

**ENTERPRISE CONTENT MANAGEMENT SYSTEM AND SERVICE
QUALITY IN NATIONAL GOVERNMENT MINISTRIES IN KENYA**

MUSEMBI ANNE KATUKU

**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE
OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI**

NOVEMBER, 2017

DECLARATION

This project is my original work and has not been presented for a degree award in any other University.

Signature: _____ Date: _____

Musembi Anne Katuku

D61/81234/2015

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

Signature: _____ Date: _____

Mr. Joel K. Lelei

Lecturer

Department of Management Science

University of Nairobi

ACKNOWLEDGEMENT

I am grateful to the Almighty God for the divine health and knowledge which has helped me to finish the project successfully, glory to His name.

I am greatly indebted to my Supervisor Mr. Joel K. Lelei and Moderator Dr. Kate Litondo for their relentless guidance, contribution and advice during the preparation of this research project.

Lastly my colleagues and classmates whom I appreciate so much for the scholarly environment and many ideas exchanged which improved my critical thinking and hence informed my study.

DEDICATION

I dedicate this project to my dear husband Eliab Musembi and my children Faith and Alvin for their support both financially and emotionally as well as encouragement and worked against all odds to see me through my education. Also my siblings, parents and friends for their prayers, may God bless them all.

TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABBREVIATIONS/ACRONYMS	x
ABSTRACT.....	xi
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study	1
1.1.1 Enterprise Content Management	2
1.1.2 Service Quality	3
1.1.3. ECM Adoption and Service Delivery.....	4
1.1.4 National Government Ministries in Kenya.....	5
1.2 Research Problem	6
1.3 Research Objectives.....	8
1.4 Value of the Study	9
CHAPTER TWO: LITERATURE REVIEW.....	11
2.1 Introduction.....	11
2.2 Theories Underpinning the Study	11
2.2.1 Technology Acceptance Model	11
2.2.2 Diffusion of Innovation Theory	12
2.2.3 Transaction Cost Theory	13
2.3 Drivers for Adoption of Enterprise Content Management	13
2.3.1 Technological Factors.....	14
2.3.2 Organizational Factors.....	14

2.3.3 Environmental Context.....	15
2.4 Extent of Implementation of Enterprise Content Management System	15
2.5 Effect of Enterprise Content Management on Service Quality	17
2.6 Barriers in Implementing Enterprise Content Management	18
2.6.1 Lack of Top Management Support	19
2.6.2 Financial Constraints	19
2.6.3 Lack of Technical/ICT Infrastructure	20
2.6.4 External Pressures.....	20
2.7 Empirical Studies	21
2.8 Research Gap	22
2.9 Conceptual Framework.....	23
CHAPTER THREE: RESEARCH METHODOLOGY	24
3.1 Introduction.....	24
3.2 Research Design.....	24
3.3 Population and Sampling	24
3.4 Data Collection	24
3.5 Data Analysis	25
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION	27
4.1 Introduction.....	27
4.2 Demographic Characteristics	27
4.2.1 Age bracket of respondents.....	27
4.2.2 Respondent’s Gender	28
4.2.3 Length of Continuous Service	29
4.3 Drivers of Enterprise Content Management System Adoption	30
4.4 Extent of Adoption of Enterprise Content Management System in the Ministry..	31

4.4.1	Extent of ECM Adoption in the Ministry Content Management.....	31
4.4.2	Extent of Adoption of the Enterprise Content Management in the Process Management.....	32
4.4.3	Extent of application of the Enterprise Content Management in the Enterprise Operations.....	33
4.5	Effect of Enterprise Content Management on Service Quality	35
4.5.1	Qualitative Analysis	35
4.5.2	Regression Equation.....	36
4.6	Barriers Encountered in the Adoption of Enterprise Content Management System in the Ministry	39
4.7	Discussion of the Findings.....	40
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS.....		44
5.1	Introduction.....	44
5.2	Summary of Findings.....	44
5.3	Conclusion	46
5.4	Limitations of the study	46
5.5	Recommendations for Policy and Practice	47
5.6	Suggestions for Further Research	48
REFERENCES.....		49
APPENDIX I: NATIONAL GOVERNMENT MINISTRIES.....		57
APPENDIX II: QUESTIONNAIRE		58

LIST OF TABLES

Table 4.2.1: Age Bracket of the Respondents.....	28
Table 4.2.2: Respondent's Gender.....	28
Table 4.2.3: Length of Continuous Service	29
Table 4.3: Drivers of Enterprise Content Management System Adoption	30
Table 4.4.1: Extent of ECM Adoption in the Ministry Content Management	32
Table 4.4.2: Extent of ECM adoption in the Ministry Process Management	33
Table 4.4.3: Extent of Application of ECM in the Enterprise Operations.....	34
Table 4.5.1: Effect of Enterprise Content Management System on Service Quality ..	35
Table 4.5.2: Regression Coefficient.....	37
Table 4.5.3: Model Summary	37
Table 4.5.4: Analysis of Variance (ANOVA)	37
Table 4.6: Barriers Encountered in the Adoption of Enterprise Content Management System in the Ministry	40

LIST OF FIGURES

Figure 2.1: Conceptual Framework	23
--	----

ABBREVIATIONS/ACRONYMS

DOI	Diffusion of Innovation
ECM	Enterprise Content Management
EDMS	Electronic Data Management System
ERP	Enterprise Resource Planning
ERS	Economic Recovery Strategy
GHRIS	Government Human Resource Information System
GoK	Government of Kenya
ICT	Information Communication Technology
IFMIS	Integrated Financial Management Information System
IS	Information System
IT	Information Technology
KLMIS	Kenya Labour Management Information System
MDGs	Millennium Development Goals
MoF	Ministry of Finance
OAIS	Open Archival Information System
PC	Performance Contracting
RCM	Records Continuum Model
SDI	Service Delivery Indicators
SERVQUAL	Service Quality
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model
WECM	Workflow Enterprise Content Management

ABSTRACT

Compelling utilization of data frameworks has turned into a basic achievement factor in present day society, yet achievement isn't effectively accomplished. In view of this, there is need to migrate data from analogue to digital which has led to adoption of Enterprise Content Management (ECM) in the business of government through its ministries. Enterprise Content Management involves the techniques, strategies and devices used to seize, control, store, defend and pass on substance and records identified with organizational procedures. This is a relatively new concept in the National Government ministries hence the need for the study. The study was on the effect of ECM on service quality in National Government Ministries, Kenya with aim of establishing the drivers to adoption of ECM, extent to which the Ministries have adopted the system, relationship between the system and service quality and barriers encountered during the adoption. The study adopted a descriptive survey research design and was anchored on Technology Acceptance Model, Diffusion of Innovation and Transaction Cost Theories. The target population comprised all the twenty (20) National Government Ministries in Kenya as at October, 2017. Primary data was collected using questionnaires. The completed questionnaires were edited for completeness and consistency. The data was analysed and presented by the use of descriptive statistics such as frequencies, percentages, mean scores and standard deviations. In addition, a multiple regression analysis was done in order to establish the relationship between ECM adoption and service quality in the National Government Ministries whereby the main respondents were the Directors of information Communication Technology in each Ministry. The study found out that the need to improve productivity and efficiency as the dominant driver for adopting ECM in the Ministries. The study further established that the extent into which the ECM has been adopted in the area of content management within ministries is more evident in the management of information with delivery of information, availing of information to key stakeholders, capturing of information and digitization of hard copies following consecutively. Process management is more applicable on transaction process. All the other functions are also utilizing ECM to a large extent which include data management, decision support, customer care management and collaboration support. The Extent of applicability in Enterprise Operations is at the Accounting Section whereas ECM has impacted positively to a large extent, the service quality on the side of timely service delivery. From the regression model, there is an indication that process management, content management and enterprise operations as the independent variables account for 60.4% of level of service quality with other unconsidered factors accounting for the rest of 39.6%. For effective implementation of the system, the study concluded that there is need for an ECM team that provide strong leadership as well as effective change management. The study found out that inadequate financial allocation to the ECM project is the domain limitation to the effective implementation of the system. The researcher recommends similar study in other countries in the East African Community to get a regional view.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Organizations record management objective is to screen records for the duration of their life cycle. Productive records and documents administration give dependable data required to powerful working of organizations. Efficient record empowers the overall population and organization to get to data effortlessly and encourages straight forwardness, responsibility and unwavering quality (Wiltzius & Mc Litmic, 2014). The security of protection and secrecy of information averts wrong exposure of data that could hurt the organization or encroach the security privileges of people if records are not legitimately overseen as opined by Katuu (2012).

Public sector organisations have been known to store a huge amount of unstructured documents and over the last two decades, lots of finances have been invested in the implementation of systems. Rickenberg (2012) notes that, most public organisations, normally have a large amount of unstructured documents stored in various repositories and these result in information chaos. Compounding the challenge is the huge amount of content Delivered at an expanding rate every day bringing about representatives of these organizations spending most of their time searching for records and archives put away in various stores through the whole organization. Unstructured information makes up to (80%) of the substance in organizations (O' Callaghan & Smits, 2005). Employees searching for content and information often experience content chaos and information overload and this forces employee to perform worse and customers become dissatisfied.

The Kenya Government initiated digitization in majority of its National government ministries during the 2014/2015 financial year. Some of the ministries that have been digitized include the Ministry of Lands and Physical Planning in which land registry records across the country are being digitized. The digitization process involves conversion of information into a digital or electronic format. Before the digitization process commenced, land records were being kept in physical files which resulted to delays in finding a file and in many instances facilitated cases of fraud.

The digitization process involved reorganizing the land files in order to identify various types of records especially those that need to be updated and reconstructed before digitization. The Lands and Physical Planning Ministry targets to digitize all the 58 land registries by end of financial year 2018/19. This has been actualized by adoption and installation of an Electronic Data Management System (EDMS) to digitize the land records. To date, EDMS has since been piloted in Nairobi registry which has resulted to online searches through e-citizen portal and electronic land registration transactions. With the full automation of the land records, it is expected that online searches through e-portal will be more efficient and cost effective.

