THE EFFECTS OF CUSTOMS RISK MANAGEMENT ON DUTY COLLECTION AT THE PORT OF MOMBASA

MUSAU LEONARD BONKE

A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ECONOMICS, ACCOUNTING AND FINANCE, SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE POST GRADUATE DIPLOMA IN CUSTOMS ADMINISTRATION AT JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY.

2018

DECLARATION

This research paper is my original work and has not been presented for a Postgraduate diploma in any other academic institution or non-academic institution.

…….. …….

Signature Date

MUSAU LEONARD BONKE

HDB-335-C016-2518/16

This research has been submitted for examination with my approval as the supervisor.

…… …..……

Signature Date

GRACE LEKASI

ABSTRACT

Risk Management should be aimed at simplifying customs procedures and improve duty collection hence economic efficiency. Prior to the adoption of risk management, Customs Administrations that did not use Risk Management mostly focused their controls wholly at the border and at the time of import, and often adopted 100% physical examination approach. This approach of 100% physical verification on all goods or shipments entering the customs territory brought about time constrains as well as it was inefficient in operations. This led to the adoption of Risk profiling and targeting, information technology as well as cargo examination at the port of Mombasa. After the adoption of the risk management by customs, has led to optimization of both human and financial resources, revenue collection and trade facilitation has been achieved to some extent. Although there is an achievement, there are still loopholes in revenue collection as some items find their way into the country by depriving customs revenue as well as bringing harm to domestic industries. The study therefore seeks to establish the effect of Customs Risk management on duty collection at the port of Mombasa. This study adopted a descriptive research design having a target population of 200 respondents; stratified random sampling was used to sample the study population which included Border control officers, Enforcement and investigation officers, Information, communication and technology, Verification Officers of Customs service department at the port of Mombasa. Both primary and secondary data was collected by the use of Semi-structured questionnaires for primary data. Data analysis was conducted using SPSS version 25, The results were presented in form of tables, charts and graphs for easier interpretation and understanding and then the results of some of this analysis was exported into Microsoft Word and Microsoft Excel for visual presentation and reporting. The relationship of the variable was expressed as a linear regression model:

TABLE OF CONTENT

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

AEO	Authorized Economic Operator
DPC	Document Processing Center
GATT	General Agreements on Trade and Tariff
HVO	Head Verification Officer
KRA	Kenya Revenue Authority
KRAVS	Kenya Revenue Authority Valuation System
NTC	National Targeting Center
RKC	Revised Kyoto Convention
SAFE	Framework for Secure and Facilitate global trade
SPSS	Statistical Package for Social Sciences
UNCTAD	United Nations Conference on Trade and Development
VAT	Value Added Tax
WCO	World Customs Organization
WTO	World Trade Organization

DEFINITION OF TERMS

Risk	Refers to the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood or the possibility of events or activities that will have an impact on the objectives of Customs (Widdowson & Holloway, 2011).
Risk management	Refers to the culture, process and structures that are directed towards the effective management of potential opportunities and adverse effect through application of procedures designed to minimize the Risk (Biljan & Trajkov, 2012).
Risk profiles	Refers to the combination of elements resulting from risk analysis, which is applied to handle different risk levels in an appropriate manner (World Bank , 2005).
Selectivity	Refers to the application of risk profiles to declarations, operations, individuals, or transactions (World Bank , 2005).
Targeting	Is the pre-identification of operations declarations, operations, individuals, or transactions to be verified based on information or intelligence, visible external criteria or control plans (World Bank , 2005).
Customs control	Means measures applied by the Customs authorities to goods and means of transport in order to ensure compliance with Customs law (WCO, 2010).

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The Customs and border control department face major challenge in balancing the need for Customs control of goods with the benefits of facilitating trade. To effectively and efficiently manage the ever-increasing volumes of trade and rapid change in commerce this has forced the Customs Department adopt a Risk Management. The intensive use of risk management ensures that the Customs department best deploy available resources as well as supporting economic growth. According to the Revised Kyoto convention, which entails that Customs administration should employ risk management in order to facilitate trade (UNCTAD, 2014).

As nations undergo changes and economics growth so as the Customs department has to undergo certain stages of growth to accommodate the drastic change. And this has to be attained by a strategy that needs to be put in place. For most of the nations to grow economically they need international trade as a wheel to drive the economy ahead which is an aim for poverty eradication. International trade plays a very key role in growth hence the need for governments and Customs administration to facilitate legitimate trade and compliance of the law & regulations (World Bank , 2005).

After World War II, there was an exponential growth in trade and this rapid increase for international trade and on the other hand there was a limited resource in Customs administration in terms of manpower therefore the need for a strategy. The purpose of Customs authorities was to act as a police man by following up for law compliance and 'verifying almost 100 percent of the transactions which was becoming almost impossible in 21st century' (WCO: Risk Management Guide, 2003).

Historically the Customs department used risk adverse approaches and manual screening technique's that viewed every consignment had a problem and hence full inspections was to be done in order to collect taxes. According to (WCO: Risk Management Guide, 2003)controlling all item upon arrival at Customs border has become a barrier to trade as this process slowed down the

supply chain and it was becoming a costly affair as the results were not equal to the input of man power.

The WCO, (1999) viewed risk management as a systematic application of all measures required to limit introduction of Customs threat by determining which consignment should be inspected to what level. This means that risky consignments are subjected to high levels of intervention and control; notwithstanding of low-risk ones that obtain high level of trade facilitation. An intelligence driven risk management strategy ensures compliance with Customs regulations in a way to ensure facilitation (Biljan & Trajkov, 2012).

Intelligence-driven risk management refers to a more sophisticated understanding of the risk continuum is needed. Scarce resources require that targeting be done at the higher end of the risk spectrum (Lobdell, 2009). The key here was the development of feedback learning loops that allow Customs administrations to integrate risk-related activities to learn from past decisions to build more forward-looking organizations, rather than just being responsive (*e.g.*, targeted container review vs. 100 percent scanning)

By risk identification, analyzing, evaluation, assessment and managing risk, Customs are able to significantly improve of performance and efficiency. According to UNCTAD (2008) the application of Customs risk management gives a wide range of benefits to Customs administration such as: increased revenue collection; improved compliance with the laws and regulations; better human resource allocation; trade facilitation and lower operating cost. The cost for employing a risk management strategy was the need for trained personnel as well as technical equipment's like computers and software.

In Kenyan scenario, the work load of Customs and border control department has greatly increased with the growth in economy, regional integration and globalization. Hence the volume of both goods and people crossing the borders has become quite impossible for the Customs authority to do 100 percent verification on all goods and people. This factor has forced the authority to implement the use of technology so as to attain efficiency.

According to the WCO SAFE Framework of Standards to Secure and Facilitate Global Trade precisely states that Customs authorities must come up with an automated risk management system. Risk assessment systems use standard data sets and strategic intelligence to enhance

identification of high-risk shipments and travelers. Adopting an automated risk assessment system is a significant step towards successfully adopting risk management practices strategically, operationally, and tactically. Customs and Border control processes that highly use risk assessment systems help ensure that Customs resources are always focused on the highest-risk shipments and people in real time which is always determined by intelligent-driven risk management strategy prior to arrival or after; For instance, cargo profiling, cargo examination and valuation database.

For instance, the National Targeting Center (NTC) and the Document Processing Center (DPC) are units in KRA whose work is to work on real time data by identifying high-risk cargo before they would cross our land borders or land into the ports as well as Risk Profiling and Risk Analysis. Therefore, this departments helps the officers on the ground by giving them information on verification percentages either 100 percent or partial or direct release according the likelihood of the consignment being risky who by so doing perform the Risk Evaluation and Identification. Even though the department has tried to supply real time information it has not yet met some cases that have gone unnoticed only to be discovered at the end. Some of the unnoticed cases have led to massive loss in revenue and distortion of local market by causing unfair competition.

Customs Risk Management

Risk management refers to the systematic application of management procedures and practices, which provide Customs with the necessary information to address movements or consignments that present a risk (JICA , 2012). The Customs and border control department face major challenge in balancing the need for Customs control of goods with the benefits of facilitating trade. To effectively and efficiently manage the ever-increasing volumes of trade and rapid change in commerce this has forced the Customs Department adopt a Risk Management. The intensive use of risk management ensures that the Customs department best deploy available resources as well as supporting economic growth. According to the Revised Kyoto convention, which entails that Customs administration should employ risk management in order to facilitate trade (UNCTAD, 2014).

Duty

Duty is a tax levied on imports and some exports by the customs authorities of a country. Duty maybe in form of Excise, VAT, Import Duty or other Levies. Import Duty is usually based on the value of the goods that are imported. Depending on the context, duty may also be referred to as customs duty or tariff (Jean & Mitarotonna, 2010).

The main importance of Duty collection is to raise revenue for the local government as well as to give advantage on the locally manufactured products thereby protecting the domestic industries among others. In Kenya, Duty rates are established by EAC. The rates for Duty are listed in the East African Community Common External Tariff.

Mombasa Port

The Port of Mombasa also known as Kilindini Port is the entry and exit point for cargo belonging to vast hinterland that include Kenya, Uganda, Rwanda, Burundi, Democratic Republic of Congo, Tanzania, South Sudan, Somalia and Ethiopia (Kenya Ports Authority, 2017). A brief history about the port of Mombasa is that it started long ago during the colonial times as the British were building Kenya- Uganda Railway Line.

There are major mile stones of development that have taken place in recent past hence placing the port of Mombasa as key entry and exit route of most East and Central African countries. There are many inter-governmental and governmental agencies working in the port of Mombasa like Kenya Bureau of Standards, Kenya Revenue Authority, Pharmacy and Poison Board, Kenya wildlife Service among others. The overall head of the port of Mombasa management is the Kenya Ports Authority whereas Kenya Revenue Authority are in charge of tax collection and Trade facilitation.

