

**INFLUENCE OF MANAGERIAL CHALLENGES ON COLLECTION OF
CUSTOMS DUTIES IN CUSTOMS & BORDER CONTROL DEPARTMENT OF
KENYA REVENUE AUTHORITY**

BY


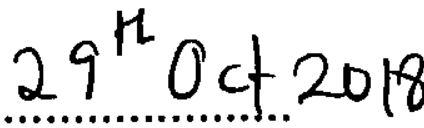
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DECLARATION

This project is my own work and effort and has not been presented for any award.

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This project has been submitted for examination with my Approval as the

Supervisor

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Mr. Mr. Francis Njuguna

DEDICATION

I dedicate this work to my family for their strong support

ACKNOWLEDGEMENT

I thank Almighty God for enabling me to write this research project. I express my gratitude to my supervisor **Mr. Francis Njuguna** for guidance. I also thank my workmates at Kenya Revenue Authority for their undying encouragement. Finally, thank my family for their moral support.

TABLE OF CONTENTS

DECLARATION.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
LIST OF FIGURES	vii
LIST OF TABLES	viii
ABBREVIATIONS AND ACRONYMS.....	ix
ABSTRACT.....	x
CHAPTER ONE	12
INTRODUCTION.....	12
1.1. Background.....	12
1.1.3 Managerial Challenges.....	13
1.1.4 Customs Duty Collection.....	14
1.1.6 The Kenya Revenue Authority	15
1.2. Statement of the Problem	16
1.3. Objectives of the Study.....	17
1.3.1. General Objective	17
1.3.2. Specific Objective.....	17
1.4. Research Questions.....	18
1.5. Significance of the Study.....	18

CHAPTER TWO	20
LITERATURE REVIEW	20
2.1. Introduction	20
2.2. Review of Theories.....	20
2.2.1. Fayol's Mechanistic Administrative Theory	20
2.2.2. Contingency Theory of Management	22
2.2.3. Management Control Theory.....	24
2.2.4. Customs Management Theory	25
2.3. Conceptual Framework.....	27
Figure 2. 1: Conceptual Framework	27
2.3.1. Review of Empirical ties	27
2.3.2. Effect of Coordination on Collection of Customs Duties.....	28
2.3.3. Effect of Control on Collection of Customs Duties.....	29
2.3.4 Determinants of Customs Duty Collection	29
2.5. Research Gaps.....	32
CHAPTER THREE	33
RESEARCH DESIGN AND METHODOLOGY	33
3.1. Introduction	33
3.2. Research Design	33
3.3. Target Population	34
3.4. Sample and Sampling Techniques.....	34
3.5. Data Collection Instrument.....	36
3.6. Piloting	36
3.7. Data Collection.....	37
3.7.1 Primary Data	37
3.7.2 Secondary Data	38

3.9 Data Analysis Techniques.....	39
CHAPTER FOUR.....	40
RESULTS AND FINDINGS	40
4.1. Introduction	40
4.2. Response Rate.....	40
4.3. Data Analysis and Discussion	41
4.3.1. Demographic Analysis	41
4.4.1 Collection of Customs Duties	45
4.4.2 Effect of Planning and Forecasting on Collection of Customs Duties.....	45
4.4.3 Effect of Coordination on Collection of Customs Duties	47
4.4.4 Effect of Control on Collection of Customs Duties	49
4.6 Regression Analysis.....	51
CHAPTER FIVE	53
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	53
5.1. Introduction	53
5.2. Summary of Findings	53
5.3. Conclusions	54
5.4. Recommendations	55
5.5. Suggestions for Further Research.....	56
REFERENCE.....	57
APPENDICES.....	60
Appendix I: Questionnaire.....	60
Appendix II: Regression Variables	64

LIST OF FIGURES

Figure 2. 1: Relationship between Managerial Challenges and Customs Duty Collection	27
Table 4. 1: Descriptive Statistics	44
Table 4. 2: Correlation Analysis	50
Table 4. 3: Regression Analysis.....	51
Table 4. 4: Analysis of Variance.....	52
Table 4. 5: Collection of Customs Duties.....	45
Table 4. 6: Effect of Planning and Forecasting on Collection of Customs Duties	46
Table 4. 7: Effect of Coordination on Collection of Customs Duties.....	47
Table 4. 8: Effect of Control on Collection of Customs Duties.....	49

LIST OF TABLES

Table 3. 1: Population of Study	34
Table 3. 2: Sample Size	35
Table 4. 1: Descriptive Statistics	44
Table 4. 2: Correlation Analysis	50
Table 4. 3: Regression Analysis.....	51
Table 4. 4: Analysis of Variance.....	52
Table 4. 5: Collection of Customs Duties	45
Table 4. 6: Effect of Planning and Forecasting on Collection of Customs Duties	46
Table 4. 7: Effect of Coordination on Collection of Customs Duties.....	47
Table 4. 8: Effect of Control on Collection of Customs Duties.....	49

ABBREVIATIONS AND ACRONYMS

CSD	-	Custom Service Department
FIFO	-	First-In-First-Outcome
HR	-	Human Resources
KRA	-	Kenya Revenue Authority

ABSTRACT

The key functions of the management of any organization include planning, organizing and control. The functions contribute to the achievement of goals of the organization. Despite endeavors to ensure that revenues collection at Kenya Revenue Authority (KRA) meets revenues collection targets, meeting the targets has been elusive. This study sought to determine how managerial challenges affected the achievement of the revenues collection objectives at KRA. The study had three specific objectives: to determine how planning and forecasting challenges affect collection of Customs duties; to establish how coordination challenges influence collection of Customs duties; and to establish the relationship between internal control challenges and collection of customs duties. The study was conducted at KRA. The study adopted the descriptive research design which applied survey methods. Primary data used in the study was collected by use of a self-administered questionnaire on a sample of 62 top and middle level management staff at KRA headquarters. The data were analyzed using summary statistics such as the mean and standard deviation. The relationship between planning and forecasting challenges, control challenges and internal control challenges and collection of customs duties was done using linear regression analysis. The findings indicated that procedures for the planning and forecasting process was not clear; that top management did not take keen formal responsibility for planning and forecasting; and that goals and targets were not always realistic and challenging. The study also found that frequent problems included getting in touch with partner organizations when needed and that, generally coordination was a great challenge. Further, management had not established effective reporting lines, and appropriate authorities in pursuit of objectives. KRA had also not demonstrated strict commitment to integrity and ethical values. The study recommends putting mechanism in place at KRA to strengthen planning and forecasting, control challenges and internal control challenges if they are to improve the achievement of customs duty collection targets.

CHAPTER ONE

INTRODUCTION

1.1. Background

1.1.1 Global perspective

The key functions of the management of any organization include planning, organizing and control (McNamara, 2009). In planning, the focus is on purveyance, examination of the future and drawing up action plans. Planning may also mean foresight or a complete future plan of action basing on forecasted of events (Griffin, 2008). Organizing involves building up the structure of the organization and putting the material and human resources for the organization in place (Bateman, 2007). Organizing is the structuring of activities, materials, and personnel to accomplish the assigned tasks. Controlling focuses on the activities that see to it that every activity in the organization occurs in conformity with policy and practice. Activities have to conform to established rule and expressed command, checking on performance to identify and taking remedial actions where necessary and confirming that activities are done according to plan (McNamara, 2009).

This study is based on Fayol's original mechanistic five managerial functions and the fourteen principles lead to bureaucratic hierarchical structures of organizations (Hodgetts, 1975). Fayol identified the functions of management as activities associated with planning and forecasting; organizing; commanding or leading; coordinating; and controlling. The study is also guided by the organic theory presented by Burns & Stalker (1961). In the organic structure, the organization exists dependently, that is, it takes into consideration the needs of employees, leading to group leadership and teamwork.

1.1.2 Kenya Perspective

Despite endeavors to ensure that revenues collection at Kenya Revenue Authority (KRA) to meet revenues collection targets, meeting the targets has been elusive. Revenue collection in Kenya has not always been as effective as expected (Ngotho & Kerongo, 2014). Customs make a significant proportion of taxes realized and ensuring effective managerial processes regarding their collection will go a long way in ensuring tax revenues targets are realized by KRA. This study focuses on the managerial challenges that KRA faces in the collection of Customs duties from eligible Importers and Exporters.

1.1.3 Managerial Challenges

A challenge refers to something requiring a lot of skill, energy, and determination to deal with successfully. Challenges can only be overcome by great mental or physical effort and are a great test to the ability of people (University of Cambridge, 2017). Management is a controversial term that refers to the organizational process made up of planning, setting objectives, managing resources, deploying human and financial assets that are needed to achieve set objectives and measuring how the achievement of the objectives has been done (Griffin, 2008). Managerial challenges refer to issues arising in an organization that overstretch the capacity of the organization to tackle them through managerial processes in the organization.

Challenges that arise in organizations vary from one organization to another, from time to time and from function to function. With regard to function, managerial challenges can be divided into planning challenges, organizing challenges and control challenges. Planning challenges threaten the success of the planning process, which charts the future direction of the organization. Planning challenges affect short term as well as long term decisions and can have far reaching implications on the success of the organization (Obiageli, 2011). Organizing

challenges arise from the arranged collection of resources in an organization and the interactions the resources support (Glushko, 2013). Control challenges frustrate the management in ensuring that resources are obtained used effectively and efficiently in ensuring that goals of the organization are met (Aas, 2010).

1.1.4 Customs Duty Collection

Customs refers to the Authority or agency in a country whose duty is collection of tariffs and the control of the flow of goods into and out of a country (Isaac & Lilian, 2010). Customs duty is the tax levied on imported or exported goods. The tax on imported and exported goods is called import duty and export duty respectively. The two types of customs duties are collected under international trade (Virmani, 2002).

According to Customs and Excise Act (2010) customs duty includes excise duty, import duty, export duty, levy, imposition, tax or surtax imposed on goods and services that are imported into the country or exported out of the country under the Act. The Customs Department is mandated to levy and collect such taxes in accordance with the Act. In the collection of the customs, the Customs Department is mandated to put in place managerial procedures and resources that will enable to legally enforce the collection of the customs. The Act spell out the legal framework of ensuring that collectable duties are collected and what control measure are to be meted to those who fail to comply. However, managerial challenges contribute to the realization of revenues from customs.

1.1.5 Managerial Challenges and Customs Duty Collection

The relationship between challenges and duty collection or any other organizational performance is complicated and depends on how and if the challenges are overcome. A study by Cania (2014) sought to establish the Human Resources (HR) challenges that faced 30 organizations in city of Durrës in Albania of which 16 were in the service sector and 14 in the

production sector. The study, which was a survey, established that the organization faced a mixture of HR challenges about management of employees and turning them into a tool to gain competitive advantage. Firms which put effective strategies to turn HR into an effective tool for competitive advantage realized improved performance as opposed to those whose strategies were ineffective.