1.1.1 Enterprise Content Management

The introduction of the term Enterprise Content Management (ECM) was done by Association for Information and Image Management (AIIM) as Marcus Van Rooij (2013) pointed out and was identified as “The systems, techniques and instruments used to seize, control, store, shield, and pass on substance and reports identified with organizational processes”. On their part, Smith and McKeen (2003) defined ECM as an “integrated advance in management of the greater part of an organization's data including paper records, information, reports, site pages and advanced resources and

every one of the systems, devices, procedures, and aptitudes an association needs to deal with all its data resources over their life cycle”. In measuring the extent to which ECM has been adopted in a firm, Laumer, Maier, Eckhardt and Weitzel (2013) point out that ECM should be assessed on the extent to which the organization document content has been captured, managed and stored in digital form. This means that majority of the firm documents should have been stored and preserved in digital form including retrieval.

According to Laumer et al. (2013), an ECM strategy entails carrying out design, business process administration, change administration, cooperation, learning administration, framework mix and life cycle administration of data. Therefore, ECM can be viewed as the advancement of archive administration, records administration, work process administration, business process administration, and web content administration that allows organizations to better organize and process especially unstructured content for employees searching and using content in their daily work (Alalwan, 2012). Enterprise Content Management operates in an integrated manner and has several dimensions which include, content, process and enterprise operations.

1.1.2 Service Quality

Perceived service quality is a concept that measures the discrepancy between customers’ expectations and their perception regarding a certain service according to Parasuraman, Zeithaml and Berry (1985). Customers expect a service provider to offer quality service and once these expectations are formed, they help the customer make a comparison between what they anticipated and what they actually receive.

Parasuraman, Zeithaml and Berry (1988) developed an instrument recognized as SERVQUAL that is now popular as a generic service quality measuring instrument. There are five dimensions contained in the instrument that a quality product or service will contain namely, capability to dependably and accurately perform services referred to as reliability, willingness to assist consumers and provide effective service referred to as responsiveness. In addition the framework contains tangibility which refers to the proper state of physical facilities, equipment, and personnel appearance as well as assurance that deals with employees' knowledge, courtesy, and capability to communicate trust and confidence. Finally, the SERVQUAL incorporates empathy which deals with the level of care and individual attention accorded to customers.

Oliver (1980) in his Service Quality Theory opine that customers judge quality of a service as low if it fails to meet their expectations and considered high when the performance exceeds their expectations. Toning down expectations or increasing the perceptions of what the customers have received can be a way of closing this gap. The result of an assessment process is the perceived quality of a service given because customers often compare services they expect with perceptions of received services (Gronroos, 1982).

1.1.3. ECM Adoption and Service Delivery

Service delivery in government institutions has not been effective for a long time. Introduction of an information system in an organization brings about improved service delivery. It is expected that once an organization comes up with a system and in this case ECM, the services offered are timely and of the perceived value. On the contrary, a system may also lead to loss of information in case there is no proper management which leads to failure of the system. Sometimes, there may be no

impact on service delivery which can be attributed to resistance to change, lack of proper infrastructure among other factors.

1.1.4 National Government Ministries in Kenya

The National Government Ministries in Kenya are charged with the responsibility of offering efficient and competent service to the public. Many public sector organizations have recently been engaging in activities aimed at improving service delivery as spelt out in their Service Charters considering that public institutions operate in complex environments with many stakeholders' interests that in many of the cases conflict and often with vague objectives. The process of automating the Kenyan public institutions has been ongoing. Mwai, Kiplagat and Gichoya (2016) opine that employment of the ICT with an aim of improving the operation of public institutions has taken different forms, and outsourcing of services have become an important avenue where the public institutions lack adequate financial resources to acquire their own.

In the quest to automate and make data management efficient and effective, the Kenya government has undertaken to improve its services in all the ministries by customising the process to the specific needs of particular ministries. The Ministry of Devolution and Planning, for example, has come up with the Huduma Centres as a one stop shop and offers service such as registration of companies, passport application, renewal of driving license, application of Identity Cards, Kenya Police Abstract among other government services. In the Ministry of Lands and Physical Planning, digitization of land registry records has been rolled over throughout the country while the Ministry of Public Service, Youth and Gender Affairs has developed a Government Human Resource Information System (GHRIS) whereby all employees access important

information concerning employment and personal details. State Department of Labour in the Ministry of East African Community, Labour and Social Protection has recently launched Kenya Labour Market Information System (KLMIS) which is a one stop shop portal for job seekers as it contains Labour Market Information in Kenya in both Public and Private sectors. Ministry of The National Treasury has as well adopted Integrated Financial Management Information System (IFMIS) to fast track and monitor all financial transactions.

1.2 Research Problem

There has been increased attention to secure documents and management of records effectively over the past years in public sectors. This has arisen due to the large volume of unstructured data that public entities deal with. Having data that is unstructured makes it difficult to find and to know the latest version of the documents as well as effective control of files or documents (Kunstova, 2015). Enterprise Content Management has become a popular tool of capturing and managing such large volume of data in the public organizations.

Several studies have been undertaken with regard to the management of public information. Asogwa (2012) researched on the readiness of Nigerian Public Universities in managing electronic records and discovered that, due to unstable legislative and organizational structures, Nigerian universities were not ready to suggest appropriation of a mixture records administration and intermittent evaluating. Rooij (2015) attempted to determine the Legacy Issues in the implementation of ECM among the Dutch public institutions and that public entities are supposed to adopt the band wagon of Enterprise Resource Planning (ERP) in order to have a sound strategy in implementing ECM in public institutions. Burkart and Iverson (2010) researched

on the management of electronic documents using Work Flows Enterprise Content Management (WECM) in non-profit making organizations. They found that adoption of new technologies in communication can promote collaboration and enterprise wide knowledge management.

The Government of Kenya, through the Vision 2030 secretariat recognizes the challenges that various Ministries face to deliver quality service. Ministries such as the Ministry of Lands and Physical Planning is synonymous with missing files or duplicate files that has made the public form negative attitude towards its operations. The same challenge is evident in other ministries and has trickled down to the County Governments whereby the public faces challenges in accessing services, especially where records are required. This is despite the same Ministries having service charters that guide them in service delivery. Public organizations ordinarily handle huge volume of data and for effective management of this information and service quality enhancement, public institutions have had to adopt Electronic Data Management Systems.

Several related studies have also been done in Kenya. Mutuku (2010) researched on the quality of customer service offered by Kenya's Ministry of Finance. (MoF). He found there was need to enhance customer awareness on the tasks performed by MoF and sensitize customers on how money flows from the resource envelope to the other Ministries since the customers perceive that it is the Ministry of Finance that disburses money to any activity funded by the government. Ambune (2012) researched on operational arrangements and service quality among Government Ministries in Kenya. He found that there was need for the ministries to re-engineer their operations and adapt a flexible system that adjust to customer ever changing

demands. Mbutia (2013) researched on Service quality practices in public healthcare facilities in Mombasa County, Kenya and found that the greatest challenge towards the offering of quality services in these facilities is shortage of funds and inadequate staff and this was attributed to low funding from the central government and inadequate revenue collection.

From the above studies, granted that several studies have been undertaken on Enterprise Content Management at the international level and various studies have been undertaken locally as far as service quality in government institutions in Kenya is concerned, there has not been a study that links adoption of ECM and service quality in government institution. This gap therefore lead to the following research question, how does Enterprise Content Management System affect quality service delivery in the National Government Ministries?

1.3 Research Objectives

The study was guided by the following objectives;

- i. To establish the drivers of the adoption of Enterprise Content Management System in Kenyan National Government Ministries
- ii. To establish the extent to which the Kenyan National Government Ministries have implemented Enterprise Content Management System
- iii. To establish the relationship between Enterprise Content Management System adoption and service quality in Kenyan National Government Ministries
- iv. To determine the barriers faced by the Kenyan National Government Ministries in the implementation of Enterprise Content Management System

1.4 Value of the Study

The findings of this study will be of a major importance to all Ministries and other organizations, both in the public and private sector in understanding the need for digitizing their unstructured information and how to operationalize the same. The government staff will be made aware of the challenges faced in the adoption and implementation of Enterprise Content Management process and therefore, the research will clearly depict how the Ministry need to adapt to business continuity and disaster recovery.

The study will be of value to the National Government as well as the Devolved Government units because the findings and recommendations of this study will be useful in formulating appropriate ECM policies in future, especially for those Ministries that have not digitized their documents in formulating appropriate laws and regulations that will aid in regulating the operations of organisations in Kenya.

The study will further make a crucial input to practitioners, mostly those responsible for management of records and information resources. Other specialists in information and information technologists with will little exposure to Electronic Records Management issues will gain as well. The study will be a knowledge creation about Electronic Records Management System among the Records Management Departments staff and also to the Ministries of governments and business managers with the understanding of the need for management of records but with limited knowledge of the tools required and other issues.

Records and Information Managers will find the study important in assessment of systems and compliance monitoring and also in making a wide approach case for an organization hybrid management of records. Researchers in different fields will find this research helpful. Particularly, this study will be useful to researchers interested in records and data management as well as adding more information to the existing body of knowledge.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter covers the theoretical framework highlighting the anchoring theories. It also carries the conceptual framework explaining the various variables and their relationships and empirical review. It concludes with a research gap.

2.2 Theories Underpinning the Study

The debates relating to the adoption of new technology by a firm has attracted different explanations and postulates. The popular theories that relate to the adoption of technology is Technology Acceptance Model (TAM) Theory by Davis (1989) and Transaction Cost Theory. These theories at the same time attempt to explain the reasons why organizations adopt a new technology in their operations.

2.2.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) was advanced by Davis (1989) and postulates that external factors outside the organization such as the development process that a firm is, training process and system characteristics affects the attention to a technology by a user and this decision is mediated by alleged simplicity in utilization and usefulness of the innovation to the existing system. According to TAM, perceived usefulness of a technology is the easier the systems are to use and the more useful it can be. Agarwal and Prasad (2009) reinforce the need for TAM to be integrated with other Information Technology (IT) approaches that incorporate decision makers' social and personal characteristics in that the user's attitude and belief about the system will also determine the acceptability of the technology.

