations					

15. What kind of expectations do you have of future IFMIS changes based on your current change experience?

Positive [] Neutral [] Negative []

16. How would you rate the positive impact of Change Management on the success of a IFMIS implementation?

High [] Medium [] Low [] Not sure []

17. In your opinion, what are the factors that have made IFMIS Implementation a success?

.....
.....
.....
.....

18. In your opinion, what are the barriers to the successful Implementation of IFMIS?

.....
.....
.....

19. In your opinion, what are the employee related issues that have changed the most during IFMIS Implementation?

.....
.....
.....
.....

20. In your experience, what could be done to improve on change management as regard IFMIS implementation?

.....
.....
.....

Appendix II: List of Ministries

1. Ministry of Interior and Coordination of National Government
2. Ministry of Environment, Water and Natural Resources
3. Ministry of Environment, Water and Natural Resources
4. Ministry of Devolution and Planning
5. Ministry of Foreign Affairs
6. Ministry of Defense
7. Ministry of Education, Science and Technology
8. Ministry of Health
9. Ministry of Transport and Infrastructure
10. Ministry of Lands, Housing and Urban Development
11. Ministry of Information, Communication and Technology
12. Ministry of Sports, Culture and the Arts
13. Ministry of Labour, Social Security and Services
14. Ministry of Energy and Petroleum
15. Ministry of Agriculture, Livestock and Fisheries
16. Ministry of Industrialization and Enterprise Development
17. Ministry of East African Affairs, Commerce and Tourism
18. Ministry of Mining

Appendix III: Introductory Letter



**UNIVERSITY OF NAIROBI
COLLEGE OF BIOLOGICAL AND PHYSICAL SCIENCES
SCHOOL OF COMPUTING AND INFORMATICS**

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P. O. Box 30197
Nairobi
Kenya

Our Ref: UON/CBPS/SCI/ITM/2015

8 August 2016

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: TOBIAS O. OUMA: REG. NO. P54/79565/2015

This is to confirm that the above named is a bona fide student of the University of Nairobi, School of Computing and Informatics.

He is pursuing a M.Sc. course in Information Systems. He would like to collect data for his project entitled: **"Role of Changer Management in Successful Implementation of ERP: Case of IFMIS."** Under the supervision of Dr. Agnes N. Wausi.

Any assistance accorded to him will be highly appreciated.

Yours faithfully

School of Computing & Informatics
University of **NAIROBI**
P. O. Box **30197**
NAIROBI

PROF. W. OKELO-ODONGO
DIRECTOR
SCHOOL OF COMPUTING & INFORMATICS

The influence of Change Management in Enterprise Resource Planning (ERP) Systems Implementation: Case of IFMIS of Kenya

ORIGINALITY REPORT

% 7	% 7	% 2	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.ajbasweb.com Internet Source	% 1
2	erepository.uonbi.ac.ke Internet Source	% 1
3	researchrepository.murdoch.edu.au Internet Source	% 1
4	uir.unisa.ac.za Internet Source	% 1
5	ir-library.ku.ac.ke Internet Source	<% 1
6	chss.uonbi.ac.ke Internet Source	<% 1
7	www.scribd.com Internet Source	<% 1
8	41.89.99.18 Internet Source	<% 1
9	www.ifmis.go.ke Internet Source	<% 1

10	41.204.187.24 Internet Source	<% 1
11	www.studymode.com Internet Source	<% 1
12	pubs.sciepub.com Internet Source	<% 1
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