1.2 Statement of the problem

The rapid development of global trade restricts the chance to control each trans-border movement of goods and conveyance means and enforces limitation on the examination of such activities (Davaa & Namsrai, 2015). The KRA Customs and border control department is faced with a major challenge in balancing the need for Customs control of goods with the benefits of facilitating trade hence to effectively and efficiently manage the ever-increasing volumes of trade and rapid change in commerce has become an issue to be tackled. The KRA has implemented measures and

equipment at the Port of Mombasa as tools to aid in risk management like scanners and pre-verification measures yet goods slip through them and enter the economy without payment of proper duties and taxes.

In May 2016, KRA released a list of 124 cars with questionable importation details. They were among thousands of vehicles smuggled into the country without paying duty. A registration lapse had given cartels the freedom to import mostly high-end vehicles and evade tax. One of the vehicles belonging to a prominent politician had evaded Sh6.5 million in charges. The Range Rover was registered as an Isuzu truck.

Smuggled vehicles alone could have earned KRA over Sh1 billion (Okoth, 2016). Even though the Customs and Border Control Department has really tried to monitor and asses all possible risk associated with failure to comply with the Customs laws, cases have however slipped out and gone unnoticed. This failure has caused the Department loss of revenue among others.

Consequently, it is essential that Customs Authorities to come up with a risk management strategy and practices into their undertakings, which necessitates an operational method to the development and application of Customs controls. Moreover, it needs to aim on those controls that have a high chance of detecting breaches (Davaa & Namsrai, 2015).

Subsequently, while regulating the regional trade of goods and conveyance means, the Customs authorities must to certify adherence with the law while also focusing on need for trade facilitation. This is one of the key features of modern global trade. Customs authorities similarly must focus on the cost and effectiveness of their own activities (Davaa & Namsrai, 2015).The main aim of the implementation of risk management in Mombasa Port was to boost Customs ability to assure duty and enforce Customs laws and regulations which have a substantial effect on the country's economic growth.

The implementation risk management strategy eliminates the problem of using adverse and orthodox ways in Customs by enabling the department target different consignments having different risk levels hence capitalizing on high risk consignment entering or leaving Kenya. Also, the use of valuation database as a risk management tool will eliminate the problem of under valuation among others. Risk Management should be aimed at simplifying customs procedures and improve duty collection hence economic efficiency.

1.3 Research Objectives

1.3.1 General objectives

The main objective of this study is to determine the effects of customs risk management on Duty collection at the port of Mombasa.

1.3.2 Specific objectives

i. To identify the effect of Cargo targeting on the amount of Duty collected at the port of Mombasa.
ii. To establish the effect of Risk Assessment on the amount of Duty collected at the port of Mombasa.
iii. To establish the effect of using Risk Analysis on the amount of Duty collected at the port of Mombasa.

1.4 Research questions

The study will seek to answer the following questions.

i. Does cargo targeting/profiling affect the amount of Duty collected at the port of Mombasa?
ii. What are the advantages associated with Risk Assessment on the amount of Duty collected at the port of Mombasa?
iii. Does Risk Analysis help in the amount of Duty collected at the port of Mombasa?

1.5 Significance of Study

Widdowson & Holloway, 2011 states risk as 'the chances of something happening that will have an impact on organizational objectives. In regards to Customs administration the impact on objectives was the potential for non-compliance with Customs laws as well as a potential failure to facilitate global trade (Wulf & Sokol, 2005). Risk is also defined as the probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities and having the power to deter or prevent an anticipated situation or occurrence (Business dictionary, 2017).

This was the nature of Customs administrations after World War II, whereby as countries became too over protective on what comes into their country hence forcing the Customs administration adverse ways. The term risk was approached in a very unsuitable manner as the Customs viewed

all transaction needed to be investigated for any irregularity. However, the concept of risk management in 21st century is viewed in a different perspective as the intelligence-based risk management strategy provides a structured and coherent approach in identifying, assessing and managing risk.

Here risks are ranked according to the likelihood of occurrence and the impact. Hence the cargo with a high risk of occurrence and severe impact on Customs shall be targeted first and the ones with low risk shall have less verification and examination from the Customs department. This will bring about trade facilitation. The use of intelligence-driven risk management strategy shall be very beneficial to all Customs administrations in the world as well as the Kenyan Customs and border control department of KRA.

1.6 Scope

This study wished to outline the positivism of the risk management strategy in Customs and border control department. It is therefore to be confined within the Kenyan jurisdiction. The field of study was limited to the Customs and border control department in Kenya at the port of Mombasa. The study is directed towards the Enforcement Department, Border Control Department, and Innovation & Risk Management Departments of the Kenya Revenue Authority.

In reference to the area, the study population was derived from the respective Customs departments and to groups, individuals or institutions that deal with Customs in one way or the other. Therefore, the target population were those that are aware of Customs laws and procedures.

1.7 Limitations

This study was limited to the available data in the system. This implies that it would only incorporate cases of targeted or profiled consignment which were discovered with inconsistency and therefore documented. In this regard, the study assumed that all the cases that were found to be with inconsistency or with attempts to defraud the Customs during the study period were either intercepted or discovered in latter days.

However so as to avoid relying on data that has been entered in the system, the researcher also utilized some of the KRA's officers in various departments who might have worked on different

cases that were targeted or profiled by the National Targeting Center, Risk Analysis Unit or the Verification Officers at the port of Mombasa.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter consists of theoretical literature related to the study. Both theoretical and empirical literature show the research gap which the study sought to fill. Research connected to the study is also studied with the goal of detecting any literature gaps. The literature reviewed shall determine the relevance of the research findings. Literature review is a critical aspect of an existing research that is related to the study (Kombo & Tromp, 2006).

The review of literature improves and extends the theoretical basis of the research. Literature review provides a framework for relating new study to previous studies. The author further argues that it is a means of demonstrating a researcher's knowledge about a particular field of study. Likewise, literature review informs of the influential researches in the field (Saunders, Lewis, & Thornhill, 2009). The specific areas covered in this chapter were the theoretical review, empirical review and conceptual framework, evaluation of existing literature, summary of the literature and research gaps.

2.2 Theoretical review

The principal objective of this section is to conceptualize the effects of Risk Management on Duty Collection at the port of Mombasa using The Probability Theory, The Historical Dissatisfaction Theory and The Environmental Complexity Theory. Kombo & Tromp, (2006), demarcates a theoretical framework as a collection of interrelated ideas based on theories.

2.2.1 Probability Theory

Blaise Pascal and Pierre de Fermat were the proponents of probability theory in 1654. Probability is the chance of an occurrence of an event; the probability theory is the branch of mathematics that is concerned with probability. Probability theory focuses on statistical occurrence of events and uncertainties. Probability theory is mathematical based and therefore treats concepts in a rigorous mathematical manner by expressing it through a set of axioms (Kendrick, 2010).

Risk management focuses on the prevention of the occurrences of events that might adversely affect customs. Risk management largely depends on probability to manage risks and

uncertainties. Risk management has been developing with time yet no one has really explained why. Risk management evolved from the Insurance Managers and Clerks whose authority towards insurance included agent or brokers choice and the settlement of claims. Insurance largely depends on probabilistic happening of events and a complex computation to predict the happening of these events in the near future and coming up with ways to cover such loses (Ross & Sheldon, 2016).

Customs in 21st Century face major challenge in balancing the need for Customs control of goods with the benefits of facilitating trade. To effectively and efficiently manage the ever-increasing volumes of trade and rapid change in commerce this has forced the Customs Department adopt a Risk Management at the port of Mombasa so as to aid in Duty collection.

2.2.2 The Historical Dissatisfaction Theory

Frederick Herzberg was the proponent of Dissatisfaction Theory in 1923.This says that if you want something done right you do it by yourself as the 'Insurance Clerk' of Risk management used was unable to do a good job. According to Thompson (1967), the search for better ways to risk, given the organization's limited knowledge of and understanding about the risk management situation. The consequences of dissatisfaction lead to greater empowerment of Risk Management function.

Such a theory is logical and helps explain the development of Risk Management function in many firms. In reference to Customs point of view as the volumes of trade and complexity of nature of transactions, the Customs Administration became more dissatisfied of the information being declared as the Customs Agents where becoming Fraudulent. Customs officers at the port of Mombasa came up with a risk management strategy so as to aid in trade facilitation as well as collecting duty.

This led to the development of Cargo Targeting and Profiling so as to address ways in which a Customs Administration can implement risk assessment in order to best decide (by assessment, profiling and targeting) where resources. Should be allocated or deployed in order to maximize results. The way a country implements risk Assessment, profiling and targeting can differ depending on local circumstances.

2.2.3 The Environmental Complexity Theory

The proponent of Environmental complexity theory was Stuart Kauffman in 1908.The environmental complexity theory 'suggests that the development of Risk Management Department

is a function of the degree to which the environment facing the firm is Heterogeneous and dynamic. Starting in the mid-1990s, scholars started connecting intricacy hypothesis to hierarchical change. Multifaceted nature Theory rejects the possibility of associations as a machine, and an arranged way to deal with hierarchical change. Or maybe, it concurs with the new approach that power and consistent change are significant components of authoritative life. The development of risk management function is closely related to, and a product of, the complexity of the environment which an individual organization face (Thompson, 1967).

The modern-day customs administrations are facing a major challenge in facilitation of trade with the ever-increasing volumes of trade. The environment is changing in such a way that the companies are able to produce huge volumes, the global chain transportation vessels are able to hold a larger amount and the disposable incomes have also increased. Therefore, the customs find it hard to verify 100% all the consignments arriving from foreign and it is this factor that has contributed to the use of risk management in Customs so as to aid in Duty collection.