In another study by Khan (2012) by the managerial challenge under study was that of the effect of skills mismatch on organizational performance which is a challenge in firms located in developing countries. The study was a survey on firms in Pakistan which is a developing nation. The study showed that the mismatch in skills against those required for business was negatively affecting the performance of the firms studied.

1.1.6 The Kenya Revenue Authority

The Kenya Revenue Authority is a State Corporation mandated with tax revenue collection. It was established in 1995 as a way of centralizing tax collection changing from the former decentralized tax collection system. Its mandate is clearly spelt out in the Kenya Revenue Authority Act of 1995 that was revised in 2014. With the passing of the Act in parliament, the KRA took the central position in revenues mobilization and collection in Kenya (Ondiek, 2015).

To ensure effective performance of its duty of revenue collection, KRA is organized into 11 Departments. These are: Commissioner General Operations Office; Customs & Border Control; Domestic Taxes; Legal Services & Board Coordination; Internal Audit; Intelligence & Strategic Operations; Investigations & Enforcement; Kenya School of Revenue Administration; Corporate Support Services; Strategy Innovation & Risk Management and Marketing and Communications. The department that directly deals with mobilization and collection of customs taxes (CUSTOMS AND EXCISE ACT, 2010).

According to Institute of Certified Public Accountants of Kenya (2016) the collection of taxes at KRA has been a challenge with a series of missed targets. Since the first quarter of 2005 to the fourth quarter of 2015, KRA has not met its target revenue collection. The same goes with the Customs & Border Control which has not been able to achieve tax collection targets. To contribute to the tax collection targets realization, there needs to be effective reforms at the Customs & Border Control department. The reforms can, however take place after establishing the managerial issues and challenges that frustrate the functioning of the department.

1.2. Statement of the Problem

Failure to achieve results can be a nagging issue for the management of any organization. While causes of the inability to achieve the target result vary, management is a key contributor. Effective management procedures with effective use of resources can spur success while ineffective management can result in missed targets. An organization has to conduct diagnostic investigations to locate how managerial issues contribute to its performance before using the management approach as a solution to its performance (McNamara, 2009).

The Customs & Border Control department, despite being a key contributor to revenue collection at KRA, has perennially missed its annual targets and has occasionally declined as it did in the 2011/12 financial year (Institute of Certified Public Accountants of Kenya , 2016). Other than the decline, the department has generally underperformed basing on its achievement vis a vis set targets. The performance of this department has to be stepped up to boost the efforts of the KRA at large in its revenue collection strategies. Continued missed targets continuously frustrate financing of the national budget and lead to poor provision of services to Kenyans in addition to frustrating economic development in Kenya.

Research conducted with regard to KRA has not been able to establish the managerial challenges that the Customs & Border Control department faces when executing its mandate it

collection of customs duties. A study conducted by Munene & Nduru (2016) focused on how tax reforms had affected revenue collection at Customs and Border Control and studied the effect of enforcement ignoring managerial challenges that contribute to tax collection. The study by Ondiek (2015) focused on the responses by Kenya Revenue Authority to the challenges in the implementation of Reforms and Modernization. The study focused on challenges facing the implementation of the reforms but failed to address the issue of performance in tax collection. Clearly a research exists regarding the managerial challenges faced by Customs and Border Control in its collection of customs duty. This study sought to establish these challenges.

1.3. Objectives of the Study

1.3.1. General Objective

To establish how managerial challenges faced influence the collection of Customs duty at Kenya Revenue Authority

1.3.2. Specific Objective

The specific objectives of the study were:

- i. To determine how Planning and forecasting challenges affect collection of Customs duties at Kenya Revenues Authority.
- ii. To establish how coordination challenges influence collection of Customs duties at Kenya Revenues Authority.
- iii. To establish the relationship between internal control challenges and collection of customs duties at Kenya Revenues Authority.

1.4. Research Questions

This study answered the following research questions:

- i. How do planning and forecasting challenges affect collection of Customs duties at Kenya Revenues Authority?
- ii. How do coordination challenges influence collection of Customs duties at Kenya Revenues Authority?
- iii. What is the relationship between control challenges and collection of Customs duties at Kenya Revenues Authority?

1.5. Significance of the Study

The findings of this study may be of significance to the following groups of people:

The Management of Kenya Revenue Authority

The interest of the management of KRA is to ensure efficient and optimal collection of Customs duties from those who should pay in order to ensure Kenya's budgetary obligations are effectively met. Other than identifying the key managerial challenges, the management needs to know how the challenges contribute to the difficulty of achieving set goals in the collection of taxes from customs. This study focuses on establishing the key challenges and how they affect Customs duty collection. The management of KRA may use the findings for decision making regarding Customs duty collection.

The Ministry of Finance

The ministry of finance has the role of ensuring that the government gets enough funding for government budget. A source of variance from the expected collection of taxes is of keen interest. Managerial challenges have to be effectively managed for maximized tax collections.

This study may be of significance to the ministry of finance in Kenya when putting in place managerial policies that will ensure collections from customs are maximized.

Scholars in Taxation

For the scholars of taxation, the study will have provided an objectively researched assessment of managerial challenges facing collection of Customs duties especially for a developing country like Kenya. This study will contribute to the scholarly discussion regarding the various challenges by focusing on the managerial challenges. Future scholars may use the findings of this study as reference material for related academic discourses.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter begins with a review of the theories of management and how the functions of management contribute to the achievement of organizational goals and objectives. The chapter also discusses the various other factors that may contribute to the revenues realized from customs. The chapter, further, discusses past empirical literature regarding how management functions contribute to achievement of organizational objective. After identifying the research gap, the chapter presents the conceptual framework.

2.2. Review of Theories

This study is guided by two theories. The theories are the mechanistic administrative theory and the organic management theory. The theories are discussed below.

2.2.1. Fayol's Mechanistic Administrative Theory

The Mechanistic Administrative Theory was suggested by Henry Fayol. Fayol lived between 1841 and 1925. He was a French engineer and a director in the mines. He suggested the Mechanistic Administrative Theory as an attempt synthesize his managerial experiences and knowledge. The theory was built on his personal observation and interpretation of his experiences regarding what worked well organizations he was familiar with. The theory mainly focuses on production oriented organizations in which cost control is a key driver of managerial decisions. However, the ideas are widely applied in organizations that are out of production of goods (McNamara, 2009).

The Mechanistic Administrative Theory has five elements. The elements are planning, organizing, commanding (leading), coordinating, and controlling. Although Fayol believed there are numerous ideas that can improve the operation of an organization, he focused on the five. These five points of focus are what he called five management functions.

Fayol recognized ideas associated with planning and forecasting. Planning and forecasting are closely related. It is difficult for any organization to plan without making forecasts just as it is difficult to forecasts without a guiding plan. Forecasting refers to the attempts to paint the future of the organization by focusing on the expected future environment within which the organization will operate. Forecasting is about making clear assumptions regarding the future and how the future will affect the successes of laid plans. Forecasting predict the results of implementation of laid plans. Planning is about defining goals of an organization, charting its future direction, determining its missions and getting the resources to achieve those goals (McNamara, 2009). According to Fayol forecasting and planning are about purveyance, examining the future and draw up action plans.

Organizing in management is the relationship between people, their responsibility and the resources they use for their responsibility in the organization. Organizing is a process and it involves clearly defining activities in a production process and then grouping them into responsibilities assigned to an individual and creating authority. To organize mean to build up the structure of the organization, sourcing for the necessary material and human resources to enable the business to be conducted. According to Fayol, organizing includes design and staffing of the organization. It also involves the structuring of activities and materials (James, Freeman, & Dawel, 2000).

Commanding (leading) involves the social and informal ability to influence and inspire the action taken by others. Effective managers can be termed effective leaders if they inspire

enthusiasm in their subordinates when aiming to achieve the objectives of the organization. Personality approaches to commanding posit that for effecting leadership, managers have to understand the personalities, values, attitudes, and emotions of their subordinates. From the motivation point of view, a leader should be able to motivate worker into action to achieve the goal of the organization. Managers also achieve their function of influencing their subordinates by effective communication. Commanding is about maintaining activity among personnel (Lamond, 2004).

Malone & Crowston (1994) interprets coordination as the act of managing interdependencies between a set of activities. Coordination is important basing on the premise that resource are scarce and have to be managed with a variety of methods which includes First-In-First-Outcome (FIFO), priority order, budgets, managerial decisions etc. Controlling also ensures that an organization's resources are being used effectively and efficiently for the achievement of predetermined goals. Controlling is driven by goals. Controlling focuses on conformity with policy and practice. It is about seeing to it that everything occurs according to rule and expressed command (McNamara, 2009).

Fayol's Mechanistic Administrative Theory is important to this study for two reasons. First it identifies the dependent variable that the researcher has to focus on in the study. These are Planning and forecasting, coordination and control. Secondly, the theories suggest the variables are closely connected with the objectives of the organization. Challenges will be identified through assessing what makes these management variables unable to effective contribution to the achievement of tax collection targets by the customs department at KRA.

2.2.2. Contingency Theory of Management

This theory was proposed by Fiedler (1972). It is a theory for studying organizational behavior which explains how contingent factors such as technology, culture and the external

environment affect the design and functioning of an organization. The theory assumes that there is no single type of organizational structure is equally applicable to all organizations. Organizational effectiveness depends on the match between the type of technology, environmental volatility, the size of the organization, the features of the organizational structure and its information system. The contingency theory is based in sociology of organizations. According to Islam & Hu (2012) for an organization to survive or remain effective, it has no other option but adapting to the features of its organizational context. The meaning is that the context of the organization determines its design.

Contingency theory has three approaches: selection, interaction and systems approaches (Islam & Hu, 2012). In the selection approach, the interpretation of fit was that, an organization must adapt to the characteristics of its organizational context because organizational context causes organizational design. Early researchers on the contingency theory adopted this approach to examine links between organizational context and organizational design. For instance Freeman (1973) investigated the relationship between technology and organizational fit and established that there was a strong relationship between various characteristics of technology and the structure in the organization. However, these early studies did not show how the relationship connects with effectiveness.

In the interaction approach, researchers of contingency interpreted fit as the effect of the interaction between organizational structure and context on performance (Van de Ven & Ferry, 1980). Such studies found that effective firms had significantly high positive correlations between technology, structural dimensions of vertical integration, delegation, authority and sophistication of control systems. The correlations were not able to differentiate high and low performing organizations. In the systems approach the focus is on contingencies, structural alternatives and the performance criteria existing in an organization. In the systems approach, fit is viewed in the light of equifinality. According to Van de Ven & Drazin (1985)

equifinality suggests that there is not a best way in the selection, interaction and pattern approaches to fit. There can be a multiplicity of equally effective alternatives which can be used in assessing systems fit.