In an assessment of the applicability of TAM, Venkatesh and Davis (2002) point out that the perceived usefulness of the new technology has consistently been a factor that influences the usage intentions of a firm. Perceived ease of use is also TAM's other direct determinant of intention though it has shown a less regular impact on intent across studies. The adoption of the e-citizen platform that has been applied in the Huduma Centres is one such a system whose ease of use has been appealing such that according to the Ministry of Information, Communication and Technology, over 500,000 Kenyans use the service on monthly basis. This can be attributed to its perceived usefulness and also ease of use that anyone with basic computing skills can use the system.

2.2.2 Diffusion of Innovation Theory

Diffusion of Innovation theory was advanced by Rogers (2003) and explains the process through which new ideas or technologies are absorbed into an existing social system. Rogers assert that Diffusion of Innovation (DOI) is "a general process, not bound by the type of innovation studied, by who the adopters are, or by place or culture." Rogers (2004) opines that an idea or object that is considered as new by an individual or organization is termed as an innovation. Examples of innovations is in the Lands Ministry records, which include digitization of the land records, management of customers queries from remote locations and having a one stop shop for addressing customer requests.

However, adoption of a new idea or behaviour does not occur instantaneously in a social system but instead some people will be faster in embracing a new process than others. In addition, DOI assert that the way people perceive an innovation in terms of relative advantage or disadvantage, affects how the new innovation is going to be

embraced by the others. This means that there is need to be drivers in an organization that will cause the organization to adapt an innovation. In the case of the National Government Ministries, the need to improve service quality in the backdrop of the long period of tracing a document, loss of documents and improper record management being an avenue of corruption can be said to lead to the need of automating documents and processes.

2.2.3 Transaction Cost Theory

Transaction Cost Theory is considered to be relevant in understanding the effect of Enterprise Content Management on service quality of National Government Ministries in Kenya hence giving a theoretical background for this study. Transaction Cost Theory was postulated by Perroux (1950) to be made up of the costs of coordination and the risk during transaction. The costs of coordination are the immediate expenses of incorporating choices between monetary exercises, (for example, pursuit and bartering costs) while the danger of exchange is associated with the introduction to being abused in the relationship.

There has been extensive documentation of the ease of reduction of coordination cost by information technology. The adoption of ECM System reduces the cost of searching for and acquiring information about products offered and prices, which eventually leads to cost minimization in the whole service offering chain.

2.3 Drivers for Adoption of Enterprise Content Management

Zhu, Kraemer, and Xu (2003) suggest that the dominant factors influencing the ECM adoption by an organization include technological, organizational and environmental factors.

2.3.1 Technological Factors

Adoption of Enterprise Content Management by a firm impacts not only on its relative advantage, but also the need to consider the compatibility, complexity, trialability and observability of the ECM with the existing system and operations in the firm (Premkumar, 2013). This implies that ICT is more likely to be embraced if it is seen to offer better options over the current practices of the firm. ECM is beneficial to those that adopt it in terms of growth of business accommodation, business processes improvement and reduction of business operation and administration costs (Markus & Tanis, 2010). The level to which an innovation is deemed regular with values in existence, experiences from the past and potential adopters needs is the major concern of compatibility. Premkumar (2013) found compatibility to be a significant determinant of ICT adoption by public organizations in that the adoption of new technologies can bring considerable alterations to the business work practices and it is normal for business organizations to resist change.

2.3.2 Organizational Factors

Organizational factors that include top management support, state of organizational readiness, ICT experience and size of the firm determine the level of adoption of a new innovation. The top management is the best predictors of ICT adoption (Jeyaraj, Rottman, & Lacity, (2006). By communicating and emphasizing values through a vision for the organization, top management can stir change (Thong, 1999). Organisational readiness is the degree to which the organization has assigned enough resources for the adoption of the ECM in the firm (Iacovou, Benbasat, & Dexter, 1995). Sophistication of ICT analyzes the technological readiness of a firm, while finances available express capability of a firm to invest in ICT. Kuan and Chau (2011)

highlight that earlier experience with ICT influences adoption of new technology adoption by organisations because of the existing competence which recommendation that the already existing technologies in an organisation control the future adoption of a new technology.

2.3.3 Environmental Context

Environmental context also affect the adoption of ECM in an organization. The industry, range of the market, pressure of competition and external ICT support that an organization faces are important environmental factors that will affect the adoption of ECM by a firm, both the public and private entities. The ECM adoption is also argued to be influenced by the industry in which the firm operates. ECM since, for example, service industries, which depend on information process, will rely mostly on ICT application while on the other hand retail industries, which depend on the goods transfer, may depend greatly on point-of-sale systems than manufacturing firms (Levenburg et al., 2012).

Competitive pressure is yet another form of environmental factor that will influence the technology adoption by a firm and that Jeyaraj et al. (2010) identified as one of the best forecasters of adoption of organization of ECM. The general perception of competition in the industry of adopters is that it positively influences ICT adoption since if a firm does not flow with the emerging technology, then it might loose on customers.

2.4 Extent of Implementation of Enterprise Content Management System

Enterprise Content Management operates in an integrated manner and combines majorly three perspectives which must operate in an inter-related manner with an

objective of increasing organizational operations. These perspectives are content, process, and enterprise (Paivarinta & Munkvold, 2015).

The organizational content entails capturing all necessary information that the entity deals with in an easy to retrieve and make changes format as well as facilitating the information to be accessed selectively by organizational users. Tari, Molina-Azorin and Heras (2012) further suggest that for an effective management of organizational content, then the firms' systems should be aligned with the functional activities that are being carried out in the firm. The common content activities include digitization of the existing documents, capturing of the information, management of the resultant information and the system being able to deliver the information to various users in the firm.

The ECM system should be able to integrate the organization processes through the development and deployment of an appropriate system in order to alignment strategy and operation within an organization (Oliveira, 2013). The integration of management systems is expected to contribute to effective resource utilization, simplification and cross-system benefits from similarities. The processes automation facilitates auditing of the organization transaction; though as Koplowitz R., Rymer, J. R., Hammond, J. S., and Brown, V. (2013) opined that, the ECM strategy can only provide value to an organization if it is implemented successfully, which entails employees actually using the ECM system. The benefits of associated with an effective implementation of ECM system in an organization processes include improved consistency and timeliness of content, improved collaboration, cost savings, fewer errors in products and services, reduced search times and fulfilment of compliance.

Tari, Molina-Azorin and Heras (2012) highlight that; an organization is made up of different functional units which operate optimally towards the realisation of the organization objectives. Electronic content management should be customized to the needs of each section and should be able to interlink the activities of every department. The common sections in organizations include accounting, finance, supply chain, records management and the human resource departments. Each one of them plays an important role towards the realisation of the organization objectives.

Enterprise management acts as an overview perspective that describes the economic context for ECM such as legal, social and business aspects and if well managed will result to benefits to an organization that include compliance and security, cost and efficiency, consolidation and integration of the firms operations as well as improved customer service (Clemons & Row, 2013).

2.5 Effect of Enterprise Content Management on Service Quality

Shang and Seddo (2002) observe that in the last decade, public sector organisations have been directing resources to the implementation of operational systems with an aim of improving their service delivery and quality, with an ultimate aim to improving their customer level of satisfaction. By adopting ECM, an organization will be able to exchange information with various stakeholders, both within and without the organization and this will facilitate faster decision making and addressing any customer concern. The benefits of ECM can be categorized into strategic, operational, and employee benefits.

The operational benefits include cost reduction, increased productivity, cycle time reduction, improved customer service, collaboration, improved efficiency and also improved customer service. At the operational level, adoption of ECM has been demonstrated to increase the efficiency of transactions and decrease transaction costs in an organization (Clemons & Row, 2013).

Enterprise Content Management (ECM) has also received increased interest due to its ability to enable organization content to be managed on the enterprise wide scale. ECM enables large and unstructured information to be controlled and managed with an ability to facilitate retrieval whenever required. Therefore ECM is a suitable system to use as far as structuring of documents is concerned (Grahmann, Helms, & Hilhorst, 2012). ECM execution's social effects are numerous and more divisive than operational or strategic ones. ECM on the positive side can facilitate organizational learning and also enhance trust and collaboration between partners, making provisions for transparency of information and an intensive collaboration platform. Negatively though, ECMs can raise power inequalities that already exist among partners instead of producing mutual benefit.

Reekers and Smithson (2006), for instance, discovered that ECM allowed for achievement of efficiency for both auto manufacturers and suppliers though manufacturers attained gains at the suppliers' expense. Depending on the design however, can cause alterations in bargaining power among parties.

2.6 Barriers in Implementing Enterprise Content Management

The success of an organization in implementing ECM depends not only on the firm's internal factors but also factors outside the control of the firm. Roger (1995)

highlighted four different factors that will affect the success of adopting an innovation. These variables include the level of top management support, financial constraints, lack of technical expertise in the firm and also external factors outside the control of the firm.

2.6.1 Lack of Top Management Support

For effective adoption of ECM, there is need for an organizational support, especially from the top management since introduction of ECM will require a change in organizational culture and also operations which will need the top management reassurance for its effective execution. Cavaness and Manoochehri (2013) outlines that the top management not only refers to the company's CEO and Chairman but also all managers who are mandated to establish and impose policies and guidelines. Top management support is necessary during the execution because the project managers must be approved by the top management with strategic business goals (Sumner, 2012). In the case of the National Government Ministries, the top management will comprise the Cabinet Secretary, Principal Secretary and the Heads of various Departments in whose functions are to be digitized.

2.6.2 Financial Constraints

As stated by Okiy (2005, p.6), "The critical role of finance in provision of exceptional services cannot be overrated because it is the glue that binds the building, collections and staff together and allows attaining goals". Lack of sufficient funds can be disincentive during adoption of innovations. This means that there is need for individuals to go through a curve of learning to take up new responsibilities due to expertise development (Sherry, 2013).

2.6.3 Lack of Technical/ICT Infrastructure

An important factor that makes changes in the Information System (IS) issues is IT infrastructure. ECM adoption can be enhanced by Information Technology (IT), since it utilizes technology and saves time and effort through collaboration, cooperation and contribution to government agencies (Macasio, 2009).