2.3 Empirical review

Davaa & Namsrai (2015) conducted a research on ways to modernize Customs Risk Management in Mongolia using different customs management approaches in a number of ways: High control and high trade facilitation- which is a balanced approach that seeks to maintain high levels of both; Low control and low trade facilitation- here the customs employ little control and hence end up achieving little facilitation; Low control and High trade facilitation- which depicts that facilitation is what matters at the end of the day; High control and low trade facilitation- this represents a very conservative and high control regime;

Of all those approaches the first one High control and high trade facilitation was the best and it is achieved by effective risk management strategies. The study found out that by incorporating risk Management into their procedures achieved two main goals: ensured compliance with customs laws and procedures and facilitating global trade and investment. Moreover, the application of a control selective method leads to decreased time in customs clearance, improved quality of service delivery and improved duty collection.

Moreover, according to (Biljan & Trajkov, 2012), a research paper on Risk Management and Customs performance improvements a case study of the Republic of Macedonia concluded that

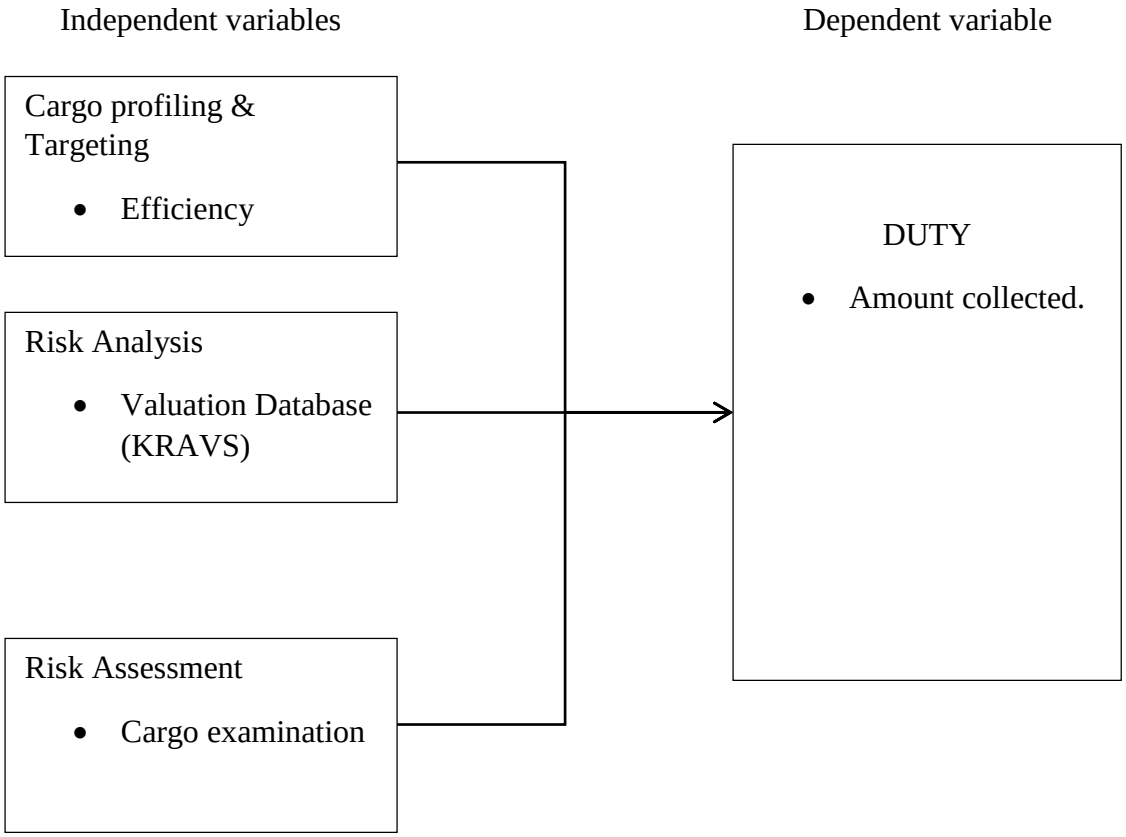
imposing risk management in the Customs operational levels; Strategic, Tactical and Operational caused a positive trend towards greater facilitation of legal trade as well as compliance to Customs law in Macedonian economy. It was also noted that the application of Customs Risk Management led to increased revenues; ensured efficiency in duty collection and enhancement of better human resource allocation.

The Macedonian customs determined risk areas using information from different sources and based on that the risk identified in terms of the probability of risk occurrence and the effect of the risk. The level of risk was high, medium or low. Therefore, according to the likelihood and consequences the customs offices work on that. However, some risks have a very low occurrence but the impact is very devastating and hence the study did not tackle on that adequately.

Subsequently, it was found out by Iordache & Voiculet, (2007) that Risk Management is a very vital role as a modern Customs control. It was found out that it helped to determine which areas are highly exposed to risk and non-compliance with customs laws as well as supporting the management in decision making and effectively allocate limited resources necessary for maintaining a balance in control and facilitation of legitimate global trade (Iordache & Voiculet, 2007).

2.4 Conceptual framework

Figure 2.4: Conceptual Framework



Source: Author (2017)

2.4.1 Cargo targeting & profiling

A risk profile comprises of the description of any set of risk that also include the predetermined risk indicators that is based on information which has been gathered, analyzed and grouped (WCO, 2013). 100% verification of all consignments was tedious and, in many cases, gave rise for the room corruption among the authorities. Due to the customs officers being compromised or fatigue hence led to low revenue collection or underperformance.

Through the introduction of Cargo targeting to aid in risk management has advocated for random selection of cargo by analyzing the probability of cargo likely to be involved in breaching Customs Laws. By implementing these criteria of selective control of cargo arriving or departing will imply proper channel is granted. For instance, 'Green Channel' = direct release; 'Red channel'= physical

verification of both cargo and document. This has brought efficiency in the service delivery of Kenyan customs as only targeted cargo is subjected to scrutiny hence allowing flow of business at the port.

2.4.2 Risk Assessment

Historically cargo entering Kenyan territory from outside has to be subjected to physical verification and examination so as verify that the cargo entering complies with the Customs Laws and regulation. After the September 2011 attacks, greater importance on the security of supply chain so as to protect the country against terrorist attacks (WCO, 2013). The Customs and Border control department attaches a great importance to the protection of the society as well as facilitation of legitimate trade.

Risk management is employed on selection of cargo for examination so as to minimize the problem of non-compliance or loss of revenue due to officers being compromised or general fatigue of 100% verification. A lot of Customs fraud that is often committed like mis-declaration, tariff, classification, undervaluation or smuggling is easily spotted at the time of cargo examination hence having an effect on Duty collected.

2.4.3 Risk Analysis - Information technology (KRAVS)

According to the RKC (WCO, 2010), which advocates for maximum use of technology in all customs procedures. Information technology enables customs access vast amounts of information as well as automation of most processes. Moreover, the use of Information technology plays a very key role in Risk Management in that by using the customs valuation database Customs officers are able to base the value of the goods hence employing ad-valorem method for collection of duties and taxes.

The WCO's Customs Network (CEN) is a database designed to share critical enforcement-related information between the Customs authorities in different frontiers. This sharing of information among the customs has led to improved revenue collection. With the ever-increasing volumes of trade, information system plays a major role in automation and non-intrusive mode of verification hence reducing the amount time during clearance. Moreover, inspection of the cargo, passengers and conveyance modes with high risk can be identified by the use of non-intrusive technology. The use of KRAVS in customs valuation at the port of Mombasa has brought about effective

revenue collection as the customs officers have bench marks on the current retail selling price of most commodities.

2.5 Critique of the existing literature relevant to the study

Biljan & Trajkov, (2012) submitted a research on Risk Management and Customs performance improvements which was a case study of the Macedonian Customs administration. It was found out that the application of Customs Risk Management led to increased revenues; ensured efficiency in duty collection and enhancement of better human resource allocation. Since the target population was the Macedonian Customs authorities and as one of the findings was increase in revenues. Therefore, the researcher did not adequately tackle which elements comprised of increase in revenues; Duty, Excise duty, VAT or other general Levies.

It was evident from the findings that there was a positive impact on the revenue but the research however did not give individual revenue improvements on Duty, Excise duty or VAT par se! Therefore, it is very hard to determine which of the sectors of revenue led to the increment. Since the implementation of Risk Management might have brought a positive impact on Duty collection but not Excise duty collection or VAT collection.

Thus, the need to research on a specific element of Customs revenue like the effects of risk management on Duty collection so as to ascertain if the implementation of Risk Management had a positive impact on Duty collection as an element of Customs revenue.

2.6 Research Gaps

From the literature review it is evident that most of the researchers dealt on Risk management aspect on customs performance in general. However, Customs performance has a very broader view since the improvements in Duty collection, improvements in trade facilitation or improvements in service delivery among other performance indicators. Therefore, this research narrows down the perspective of customs performance into duty collection with an aim of determining what is the effect of risk management on duty collection at the port of Mombasa.

2.7 Summary

In conclusion, the implementation of risk management has showed greater improvements in the field of Customs Administration. This has impacted on trade facilitation, ensuring efficient in duty

collection, social security and safety to the environment. Moreover, the importance of Risk management has grown over time and the necessity of employing it in all Customs procedures.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Since evidence in support of various risk management theories remains mixed I found there is a need to design a study. The section below explains in detail the study design issues. This chapter describes the research design to be used in the research, the target population for our study, data collection methods, sampling techniques, sample size. It will also briefly describe the data analysis methods and presentation of findings.