The contingency theory is reviewed in the light of what planning entails. Planning is about creating a detailed plan towards achieving specific organizational goals and objective. It involves identifying tasks that will achieve set goals, outlining how the tasks will be performed, and identifying when they will be performed and by whom. This is done with respect to the organizational context of the organization made up of the organizational structure, resources and other internal and external dynamics. The success of the organization, measured by the achievement of set goals will depend on how effectively the plans are laid and how they achieve results.

2.2.3. Management Control Theory

This is a theory based in the work of Anthony (1965). The theory is also known as classical theory and originated and evolved in an accounting-dominant environment. Management control is a generic that captures formal and informal approaches and mechanisms that aim to regulate the behavior of people in an organization. Management control focuses on ensuring that resources are obtained and used effectively and efficiently in achievement of the organization's objectives. While Formal management control mechanisms may include organizational structure; reward systems; budgeting; standard operating rules and procedures; strategic planning systems; and operational controls, the informal mechanisms may include leadership, culture, values, and norms.

Management controls connote a set of control systems that help achieve management control. Management control is the process by which managers influence staff of an organization to implement the organization's strategies (Anthony & Govindarajan, 1998). Management

control comprises the human and technical systems of an organization. When these systems work in harmony, they tend to result in harmonious functioning that supports the achievement of organizational aims. However, complexity arises in the control of human behavior because same stimuli may provide different results at different time depending on the social, cultural, and political contexts. Further, the personal goals of employees and managers may differ from organizational goals making it harder for the management control to synchronize the divergent goals.

This theory demonstrates the close relationship between management control and achievement of organizational objectives. It has demonstrated that control about ensuring human and technical systems in the organization support the achievement of organizational objectives. At KRA management control will be assessed by focusing on how management uses the human resource and the technical processes in the pursuit of organizational goals to determine the challenges faced. The focus will be on the methods of control through the chain of power, authority, rules, regulations, norms, values, and information within the boundaries of the control.

2.2.4. Customs Management Theory

This is a developing theory in response to modern challenges facing the management of customs in the increasingly complex international trade relations in the globalized world. In the modern international trade environment, there is increased activity regarding migration of capital and labour. There is also a tendency to apply uniform standards on technologies applied in taxation. There are also increasingly uniform standards and criteria about macroeconomic policy, standardized requirements for tax and a variety of other areas of international trade relations in the global economy. Globalization develops in the form of regional integration of several countries into a single regional economic complex. This leads

to a Customs Union in which taxation systems and processes are harmonized (Makrusev, Zerkin, Boikova, & Velikova, 2013).

A customs institution defines, forms and develops a customs organization or a customs administration that keeps evolving according to changes in its environment. Current customs services are complex and large scale institution evolving and aiming at ensuring economic security of the country through regulating foreign economic activity. As a result of the ever increasing requirements for the customs institution made by customs environment including the global business community in foreign trade, the customs administering body has to adjust its management processes to address the arising interests. Some of the changes very much are similar to transformations in the private sector. Successful management approaches and methods used in the private sector are permeating in to the public sector.

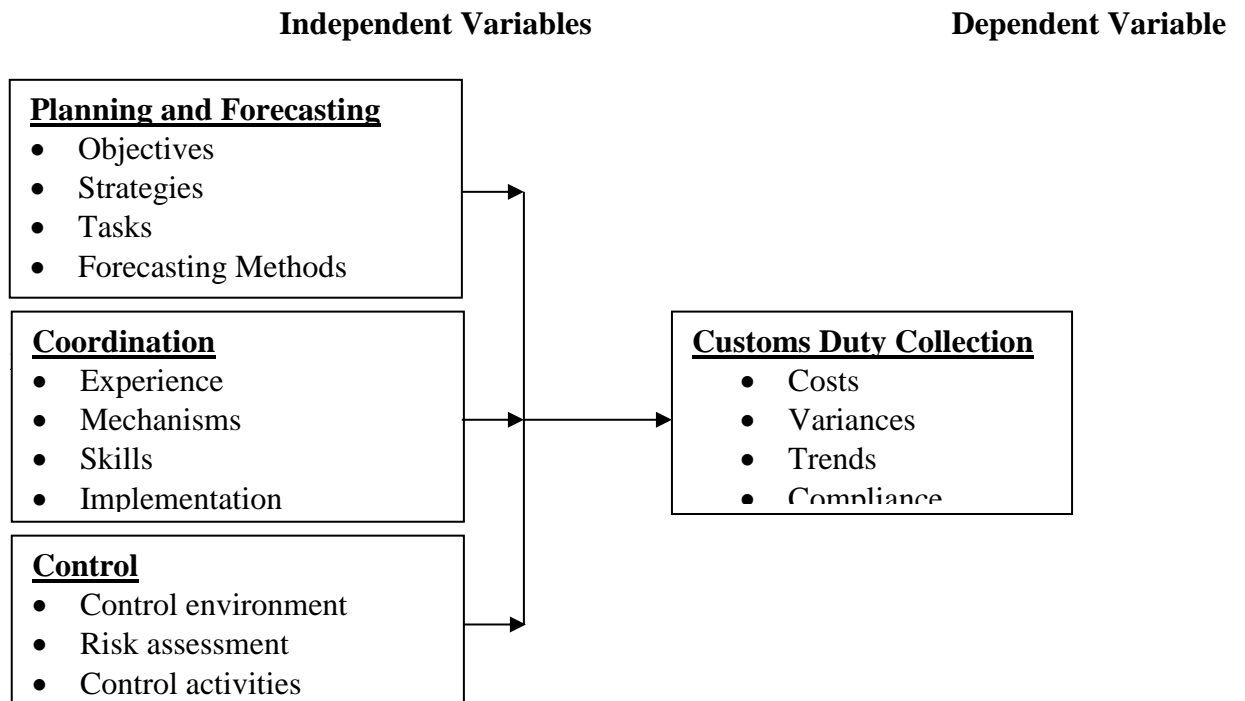
The same is true regarding consumer-centered approach, strategic planning, delegating power, marketing, methods of control over corporate culture, and many other managerial aspects. Management in public organization is using more of result-oriented approaches to management. Instead of focusing on the head of the organization and the central procedure of strict observation of instructions and regulations, the organizations are embracing teams approach. However, the organizations are faced with the challenges of harmonizing general management approaches and those that are unique to the issues in the organization (Makrusev, Zerkin, Boikova, & Velikova, 2013).

The transition to modern management that is integrative sets new tasks before customs authorities. This theory is relevant to this study since the CSD at KRA is faced with management issues that require modern management approaches. It has to operate within an environment of team spirit and a dynamic taxation environment. Inability to adjust accordingly can contribute to the challenge of meeting tax collection targets.

2.3. Conceptual Framework

According to Creswell (2003) a conceptual framework is a theoretical graphical structure showing assumptions, principles, concepts, and rules that about a broad concept. Figure 2.1 below is the conceptual framework for the relationship between managerial functions and collection of customs duties. Managerial functions are the independent variables while collection of customs duties is the dependent variable. In measuring managerial functions, the study will focus on planning and forecasting, coordination and control. Regarding forecasting, the study will focus on objectives, strategies, tasks and forecasting methods. Regarding coordination function, the study will focus on experience, mechanisms, skills and implementation. As for control function, the study will focus on control environment, risk assessment and control activities. In assessing the performance of revenue collection in the customs department at KRA the study will focus on costs, variances, trends and compliance.

Figure 2. 1: Conceptual Framework



Source: Researcher, 2017

The idea of organization planning is not new for it was conceptualized by Goetz (1949) who stressed that planning is fundamentally about choice. He also observed that problems regarding planning arise only when an alternative course of action is discovered. Goetz saw planning as having close links to decision making. However, Koontz, O'Donnell, & Weibrich (1980) conceived planning to be much more than basic decision-making when they pointed out that planning presupposes the always present alternatives. Planning is deciding in advance what to do, how to do it, when to do it, and who is to do it in accordance with a forecasted future. However, findings on the relationship between planning and forecasting on performance vary.

A study by Agbeyegbe, Stotsky, & WoldeMariam (2004) aimed at determining the relationship between effective planning and organizational productivity and to establish whether Planning improves employee performance at the Sterling Bank Plc in Nigeria. The study found out that planning was a very important contributor to performance and achievement of objectives.

2.3.2. Effect of Coordination on Collection of Customs Duties

Organizations are increasingly being placed to manage unfamiliar relationships with unfamiliar parties. The relationships involve working across various professional cultures and internal constituencies (Saunders, Skinner, Dietz, Gillespie, & Lewicki, 2010). Coordination terms and models have been developed over time in different fields coordinate the interaction between components and objects and have become handy in modeling and analyzing organizations (Boella & van der Torre, 2006). In their modern forms, organizations face complexities that have made performance central issue. In their push for performance, organizations focus on ways to tackle the challenges to the desired performance.

A study by Osifo (2012) which aimed at determining how coordination could lead to better organizational performance and trust, the study found out that effective and efficient coordination of internal and external components of the organization reduces internal and external complexities and uncertainties. The reduction motivates higher levels of productivity. Further, the study showed that clear definition of internal and external organizational interests and goals helped in enhancing performance.

2.3.3. Effect of Control on Collection of Customs Duties

Control activities are the policies and procedures that help ensure management directives are carried out. They occur throughout the organization, at all levels and in all functions. They include a range of activities as diverse as approvals, authorizations, verifications, reconciliations, and reviews of operating performance, security of assets and segregation of duties (COSO 1994). A study by Muraleetharan (2013) on the relationship between control activities in organization and their performance established that the relationship between control activities and organizations' performance was statistically significant.

Njeri (2014) sought to determine how internal control systems affected the financial performance of manufacturing firms in Kenya. Her study tested two hypotheses: the relationship between Internal Controls and Financial Performance and the impact of internal Controls on Financial Performance. The study found out that manufacturing firms that had invested in strong and effective internal control systems realized improved financial performance unlike those with weak internal control systems.

2.3.4 Determinants of Customs Duty Collection

i. The Degree of International Trade Openness

The openness of an economy can be approximated by the openness index. The openness index is an economic metric which is the ratio of country's sum of exports and imports expressed over the country's gross domestic product. Higher openness is the result of increased trade liberalization that allows more importation and exportation. However, the effect of the openness to customs may vary from country to country and from time to time. Liberalization can have a positive effect on customs revenue especially where there is increased importation of highly taxed products into the country (Ju, Wu, & Zeng, 2010).

ii. Revenue Productivity of the Tax Base

The productivity of the tax base argument is based on the premise that not all imports are taxed equally. The consequence is that the relationship between customs duties and the value of imports partly depends on the height of the tariff and what imports are composed of. First and foremost, duties are paid on legal imports and not on goods that enter the country illegally. Further, some legal imports fetch higher duties than others. Secondly, duty exemptions are given to imports from different sources for different reasons reducing collectable duty. Thirdly instead of using the nature of good as the basis from tax exemptions, variation on taxation is based on the origin of the goods imported. This base of differentiation has an effect of customs collected. Revenue productivity is itself a function of Smuggling, exemptions, exoneration, economic integration, height and structure of tariffs, revenue leakages (Ndedzu, Macheka, Ithiel, & Zivengwa, 2013).