Data transformation, performance anrogerd storage are essential in the services of ECM and infrastructure upholds this. Therefore, the preparation of infrastructure should be done before consistent and effective introduction of ECM services (Ebrahim & Irani, 2005). Productivity and performance can be increased, policy making can be improved and better public services provided to citizens enabled by IT (Akbulut, 2002). Productivity and business benefits can be derived from an intelligent IT infrastructure based on paradigm of persuasive computing.

2.6.4 External Pressures

External pressures can affect the management of an organization. They are considered outdoor factors or limitations that persuade objectives of the business. They can be policies of the government, legislation, agreements of trade, industry associations, competition, local communities and media (Hosni & Khallil, 2014). For that reason, external pressures that are as well, external limitations impacting on the technical management aspects from outside the county could be caused by the citizens, other counties, or national government as well as the non-governmental organizations. E-Government Strategy guides e-Government implementation which can be constrained by lack of clear government ICT policies.

2.7 Empirical Studies

There was an attempt by Korb and Strodl (2010) to address the existing gap between ECM systems and the Open Archival Information System (OAIS) model. They determined the requirements for a modernized ECM systems were they to store information for a long period. They focused on the Electronic Records Management Component of ECM in their research, which had provisions for simple functionalities but had no features of OAIS model. The major difference they discovered between ECM and OAIS is that the conception of OAIS is that they are external organizations, independent of the process of creation of the content of the information while ECMs enable such creation and control the records' lifecycle.

Sang, Lee and Lee (2013) sought to establish the aspects and challenges that affected the execution of ECM in Cambodia. After exploration of the challenges critical to implementation of ECM, they discovered they were leadership support variations, lack of high prioritization by organization's leadership, poor infrastructure of ICT, low literacy level and high rates of turnover among the information technology staff of the government. Examination of these factors that affect the ECM adoption in Zambia's government institutions was done by Bwalya and Healy (2010). The factors, according to his findings, that contributed to the delay in appropriate ECM adoption in Zambia were lack of adequate infrastructure in ICT, content provision in English rather than local languages, lack of proper change management and non-contextualizing ICT practices.

Svard (2013) investigated Enterprise Content Management and the Records Continuum Model (RCM) as strategies for long-term preservation of digital information among the Netherlands Municipalities. The study adopted qualitative

research undertaken using two case studies and interviews conducted with the different categories of the municipal personnel to solicit answers to the research questions. The findings were that difficulties of long-term protection of data still hold on in spite of the huge research that has been created throughout the years.

The municipalities were observed to ponder issues of absence of long-term data administration approaches, venture engineering, divergent data frameworks, cooperation and framework reconciliation. This is found to likely conflict with the ventures that are being furrowed into e-Government advancements should the municipalities neglect to embrace solid data and records administration administrations. Subsequently, grasping the ECM endorsed factors and the RCM thinking may alleviate these challenges.

2.8 Research Gap

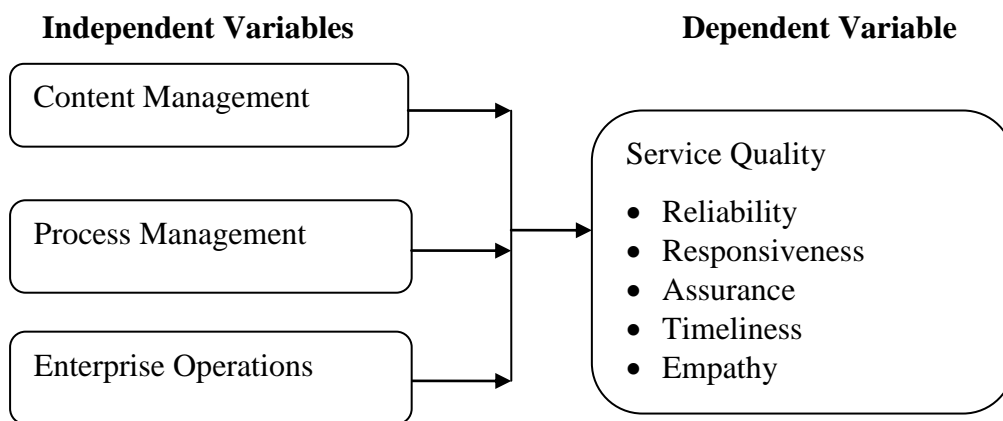
From the literature review and the empirical studies, it can be concluded that many organization over the last decade have embraced ECM as one of the forms of enhancing their operations. The adoption of ECM, as a records management system involves investment of substantial finances by an organization and therefore, there is need to ensure that the system achieves the desired results in terms of output. However, as Christiaanse and Venkatraman, (2012) found out, most public organizations that had implemented ECM had failed to achieve all their desired objectives especially as far as customer satisfaction was concerned. It is for this reason that it is important to evaluate the accomplishments and advantages through the usage of an ECM system in the Kenyan National Government Ministries. In addition, most of the studies had been undertaken in developed world apart from the

study by Bwalya (2010) that was undertaken in Zambia and even so, the time difference between then and the present is expected to bring a varied results.

2.9 Conceptual Framework

A familiar, simplified structure formed by the conceptual framework helps in gaining of insight into phenomena that needs explanation (Orodho, 2009a). A conceptual research has a relationship with some idea or theory that is abstract. It is, in general, used in development of new concepts or reinterpretation of existing ones, the conceptual literature regarding the concepts and theories explain the relationship of the variables, by philosophers and thinkers (Kothari, 2014). Based upon on the model and theories of Technology Acceptance and Transaction Cost discussed previously, the following conceptual model is developed.

Figure 2.1: Conceptual Framework



Source: Researcher (2017)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains the research design, population, data collection and data analysis.

3.2 Research Design

The research design adopted was a descriptive research design. The process of descriptive research design not only involve collecting and tabulation of data but also an attempt to obtain facts about the current state of affairs, (IOSR Journal of Research & Method in Education). It likewise helps in looking for the person's genuine observations, conduct, states of mind and additionally esteems to decide in revealing the way the circumstance is in connection to related target populace. The research design was appropriate in this case because it intends to establish the individual's real perceptions to describe the way the situation is in relation to associated target population and more specifically being a social science research.

3.3 Population and Sampling

The population was all the twenty (20) National Government Ministries (Appendix I). Since all the ministries were targeted by the researcher, then the research was a census survey.

3.4 Data Collection

The study utilized primary data. The choice of primary data was because there are no available data in this study area. Its appropriateness is also in the picking of peoples' attitudes and perception as well as having subjective answers.

A questionnaire, as the data collection instrument of choice is, easy to formulate and administer and also provides a relatively simple and straightforward approach to the study of attitudes, perceptions, values, beliefs and motives (Robson, 2002). The questionnaire had both open and closed ended questions designed to elicit specific responses for qualitative and quantitative analysis. It adopted a Likert scale format whereby 5 represented the strongest positive response and 1, the weakest response. The questionnaire contained five sections. Section A was used to collect the general demography of the respondents. Section B was used to collect data on the drivers of the adoption of ECM. Section C sought to establish the extent to which ECM has been implemented, Section D aimed at establishing the effect of ECM on service quality in the ministries while the last Section E was to help identify the challenges faced by the Ministries in implementation of ECM.

The questionnaire was administered through “drop and pick later” method on the offices. The target respondents were the Directors, Information Communication Technology Department in each Ministry or the Officer in charge of the department. There was a follow-up to guarantee that questionnaires are gathered on time and help to the respondents experiencing issues in completing the questionnaires was offered. Follow-up calls were made to guarantee that the questionnaires are dully filled inside a sensible time frame

3.5 Data Analysis

The completed questionnaires were edited for completeness and consistency. The data collected was analysed using frequencies, percentages, mean scores and standard deviation using the Statistical Package for Social Sciences (SPSS V.23). This is

because descriptive statistics facilitates meaningful descriptions of scores or measurements using a few indices or statistics (Mugenda & Mugenda, 2003).

The collected information was presented in tables. A multiple regression analysis was done in order to establish the relationship between ECM and service quality in the National Government Ministries in Kenya. The regression equation took the following form;

$$Y = a + B_1X_1 + B_2X_2 + B_3X_3 + \epsilon, \text{ where;}$$

Y = Service Quality,

a = Constant (Co-efficient of intercept),

X₁ = Content Management,

X₂ = Process management,

X₃ = Enterprise Management,

ε = Error Term,

B₁ ... B₃ = Regression co-efficient of three variables.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The research objective was to establish the effect of Enterprise Content Management System on Service Quality in the National Government Ministries, Kenya. This chapter presents the analysis, findings and the discussion with regard to the objectives.

The research was a census survey with a target population of 20 respondents who are Directors/Heads of Information Technology Communication Department in the 20 National Government Ministries. Out of the 20 questionnaires distributed to the ministries, 19 were completed and received back. This response rate represented 95% of the target population and is considered adequate for purposes of research. Analysis and reporting covered demographics, drivers of ECM adoption, extent of adoption and the barriers encountered during adoption.

4.2 Demographic Characteristics

The demographic information considered in this study included the age, sex and the length of continuous service with National Government Ministries. The data in this Section (A) was analysed using frequencies and percentages.

4.2.1 Age bracket of respondents

Data were collected and analysed as presented in Table 4.2.1.

Table 4.2.1: Age Bracket of the Respondents

Years	Frequency	Percentage	Cumulative Percent
Less than 25 yrs	1	5.3	5.3
31-35 yrs	2	10.5	15.8
36-40 yrs	8	42.1	57.9
46-50 yrs	7	36.8	94.7
Over 50 yrs	1	5.3	100.0
Total	19	100.0	

Source: Research Data (2017)

From the results in Table 4.2.1, majority (42.1%) of the respondents are in the 36-40 years age bracket while 36.8% of the employees were in the 46-50 age bracket. In total close to 95% of the respondents are less than 50 years of age and this can be considered as a youthful workforce because the seniors have over 15 years to retire. Only 5.3% of the respondents are at the age of more than 50 years.

4.2.2 Respondent's Gender

The researcher also sought to determine the gender of the respondents. The findings are presented in Table 4.2.2.