3.2 Research design

The study used descriptive survey design. Cooper & Schindler, (2000) Reviews the fundamentals of research design as an action and limited to time, constantly based on the research questions. It guides the selection of sources and types of information, a framework for specifying the relationship among the study variables and outlines the procedures for every research activity. This study embraced a descriptive research design in order to establish the effects of risk management on Duty Collection at the port of Mombasa.

3.3 Target Population

Population refers to an entire group of individuals, events or objects having a common observable characteristic (Neuman, 2014). The population being targeted comprised of KRA – Customs office staff. This is made up of 1,627 employees (Kenya Revenue Authority, 2017). The study targeted the customs officers working at Mombasa port which comprise of 200 employees of Customs Mombasa port (Source: Customs department, Kilindini Port).

The study targeted various KRA units such as enforcement and investigation; information, communication and technology department; Customs and border control department constituted the sampling frame of the study.

3.4 Sample Size

The study's sample size was 60 respondents which represented 30% of the total target population. The selection of respondents was by the use of stratified random sampling and 30% selection is an appropriate as a sample for small populations (Yount, 2006).

Table 3:1 Target population

Category	Target population
Supervisors	20
Managers/HVO	10
Officers	30

3.5 Sampling frame

A sampling frame is the source material or device from which a sample is drawn. It is a list of all those within a population who can be sampled, and may include individuals, households or institutions (James, 2009). The sampling frame shall be customs officers working at the port of Mombasa at the time of data collection.

Table 3:2 Sample Frame

	Sector/department
	Border control officers
	Enforcement and investigation officers
	Information, communication and technology
	Verification Officers
	TOTAL

3.6 Sample and Sampling techniques

The sample that was used was selected from the Customs administration working at the port of Mombasa using stratified random sampling. In that the sample population was divided into strata's or grouping of the employees according to the level of job and authority. Therefore, the strata were in Border control officers, enforcement and investigation officers, verification Officers.

3.7 Data collection instruments

The study collected both primary and secondary data. Data collection tools are methods or techniques used by a researcher to gather information pertaining to the study aimed at proving or refuting some facts (Hakim, 2000). The study utilized both primary and secondary source to obtain qualitative and quantitative data. Personal interviews and questionnaires was used to collect the required data. The questionnaires were targeting the respondents who have complete information about Risk Management and were distributed to them through a drop and pick method and a few others through email.

According to (Kothari, 2004), the information obtained from questionnaires is free from bias and researchers influence and thus accurate and valid data was gathered. Interview schedules was also used to compliment questionnaires data. Primary data was gathered through the use of questioning method in form of a semi structured questionnaire (open and close ended questions). Secondary data was collected through the review of both empirical and theoretical literature sourced from books, journals and internet.

3.8 Data collection procedure

Data was gathered by way of handling out the questionnaires to the target respondents and collecting them after they have filled them in. An examination of secondary data was equally carried out to argument of the findings from the instrument. The data collection process started as soon as authorization was done and piloting was completed.

3.9 Pilot testing

Pilot testing was piloted to identify weakness in the design and for testing the reliability and validity of the questionnaires to be used during the study. Pilot testing was 10% of the sample size in-order to refine measuring instruments and procedures (Sekaran & Bougie, 2016).

Therefore, pilot test was; 10% of sample size (n)

Table 3:3 Sample Size

Sector/department	Sample Size	10% of Sample Size
Border control officers	20	2
Enforcement and investigation officers	10	1
Information, communication and technology	10	1
Verification Officers	20	2
TOTAL	60	6

The pilot testing was useful in identifying errors that might be present in the data collection instruments. The consistency of measurement under same conditions and subject in providing same results is reliability. Validity is upheld when the instrument measures what it is intended to measure.

3.9.1 Reliability of research instrument

The consistency of measurement under same conditions and subject in providing same results is reliability. Reliability is termed as the extent to which outcomes are found to be consistent under the same conditions over time (Bashir, 2008). So as to ascertain the reliability of the questionnaire, a pilot testing was undertaken on 6 respondents not included in the sample.

3.9.2 Reliability Analysis

Reliability means the ability of tools to yield consistent and steady measurements. (Golafshani, 2003), describes reliability in two ways; reliability as the magnitude of accuracy and unreliability as the extent of inaccuracy. Therefore, Cronbach's coefficient alpha (a) has been used to test reliability. When Cronbach's coefficient alpha (a) value is above0.7, the internal consistency is reliable hence the variables reliable (George, 2003).

Table 3:4 Reliability Results

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.774	**0.775**	**4**

From the Table 3.9.2 above Cronbach's Alpha reliability coefficient was 0.774 on all variable which shows that all the three Variable were reliable since their Cronbach reliability values was above 0.7 (George, 2003).

3.10 Data analysis

According to (Mugenda, 2003) data analysis is the process of bringing order, structure and meaning to the mass of information collected. The collected data was analyzed in order to report the findings. The questionnaires were checked, sorted, edited, coded and the data cleaned. The data was then analyzed using Statistical Package for Social Sciences (SPSS) version 25. The results are presented in form of tables, charts and graphs for easier interpretation and understanding and then the results of some of this analysis was exported into Microsoft Word and Microsoft Excel for visual presentation and reporting. The relationship of the variable was expressed as a linear regression model:

$Y= \beta_0 + \beta_1 X_I + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where; **Y** = Duty Collection

β_0 = Constant ε = error

β_1 = Coefficient of variable 1 X_1 = Cargo Targeting

β_2 = Coefficient of variable 2 X_2 = Risk Analysis (valuation Database)

β_3 = Coefficient of variable 3 X_3 = Risk Assessment (Cargo examination)

β_0 - **Y** intercepts the constant. The level of risk when X_1 , X_2 , X_3 **=0**

β_1, β_2, β_3-Coefficients determining the levels of X_1, X_2 **and** X_3 on how they affect **Y**

ε - Other factors outside the model which the researcher did not look into but can affect Duty Collection (**Y**)

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis of the research, the study sought to investigate on the effects of risk management on duty collection at port of Mombasa. The specific objectives of the study were to uncover the effects of cargo targeting on the amount of duty collected at the port of Mombasa, to determine the effects of Risk Assessment on the amount of duty collected at the port of Mombasa, to determine the effects the use of Risk Analysis on the amount of duty collected at the port of Mombasa. The questionnaires were used to collect the primary data and they were analysed and presented in the form of figures and tables.

4.2 Demographic Analysis - Response Rate

Table 4:1 Respondents and Response Rate

	Frequency	**Percentage**
Respondent	55	91.7%
Non-respondent	5	8.3%
Total	**60**	**100%**

4.2.1 Reliability and Data Validity

Reliability means the ability of tools to yield consistent and steady measurements. (Golafshani, 2003), describes reliability in two ways; reliability as the magnitude of accuracy and unreliability as the extent of inaccuracy. Therefore, Cronbach's coefficient alpha (a) has been used to test reliability. For instance, coefficient alpha is practical in scale development using items that have numerous response possibilities (i.e. 1= strongly disagree in range to 5= strongly agree). So as to determine the Cronbach's coefficient alpha (a) for reliability analysis, SPSS version 25 was employed and outcomes are presented in table 4.2 below

Table 4:2 Reliability Results

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.774	**0.775**	**4**

Therefore, instrument to be termed as reliable, the acceptable index should be 0.70 or above, and this was positive for all the variables tested as shown in Table 4.2. The findings indicated that the four items; duty collection, cargo targeting, cargo examination and risk analysis had a coefficient of 0.774. The outcome implies that the questionnaire employed in this study had a high level of reliability.

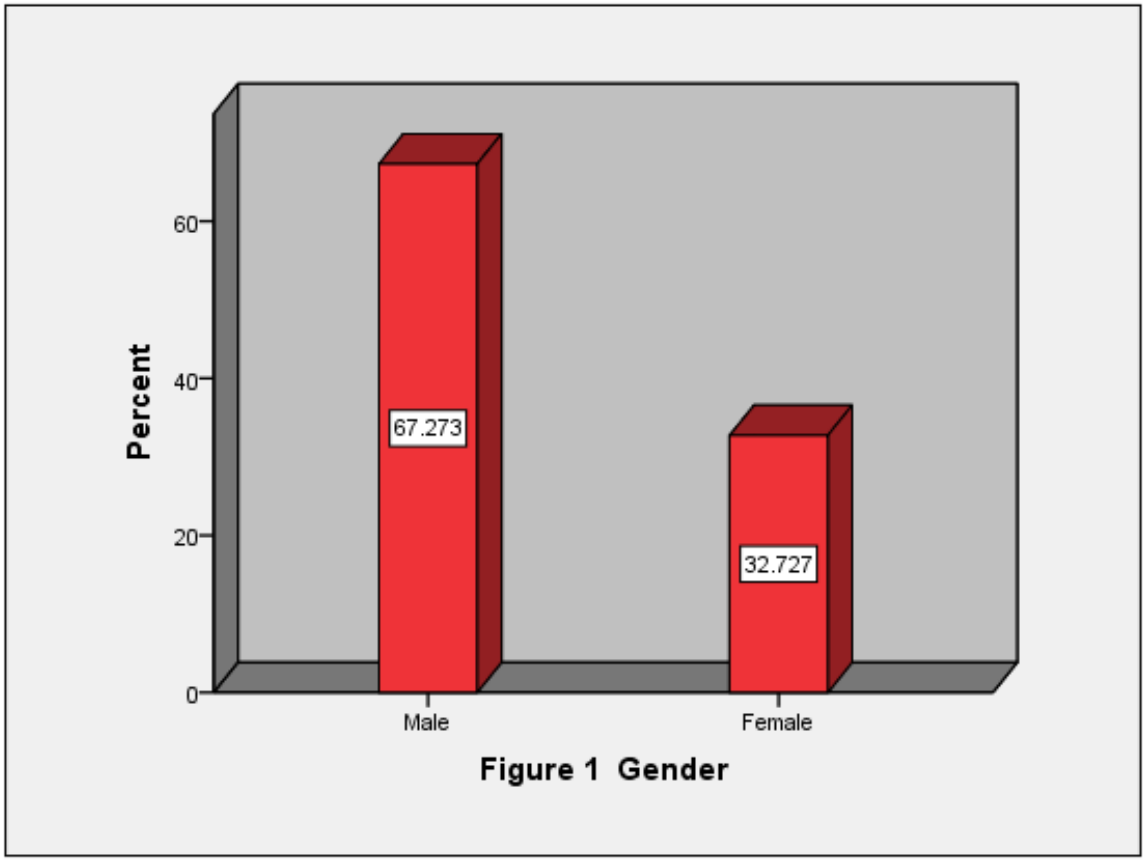
4.3 Variable Specific Analysis

In finding demographic features of the respondents, the researcher wanted to investigate how demographic characteristics of the respondent's effects customs risk management on duty collection at the port of Mombasa and the Results were tabulated as shown below.