Economic integration too reduces or totally eliminates the tariffs. The reduction depends on how important the intraregional trade is as compared to the time before integration. It will also depend on how a country imports from integration partners as compared to importing from third countries. However, the amount of losses of customs revenues due to integration will

vary. While some integration may cause marginal losses, others can cause significant losses (Mwasha, 2013).

Tariffs themselves can also be an impediment to realized customs revenues. For instance the height of a tariff on a particular product combined with the nature of the demand and the domestic supply elasticity for the product influences the customs duty revenue. This is truer where tariffs are the only trade impediments for given products. Charging high tariffs does not always lead to high customs duty revenue since such tariffs may either be prohibitive or may stimulate successful import substitution (Ndedzu, Macheke, Ithiel, & Zivengwa, 2013).

iii. Exchange Rate

An exchange rate is the rate at which one currency is exchanged for another currency on the international market. It is the rate at which the Kenyan shilling exchanges with foreign currencies. The rate keeps varying from time to time. The exchange rate of a currency has a large bearing on the amount of taxes collected from international trade. Any change in the exchange rate directly translates to tax revenues from imports and exports. Given a level of international trading depreciating real exchange rate widens the tax base with regard to domestic currency. This increases tax collections. Where real exchange rate depreciation lowers the level of imports, it may offset the higher collections induced by higher domestic currency values. Coupled with inelasticity of international trade this would lead to increased revenues from imports. A real depreciation of the local currency tends to increase exports leading to increased revenues (Agbeyegbe, Stotsky, & WoldeMariam, 2004).

2.4. Critiques of the study

Fayol's Mechanistic Administrative Theory and the organic management theory by Burns and Stalker indicate that the achievement of any organizational objectives strongly depends on management. Empirical studies such that by Agbeyegbe, Stotsky, & WoldeMariam (2004) and

Onduso (2013) indicate strong links between organizational planning and forecasting on achievement of objectives. The study by Osifo (2012) indicated that coordination strongly affected achievement of objectives. The studies by Muraleetharan (2013) and Njeri (2014) indicated a strong relationship between control and achievement of objectives.

2.5. Research Gaps

The previous studies did not indicate how management contributed to unsatisfactory performance in customs organizations and, specifically, those that deal with tax revenue collections. This study will seek to address this gap by focusing on the customs department at KRA which has a history of not meeting revenue collection targets by looking at the impact of managerial functions on collection of customs duties.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

This chapter begins with describing the research design that the researcher has adopted in conducting the study. The chapter then describes the target population and the sampling techniques. Further, the chapter describes the data collection instruments and how analysis was conducted.

3.2. Research Design

The study adopted the descriptive research design which applied survey methods. A descriptive research is used to describe characteristics of interest about a population or a phenomenon. Descriptive studies do not answer questions concerned with how, when and why but focus on "what". The characteristics of focus are used to describe the situation or phenomenon of interest as it is without suggesting causality (Kothari, 2004). Survey methods involve basing a study on a carefully selected sample of the population. With an accurately representative sample, the findings can be generalized to the whole population. In obtaining required data from respondents, the researcher uses structured questionnaires or interviews (Creswell, 2003).

In assessing the managerial challenges facing the customs department in the collection of customs taxes at KRA. This study used survey methodologies on a sample of workers at the department. The nature of the topic is both quantitative and qualitative in nature and requires responses from those involved in the collection of customs taxes. Further, the study requires a description of the situation as it currently is. Such a study calls for a descriptive research that was conducted as a survey. Such an approach was used by Njeri (2014) when assessing the

effect of internal controls on the financial performance of manufacturing firms in Kenya. This justifies the choice of this research approach.

3.3. Target Population

Creswell (2003) defines a population as the composition of all the items over which the findings of a study are to be generalized. It is the whole set of a well-defined collection of individuals or objects known to have similar characteristics that are of interest to the researcher. The population of this study composed of workers employed in middle and top management in the customs department of the KRA. These are workers from the middle management to the commissioner. Table 3.1 provides a summary of the distribution of the population according to their positions in the customs department. The population of the study is made up of a total of 455 managers in the customs department.

Table 3. 1: Population of Study

	JOB TITLE	COUNT
1	Commissioner	1
2	Deputy Commissioner	6
3	Chief Manager	7
4	Manager	39
5	Middle Management	402
	TOTAL	455

(Source: Kenya Revenue Authority, 2017)

3.4. Sample and Sampling Techniques

A sample in research is a representative subset of a population. A sample must capture the features of the population as accurately as possible. The sample of this study was obtained by stratified random sampling. As shown in Table 3.2 the population was divided in to three strata, namely, Top Management and Middle Management. Top management was made up of the Commissioner, the Deputy Commissioner, Chief Managers and Managers. This stratum

had 53 members of staff. The Middle Management will compose of Assistant Managers and Supervisors. The stratum had a total of 455 members of staff.

The formula provided by Kothari (2004) was used to determine the sample size. Disproportionate stratified sampling is used for the three strata. In Kothari's method the sample size is given by the formula below:

$$n = \frac{z^2 pqN}{e^2(N-1)^2 + z^2 pq}$$

Where n is the sample size; N size of population; p is population reliability (in this case p=0.5), q = (1-p); e: margin of error considered is 10% for this study whose $\alpha = 5\%$ (or 0.05); z is the values for $Z_\alpha = 1.96$. For this study the sample size was calculated as shown below. From the equation, the study will use a sample size of 79.

$$n = \frac{1.96^2 \times 0.5 \times 0.5 \times 455}{0.1^2 \times (455 - 1)^2 + 1.96^2 \times 0.5 \times 0.5} \approx 79$$

The sample size of 79 was distributed to the strata using the model below provided by Kothari (2004).

$$n_{stratum} = \frac{N(Stratum)}{Total Population} \times Sample Size$$

The allocations are as shown in Table 3.2 below with Top management getting 9 (2.00%) respondents and the middle management getting 70 (98%) of the respondents in the sample.

Table 3. 2: Sample Size

Category	Count	Sample*	Percentage*
Top Management	53	9	2.00
Middle Management	402	70	98.00
Total	455	79	100.00

*Figures rounded off to the nearest whole number

3.5. Data Collection Instrument

Data required for this study was collected by use of a structured questionnaire. The questionnaire had five sections. Section I will focus on demographic information about each of the respondents. The demographic data focused on age, gender, position at KRA, length of time working at KRA and length of time working in their current department. Section II focused on Planning and Forecasting. Section III focused on Coordination while Section IV required data on Control. Section V addressed itself to the performance of the Customs revenue regarding revenue collected by this department.

3.6. Piloting

Piloting refers to the activity of conducting a pilot study in research. A pilot study is a small scale study which is an imitation of the main study conducted in order to evaluate the feasibility, time, cost and adverse events and how they might affect the main study (Creswell, 2003). To pilot this study, the researcher selected a team of 10 workers at KRA who responded to the items in the questionnaire and were free to give comments concerning the questionnaire where necessary. The workers responded to the questionnaire on two occasions to enable assessment of the reliability of the questionnaire.

3.6.1 Reliability

Reliability refers to the repeatability and consistency of a questionnaire. A questionnaire is reliable if it generates consistent responses if the questionnaire is administered severally to same respondents on different occasions. After administering the questionnaire twice to 10 workers at KRA, the researcher will use the Pearson's correlation coefficient to calculate the correlation of the responses from the two occasions. A correlation coefficient of 0.82 indicated reliability (Kothari, 2004).

3.6.2 Validity

Validity may be considered to be the accuracy of a research instrument. According to Creswell (2003) the validity of a questionnaire refers to the degree to which the questionnaire measures what it claims to measure. To establish the validity of the questionnaire, the study will use the Delphi Method. The Delphi Method involves accessing expert opinion. The expert opinion was obtained from scholars of management at Jomo Kenyatta University College of Agriculture and Technology.

3.7. Data Collection

2. The studies used primary and secondary data collection sources and were gathered as follows:

3.7.1 Primary Data

This is original data which is originated from the purpose of the research at hand (Rudolph et al 2009). The key instruments which used in collecting primary data was self-administered questionnaires. Questionnaires are measuring instruments that ask respondent to answer a set of questions or respond to statements to beef up facts and information of interest to the researcher (Schwab, 2005). Cooper and Schindler (2006) advocates for the use of questionnaires in descriptive studies because it is less costly and participants can easily be reached. The structured questionnaires had a customized five Likert scale which was used collect qualitative data on the independent variables rom the respondents. Respondents were asked to indicate agreement with each item. Each item had a five point scale ranging from 1= Strongly Agree, 2= Agree, 3 = Neither Agree or Disagree, 4= Disagree and 5 = Strongly Disagree. The data collected was edited to ensure consistency across respondents and detected omissions. (Schwab, 2005) A5- point Likert scale was used to obtain the ordinal data (Kannan & Aubur, 2004) from questionnaires with structured questions were adopted.

The primary data collection procedure started with identifying the respondents and their accessibility. The questionnaires were used for the top level and middle level management because they save on time, confidentiality is upheld, reduces opportunity for respondent bias and the information can be collected from a large sample and diverse region (Orodho, 2002). The questionnaires are the most used methods when respondents can be reached and are willing to co-operate. This method can get to a large number subjects who are able to write and read independently. According to Mugenda & Mugenda (2003), and Kothari (2004) agree that questionnaires have various merits; it is free from the bias of the interviewer; answers are in respondents' own words, respondents have time to give well thought out answers; respondents who are not easily approachable can also be reached conveniently.

3.7.2 Secondary Data

Secondary data involved information not collected directly but from published materials and other sources obtained. Secondary data collection sheet was developed and adopted to collect quantitative secondary data using document analysis method. The data was extracted from annual reports of listed companies for the period 2005-2015. The annual reports and Handbooks were obtained from NSE to supplement published annual financial statements. The purpose for collecting secondary data was to cross validate the primary data collected.

3.8 Data collection procedures

Data collection was conducted by presenting the questionnaire to sampled workers at KRA. The researcher first introduced herself to the respondent, explained the purpose of the research and reassured the workers regarding their anonymity and the safety of the data they provided. The researcher then guided the respondents on how to complete the questionnaire. On completing responding to items in the questionnaire, the research immediately took back the completed questionnaires. The sampled workers completed the questionnaires by writing in blank spaces especially when providing data on demographics. The workers also provided

responses by ticking options from Likert Scale items on the variable of the study as presented in sections II, III, IV and V of the questionnaire.