Table 4.2.2: Respondent's Gender

Years	Frequency	Percentage	Cumulative Percent
Male	15	79	79
Female	4	21	100
Total	19	100.0	

Source: Research Data (2017)

The findings above indicates that majority of the respondents (79%) were male while 21% were female. This is an indication that both gender participated in the study and consequently cases of gender bias on the findings were limited but noting that majority of workforce in this field are male.

4.2.3 Length of Continuous Service

This represents the duration that the respondents have worked in the Government Ministry. It is expected that with a high length of continuous service, the respondents will be in a better position to answer the questions faithfully from a knowledge background and will also be privy to how implementation of the ECM system had influenced the level of service quality in the ministry. The results are presented in Table 4.2.3.

Table 4.2.3: Length of Continuous Service

Years	Frequency	Percentage	Cumulative Percent
1-5 yrs	5	26.3	26.3
6-10 yrs	3	15.8	42.1
11-20 yrs	9	47.4	89.5
over 20 yrs	2	10.5	100.0
Total	19	100.0	

Source: Research Data (2017)

The results from Table 4.2.3 indicates that majority of the respondents 47.4% had worked in the National Government Ministries for years between 11-20 and in total close to 75% of the respondents had more than 6 years work experience. This implies that they are well versed with the operations of the ministries having worked for a period that can be termed adequate to understand the operations of the ministry.

In addition, considering that close to 60% of the respondents had more than 10 years experience and that most government staff move from one ministry to another, then it is presumed that they will have gained insightful experience in the course of their duties to be of value to the research.

4.3 Drivers of Enterprise Content Management System Adoption

This section sought to answer objective one which was to determine the drivers of Enterprise Content Management adoption in the Ministry. The data were analysed using means and standard deviations. Responses were rated on a 5 point scale where a mean of 1 to 1.4 stand for “not at all”, 1.5 to 2.4, “small extent”, 2.5 to 3.4, “moderate extent”, 3.5 to 4.4, “great extent” and 4.5 to 5.0, “very great extent”. The results are presented in Table 4.3.

Table 4.3: Drivers of Enterprise Content Management System Adoption

Drivers	Mean	Std. Deviation
Need for improved productivity and efficiency	4.211	.535
Operational costs reduction	4.105	.809
Optimization of business processes	4.053	.622
The strategic necessity of the system to the Ministry	4.000	.745
The level of technology adoption by other ministries	3.895	1.150
Need to enhance security of Records	3.895	1.287
Minimization of storage space	3.842	.958
Ease of use of Enterprise Content Management	3.737	.872
The size of the Ministry	3.684	.946
Need for collaboration facilitation	3.632	1.065
Need to comply with the provisions of the Service Charter	3.632	.831
The support of the top management in implementing the ECM	3.579	1.017
The compatibility of the ECM system with the existing system/infrastructure in the ministry	3.474	.772
The level of external ICT support	3.474	1.020
The extent to which the system could be triable	3.368	.684
Availability of technical staff to rollout the system	3.316	1.003

Source: Research Data (2017)

From the results in Table 4.3, the need to improve service productivity and efficiency was identified as the dominant driver for adopting the ECM in the Ministries (M=4.211, SD=0.535). The low standard deviation of 0.535 indicates that there was high concurrence among the respondents in identifying improved productivity and efficiency as the major reason of adopting the ECM. Further, the need to reduce operational cost (M=4.105, SD=0.809) came out as a strong reason why the government ministries adopted ECM. Other reasons include the need to optimize business processes (M=4.053, SD=0.622) and as a strategic necessity of the system to the Ministry (M=4.000, SD=0,745) were to a large extent agreed by the respondents as a major reason why ECM was adopted by the ministries. On the lower side of the continuum, it was identified that the availability of the technical staff to roll out the system (M=3.3.16, SD=1.003) and the extent to which the system is triable (M=3.368, SD=0.684).

4.4 Extent of Adoption of Enterprise Content Management System in the Ministry

This section of the questionnaire sought to determine the extent in which ECM had been adopted in the ministries where data were as well analysed using means and standard deviations. The ranking on the extent was made from small extent (1) to very great extent (5). The results were analysed using mean and standard deviation as presented in Tables 4.4.1, 4.4.2 and 4.4.3.

4.4.1 Extent of ECM Adoption in the Ministry Content Management

The respondents were requested to indicate the extent to which ECM had been adopted in the ministries Content Management. The results were analysed using as presented in Tables 4.4.1.

Table 4.4.1: Extent of ECM Adoption in the Ministry Content Management

Content Management Function	Mean	Std. Deviation
Management of the information	3.947	.911
Delivery of the information	3.895	.809
Availing information related to key stakeholders online	3.684	1.157
Capturing information	3.632	1.065
Development and administration	3.474	.772
Digitization of the existing hard documents	3.316	1.204
Overall Mean	3.658	

Source: Research Data (2017)

The results in Table 4.4.1 show that Enterprise Content Management had been adopted in management of the information captured from the ministry's hard copy documents (M=3.947, SD=0.911) as well as the delivery of the information (M=3.895, SD=0.809). In addition, it was also found that to a large extent, ECM had been adopted in the development and administration function (M=3.474) and digitization of the existing hard copy documents (M=3.316). Therefore, management of information is the most recognized adoption extent by the National Government Ministries.

4.4.2 Extent of Adoption of the Enterprise Content Management in the Process Management

This part sought to determine the extent to which the ECM had been adopted in the ministry processes. The responses were rated on a 5 point scale where a mean of 1 to 1.4 stand for "not at all", 1.5 to 2.4, "small extent", 2.5 to 3.4, "moderate extent",

3.5 to 4.4, “great extent” and 4.5 to 5.0, “very great extent”. The results are presented in Table 4.4.2.

Table 4.4.2: Extent of ECM Adoption in the Ministry Process Management

Process Management Function	Mean	Std. Deviation
Transaction processing	3.737	1.046
Data Management	3.579	.838
Decision support	3.474	1.021
Customers Care Management	3.368	.895
Collaboration (Workgroup) support	3.053	1.130
Overall Mean	3.442	

Source: Research Data (2017)

Concerning the organizations processes, the results in Table 4.4.2 show that ECM has been adapted to a large extent in the transaction process (M=3.737) and in the data management process (M=3.579). Similarly to a moderate extent, ECM has been adopted in decision support (M=3.474), customer care management (M=3.368) and collaboration support group (M=3.053).

4.4.3 Extent of application of the Enterprise Content Management in the Enterprise Operations

The respondents were requested to indicate the extent to which Enterprise Content Management had been applied in the Enterprise Operations, namely Accounting, Supply Chain Management, Human Resource Management, Finance and Records Management functions. The results are presented in Table 4.4.3.

Table 4.4.3: Extent of Application of ECM in the Ministry Enterprise Operations

Enterprise Operations	Mean	Std. Deviation
Accounting Section	4.105	.938
Finance Section	3.947	1.177
Human Resource Management Section	3.895	.937
Supply Chain Management Section	3.842	1.119
Records Management Section	3.21	1.084

Source: Research Data (2017)

The result from Table 4.4.3 indicate that from the common Enterprise Operations that are carried out in the Ministry, the Enterprise Content Management System was applied in Accounting Section to a large extent (M=4.105, SD= 0.938), Finance Section (M=3.947, SD=3.947) and Human Resource Management Section (M=3.895, SD=0.937). In addition, the findings also indicate that Supply Chain Management Section and Records Management Section had a mean of 3.842 and 3.211 respectively.

The respondents were also asked to indicate any other enterprise operations that had not been operationalized with the use of the ECM system and they indicated in the Ministries that collect revenue for the government such as the Ministry of Lands and Physical Planning, Ministry of Health, Ministry of Trade and Industry; and Ministry of Transport, Infrastructure, Housing and Urban Development, there was need to incorporate debt and revenue collection Management Function. Specifically, the Ministry of Lands and Physical Planning respondent indicated that the registration office which deals with the processing of title deeds, management of the library and field services were the other areas that need to be covered by the Enterprise Content Management System.

4.5 Effect of Enterprise Content Management on Service Quality

This section sought to establish measures of Service Quality that can be attributed to the adoption of the Enterprise Content Management (ECM) in the organization which include timeliness, reliability and responsiveness among others.

4.5.1 Qualitative Analysis

The attributes were analysed using mean and standard deviation. The results on the effect of ECM on the level of service quality offered by the Ministries are presented in Table 4.5.1.

Table 4.5.1: Effect of Enterprise Content Management System on Service Quality

Service quality Attribute	Mean	Std. Deviation
The service delivered is timely	4.263	.653
Improved customer service dependability	4.158	.765
Reduction of transaction cost	4.158	1.214
Reliability of the ministry services	4.105	.875
Improved confidentiality	4.000	1.106
Prompt response to customers queries	3.947	.911
Services offered are accurate	3.947	.848
Increased individualized attention to the public	3.895	.875
Improved ambience of the workplace	3.790	1.084

Source: Research Data (2017)

The results in Table 4.5.1 reveal that adoption of the ECM by the government ministries had improved to a large extent the timeliness of service delivery (M= 4.263, SD=0.653) and the level of customer service dependability (M=4.158, SD=0.765). The low standard deviation among the respondents on the level of service delivery is an indication of concurrence on two qualities across all the ministries

surveyed. In addition, the results show that there has been a reduction of transaction cost, reliability of the service and confidentiality between the public and the ministry staff.

However, to a medium extent, the adoption of ECM has improved the ambience of the workplace (M=3.790) and improved individualized attention to the public (M=3.895, SD=3.895, SD=0.875). From the findings, it can be deduced that the service offering quality in the Ministry had improved from moderate to great extent due to the adoption of the Enterprise Content Management System in the Ministries.

4.5.2 Regression Equation

For quantitative analysis the study used regression analysis to establish the relationship between the adoption of ECM and the net effect it has on the level of service quality as measured in Section 4.5.1. To determine the same, the relationship between the overall mean of each of the ECM practices on the content, processes and enterprise management covered under Section 4.4 was regressed with the resultant mean from the service quality measure in Section 4.5. From their overall means of each factor when using multiple regression analysis, there is a possibility of endogeneity occurring whereby when certain variables are omitted, it leads to measurement errors, the researcher used the most important variables that constitute ECM adoption. The regression equation was $Y = \alpha + B_1X_1 + B_2X_2 + B_3X_3 + \epsilon$.