4.3.1 Demographic information about gender (n = 60)

The study sort to determine the gender of the respondent's so as help in gender balance inferential. The findings were tabulated in the figure 1 below, where out of 55 respondents (37 respondents) implying 67.3% of the respondents indicated that they were male and (18 respondents) representing 32.7% were female. The findings showed that majority respondents were male.

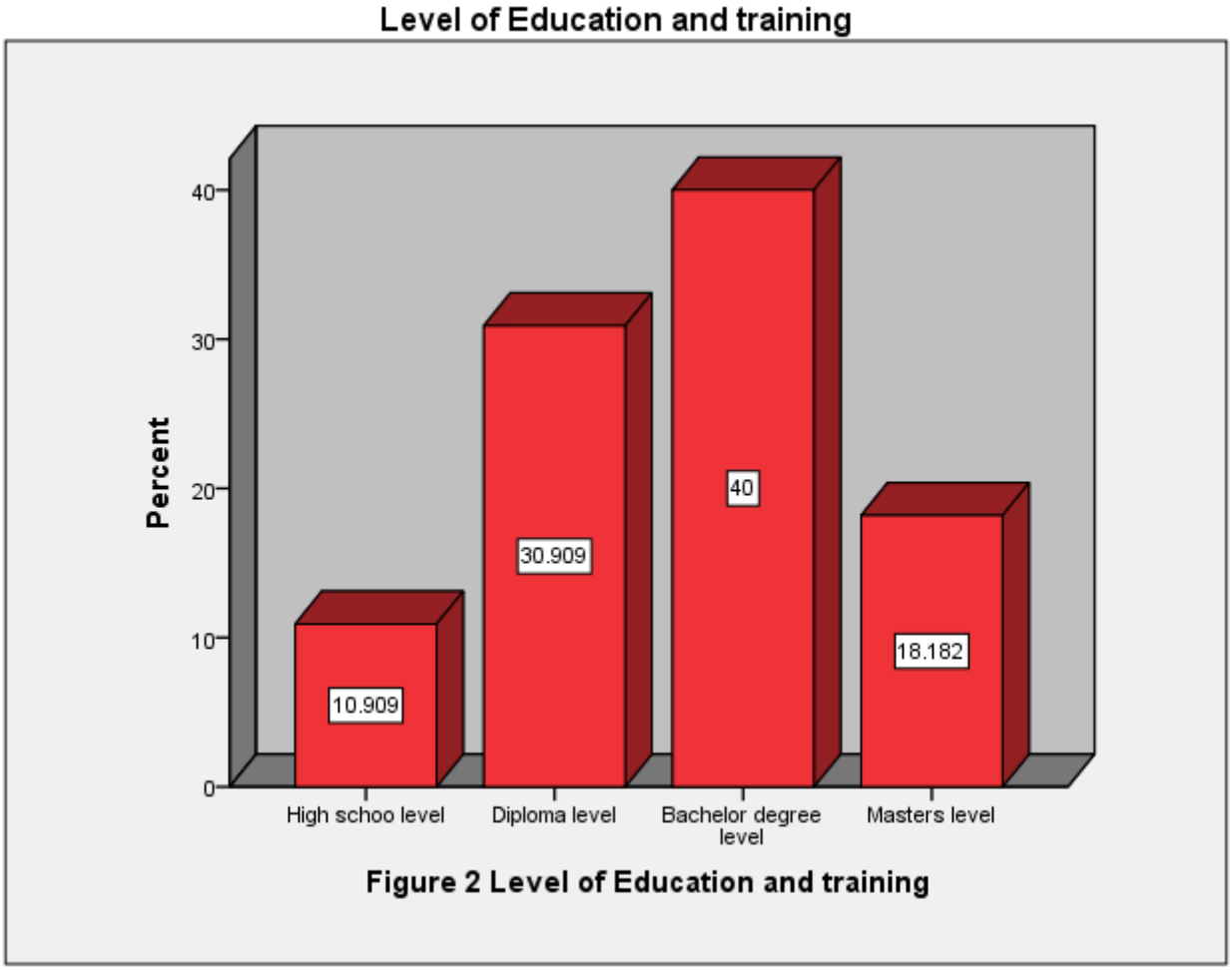
Figure 4:1 Gender



4.3.2 Level of education

The researcher wanted to determine the respondent's level of education. This was to enable in depth analysis of the response ability to analyze and make correct decisions in course their duty. The responses were as shown in figure 4.2 below.

Figure 4:2 Level of Education and training

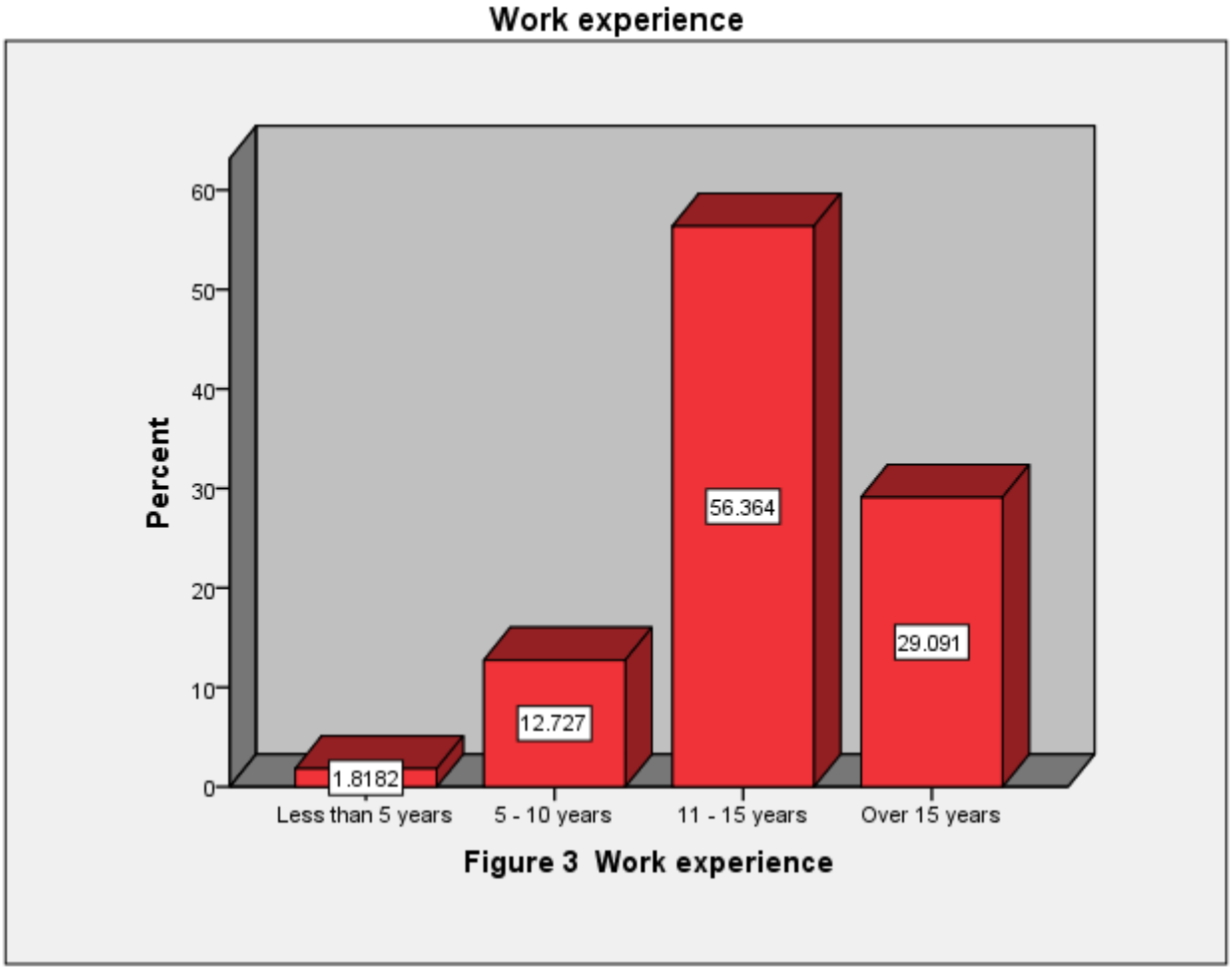


From the analysis above, it can be gathered that majority of the respondents about (22 respondents) representing 40% were bachelor degree holders, followed by (17 respondents) representing 30.9% diploma level, (10 respondents) implying 18.2% had masters level and the least were high school level 10.9% which was only 6 respondents.