3.9 Data Analysis Techniques

The researcher first coded the data into SPSS which was the analysis software. The data was then be sorted and organized for analysis. For analysis of the quantitative data obtained from the workers the researcher employed summary statistics like the mean and standard deviation. The researcher used graphical presentations such as bar graphs and tables to describe the nature of the distribution of data. Regression analysis was used to assess the relationship between managerial challenges and the collection of Customs duty by the customs department of KRA. The regression analysis was conducted using the model below.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$$

Where Y is Collection of Customs duty; X_1 is Planning and Forecasting Challenges; X_2 is Coordination Challenges; and X_3 is Control Challenges. β_0 is the constant term while β_1 , β_2 and β_3 are the sensitivities of Y to X_1 , X_2 and X_3 respectively. e is the error term of the regression. The regression analysis was conducted at 95 percent confidence level. The significance of β_0 , β_1 , β_2 and β_3 was tested using t -statistic. The strength of the regression analysis was tested using the F -statistic. The coefficient of determination, R^2 , was used to assess how much variability in Y is explained by the independent variables.

CHAPTER FOUR

RESULTS AND FINDINGS

4.1. Introduction

This chapter presents and discusses the findings of the study. In the first section, the chapter focuses on the response rate and the demographic characteristics of the respondents. The chapter then presents the findings regarding regression analysis and the status of customs duty collection at KRA. It represents the analysis, presentation and interpretation of the findings. In addition the findings are also discussed in relation to literature reviewed. It gives the empirical findings and results following the application of the variables using the techniques mentioned in chapter three in methodology. In an attempt to address the specific objectives of the study, this chapter provides details description of descriptive and inferential statistics and research findings and discussions, clearly outlining how each of the hypothesis as stated in chapter three was tested.

4.2. Response Rate

The response rate for the study is important because it reflects the suitability of the study procedure. This is based on the assertion of Bailery, (2000) that a response rate of 50 is considered good, and response greater than 70% is considered very good. Response rate was critical for this study due to the fact that the fixed sample quantitative data obtained from secondary data of the qualifying the target population of 79 top and middle level management staff at KRA headquarters. However, 62 questionnaires were received and used for analysis. This resulted in a response rate of 78.48 percent. According to Kothari (2004) a return rate of 60 percent or higher is representative of the population. The data analyzed in this study is, therefore, representative of the target population.

4.3. Data Analysis and Discussion

4.3.1. Demographic Analysis

The top and middle level managers were required to indicate their gender in the questionnaire. The indication was by way of ticking one of three options: male, female and other. According to their choices, they were categorized and each category expressed as a percentage of the total and results are as presented in Figure 1.

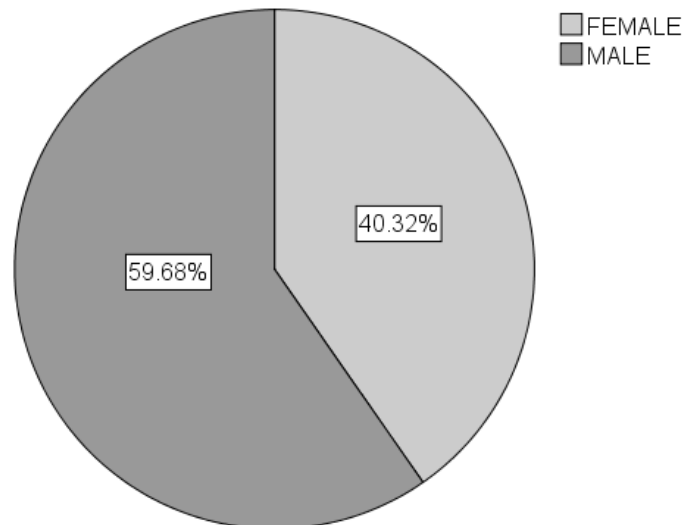


Figure 1: Distribution of Respondents by Gender

As shown in Figure 1, the sample had 59.68 percent made up of the male while 40.32 percent was made up of female respondents. No respondent indicated "Others" as the gender. The sample was representative for it composed of both male and female members of the top and middle level management at KRA.

In the questionnaire, the top and middle level managers were required to indicate their age. They indicated their age by making a choice out of five brackets: 21 to 30; 31 to 40; 41 to 50;

and over 51. The choices by the top and middle level managers were categorized and expressed as percentages as shown in Figure 2.

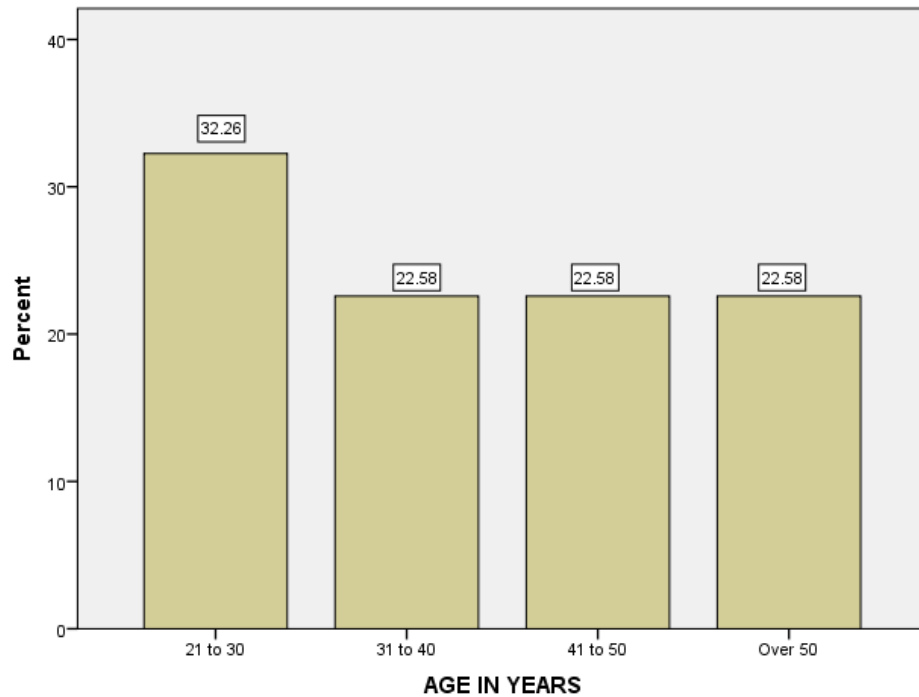


Figure 2: Distribution of Respondents by their Age

As shown in Figure 2, there were responses from top and middle level managers from different age groups. As shown, 32.26 percent were between 21 and 30 years; 22.58 were between 31 and 40 years; 22.58 percent were between 41 and 50 years; and the remaining 22.58 were over 50 years of age. The sample, therefore, was representative of the diversity in age of the target population.

The top and middle level managers were required to indicate how long they had been at KRA in years. They responded to this requirement by way of ticking one of the options of the given three. The three choices were: 5 or less, 6 to 10; and more than 10. The choices were categorized and presented as percentages as shown in Figure 3.

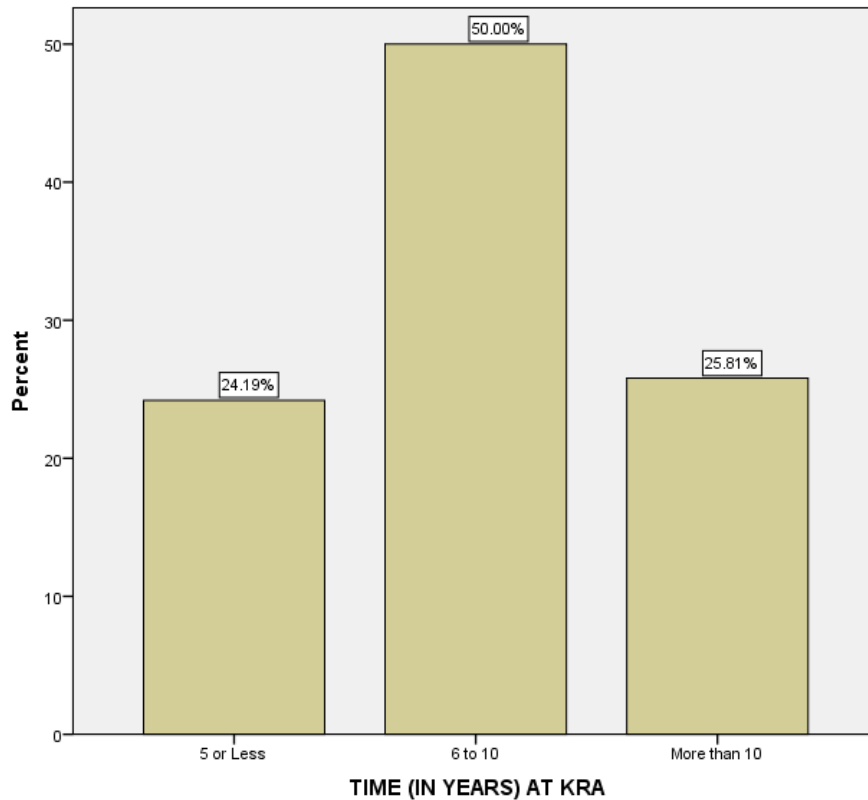


Figure 3: Distribution of Respondents by Time They Have Been at KRA

As shown in Figure 3, 24.19 percent of the top and middle level managers had been at KRA for five years or less. 50.00 percent had been at KRA for between 6 and 10 years while the remaining 25.81 percent had been at KRA for longer than 10 years. The sample is, therefore, representative of the variation in the lengths of time the respondents had been employed at KRA.

The top and middle level managers were required to indicate how long they had been at KRA Customs Department in years. They responded to this requirement by way of ticking one of the options of the given two. They were to indicate whether they had been at the department for less or more than five years. The choices were categorized and presented as percentages as shown in Figure 4.