The researcher also sought to determine the combined effect of content management, process management and enterprise operations on the level of service quality in the ministries. The results are presented in Table 4.5.2.

Table 4.5.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.832 ^a	.692	.604	.43049

Source: Research Data (2017)

The study used coefficient of determination to evaluate the model fit. The adjusted R^2 , also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The correlation coefficient (r) value of 0.832 indicates existence of a strong positive relationship between Enterprise Content Management and the level of Service Quality offered in the ministries. The model had an average adjusted coefficient of determination (R^2) of 0.604 and which imply that 60.4% of the level of service quality in the ministry is explained by the success of Enterprise Content Management System while other factors not considered in the model explain the balance of 39.6%.

This implies that the ministries should explore the other factors that affect the level of service quality though it is evident that a large percentage is determined by success of the automation process undertaken. The standard error of the estimate (S_e) indicates that on average, organizational performance deviate from the predicted regression line by a score of 0.4304.

Table 4.5.3: Analysis of Variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	5.571	4	1.393	6.841	.003 ^b
Residual	2.850	14	.204		
Total	8.421	18			

Source: Research Data (2017)

Analysis of variance (ANOVA) on Table 4.5.3 shows that the combined effect of the ministry's content, process and enterprise management was statistically significant in explaining changes in the level of Service Quality in the National Government Ministries in Kenya.

This is demonstrated by a p value of 0.003 which is less than the acceptance critical value of 0.05. The results indicated that the overall model was significant, that is, the independent variables were good joint explanatory variables/determinants for Service Quality in the Ministries (F=6.841, P value =0.003).

Table 4.5.4: Regression Coefficient

Model	Coefficients ^a			t value	Sig.	
	Unstandardized Coefficients		Standardized Coefficients			
	Beta	Std. Error				
(Constant)	1.179	.708		1.665	.118	
1	Content Management (X ₁)	.066	.111	.101	.595	.562
	Process Management (X ₂)	.425	.110	.753	3.868	.002
	Enterprise Operations (X ₃)	.412	.127	.167	3.244	.394

Source: Research Data (2017)

- a. Dependent Variable: Service quality (Y)
- b. Independent Variable: X₁ = Content Management; X₂ = Process management; X₃ = Enterprise Management

The resultant regression was be as follows:

$$Y = 1.179 + 0.066 X_1 + 0.425 X_2 + 0.412 X_3$$

The coefficient of the independent variables (X_2) is significant at 5% significance level but X_1 and X_3 are insignificant because their p-values are greater than 0.05. The coefficient of independent variables are positive and this implies that the adoption of ECM in the ministries as manifested in its effect in the ministry's content management, process management and enterprise operations has improved the level of service quality in the ministries.

A regression coefficient of 0.066 implies that a unit increase in the level of content management affects the level of service quality by 6.6%. On the other hand, a unit increases in the ministry process management will result in 42.5% increase in the level of service quality offered by the ministries as well as increase in the level of enterprise management leading to an increase of 41.2% in the level of Service Quality. In general therefore, the results show that the effect of Process Management has the greatest effect on the level of Service Quality.

4.6 Barriers Encountered in the Adoption of Enterprise Content Management System in the Ministry

This section of sought to determine the barriers to the effective implementation of Enterprise Content Management in the Ministry. The respondents were to rank the challenges range was '1-8 with 1= "least serious" and 8 = "most serious". The results are presented in Table 4.6.

Table 4.6: Barriers Encountered in the Adoption of Enterprise Content Management System in the Ministry

Service quality	Mean	Std. Deviation	Rank
Inadequate financial allocation	3.632	1.012	7
Inadequate staff	3.105	1.048	5
Resistance to change	3.105	1.149	5
Lack of ownership by management	3.053	1.129	5
Lack of Top management support	2.895	1.048	4
Lack of management approval	2.795	1.084	3
Lack of clear ICT Policy	2.738	1.046	3
Lack of technical know-how	2.368	1.212	3
Interference by donors	2.2105	1.31567	3

Source: Research Data (2017)

The results in Table 4.8 indicate that inadequate financial allocation to the ECM project (M=3.632) was the dominant limitation to the effective implementation of the system. In addition, to a large extent, inadequate staff and resistance to change were supported as the second barriers (M=3.105). The respondent also found that lack of top management support and lack of management approval contributed to the barriers encountered in the adoption of Enterprise Content Management System. Further, the respondent indicated that lack of clear ICT Policy, Lack of technical know-how and Interference by donors were also part of the barriers encountered during adoption of Enterprise Content Management.

4.7 Discussion of the Findings

This study set to explore the effect of Enterprise Content Management System on the level of Service Quality in the National Government Ministries in Kenya. This section discusses the main findings and their implications on the Enterprise Content Management System and Service Quality.

The first objective sought to determine the drivers to the adoption of Enterprise Content Sanagement in the Ministries. From the findings, the dominant drivers to the adoption of ECM were found to be the need to improve productivity and efficiency; and to optimise business processes in terms of output realisation. The dominance of these factors is in line with the findings by Markus and Tanis (2010) who posit that adoption of ECM by business units is driven by the need to grow businesses, business processes improvement and reduction of business operation and administration costs. Though Markus and Tanis study was anchored on a business oriented entity, it can be concluded that the same drivers applies to the government oriented units with customer demand being the dominant factor influencing adoption of ICT operations and in the process realize increased service quality and customer satisfaction.

The strategic necessity of the Ministry to aptly respond to the changing demands of its customers was found to be yet another driver to the adoption of ECM by the ministries. Premkumar (2013) highlighted this point by observing that the changing business environment, both for profit and non-profit oriented firms will explain the reason why firms adopt IT enabled operations because of their ease to be adapted to the changes in the market compared to the manual system. This will therefore explain the reason why among the drivers that influenced ECM adoption by the ministries, environmental and technological factors were more dominant than the organizational factors.

This finding however contradicts findings by Jeyaraj et al. (2006) who suggested that for proactive management team, organizational factors explained the major driver to the adoption of ECM.

The second objective of the study was to establish the extent to which the National Government Ministries had implemented ECM. The research findings show that Enterprise Content Management had been adopted in management of the information captured in the ministry's hard copy documents and the development and administrative function that includes for example the digitization of the existing hard copy documents. The findings show that the management of information was the main area in which ECM had found use in the Ministries.

This position explains what Kuan and Chau (2011) highlight that earlier experience with ICT influences adoption of new technology adoption by organisations because of the existing competence and therefore the earlier experience in which most government ministries was manual impacted on the need to automate the processes first and also enhance management decision making process. However, the findings that digitization of the existing hard copy documents had not been automated fully still shows that many of the Ministries functions were still manual and this could be due to the financial constraints facing the Ministries to fully automate its processes. Among the three functional areas that ECM had been applied in the ministries, the findings show that the Enterprise Management function was the dominant area that the system had been used across the Ministries.

The third objective was to determine the effect of Enterprise Content Management on the level of Service Quality. The finding was that adoption of ECM by the government ministries had improved the timeliness of service delivery, customer service dependability, reduction of transaction cost and reliability of the service offered by the Ministries. In addition the level of confidentiality between the customer and firms had improved though the level of workplace ambience had not been

affected to a large extent. These findings support that of Shang and Seddo (2002) who highlight that public sector organisations have been directing resources to the implementation of operational systems with an ultimate aim to improving their customer satisfaction level. From the regression, process management was found to be the operational practice that had the greatest effect on the service quality offered by the government ministries.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1 Introduction

This section covers the summary of findings, conclusion, limitations and recommendations in line with the research objective. The research was to determine the effect of Enterprise Content Management System on the Service Quality in National Government Ministries in Kenya.

5.2 Summary of Findings

The study showed that majority of the respondents were aged less than 50 years with a majority being of male gender and having worked in the respective ministries for over six years. In general therefore the respondents were perceived to have the requisite experience and academic qualifications to answer appropriately the questions contained in the questionnaire.

On the dominant drivers that explain the adoption of the Enterprise Content Management System in the Ministries, the research established that the need to improve productivity and efficiency and optimization of business processes in terms of output realisation came out as the major reasons to the adoption of ECM. In addition, the strategic necessity of the ministry to aptly respond to the changing demands of its customers and to meet the customer expectation was found to be yet other drivers to the adoption of ECM by the ministries.

Adoption of ECM was majorly done in the enterprise, processes and content in the service offering in the ministries. The adoption of the Enterprise Content Management System in the ministries was found to majorly concentrate on the process management function, enterprise operations function and in the content management function respectively.

The major process management functions in which ECM had been applied include transaction processing and data management. With regard to the ministries content management, the study established that the major areas deals with the delivery and management of information as well as the availing of stakeholder information online and also capturing of all organizational information.

The study established that indeed the adoption of Enterprise Content Management had improved Service Quality offered by the Ministries. This took the form of timely service delivery, improved customer service, improved reliability of service and reduced transaction costs. With regard to the relationship between ECM and service quality from the regression equation, the three predictor variables were significant in influencing the level of service quality offered by the Ministries.

The research identified various barriers to effective implementation of Enterprise Content Management by the ministries. The barriers include inadequate financial allocation, inadequate competent staff allocation to the project, resistance to change and lack of the management ownership to the project.

5.3 Conclusion

Having sought to find the relationship between the adoption of Enterprise Content Management and Service Quality offered by the government ministries, it can be concluded from both a hypothetical and, through specialist perspective that ECM is a moderately new idea that contains an extensive variety of advancements. Therefore, given the cutting edge regarding ECM and its more extensive degree than ERP, organizations ought to decide on a progressive approach where usefulness is expanded step by step across the organization. The determination of the priority functions ought to be picked strategically to ensure timeliness and proper change management as well management commitment throughout the implementation of the ECM.

In addition, for effective implementation of ECM, it can be concluded that there is need for an ECM team that provide strong leadership and lead the changes induced by the new ECM strategy, acceptance of an ECM strategy by users by meeting the organization's business needs in the least disruptive manner possible. The needs of an organization can only be understood by understanding the current state, which requires substantial contributions from the user community as well as an environmental inventory. Finally, effective change management from the onset, during the implementation phase, and after implementation is crucial to motivate users to do their job differently.