4.3.3 Respondents work experience

The length of employment determines some of the decisions a person takes in life as it is a demographic characteristic. The researcher sought to know the years the respondents had worked in an organization and the results are as shown in figure 3 below.

Figure 4:3 Work experience



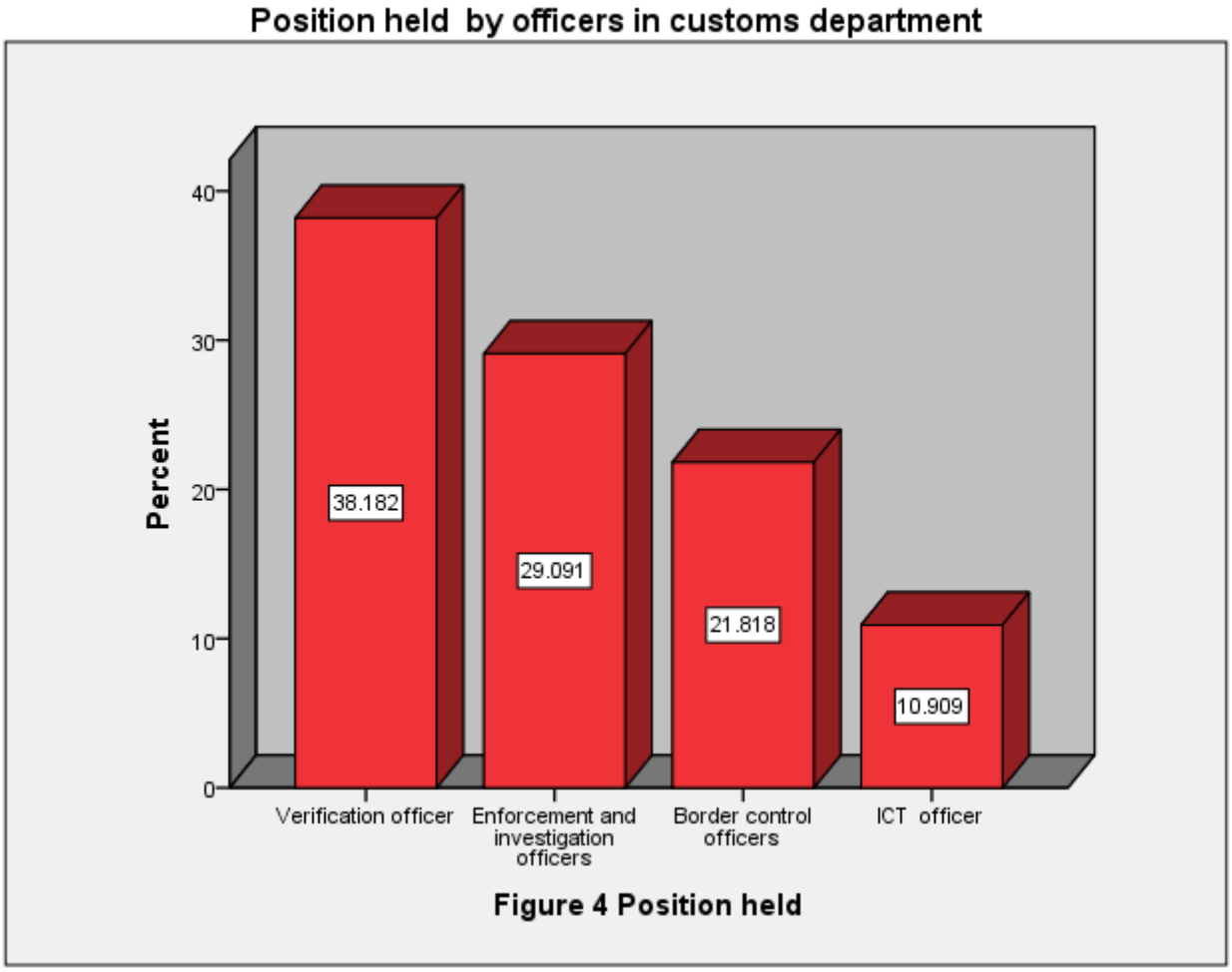
From figure 3 above, majority of the respondents i.e. 31 respondents have worked between 11–15 years representing 56.4%, respondents worked over 15 years were 16 respondents representing 29.1%, and between 5-10 years was 12.7% meaning 7 respondents then the lowest were less than 1-5 years which represented 1.8% which was 1 respondent. This indicates that majority of the work force have had good work experience and they are in position to make good decision.

4.3.4 Position held by officers at customs departments

The study sought to establish the positions held by the respondents. The study showed that 21 respondents representing 38.2% of the respondents were verification officers, 16 respondents (29.1%) were enforcement and verification officers, also 12 respondents (21.8%) were border

control officers and only 6 respondents (10.9%) were information communication and technology officers (ICT). That showed that majority of the respondents were head of the departments as indicated in figure 4 below. This further implies that they are persons charged with responsibility of decision making as far as customs risk management on customs duty collection is concerned.

Figure 4:4 Position held by officers in customs department



4.4 Variable Analysis

4.4.1 Cargo targeting

The first objective of the study was to investigate the effect of cargo targeting on customs duty and revenue collection in KRA. Respondent were requested to respondent to a set of questions related

to cargo targeting and give their opinion. From the analysis as indicated in the table below, the respondents strongly agreed with (mean=4.18) that cargo targeting aid in duty collection at the port of Mombasa. With (mean=4.16), respondents were also agreement that cargo targeting is employed on daily basis and this has increased duty collection as indicted with (mean=4.16). Respondents also strongly agreed with (mean=4.11) that since introduction of cargo targeting to aid in risk management, duty collection have tremendously increased.

Table 4:3 Descriptive Statistics Cargo targeting

	N	**Mean**	**Std. Dev**
Does cargo targeting aid in Duty collection at the port of Mombasa	55	4.36	1.338
On average do you employ targeting on daily basis at the port	55	4.16	1.463
Is there some criteria that is employed so as to target cargo for verification	55	4.11	1.370
Has cargo targeting improved efficiency and duty collection	55	4.11	1.370
Has cargo targeting & profiling led to increased amount of duty collected	55	4.16	1.437
Valid N (list-wise)	55		
Total mean average		**4.18**	

4.4.2 Risk Analysis

The second objective of the study was to investigate effect of valuation database on customs duty revenue collection in KRA, port of Mombasa. Respondents were asked to respond to a set of questions related to risk analysis and give their opinion. The table below shows the mean and standard deviation from respondents. From the analysis, the respondents were in agreement with (mean= 4.31) that valuation database, examination of cargo and risk monitoring has impacted positively on duty revenue collection. According to RKC report, automation of processes enables customs access vast amount of information. The introduction WCO's' Customs Network database, has also contributed to sharing of information among the customs and this has led to improved

revenue collect. The use of KRAVS in customs valuation, have brought about effective revenue collection. This is shown by a mean score of 4.25 and 4.45 respectively.

Table 4:4 Descriptive Statistics Risk Analysis

	N	Mean	Std. Dev
Does the use of information technology improve efficiency in port	55	4.44	1.135
Does the valuation database aid in arriving at the customs value for collection of taxes	55	4.25	1.404
Does the use of information technology save on time	55	4.16	1.537
Information sharing at customs has improved revenue collection	55	4.45	1.317
Use of information technology plays a key in risk management	55	4.25	1.322
Valid N (list-wise)	55		
Total mean average		**4.31**	

4.4.3 Risk Assessment

The third objective of the study was to examine the effect of risk assessment on customs duty collection at KRA. Respondents were requested to respond to a set of questions related to cargo examination and give their opinion. From the analysis, respondents strongly agreed that cargo examination has improved efficiency in duty collection in KRA at the port. This is indicated by (mean= 4.042). Risk management is usually employed on selected cargo for examination to minimize on loss of revenue as a result of miss-declaration, tariff, undervaluation or smuggling. On valuation database, the respondents strongly agreed with (mean=4.16) that it has helped in valuing taxes correctly and that the use technology has time duration for examining cargo. This is indicated by (mean=3.62).

Table 4:5 Descriptive Statistics Risk Assessment

	N	Mean	Std. Deviation
Does cargo examination affect duty collection at the port Of Mombasa	55	4.16	1.463
To what extent does the cargo examination improve duty Collection	55	4.16	1.537
From your experience do you think that Risk management Assist in improving Duty collection Mombasa Port	55	4.11	1.370
Are risk monitored and reported within the Customs Department at Mombasa Port	55	4.16	1.537
Introduction of cargo profiling has enhanced collection of Of duty revenue	55	3.62	1.705
Valid N (list-wise)	55		
Total mean average		**4.042**	

4.4.4 Duty collection

The respondents strongly agreed with (mean=4.36) that use of ad-valorem method to collect duties and taxes have improved duty revenue collection. This cured fatigue problem officers used to experience before introduction of this method. This contributed to under performance as shown with (mean= 4.36). Respondents strongly agreed with (mean=4.29) that customs fraud as a result of miss-declaration and undervaluation greatly affected duty collections. However, improved cargo profiling, examination and risk analysis positively affected duty revenue collection as indicated with (mean= 3.98). The respondents were strongly in agreement with a mean score of 4.20 and 1.223 that introduction of risk management have had a positive impact on duty revenue collection at KRA.

Table 4:6 Descriptive Statistics Customs revenue collection performance

	N	Mean	Std. Deviation
Use of ad-valorem method for collection of duties and Taxes has improved duty collection	55	4.36	1.338
Customs fraud such as miss-declaration and undervaluation affects duty collection	55	4.29	1.383
Under performance of customs officers due is to fatigue has led to low revenue collection	55	4.36	1.267
Improved duty collection is due to use of cargo profiling, examination and risk analysis	55	3.98	1.354
Application of risk management system has improved efficiency and increased duty collection	55	4.20	1.223
Valid N (list-wise)	55		
Total mean average		**4.23**	

4.5 Correlation Analysis

So as to determine the connection between the dependent variable and independent variables the study used correlation analysis which included coefficient determination and coefficient of correlation.