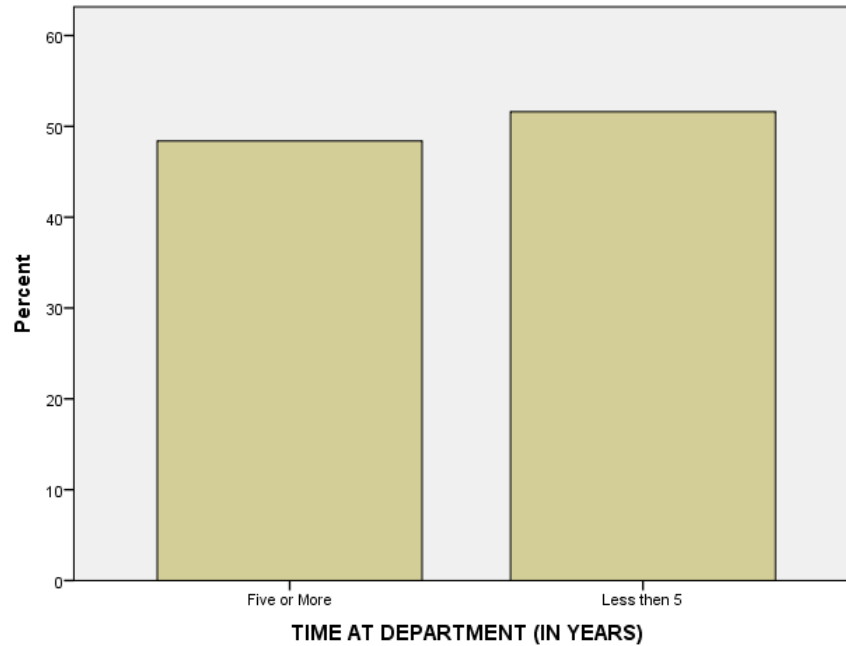


Figure 4: Distribution of Respondents by Time at the Current Department

As shown in Figure 4, 48 percent of the managers had been in the current department for five or more years while 52 percent had been there for lesser periods of time. The sample studied, therefore, catered for both the new managers and those that had been at the KRA Customs Department for varying lengths of time.

4.4 Descriptive analysis

Table 4.1: Descriptive Statistics

Descriptive Statistics				
	Minimum	Maximum	Mean	Std. Deviation
Planning and Forecasting	2.60	4.50	3.85	.44
Coordination	2.80	4.60	3.88	.41
Control	2.40	4.70	3.88	.47
Collection of Customs Duties	2.17	4.83	3.84	.58

As shown in Table 4.1 above, the minimum for Planning and Forecasting was 2.60, a maximum of 4.50 with a mean of 3.85 (SD = 0.44). The minimum for Coordination was 2.80, the maximum was 4.60 with a mean of 3.88 (SD = 0.41). The minimum for Control was 2.40, a maximum of 4.70 and a mean of 3.88 (SD = 0.47). The minimum for Collection of Customs Duties was 2.17, a maximum of 4.83 and a mean of 3.84 (SD = 0.58).

4.4.1 Collection of Customs Duties

In the assessment of the collection of customs top and middle level managers at the customs department of the KRA responded to questionnaire items regarding performance of customs collection. They responded by way of ticking the option that best explained their positions on a Likert scale of 1 to 5 in which 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; 5= very great extent. The mean of each of the responses was established and presented in Table 4.5 below.

Table 4. 2: Collection of Customs Duties

Collection of Customs Duties	MEAN	SD
Collection of custom duties is effectively done	3.76	0.78
Cases of tax evasion, tax avoidance and noncompliance are reducing	3.95	0.88
The quality of customs and domestic tax procedures have a positive effect on taxpayer compliance	3.69	0.92
Tax policy strictly enhances fairness in taxation	3.94	0.85
The economy and efficiency of customs and domestic tax collection are improving	3.90	0.95
There are effective methods in place to control corruption	3.77	0.86
GRAND MEAN	3.84	0.58
Cronbach's Alpha	0.73	

As shown in Table 4.5, the managers most strongly agreed that cases of tax evasion, tax avoidance and noncompliance were reducing (M = 3.95, SD = 0.88) and that tax policy strictly enhances fairness in taxation (M = 3.94, SD = 0.85). The managers least strongly indicated that the quality of customs and domestic tax procedures have a positive effect on taxpayer compliance (M = 3.69, SD = 0.92). The grand mean was 3.84 which indicated that Collection of Customs Duties was good to a great extent. The Cronbach's Alpha of 0.73 indicated acceptable reliability of the responses.

4.4.2 Effect of Planning and Forecasting on Collection of Customs Duties

The managers were asked to assess the effect of planning and forecasting on collection of customs duties at KRA. They conducted the assessment by way of responding to questionnaire

items presented to them by the researcher. In the questionnaire, Likert scale items required the managers to choose the number that best represented their positions. In the Likert scale 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; and 5= very great extent. For each item, the mean and standard deviation were calculated and presented in Table 4.6.

Table 4. 3 : Effect of Planning and Forecasting on Collection of Customs Duties

Planning and Forecasting	MEAN	SD
Top management takes formal responsibility for planning and forecasting	3.82	0.82
Planning and forecasting are top priority activities performed regularly	3.89	0.87
Resources are provided specifically for planning and forecasting	4.11	0.63
There is a defined set of procedures in planning and forecasting process	3.81	0.87
Managers whose work might be affected significantly by strategic planning participate in the planning process	3.84	0.87
Goals and targets are listed in quantified and measurable targets	3.95	0.91
Goals and targets specific by location or geographic area	3.85	0.92
Goals and targets are realistic yet challenging	3.82	0.88
Gathering and analyze data about external factors affecting tax administration is periodically conducted.	4.06	0.88
Staff is rewarded for successful implementation of plans.	4.06	0.65
GRAND MEAN	3.92	
Cronbach's Alpha	0.70	

As shown in Table 4.6 managers most strongly indicated that resources are provided specifically for planning and forecasting (M = 4.11, SD = 0.63); that gathering and analyzing data about external factors affecting tax administration was periodically conducted (M = 4.06, SD = 0.88); and that members of staff are rewarded for successful implementation of plans (M = 4.06, SD = 0.65). The managers also least strongly indicated that there was a defined set of procedures in planning and forecasting process (M = 3.81, SD = 0.87); that top management took formal responsibility for planning and forecasting (M = 3.82, SD = 0.82); and that goals and targets were realistic yet challenging (M = 3.82, SD = 0.88). The grand mean was 3.92 which indicated general agreement to a great extent that Planning and Forecasting affected

collection of customs duties. The Cronbach's alpha of 0.70 indicated acceptable reliability of the responses.

An assessment of how Planning and Forecasting affected collection of customs duties by regression analysis indicated that Planning and Forecasting had a positive effect on collection of customs duties. Though the effect was not statistically significant as indicated by the large p-value, the effect was positive and in agreement with the general position of the managers.

The findings agree with those of Agbeyegbe, Stotsky, & WoldeMariam (2004) who in determining the relationship between effective planning and organizational productivity at the Sterling Bank Plc in Nigeria established that planning was a very important contributor to performance and achievement of objectives.

4.4.3 Effect of Coordination on Collection of Customs Duties

The managers were asked to assess the effect of coordination on collection of customs duties at KRA. They conducted the assessment by responding to questionnaire items. In the questionnaire, Likert scale items required the managers to choose the number that best represented their positions. In the Likert scale 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; and 5= very great extent. For each item, the mean and standard deviation were calculated and presented in Table 4.7.

Table 4. 4: Effect of Coordination on Collection of Customs Duties

Coordination	MEAN	SD
There are formalized guidelines governing relationships with partner organizations	4.19	0.85
You strictly relies on standardized operating procedures	4.00	0.72
Your organization participates on a board or steering committee specifically created for making decisions	3.90	0.76
Participants have to be completely agree before a decision is made about the goals and activities	4.00	0.68
Partner organizations have a team tasked to managed Collaboration activities with KRA	3.89	0.81

Staff and partner organization conflicts are openly and effectively solved	4.02	0.61
You rely on an external authority to resolve conflicts with partner organizations	3.85	0.97
You frequently have problems getting in touch with partner organizations when needed	3.31	1.25
Collaboration within the organization and with partners contributes achievement of objectives	3.68	0.92
Partner organizations positively influence KRA's services and operations	3.97	1.02
GRAND MEAN	3.88	
Cronbach's Alpha	0.70	

As shown in Table 4.7 managers most strongly indicated that there are formalized guidelines governing relationships with partner organizations ($M = 4.19$, $SD = 0.85$); that staff and partner organization conflicts were openly and effectively solved ($M = 4.02$, $SD = 0.61$); that they strictly relied on standardized operating procedures ($M = 4.00$, $SD = 0.72$); and that participants had to be completely agree before a decision is made about goals and activities ($M = 4.00$, $SD = 0.68$). The managers also indicated that they frequently had problems getting in touch with partner organizations when needed ($M = 3.31$, $SD = 1.25$). A grand mean of 3.88 indicated that the managers generally agreed that coordination affected collection of customs duties. The Cronbach's alpha was 0.70 indicating acceptable level of reliability in the responses of the managers. The regression analysis established that coordination had a negative effect on collection of customs duties. This meant that the current coordination practices contributed to the worsening of collection of customs duties at KRA.

The findings are similar to those of Osifo (2012) who established that effective and efficient coordination of internal and external components of the organization reduced internal and external complexities and uncertainties. The reduction of the complexities motivated higher levels of productivity. The findings of the study showed that clear definition of internal and external organizational interests and goals improved performance.

4.4.4 Effect of Control on Collection of Customs Duties

The managers were asked to assess the effect of control on collection of customs duties at KRA. They conducted the assessment through questionnaire items. In the questionnaire, Likert scale items required the managers to choose the number that best represented their positions. In the Likert scale 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; and 5= very great extent. For each item, the mean and standard deviation were calculated and presented in Table 4.8

Table 4. 5 Effect of Control on Collection of Customs Duties

Control	MEAN	SD
KRA demonstrates strict commitment to integrity and ethical values	3.82	0.80
Management demonstrates independence when exercising oversight performance of internal controls	3.89	0.93
Management has established effective reporting lines, and appropriate authorities in pursuit of objectives	3.73	1.01
KRA demonstrates a commitment to attract, develop, and retain competent individuals	3.98	0.88
KRA holds individuals accountable for their internal control responsibilities in the pursuit of objectives.	3.87	0.93
There are sufficiently clear means of identifying and assessing threats to achievement of objectives.	3.94	0.85
Analysis of risks is a basis for determining risks management	3.90	0.88
Potential for fraud is a key consideration when assessing risk	3.87	0.84
There is keen monitoring of changes that could significantly affect internal control	3.92	0.91
There are effective control activities that establish what is expected and in procedures to enact policies	3.87	0.74
GRAND MEAN	3.88	
Cronbach's Alpha	0.72	

As shown in Table 4.8 managers most strongly indicated that KRA demonstrated a commitment to attract, develop, and retain competent individuals (M = 3.98, SD = 0.88); that there were sufficiently clear means of identifying and assessing threats to achievement of objectives (M = 3.94, SD = 0.85); and that there was keen monitoring of changes that could significantly affect internal control (M = 3.92, SD = 0.91). On the contrary, the managers least

strongly indicated that ,management had established effective reporting lines, and appropriate authorities in pursuit of objectives (M = 3.73, SD = 1.01) and that KRA demonstrated strict commitment to integrity and ethical values (M = 3.82, SD = 0.80). The grand mean of 3.88 indicated general agreement that control had a great effect on collection of customs duties at KRA. The Cronbach's alpha was 0.72 which indicated acceptable level of reliability in responses. From the regression analysis, it was established that control had a positive effect on collection of customs duties at KRA and the effect was statistically significant.