5.4 Limitations of the study

There were limitations about the objectivity of information assembled from the study polls. Despite the fact that this investigation found a way to decrease the likelihood of

reaction inclination and connected the procedural cures, there were still some predisposition in the reactions produced from the survey.

Confidentiality was a major obstruction in gathering information from some ministries due sensitive nature of their mandate and hence some respondents decided to withhold information which they considered sensitive and classified. This caused difficulties in obtaining all the required responses and consequently led to reluctance of participating in the study for some of the respondents. The researcher had to inform the respondents in advance that the purpose of the research was meant for academic purpose only and not for other investigations although the same was stipulated on the questionnaire.

5.5 Recommendations for Policy and Practice

The investments that are presently being made in e-Government for this situation appropriation of ECM advancement will require vigorous data/records regimes of management. With a specific end goal to keep up the open administration structure of the national government and to accomplish a definitive objective of excellent administration conveyance, it is suggested that data and records administration strategies that consider the whole data and records administration continuum should be embraced. Furthermore, there is requirement for a coordinated effort among various classes of staff and particularly Records Administration and Data Administrators in the arranging and acquirement procedure of new frameworks.

The study established that the adoption of Enterprise Content Management System has enabled the National Government Ministries to improvement of productivity and efficiency. Therefore, it is recommended that the few remaining Ministries should

emphasize on adoption of Enterprise Content Management System to improve performance especially their service quality to their customers.

The study found out that the application of the Enterprise Content Management is beneficially to the National Government Ministries like in transaction process, it is therefore recommended that the study adds greater comprehensiveness in enterprise content management within the ministries. From the findings, measures of service quality are attributed to the implementation of Enterprise Content Management System. There is also need for the Government to allocate adequate finances to enhance implementation of the system. Therefore National Government Ministries should strive to embrace the system to enhance customer service.

5.6 Suggestions for Further Research

The study was undertaken on Enterprise Content Management System and Service Quality in National Government Ministries in Kenya. Further studies can be carried out in the other public institutions and private institutions that are using Enterprise Content Management to improve on their Service Quality. In addition, a similar study can be conducted in other countries in the East African Community to get a regional view.

REFERENCES

- Agarwal, R. & Prasad J., (2009). *A conceptual and operational definition of personal innovativeness in the domain of information technology*. *Information Systems Research*, 9(2), 204-215.
- Alalwan, J. A. (2012). Enterprise content management research: a comprehensive review! *Journal of Enterprise Information Management*, 25(5), 441–461.
- Ambune. D. (2012) *Operational arrangements and service quality among Government Ministries in Kenya*. Unpublished MBA Project, University of Nairobi.
- Brendan E. Asogwa, (2012). The challenge of managing electronic records in developing countries: Implications for records managers in Sub-Saharan Africa! *Records Management Journal*, Vol. 22 Issue: 3, pp.198-211.
- Brendan, E. A. (2012). *The readiness of universities in managing electronic records*. *The Electronic Library* 31(6), 792-807.
- Burkhart, T. K., & Iverson, W. (2010). *Analyzing the business model concept: a comprehensive classification of literature*. Paper presented at the 32nd International Conference on Information Systems.
- Bwalya K., J., & Healy, M. (2010). Harnessing e-government Adoption in the SADC Region: a Conceptual Underpinning! *Electronic Journal of e-government*, 8(1), 23-32.
- Cavaness, B., & Manoochehri, P. (2013). *Managing Stakeholder Relationships in an E-Government Project*. Ninth Americas Conference on Information Systems, 783-791.
- Christiaanse, E., & Venkatraman, N. (2002). Beyond Sabre: An Empirical Test of Expertise Exploitation in Electronic Channels. *MIS Quarterly*, 26(1), 15–38.

- Clemons, E.K. & Row, M.C. *Structural Differences Among Firms*. A Potential of Operations Research and Information Systems, v.4 n.2, p.1-21, April 2013.
- Davis, F. D. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly* (13:3), 1989, pp. 319 - 339.
- Gronroos, C. (1982). *Strategic Management and Marketing in the Service Sector*, Helsinki: Swedish School of Economics and Business Administration.
- Iacovou, C.L., Benbasat, I., & Dexter, A.S., (1995). Electronic data interchange and small organizations: Adoption and impact of technology. *MIS Quarterly*, 19(4), p. 465–485.
- Iverson, J., & P. Burkhart. (2007). Managing electronic documents and work flows: Enterprise content management at work in non-profit organisations! *Journal of Non-profit Management and Leadership*, 17(4), 403-419.
- Jeyaraj, A., Rottman, J. W., & Lacity, M. C. (2006). A review of the predictors, linkages, and biases in IT innovation and adoption research! *Journal of Information Technology*, 21(1), 1-23.
- John C. G. M., & Van Rooij (2013). Legacy Issues in the Implementation of Enterprise Content Management (ECM)! *International Journal of Information and Communication Technology Research*, 3 (3).
- K. R. Grahlmann, C. Hilhorst, S.V. Amerongen, R. Helms, and S. Brinkkemper. *23rd Australasian Conference on Information Systems 2012*, pp. 1-10.
- Katuu, S., (2012). Enterprise content management (ECM) implementation in South Africa! *Records Management Journal*, 22(1), 37-56.
- Koplowitz, R., Rymer, J. R., Hammond, J. S., & Brown, V. (2013). “SharePoint Enters Its Awkward Teenage Years: Customer Struggles With Social, Cloud, And Mobile Signal A Transition,” Forrester (ed.).

- Korb, Joachim, Strodl, Stephan. Enterprise Content Management and the Records Continuum Model as strategies for long-term preservation of digital information! *Records Management Journal, Vol. 23 Issue: 3, pp.159-176.*
- Kothari, C.R. (2014). *Research Methodology. Methods and Techniques.* New Delhi: Wishwaprakshan.
- Kuan, K. K. Y., & Chau, P. Y. K. (2011). *A perception-based model for EDI adoption in small businesses using a technology-organization-environment framework, Information and Management, 38 (8), 507-521.*
- Kunstova, R. (2015). Barriers and Beliefs of Investment into Enterprise Content Management Systems. *Journal of Management, Informatics and Human Resources, 43(5): p. 205-213*
- Laumer, S., Maier, C., Eckhardt, A., & Weitzel, T. (2013). User personality and resistance to mandatory information systems in organizations: a theoretical model and empirical test of dispositional resistance to change! *Journal of Information Technology 64(1),12-40.*
- Lee, Sang Jung Bright. "Organizational influences on data use among child welfare workers". *Child welfare May-June 2013 Issue.*
- Levenburg, N., Magal, S. R., & Kosalge, P. (2012). *An exploratory investigation of organizational factors and e-business motivations among SMFOEs in the US. Electronic Markets, 16 (1),70-84.*
- Macasio, J. (2009a). *ICT Services Management Practitioner's Not E-enterprise Architecture.*
- Markus, M., & Tanis, C. (2010). The enterprise system experience from adoption to success. *The Enterprise Systems Experience.*

- Markus, V. R. (2000). *Paradigm Shifts, E-Business and Business Systems Integration, Business Integration, pdf*. Retrieved from www.imamu.edu.sa/Scientific.
- Mbuthia, G. (2013). *Service quality practices in public healthcare facilities in Mombasa County, Kenya*. Unpublished MBA Project, University of Nairobi.
- Mugenda, O. & Mugenda, A. (2003). *Research Methods: Quantitative & Qualitative approaches*, Nairobi: Acts Press.
- Mutuku, H. (2010). *Quality of customer service offered by Kenya's Ministry of Finance*. Unpublished MBA Project, University of Nairobi.
- Mwai,, N, Kiplagat,. J & Gichoya, D (2016). Outsourcing information communication technology services in selected public university libraries in Kenya, *Inkanyiso, Jnl Hum & Soc Sci* , 8(1)
- O' Callaghan, R. & M. A. Smits. (2005). *Strategy Development Process for Enterprise Content Management*. Paper presented at the Proceedings of the 13th European Conference on Information Systems, 2005. Germany, Regensburg.
- Ocholla, D. & Bothma, T. (2007). Trends, challenges and opportunities for LIS education and training in Eastern and Southern Africa. *New Library World*, 108,(1/20), 55-78.
- Okiy, R., B. (2005). *Funding Nigerian Libraries in the 21st century: will funding from alternative sources suffice?* The Bottom Line: Managing Library Finances, 18(2), 71-77.
- Oliveira, J., Tereso, A., & Machado, J.R. (2013). *Comparing Open Source and Proprietary Enterprise Content Management*.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions! *Journal of Marketing Research*, 17(4): 460-469.

- Ondari-Okemwa, E. (2000). Training needs of practicing professional librarians in the Kenyan public university libraries: a critical analysis. *Library Management*, 21 (5), 257-268.
- Orodho, J., A. (2009a). *Essentials of educational and social science research methods*. Nairobi: Masola Publishers
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality! *Journal of Retailing*, Spring, 64(1),12-40.
- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implications for future study! *Journal of Marketing*, 49 10, 41-50.
- Peppard, J., J. Ward, & E. Daniel. (2010). *Managing the Realisation of Business Benefits from IT Investment*. MIS Quarterly Executive, 6(1): p. 1-11.
- Perroux, F. (1950). Economic Space: Theory and Applications! *The Quarterly Journal of Economics*, Vol. 64, No. 1 (Feb., 1950), pp. 89–104.
- Premkumar, G. & Roberts, M. (2013), Adoption of new information technologies in rural small businesses, Omega! *The International Journal of Management Science*, 27(4), 467-484.
- Proscovia Svard, (2013). Enterprise Content Management and the Records Continuum Model as strategies for long-term preservation of digital information! *Records Management Journal*, Vol. 23 Issue: 3, pp.159-176.
- Reekers, N., & Smithson, S. EDI in Germany and the UK: Strategic and operational use! *European Journal of Information Systems* (3:3) 2006, pp 169-178.