4.5.1 Coefficient of Correlations

In order to determine the relationship between the research variables, the study employed the Karl Pearson's coefficient of correlation (r) as illustrated below in the Table 4.7. From the finding, it was evident that there was a positive correlation with linear relationship between the independent variables and dependent variable with coefficient of correlation; there is a positive correlation between Risk Assessment with Risk analysis given by 0.369, a positive correlation between the Risk Assessment with Customs Targeting which is moderate given by r value of 0.421, Risk Assessment is strongly correlated with the Duty collection evidenced by r 0.527. Risk analysis is moderately correlated with Customs Targeting having a r of 0.323 while being moderately correlated with Duty collection evidenced by value of 0.479. Customs targeting is

strongly correlated with Duty collection having a 0.655 value, all the variables are statistically significant with ($p < 0.05$) for variables.

Table 4:7 Pearson Correlation

		R_Assessment	R_Analysis	C_Targeting	D_Collection
R_Assessment	Pearson Correlation	1	.369**	.421**	.527**
	Sig. (2-tailed)		.007	.001	.000
	N	55	55	55	55
R_Analysis	Pearson Correlation	.369**	1	.323**	.479**
	Sig. (2-tailed)	.007		.001	.000
	N	55	55	55	55
C_Targeting	Pearson Correlation	.421**	.323**	1	.655**
	Sig. (2-tailed)	.001	.001		.000
	N	55	55	55	55
D_Collection	Pearson Correlation	.527**	.479**	.655**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	55	55	55	55

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

4.5.2 Coefficient determination

The Table 4.8 below, comprises details about the variance as described by predictor variables. The initial statistic, *R*, represents the numerous correlation coefficient amongst all of the predictor variables (resource allocation, management decision and customs legislations) and the dependent variable (customs revenue collections). In the model, the value of (R) is 0.786, which shows that there is variance shared by the independent variables and the dependent variables. The next value, *R* Square, is simply the squared value of *R*. It is used to describe the goodness-of-fit or the amount of variance explained by a given set of predictor variables. As indicated in the table 4.8 below, the value is 0.618, which indicates that 61.8% of the variance in the dependent variable is explained by the independent variables in the model below meaning the remaining 38.2% can be explained by moderating variables when further study is conducted so as to incorporate them.

Table 4:8 Coefficient of determination (R2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.786[a]	.618	.595	1.722

a Predictors: (Constant), C_Targeting, R_Assessment, R_Analysis

4.6 Regression Analysis

4.6.1 Analysis of Variance

The study used ANOVA to establish the significance of the regression model. It describes the overall variance accounted for in the model. In testing the significance level, the statistical significance is considered significant if the p-value is less or equal 0.05. The significance of the regression model was as shown in Table 4.9 below with p-value of 0.00 which was less than 0.05. This shows that the regression model was statistically significant in predicting strategic internal factors affecting customs revenue collections in KRA. Basing on confidence level at 95%, the analysis indicated a relatively high reliability of the results obtained. The overall ANOVA results indicated that model was significant at F (representing a test of the null hypothesis) = 27.446, p = 0.000 as shown below.

Table 4:9 Analysis of Variance (ANOVA) **ANOVA[a]**

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	244.245	3	81.415	27.446	.000[b]
	Residual	151.283	51	2.966		
	Total	395.527	54			

a Dependent Variable: D_Collection

b Predictors: (Constant), C_Targeting, R_Assessment, R_Analysis

4.6.2 Multiple Regression Analysis

The researcher conducted a multiple regression analysis as indicated in the Table 4.10 to determine the relationship between customs revenue collections and the three variables investigated in the study.

Table 4:10 Multiple Regression Analysis

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	5.923	1.742		3.401	.001
R_Assessment	.207	.067	.290	3.101	.003
R_Analysis	.189	.059	.290	3.190	.002
C_Targeting	.386	.072	.497	5.375	.000

a Dependent Variable: Duty collections

As per the table above, the established regression equation was;

The general regression Model arrived at was $Y = 5.923 + 0.386X_1 + 0.207X_2 + 0.189X_3$

Where,

Y= Duty collections, X_1= Cargo targeting, X_2 = Risk Assessment, X_3= Risk analysis

Hence;

Duty collection in KRA (Y) = 5.923 + 0.386 Cargo targeting + 0.207 Risk Assessment + 0.189 Risk analysis. From the analysis in table 4.10, Cargo targeting X_1 ($\beta = 0.386$, $p<0.05$) has the strongest relationship with duty collection followed by risk analysis X_3 ($\beta = 0.189$, $p<0.05$), then risk assessment X_2 ($\beta = 0.207$, $p<0.05$). All three variables significantly predicted customs duty revenue collections.

The Beta Coefficients in the regression model shows that all of the tested variables had positive relationship and statistically significant with p-values less than 0.05.

The findings imply that a unit change of X_1 (Cargo targeting), resulted into 0.386 change in duty collections; X_2 (Risk Assessment) resulted into 0.207 change in duty collections; X_3 (Risk Analysis), resulted into 0.189 change in duty collections.

The Y- Intercept ($\beta_0 = 5.923$), predict the duty collections in KRA, when all other variables are zero, implying that without the independent variables; cargo targeting, risk assessment and risk analysis, duty collections in KRA would be 5.923**.**

4.6.3 Discussion of Findings

The study findings revealed that cargo targeting contributed more in duty revenue collection than other examined variables. This is evidenced by the moderate relationship (0.386) it has with customs duty collections as shown in regression analysis. It is also evidenced with highest correlation of 0.527 in correlation analysis. The agreement by respondents with mean average of 4.18 also a tested to the fact that cargo targeting aided in duty collection at the port of Mombasa. Risk analysis had also a positive and moderate relationship (0.3150 with duty collection and it had great impact on duty revenue collection. Risk Assessment had the least relationship duty collection in regression (0.291) and correlation analysis (0.517). However, it contributed positively on duty collection.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter gives a summary of the findings of the study in the preceding chapters, the conclusions, recommendations are drawn based on the objectives of the study and finally suggested areas for further studies and research.

5.1 Summary of findings

The objective of this study was to determine the effects of customs risk management on duty collection at the port of Mombasa. The study was carried out on 60 officers. All officers in Verification, enforcement and investigation border control and ICT departments in KRA at Mombasa port constituted sample size. To collect data, the researcher used a structured questionnaire and personally administered to the respondents. The questionnaire constituted 20 items which employees KRA customs were to fill them based to their understanding of the subject of study and return them. The data was analyzed and presented using frequency, percentage, mean scores, standard deviations, and correlation and regression analysis. After analyzing data, the findings showed that majority of respondents were degree holders and most of the employees had work experience between 11 – 15 years representing 56.4% (31 respondents). Majority of the respondents were male representing 67.3% (37 respondents).

5.1.1 Cargo targeting and duty revenue collections

The study revealed that cargo targeting positively affect duty revenue collections in KRA at Mombasa port. This was supported by a positive relationship revealed in the analysis and in agreement with respondents that, cargo targeting add value to customs duty revenue collection. Also, further analysis established that there was a positive and significant relationship between cargo targeting and duty revenue collections ($r = 0.386$, $p < 0.05$).

5.1.2 Risk assessment and duty revenue collections

The study revealed that cargo examination positively affects the performance of duty revenue collection. This was established by a positive relationship in correlation analysis ($r= 0.207$, $p < 0.05$).

5.1.3 Risk Analysis and duty revenue collections

The study results showed that risk analysis do adversely affect customs duty revenue collection. This was established by correlation analysis. The results showed that there was a strong positive correlation (0.189) between risk analysis and duty revenue collections. This implies that good risk analysis contributed to the growth of duty collection. As stated by Berinato (2006), risk mitigation enhances performance of organization.

5.2 Conclusion

The study sought to establish the effect of risk management on duty revenue collection at KRA, port of Mombasa. The specific objectives of the study were adequately covered. The research findings of the study concluded that independent variables have significant impact on duty collections in Kenya Revenue Authority. The study specifically concludes that risk management play very important roles in monitoring and reporting of risk in organization. Hence, the management should try to involve all staff in decision making and retraining staff on use of this system so as to minimize risk and improve further in duty collections.

5.3 Recommendations

Based study findings on effect risk management on duty collections in regards; to cargo targeting, cargo examination and risk analysis and from analysis of literature review, the study findings may provide useful insight to the management of Kenya Revenue Authority in Kenya. Basing on the study findings, the following have been recommended:

1. That for KRA to improve further in its duty revenue collections, enhancement on cargo targeting, cargo examination and risk analysis through regular training of staff that are directly involved is highly recommended. This is in line with Chiunya (2006) findings that lack of training affects collections of taxes.

2. That the staff need to be trained to be all round, this will help rotation of staff to different department to discourage over staying in one department.

3. That KRA management to allocate extra resources for continues upgrading of its infrastructures as business environment changes. This will assist in sealing loop holes as they emerge.

5.4 Areas for further research

This study centered on three objectives as discussed above and study variables contributed to only 55.3% of the factors that affect customs duty collection. Further research study to be done explore on other theories that emphases on efficiency, and as stated by (Athanasoglou, 2006), a firm earn high profits because they are more efficient than others.

REFERENCES

Athanasoglou, P. D. (2006). *Determinants of bank profitability in the South Eastern European region.*

Bashir, A. (2008). Reliability and Validity of Quantitative Research. *Pakistan Journal of statistics and operational research*, 4(1).