The findings are similar to those of Muraleetharan (2013) who established that control activities were very significant to an organizations' performance. The findings also agree with those of Njeri (2014) who found out that manufacturing firms that had invested in strong and effective internal control systems realized improved financial performance as opposed to those with weak internal control systems

4.5 Inferential analysis

4.5.1 Correlation statistics

Correlation analysis was conducted to determine the nature of correlation within the variable.

The results of the correlation analysis are as presented in Table 4.2 below.

Table 4. 6. Correlation Analysis

Coefficient Correlations^a			
	Planning and Forecasting	Coordination	Control
Planning and Forecasting	1.000	.013	-.059
Coordination	.013	1.000	-.488
Control	-.059	-.488	1.000

a. Dependent Variable: Collection of Customs Duties

As shown in Table 4.2 the highest positive correlation was 0.013 between Coordination and Planning and Forecasting and was not statistically significant. The highest negative correlation

was -0.488 between Control and Coordination and which was not statistically significant. The correlation between Control and Planning and Forecasting was -0.059 which was not statistically significant. From the values of the correlation coefficients, no two variables were highly positively correlated indicating they could all be used in regression analysis. The regression analysis results are presented in Table 4.3 below.

4.6 Regression Analysis

The choices made by each of the top and middle level managers were summarized into independent and dependent variables as presented in Appendix II. The summary was by way of calculating the mean for every variable for each manager. Before embarking on regression analysis, the researcher conducted a descriptive analysis whose results are presented in Table 4.1 below.

Table 4. 7 : Regression Analysis

Coefficients ^a					
	Coefficients		t	Sig.	VIF
	B	Std. Error			
Constant	2.606	.877	2.971	.004	
Planning and Forecasting	.054	.172	.316	.753	1.317
Coordination	-.287	.187	-1.531	.131	1.312
Control	.550	.141	3.889	.000	1.004
a. Dependent Variable: Collection of Customs Duties					

The Regression model is as follows:

Collection of Customs Duties

$$= 2.606 + 0.054(\text{Planning and Forecasting}) - 0.287(\text{Coordination}) + 0.550(\text{Control})$$

As shown in Table 4.3 the constant term was 2.606 which was statistically significant ($t = 2.971, \alpha = 0.004$). The coefficient of Planning and Forecasting was 0.054 which was not

statistically significant ($t = 0.316, p - value = 0.753$). The coefficient of Coordination was -0.287 which was not statistically significant ($t = -1.531, p - value = 0.131$). The coefficient of Control was 0.550 which was statistically significant ($t = -1.531, p - value = 0.000$). for each coefficient, the VIF is marginally greater than 1 indicating very low inflation of errors in the model.

4.6.1 ANOVA

Analysis of variance (ANOVA) was conducted to assess the strength of the regression model. The assessment was about determining how much variation in Collection of Customs Duties is explained by variation in Planning and Forecasting, Coordination and Control. The results of the ANOVA are presented in Table 4.4.

Table 4. 8: Analysis of Variance

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.733	3	1.578	5.897	.001 ^b
Residual	15.517	58	.268		
Total	20.250	61			
a. Dependent Variable: Collection of Customs Duties					
b. Predictors: Constant, Planning and Forecasting, Coordination, Control					
df means Degrees of Freedom					

As shown in Table 4.4 the $F - value = 5.897$ ($p - value = 0.001$) which was statistically significant. This indicates that the independent variables explain the variation in the dependent variable. The model is, therefore, an accurate estimation of the relationship between Planning and Forecasting, Coordination and Control and Collection of Customs Duties.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

The first section of this chapter summarizes the findings of the study. The second section presents the conclusions based on the findings while the third sections focuses on recommendations. The chapter then ends with suggestions for further research.

5.2. Summary of Findings

Regarding the effect of Planning and Forecasting on collection of customs duties the study established that resources specifically for planning and forecasting are provided; that there was periodical gathering and analyzing data about external factors affecting tax administration; and that members of staff who successfully implemented plans were rewarded. However, procedures for the planning and forecasting process was not clear; that top management did not take keen formal responsibility for planning and forecasting; and that goals and targets were not always realistic and challenging. Planning and Forecasting positively affected collection of customs duties.

Regarding the effect of coordination on collection of customs duties the study established that there are formalized guidelines governing relationships with partner organizations; that staff and partner organization conflicts were openly and effectively solved; managers strictly relied on standardized operating procedures; and that decisions were participatory and focused on goals and activities. However, frequent problems included getting in touch with partner organizations when needed. Coordination had a negative effect on collection of customs duties.

On the effect of control on collection of customs duties, there were commitments at KRA to attract, develop, and retain competent workers; that there were sufficiently clear means of identifying and assessing threats to the achievement of objectives supported by keen monitoring of changes that could significantly affect internal controls. However, management had not established effective reporting lines, and appropriate authorities in pursuit of objectives. Further, KRA had not demonstrated strict commitment to integrity and ethical values. Control had a positive effect on collection of customs duties.

5.3. Conclusions

This study makes the following conclusions. Regarding the effect of Planning and Forecasting on collection of customs duties the study concludes that KRA provides enough resources specifically for planning and forecasting. At KRA there is periodical gathering and analysis of data about external factors affecting tax administration. There are programs in place to reward staff who successfully implement plans. However, procedures for planning and forecasting process are not clear. Top management has not taken keen formal responsibility for planning and forecasting. Goals and targets were not always realistic and challenging. Planning and Forecasting positively affects collection of customs duties.

As regards the effect of coordination on collection of customs duties the study concludes that KRA has formalized guidelines governing relationships with its partner organizations. The study also concluded that conflicts with staff and partner organizations were openly and effectively solved. Further, managers strictly relied on standardized operating procedures and ensured that decisions were participatory and focused on goals and activities. However, getting in touch with partner organizations when needed is a challenge. Coordination is a challenge and has a negative effect on collection of customs duties.

Regarding the effect of control on collection of customs duties, the study concludes that KRA is committed to attracting, developing, and retaining competent workers. There are sufficiently clear means of identifying and assessing threats to the achievement of objectives at KRA and that KRA is keen on monitoring changes that could significantly affect internal controls. However, effective reporting lines and appropriate authorities in pursuit of objectives have not been properly laid down. KRA has not demonstrated strict commitment to integrity and ethical values. Control has a positive effect on collection of customs duties.

5.4. Recommendations

This study makes the following recommendations. Regarding the effect of Planning and Forecasting on collection of customs duties the study recommends that KRA provides more resources for planning and forecasting. It should be ensured that periodical gathering and analysis of data about external factors affecting tax administration is continued and improved. Programs for rewarding staff who successfully implement plans be strengthened and procedures for planning and forecasting process made more clear. Top management should show keen interest and take responsibility for planning and forecasting. Goals and targets should be made realistic and challenging.

As regards the effect of coordination on collection of customs duties the study recommends that KRA formalizes guidelines governing its relationships with partner organizations. The study also recommends that the policy of openly and effectively solving conflicts with staff and partner organizations be strengthened. Further, managers should strictly lay down standardized operating procedures to ensure that decisions remain participatory and focused on goals. The challenges about getting in touch with partner organizations when needed should be identified and managed.

Regarding the effect of control on collection of customs duties, the study concludes recommends that that KRA strengthens the focus on attracting, developing, and retaining competent workers. The means of identifying and assessing threats to the achievement of objectives and monitoring changes that could significantly affect internal controls be improved. Reporting lines and appropriate authorities in pursuit of objectives be properly laid down. KRA should demonstrate strict commitment to integrity and ethical values by putting in place effective mechanisms to enhance integrity and ethics.

5.5. Suggestions for Further Research

The study makes the following suggestions for further research:

- i. A study can be conducted within the COMESA region to make the findings relevant to the process of having a common taxation system as required by COMESA countries.
- ii. A study can be conducted to determine the causality relationship between managerial challenges and the collection of customs duties.
- iii. A study can be conducted that will use secondary data for a reasonable period of time to enable establishment of findings that can be relevant for a longer period of time.

REFERENCE

- Institute of Certified Public Accountants of Kenya . (2016). *Kenya's Revenues Analysis 2010-2015*. Nairobi, Kenya: Institute of Certified Public Accountants of Kenya.
- Aas, T. H. (2010). *Toward a Management Control System for Service Innovation Activities . Norwegian School of Economics and Business Administration .*
- Agbeyegbe, T., Stotsky, J. G., & WoldeMariam, A. (2004). Trade Liberalization, Exchange Rate Changes, and Tax Revenue in Sub-Saharan Africa. *IMF Working Paper WP/04/178*.
- Anthony, R. N. (1965). *Planning and control systems*. Boston, MA: Harvard University.
- Anthony, R. N., & Govindarajan, V. (1998). *Management control systems* (9th ed.). Burr Ridge, IL: Irwin McGraw-Hill.
- Bateman, T. S. (2007). *Management: Leading & Collaborating in the Competitive World* (7th ed.). 2007: McGraw-Hill Higher Education.
- Boella, G., & van der Torre, L. (2006). Coordination and organization: Definitions, examples and future research directions. *Electronic Notes in Theoretical Computer Science, 150*, 3-20.
- Cania, L. (2014). The Impact of Strategic Human Resource Management on Organizational Performance. *Economia. Seria Management, 17*(2), 373-383.
- Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd Edition ed.). Thousand Oaks, CA: SAGE Publications.
- CUSTOMS AND EXCISE ACT. (2010). CHAPTER 472 . *The Laws of Kenya*. Nairobi, Kenya: Government Printers.
- Dewar, R., & Hage, J. (1978). Size, technology, complexity and structural differentiation: towards a conceptual synthesis. *Administrative Science Quarterly, 23*(1), 111-136.
- Fiedler, F. E. (1972). Predicting the effects of leadership training and experience from the contingency model. *Journal of Applied Psychology, 56*, 114-119.