- Rickenberg, T. (2012) *Enterprise Content Management: A literature Review*. Proceedings of the Eighteenth Americas Conference on Information Systems, p. 9-12.
- Robson, Colin (2002). *Real World Research: A Resource for Social Scientists and Practitioner Researchers*. Oxford, Blackwell
- Rogers, E., M. (2003). *Diffusion of Innovations*. Fourth edition, New York: Free Press.
- Rogers, E., M. (2004). *Diffusion of Innovations*. Fourth edition, New York: Free Press.
- Rooij, J. C. G. M. Van, & Breugel, A. Van. (2015). BPM Governance within the Ministry of Defense: a special case? In: Luyckx, F. (Ed.): *SAP BPM Framework: Customer Cases*.
- Schubert, P. & Williams, P.S. (2011). A framework for identifying and understanding enterprise systems benefits! *Business Process Management Journal*, 2011. 17(5).
- Shang, S., & Seddon, P. B. (2002). Assessing and managing the benefits of enterprise systems: the business manager's perspective! *Information Systems Journal*, 12 (4), 271-299.
- Smith, Heather A., & McKeen, James D. (2003). Developments in Practice VIII: Enterprise Content Management. *Communications of the Association for Information Systems: Vol. 11 , Article 33*.
- Smith, M., Heady, R. B., Carson, P. P., & Carson, K. D. (2003). Do Mission Statements Accomplish Their Missions? An Exploratory Analysis of Mission Statement Content and Organizational Longevity! *Journal of Applied Management and Entrepreneurship*, 6, 75–96.

- Svard, P (2013). Enterprise Content Management and the Records Continuum Model as strategies for long-term preservation of digital information! *Records Management Journal*, 23 (3), 159-176.
- T. Paivarinta & B. E. Munkvold, (2015). *Enterprise Content Management: An Integrated Perspective on Information Management*.
- Tarí, J. J., Molina-Azorín, J. F., & Heras, I. (2012). Benefits of the ISO 9001 and ISO 14001 standards: A literature review! *Journal of Industrial Engineering and Management*, 5(2), 296-322.
- Thong J.Y.L., (1999). An Integrated Model of Information Systems Adoption in Small Businesses! *Journal of Management Information Systems*, 15(4), pp. 187-214.
- Venkatesh, V., & F. D. Davis (2002). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 46, (2), 186-204.
- Ward, J., E. Daniel, & J. Peppard. (2008). *Building Better Business Cases for IT Investments*. *MIS Quarterly Executive*, 2008. 7(1): p. 1-15.
- Wiltzius, L., Mc Litmic O. (2014). Factors in the Acceptance of Enterprise Content Management Systems. *In Enterprise Content Management in Information Systems Research*, p. 37-61.
- Yang, S. M., Yang, M. H., & Ben Wu, J. T. (2005). *The impacts of establishing enterprise information portals on e-business performance*. *Industrial Management & Data Systems* (105:3), pp. 349–368.

Zakareya Ebrahim, Zahir Irani, (2005). E-Government adoption: architecture and barriers! *Business Process Management Journal*, Vol. 11 Issue: 5, pp.589-611.

Zhu, K., Kraemer, K.L. & Xu, S. (2003). Electronic business adoption by European firms: a cross-country assessment of the facilitators and inhibitors! *European Journal of Information Systems*, 12 (4), 251-268.

APPENDICES

APPENDIX I: NATIONAL GOVERNMENT MINISTRIES

S/No	Ministry
1	Ministry of Interior and Coordination of National Government
2	Ministry of Devolution and Planning
3	Ministry of The National Treasury
4	Ministry of Defence
5	Ministry of Lands and Physical Planning
6	Ministry of Foreign Affairs & International Trade
7	Ministry of Health
8	Ministry of Transport, Infrastructure, Housing & Urban Development
9	Ministry of Information, Communication and Technology
10	Ministry of Public Service, Youth & Gender Affairs
11	Ministry of Environment, and Natural Resource
12	Ministry of Sports, Culture and The Arts
13	Ministry of Energy and Petroleum
14	Ministry of Agriculture, Livestock and Fisheries
15	Ministry of Education
16	Ministry of Industry, Trade and Cooperatives
17	Ministry of Tourism
18	Ministry of Mining
19	Ministry of Water & Irrigation
20	Ministry of East African Community, Labour and Social Protection

Source: Executive Order No.1/2016

APPENDIX II: QUESTIONNAIRE

This research is on Enterprise Content Management System and Service Quality in National Government Ministries in Kenya. Please provide the required responses to the best of your ability. Your honest responses to the questions are of great importance to the study. The information provided will be for academic purposes only.

SECTION A: DEMOGRAPHIC DETAILS

RESPONDENTS

Please tick (✓) the relevant response to each of the questions below (Respondent)

1. **Age bracket**

25 years or less []

26 – 30 years []

31 – 35years []

36 - 40 years []

41 – 45 years []

46 – 50 years []

Over 50 years []

2. **Sex**

Male []

Female []

3. **Period worked in the Ministry**

1 – 5 years []

6 – 10 years []

11 – 20 years []

Over 20 years []

4. Job title.....

SECTION B: DRIVERS OF ENTERPRISE CONTENT MANAGEMENT

SYSTEM ADOPTION

5. To what extent did the following factors drive adoption of Enterprise Content Management in the Ministry? Use scale Where **1 -Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent, 5-Very great extent**

	Drivers	1	2	3	4	5
1	The compatibility of the ECM system with the existing system/infrastructure in the ministry					
2	Need for improved productivity and efficiency					
3	Operational costs reduction					
4	Optimization of business processes					
5	Ease of use of Enterprise Content Management					
6	The extent to which the system could be triable					
7	The support of the top management in implementing the ECM					
8	The size of the Ministry					
9	Availability of technical staff to rollout the system					
10	Need for collaboration facilitation					
11	The level of technology adoption by other ministries					
12	The level of external ICT support					
13	The strategic necessity of the system to the Ministry					
14	Minimization of storage space					
15	Need to comply with the provisions of the Service Charter					
16	Need to enhance security of Records					
17	Others, please specify and rate accordingly					

**SECTION C: EXTENT OF THE ADOPTION OF ENTERPRISE CONTENT
MANAGEMENT SYSTEM IN THE MINISTRY**

6. Please indicate the extent to which the Ministry has adopted Enterprise Content Management in the following processes. Use the scale where **1 -Not at all, 2- Small extent, 3-Moderate extent, 4-Great extent, 5-Very great extent**

	Content Management	1	2	3	4	5
2	Digitization of the existing hard documents					
4	Capturing information					
5	Management of the information					
6	Delivery of the information					
7	Development and administration					

7. How would you rate the adoption of Enterprise Content Management by the Ministry in the processes in terms of percentage? **(Please indicate the percentage on a scale of 0 – 100%).**

	Content Management	100%
1	Availing information related to key stakeholders online	
2	Digitization of the existing hard documents	
4	Capturing information	
5	Management of the information	
6	Delivery of the information	
7	Development and administration	

8. Please indicate the extent to which the Ministry has used Enterprise Content Management in the following applications. Use the scale where **1 -Not at all, 2- Small extent, 3-Moderate extent, 4-Great extent, 5-Very great extent**

	Process Management	1	2	3	4	5
1	Transaction processing					
2	Decision support					
3	Collaboration (Workgroup) support					
4	Data Management					
5	Customers Care Management					

9. How would you rate the adoption of Enterprise Content Management by the Ministry in the applications in terms of percentage? **(Please indicate the percentage on a scale of 0 – 100%).**

	Process Management	100%
1	Transaction processing	
2	Decision support	
3	Collaboration (Workgroup) support	
4	Data Management	
5	Customers Care Management	

10. Please indicate the extent to which the Ministry has implemented Enterprise Content Management in the following Sections. Use the scale where **1 -Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent, 5-Very great extent**

	Enterprise Operations	1	2	3	4	5
1	Accounting Section					
2	Human Resource Management Section					
3	Records Management Section					
4	Finance Section					
5	Supply Chain Management Section					
6.	Others, Please specify and rate accordingly					

11. How would you rate the implementation of Enterprise Content Management by the Ministry in the following Sections in terms of percentage? **(Please indicate the percentage on a scale of 0 – 100%).**

	Enterprise Operations	100%
1	Accounting Section	
2	Human Resource Management Section	
3	Records Management Section	
4	Finance Section	
5	Supply Chain Management Section	
6.	Others, Please specify and rate accordingly	

12. What other processes or areas of application in your ministry has Enterprise Content Management been applied that are not covered above? Please explain

.....

SECTION D: SERVICE QUALITY

13. The following measures of service quality can be attributed to the implementation of Enterprise Content Management (ECM) in the organization. Please indicate the extent to which the attributes have been achieved by the Ministry as a result of adoption of ECM. Use the scale where **1 -Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent, 5-Very great extent**

	Service Quality	1	2	3	4	5
1	Improved customer service dependability					
2	Prompt response to customers queries					
3	The service delivered is timely					
4	Reliability of the ministry services					
5	Increased individualized attention to the public					
6	Services offered are accurately					
7	Reduction of transaction cost					
8	Improved ambience of the workplace					
9	Improved confidentiality					
10	Others (please specify)					

14. How would you rate the achievement of the service quality attributes by the Ministry as a result of adoption of Enterprise Content Management in terms of percentage? (Use a scale of 0-100%)

	Service Quality	Percentage (%)
1	Improved customer service dependability	
2	Prompt response to customers queries	
3	The service delivered is timely	
4	Reliability of the ministry services	
5	Increased individualized attention to the public	
6	Services offered are accurately	
7	Reduction of transaction cost	
8	Improved ambience of the workplace	
9	Improved confidentiality	
10	Others (please specify)	

SECTION E: BARRIERS ENCOUNTERED IN THE ADOPTION OF ENTERPRISE CONTENT MANAGEMENT SYSTEM IN THE MINISTRY

15. Please rank the order in which the following barriers are encountered by the Ministry during adoption of Enterprise Content Management (1 to 8), with **1= least serious and 8= most serious**. Please indicate the rank in the brackets.

Lack of Top management support []

Lack of management approval..... []

Interference by donors []

Lack of ownership by management..... []

Inadequate financial allocation []

Inadequate staff []

- Lack of technical know-how []
- Lack of clear ICT Policy []
- Resistance to change []
- Reliability of the system []
- Lack of proper infrastructure []

THANK YOU SO MUCH FOR YOUR TIME