Berg, H.-P. (2010, June). Risk Management. *Risk Management*, 79-95. Retrieved from http://m.gnedenko-forum.org/Journal/2010/022010/RTA_2_2010-09.pdf

Biljan, J., & Trajkov, A. (2012, September). Risk Management and Customs Performance Improvements: The Case of the Republic of Macedonia. *procedia-Social and Behavioral Sciences journal, 44*, 301-313.

Business dictionary. (2017, september 10). Retrieved from risk: http://www.businessdictionary.com/definition/risk.html

Cooper, D. R., & Schindler, P. S. (2000). *Business research model.* New York: McGraw-Hill/Irwin.

Davaa, & Namsrai. (2015, September). Ways to modernise customs risk management in Mongolia. *World Customs Journal, 9*(2). Retrieved from http://worldcustomsjournal.org/Archives/Volume%209,%20Number%202%20(Sep%202015)/1784%2000%20WCJ%20v9n2%20Complete.pdf#page=32

Desiderio, D., & Bergami, R. (2011). Risk management techniques and their use by Customs. *The Journal of Customs and Trade, 3*(1), 81-91.

Easton, V. J., & McColl's, J. H. (2002). *Statistics glossary.* Glasgow.

George, M. a. (2003). *Reliability Analysis. SPSS for windows.* NY.

Golafshani, N. (2003). *Understanding reliability and validity in qualitative research.* . NY.

Hakim. (2000). *Research design: Successful designs for social and economic research.* Psychology Press.

Iordache, E., & Voiculet, A. V. (2007). Customs Risk Management in the European Union. *The Romanian Economic Journal*, 55-72. Retrieved from http://www.rejournal.eu/sites/rejournal.versatech.ro/files/articole/2014-04-18/2241/je202520iordache20voiculet.pdf

James, R. (2009). *Research Methods: Sampling methods.*

Jean, S., & Mitarotonna, C. (2010). Determinants and pervasiveness of the evasion of customs duties. *Ag FoodTrade*.

JICA . (2012). Risk Management.

Kendrick, T. (2010, July 12). Probability theory: Applicability in risk and uncertainty management. *Norwich Business School*, 6-7. Retrieved from sagardp.wordpress.com/2010/07/12/probability-theory/

Kenya Ports Authority. (2017). History of the mombasa port. *Bandari*. Retrieved from https://www.kpa.co.ke/AboutUs/Pages/KPA-History-introduction.aspx

Kenya Revenue Authority. (2017). *Sixth Corporate Plan.* Nairobi.

Kombo, & Tromp. (2006). *Proposal thesis writing.* Nairobi: Don Bosco Printing Press.

Kothari. (2004). *Research methodology.* New Age International.

Lobdell, K. A. (2009). *United States: Customs in the 21st Century - A WCO Update.* Drinker Biddle & Reath LLP.

Mugenda, O. M. (2003). *Research Methods: Quantitative and Qualitative Approaches.* African Centre for Technology Studies.

Neuman, W. L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches* (seventh edition ed.). london: Pearson Education Limited.

Okoth, E. (2016, August 23). *Why taxman keeps missing revenue targets*. Retrieved from Daily Nation: http://www.nation.co.ke/lifestyle/smartcompany/Why-taxman-keeps-missing-revenue-targets/1226-3354572-12ownw0z/index.html

Ross, & Sheldon. (2016). *A First Course in Probability.* Pearson Prentice Hall.

Saunders, Lewis, & Thornhill. (2009). *Research Methods for Business Studies.* Pearson.

Sekaran, & Bougie. (2016). *Research Methods for Business.*

Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory.* Transaction .

UNCTAD. (2014, December). Technical Notes on Trade Facilitation Measures. *WTO Agreement on Trade Facilitation*(4), 1-5. Retrieved from http://unctad.org/en/Docs/TN12_RiskManagement.pdf

Wayne, H. (1975). *Risk Management: where Do We Go from Here?*

WCO. (1999). International Convention on the Simplification and Harmonization of Customs Procedures. *WCO*. Retrieved from http://www.wcoomd.org/Kyoto_New/Content/Body_Gen%20Annex%20and%20Specific%20Ann

WCO. (2010). Revised Kyoto Convention. *Revised Kyoto Convention*.

WCO. (2013). Risk Assesment, Profiling and Targeting. . *WCO*.

WCO: Risk Management Guide. (2003). WCO: Risk Management Guide. *WCO: Risk Management Guide*. Retrieved from http://www.adb.org/documents/events/2005/trade-facilitation/wco-risk-guide-eng.pdf

Widdowson, & Holloway. (2011). *Risk management.* Tom Doyle; Editors. Retrieved from https://elibrary.worldbank.org/doi/pdf/10.1596/978-0-8213-8596-8#page=110

World Bank . (2005). Risk Management. *Guideline for Risk Management in Customs*.

Wulf, L. D., & Sokol, J. (2005). Risk management. *customs modernization handbook.*

Yount, R. (2006). Populations and sampling. *Research Design and Statistical Analysis for Christian Ministry*, 1-10.

APPENDIX I: LETTER OF INTRODUCTION

Dear respondent,

RE: ACADEMIC RESEARCH DATA COLLECTION.

I Musau Leonard Bonke, a student at Kenya School of Revenue Administration pursuing a Post Graduate Diploma in Customs Administration- Mombasa campus. I am currently doing an academic research on the effects of Risk Management on Duty collection at the port of Mombasa.

Having categorically sampled my study population to the experienced officers in the field under study, I do kindly request for your time to provide with the relevant information through filling the attached questionnaire, which would assist during the study. All the information shall be kept confidential.

Your contribution is highly appreciated.

Yours sincerely,

APPENDIX IV:

QUESTIONNAIRE

This research work is intended to research the general idea of THE EFFECTS OF RISK MANAGEMENTON DUTYCOLLECTION AT THE PORT OF MOMBASA. Please provide answers to the following questions against the most suitable alternative or by giving narrative responses in the spaces provided. (Responses was treated with utmost confidentiality).

SECTION A: DEMOGRAPHIC INFORMATION

Q1) Gender

Male [ ] Female [ ]

Q2) Highest level of Education and training attained?

High school [ ] Diploma [ ] Bachelor's Degree [ ] Master's Degree [ ]

Q3) Number of years worked in the unit.

Less than 5 years [ ] 5-10 years [ ] 11-15 years [ ] above 15 years [ ]

Q4) Please state your position in the customs department.

Verification Officer [ ] Enforcement and investigation officers [ ]

Border control officers [ ] Information, communication and technology [ ]

SECTION B: CARGO TARGETING.

Cargo Targeting is the pre-identification of operations declarations, operations, individuals, or transactions to be verified based on information or intelligence, visible external criteria or control plans.

Please tick/indicate the box that represents the extent to which you agree with the statements provided on the five-point type Likert scale.

Key: 5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree

	Statements	1	2	3	4	5
6a	Does cargo targeting aid in Duty collection at the port of Mombasa					
6b	On average do you employ targeting on daily basis at the port					
6c	Is there a criteria that is employed so as to target cargo for verification.					
6d	Has cargo targeting improved efficiency and duty collection.					
6e	Has cargo targeting & profiling led to increased amount of duty collected.					

SECTION C. Risk Analysis

Risk analysis is a component of Risk Management which involves the process of identifying and analyzing the dangers or risks associated. The use of information technology is well advocated in the customs modernization handbook as well as a key pillar in the Revised Kyoto Convention.

Please tick/indicate the box that represents the extent to which you agree with the statements provided on the five-point type Likert scale.

Key: 5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree

	Statements	1	2	3	4	5
7a	Does the use of information technology improve efficiency in port operations.					
7b	Does the valuation database aid in arriving at the customs value for collection of taxes.					
7c	Does the use of information technology save on time.					
7d	Information sharing at customs has improved revenue collection					
7e	Use of information technology plays a key in risk management					

SECTION D: Risk Assessment.

In Risk Assessment will be using cargo examination as the parameter. Cargo examination refers to the process whereby cargo entering Kenya or leaving is subjected into physical verification or other verification modes by the Customs and border control so as to ascertain or confirm that the cargo is being classified correctly, correct declaration and valuation is made among other requirements.

Please tick/indicate the box that represents the extent to which you agree with the statements provided on the five-point type Likert scale.

Key: 5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree

	Statements	**1**	**2**	**3**	**4**	**5**
8a	To what extend does cargo examination affect duty collection at the port of Mombasa					
8b	To what extent does the cargo examination improve duty collection					
8c	From your experience do you think that Risk management assist in improving Duty collection Mombasa Port					
8d	Are risk monitored and reported within the Customs Department Mombasa Port					
8e	Introduction of cargo profiling has enhanced collection of duty revenue					

SECTION E: DUTY COLLECTION

Cargo examination refers to the process whereby cargo entering Kenya or leaving is subjected into physical verification or other verification modes by the Customs and border control so as to ascertain or confirm that the cargo is being classified correctly, correct declaration and valuation is made among other requirements.

Please tick/indicate the box that represents the extent to which you agree with the statements provided on the five-point type Likert scale.

Key: 5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree

	Statements	**1**	**2**	**3**	**4**	**5**
8a	Has the use of ad-valorem method for collection of duties and taxes has improved duty collection					
8b	Customs fraud such as miss-declaration and undervaluation affects duty collection					
8c	Under performance of customs officers is due to fatigue has led to low revenue collection					
8d	Improved duty collection is due to use of cargo profiling, examination and risk analysis					
8e	Application of risk management system has improved efficiency and increased duty collection					

END OF QUESTIONNAIRE

Thank you.