- Freeman, J. (1973). Environment, technology and the administrative intensity of organizations. *American Sociological Association*, 38(6), 750-763.
- Geotz, N. (1949). Management and Planning, a propeller for organizational performance. *Journal of College of Management Goteburg University*, 11, 23-34.
- Glushko, R. J. (2013). Foundations for Organizing Systems. In R. J. Glushko, *The Discipline of Organizing* (pp. 1-47). MASSACHUSETTS •: The MIT Press. Retrieved July 17, 2017, from <http://disciplineoforganizing.org/wp-content/uploads/2014/08/TDO-20130920-2ndPrinting-Ch01.pdf>
- Griffin, R. W. (2008). *Management* (8th ed.). Houghton: Mifflin Company.
- Hodgetts, R. M. (1975). *Management: Theory process and Practice*. Michigan: Saunders.
- Isaac, N. N., & Lilian, L. (2010). Automation and customs tax administration: Empirical evidence from Uganda. *African Journal of Business Management*, 4(11), 2241-2246.
- Islam, J., & Hu, H. (2012). A review of literature on contingency theory in managerial accounting. *African Journal of Business Management*, 6(15), 5159-5164.
- James, A. F., Freeman, R. E., & Dawel, R. G. (2000). *Management* (6th ed.). New Delhi: Prentice Hall of India.
- Ju, J., Wu, Y., & Zeng, L. (2010). The Impact of Trade Liberalization on the Trade Balance in Developing Countries. *IMF Staff Papers*, 57(2), 427-449.
- Khan, M. (2012). Impact of Skill Mismatch on Organization's Performance. *Iqra University, Karachi*. Retrieved July 17th, 2017, from <http://www.umt.edu.pk/icobm2012/pdf/2C-74P.pdf>
- Koontz, H., O'Donnell, C., & Weibrich, H. (1980). *Management in broader perspective, Management of Multidisciplinary study*. Tokyo: Macgraw Hill Publication limited.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd Edition ed.). New Delhi: New Age international ltd.
- Lamond, D. (2004). A Matter of Style: Reconciling Henri and Henry. *Management Decision*, 42(2), 330-56.
- Makrusev, V. V., Zerkin, D. G., Boikova, M. V., & Velikova, L. N. (2013). Customs Management as a Theory of Customs Business Administration in Russia. *Faculty of Economics, University of Nis*, 371-376.
- Malone, T. W., & Crowston, K. (1994). Toward an Interdisciplinary Theory of Coordination. *Computing Surveys*, 26(1), 87-119.
- McNamara, D. (2009). From Fayol's Mechanistic to Today's Organic Functions of Management. *American Journal of Business Education*, 2(1), 63-78.

- Munene, R., & Nduru, D. (2016). Effect of Tax Reforms on Revenue Collection at Customs and Border Control Department of Kenya Revenue Authority. *IOSR Journal of Business and Management*, 18(4), 61-66.
- Muraleetharan, P. (2013). Control activities and performance of organizations (Special reference in Jaffna District). *International Journal of Marketing, Financial Services & Management Research*, 2(4), 10-16.
- Mwasha, O. N. (2013). The Benefits of Regional Economic Integration for Developing Countries in Africa: A Case of East African Community (EAC). *Korea Review of International Studies*, 69-92.
- Ndedzu, D., Macheka, A., Ithiel, M. M., & Zivengwa, T. (2013). Revenue productivity of Zimbabwe's tax system. *Asian Journal of Social Sciences and Humanities*, 2(4), 145-156.
- Ngotho, J., & Kerongo, F. (2014). Determinants of Revenue Collection in Developing Countries: Kenya's Tax Collection Perspective. *Journal of Management and Business Administration*, 1(1), 1-9.
- Njeri, C. K. (2014). Effect of internal controls on the financial performance of manufacturing firms in Kenya. *MBA Project University of Nairobi*.
- Obiageli, O. R. (2011). Corporate planning challenges and prospects: a case study of Dangote Group of Companies. *University of Naigeria*.
- Ondiek, J. A. (2015). Responses by Kenya Revenue Authority (KRA) to challenges in the implementation of customs reforms and modernization. *Unpublished MBA Project, University of Nairobi*.
- Onduso, E. O. (2013). The effect of budgets on financial performance of manufacturing companies in Nairobi County. *MBA Project, University of Nairobi*.
- Osifo, C. (2012). Organization and Coordination: An Intra-and Inter Performance Perspective . *Proceedings at the University of Vaasa, Working Paper 3*.
- Pfister, M. (2009). Taxation for investment and development: an overview of policy challenges in Africa. *NEPAD-OECD Africa Initiative*.
- Saunders, M. N., Skinner, D., Dietz, G., Gillespie, N., & Lewicki, R. J. (2010). *Organizational Trust: A Cultural Perspective*. Cambridge: Cambridge University Press.
- University of Cambridge. (2017). *Cambridge Dictionary*. Cambridge: Cambridge University Press.
- Van de Ven, A. H., & Drazin, R. (1985). The concept of fit in contingency theory. *Research in Organizational Behavior*, 7(4), 333-365.

Van de Ven, A. H., & Ferry, D. L. (1980). *Measuring and Assessing Organizations*. New York: John Wiley and Sons.

Virmani, A. (2002). Towards a competitive economy: VAT and customs duty reform. *PLANNING COMMISSION (India), Working Paper No. 4/2002-PC*.

APPENDICES

Appendix I: Questionnaire

SECTION I: DEMOGRAPHIC INFORMATION

1. Indicate your gender by ticking

Male _____ Female _____ Other _____

2. Indicate your age in years _____

3. For how long in years have you worked with KRA? _____

4. How long in years have you worked in the current department? _____

SECTION II: PLANNING AND FORECASTING

Indicate using a tick (✓) the extent to which each of the following contribute to collection of customs duties

(Key: 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; 5= very great extent)

PLANNING AND FORECASTING	1	2	3	4	5
1. Top management takes formal responsibility for planning and forecasting					
2. Planning and forecasting are top priority activities performed regularly					
3. Resources are provided specifically for planning and forecasting					
4. There is a defined set of procedures in planning and forecasting process					
5. Managers whose work might be affected significantly by strategic planning participate in the planning process					
6. Goals and targets are listed in quantified and measurable targets					

7. Goals and targets specific by location or geographic area					
8. Goals and targets are realistic yet challenging					
9. Gathering and analyze data about external factors affecting tax administration is periodically conducted.					
10. Staff is rewarded for successful implementation of plans.					

What other measure indicates planning and forecasting are improving or not improving?

SECTION III: COORDINATION

Indicate using a tick (✓) the extent to which each of the following contribute to collection of customs duties

(Key: 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; 5= very great extent)

COORDINATION	1	2	3	4	5
1. There are formalized guidelines governing relationships with partner organizations					
2. You strictly relies on standardized operating procedures					
3. Your organization participates on a board or steering committee specifically created for making decisions					
4. Participants have to be completely agree before a decision is made about the goals and activities					
5. Partner organizations have a team tasked to managed collaboration activities with KRA					
6. Staff and partner organization conflicts are openly and effectively solved					
7. You rely on an external authority to resolve conflicts with partner organizations					
8. You frequently have problems getting in touch with partner organizations when needed					

9. Collaboration within the organization and with partners contributes achievement of objectives					
10. Partner organizations positively influence KRA's services and operations					

What other measure indicates coordination is improving or not improving?

SECTION IV: CONTROL

Indicate using a tick (✓) the extent to which each of the following contribute to collection of customs duties

(Key: 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; 5= very great extent)

CONTROL	1	2	3	4	5
1. KRA demonstrates strict commitment to integrity and ethical values					
2. Management demonstrates independence when exercising oversight performance of internal controls					
3. Management has established effective reporting lines, and appropriate authorities in pursuit of objectives					
4. KRA demonstrates a commitment to attract, develop, and retain competent individuals					
5. KRA holds individuals accountable for their internal control responsibilities in the pursuit of objectives.					
6. There are sufficiently clear means of identifying and assessing threats to achievement of objectives.					
7. Analysis of risks is a basis for determining risks management					
8. Potential for fraud is a key consideration when assessing risk					
9. There is keen monitoring of changes that could significantly affect internal control					
10. There are effective control activities that establish what is expected and in procedures to enact policies					

What other measure indicates whether control is improving or not improving?

SECTION V: COLLECTION OF CUSTOMS DUTIES

Indicate using a tick (✓) the extent to which each of the following is true regarding collection of customs duties

(Key: 1= not at all; 2= little extent; 3= moderate extent; 4= great extent; 5= very great extent)

COLLECTION OF CUSTOMS DUTIES	1	2	3	4	5
1. Collection of custom duties is effectively done					
2. Cases of tax evasion, tax avoidance and noncompliance are reducing					
3. The quality of customs and domestic tax procedures have a positive effect on taxpayer compliance					
4. Tax policy strictly enhances fairness in taxation					
5. The economy and efficiency of customs and domestic tax collection are improving					
6. There are effective methods in place to control corruption					

What other measure indicates customs and domestic taxes collection is improving or not improving?

Appendix II: Regression Variables

X1	X2	X3	Y
3.40	3.80	4.10	4.33
3.40	4.40	3.80	3.50
3.40	4.20	4.10	4.00
3.40	4.20	4.50	4.67
3.40	3.90	4.40	4.50
3.40	3.80	4.10	4.17
3.40	3.20	3.70	3.83
3.40	3.00	3.40	3.50
3.40	4.40	3.10	2.67
3.40	3.80	4.20	4.00
4.40	4.50	3.50	3.33
2.90	2.80	4.30	4.17
4.10	3.90	4.30	4.17
4.40	4.10	4.20	4.33
3.90	3.90	3.80	3.83
3.80	3.90	2.40	2.17
4.40	4.30	4.00	3.83
2.70	2.80	3.70	4.50
4.00	4.10	4.00	4.17
4.10	4.10	4.70	4.83
4.00	4.00	3.60	3.67
2.60	2.80	3.40	4.17
4.20	4.10	4.50	4.67
4.30	4.20	4.00	4.00
3.90	4.20	3.30	3.00
4.00	4.10	3.60	3.33
3.70	3.70	3.30	3.00
4.10	3.90	4.20	4.33
3.90	3.30	4.20	4.17
3.90	3.50	4.50	4.50
4.00	4.20	4.40	4.17
4.00	3.90	3.70	3.83
4.00	4.00	3.50	4.00
3.70	3.70	3.90	3.50

3.80	4.00	3.90	3.83
4.50	4.30	2.70	4.33

...cont

X1	X2	X3	Y
4.10	4.20	3.60	3.83
3.90	4.60	3.90	4.33
4.40	4.60	4.10	2.67
4.30	3.90	4.40	3.83
3.90	4.10	4.30	4.00
4.20	4.10	2.60	4.17
4.40	3.90	4.00	4.00
4.00	4.00	4.30	4.00
3.90	4.20	3.90	3.33
4.40	3.70	3.80	4.17
4.30	3.80	4.40	4.00
3.90	4.00	4.00	3.83
4.30	3.90	4.20	3.00
2.90	3.90	3.70	3.83
4.20	4.10	3.80	4.00
3.80	3.60	3.20	3.17
4.10	3.80	3.70	4.00
3.40	4.10	4.20	4.00
3.20	4.10	3.70	3.00
4.00	3.40	4.10	4.00
4.50	3.60	3.80	4.33
3.90	3.60	3.60	2.50
3.60	3.30	3.60	4.00
3.90	3.40	3.80	4.00
3.80	3.70	4.30	4.33
4.10	4.00	4.50	2.50

