EFFECTS OF ENTERPISE RISK MANAGEMENT ON CUSTOMS PERFORMANCE AT THE PORT OF MOMBASA IN KENYA

MILLICENT OWINO

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 POSTGRADUATE DIPLOMA IN CUSTOMS/TAX ADMINISTRATION AT JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

2019

DECLARATION

This project is my original work and has not been presented for a Post graduate diploma in any other academic institution.

....

Signature Date

MILLICENT OWINO

HDB335-C016 2411/2016

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

Mr. Ben Mumia ....

Supervisor

MINCU, CPA.K

LECTURER KESRA Signature Date

DEDICATION

I dedicate this research project to my late parents Mr. & Mrs Owino, my sisters and brothers, my husband and children without their support, inspiration and encouragement during my academic pursuit, it would have been impossible. May God bless you immensely and enlarge your coast.

ACKNOWLEDGEMENT

Foremost, I would like to express my sincere gratitude to God almighty for granting me this chance and to my supervisor Benn Mumia for the continuous support of my Post Graduate Diploma study and research, for his patience, motivation, enthusiasm, and immense knowledge. His guidance really helped in all the time of research and writing of this project. I could not have imagined having a better advisor and mentor. I am indebted to Kenya School of Revenue Administration for offering me a chance as pioneer in this programme, special thanks to the librarian Winnie Ondiek for reading through the script and offering invaluable information that enabled seamless flow of ideas to write this project. Finally, I would like to thank my family: My late parents , all my brothers and sisters , my a doting husband, son and daughter for their moral and spiritual support throughout the entire period of study.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

DEFINITION OF TERMS

Enterprise Risk Management	Enterprise Risk Management is an organized and systematic approach, which is applied in an organization, aimed at identification and assessment of possible risks to the enterprise, therefore acting upon to managing the risks identified (COSO, 2004).
Customs Performance	Is a mechanism that provides feedback information of the effects of applied practices in customs (Biljan, J., & Trajkov, A. 2012).
Customs risk	The potential for non-compliance with customs laws (Kenya Revenue Authority, 2009; Zivkovic & Sutevski, 2018).
Risk	Anything that prevents a customs administration from achieving its objectives (Zivkovic & Sutevski, 2018).
Risk Assessment	The overall process of risk identification, risk analysis, risk evaluation and prioritization. (JICA, 2012).
Risk Treatment	Risk treatment is the development and implementation of a plan with specific counter-measures to address the identified risks (Iordache & Voiculet, 2007).

LIST OF ACRONYMS/ABBREVIATIONS

ACMS	Advanced Customs Management System
ASYCUDA	Automated System for Customs Data
CRM	Customs risk management
ERM	Enterprise Risk Management
EU	European Union
GDP	Gross Domestic Product
IT	Information Technology
ICMS	Integrated Customs Management System
ITMS	Integrated Tax Management System
KPA	Kenya Ports Authority
KRA	Kenya Revenue Authority
PWC	Price Water Coopers
RM	Risk management
RMU	Risk Management Unit
UK	United Kingdom
USAID	United States Agency for International Development
WCO	World Customs Organization

ABSTRACT

Enterprise Risk management is very important in ensuring customs compliance. Customs authorities are majorly focused on putting in risk management initiatives to ensure customs compliance in international trade transactions, and also to improve performance. Despite risk management being fundamental in ensuring customs compliance, cases of non-compliance have been reported across the world. In Kenya, smuggling is a major problem as well as other cases of misdeclaration in import and export clearance. The study sought to establish the effect of enterprise risk management on customs at the Port of Mombasa, Kenya. The study was guided to establish the effects of risk identification, risk analysis and risk treatment on customs performance at the Port of Mombasa, Kenya. The study was based on contingency theory, prospect theory and coordination theory. Descriptive cross-sectional survey research design was utilized. The study targeted 200 customs staff in KRA Customs and Border control department. A sample of 134 customs staff took part in the actual study. The respondents were selected through stratified random sampling. A pilot study was conducted to test the reliability of the research questionnaire and also ensure its validity. Face validity and content validity of the research questionnaire was ensured through consultations with the research supervisor. The reliability of the research questionnaire was tested using the Cronbach's alpha coefficient. Data was collected using self-administered structured questionnaires. Frequencies, percentages, means and standard deviations constituted the descriptive statistics that were used by the study. Multiple regression analysis and Pearson product moment correlation comprised the inferential statistics for the study. The researcher found, out that Risk identification strategies had a significant effect on Customs Performance at the port of Mombasa, Risk identification strategies affected the customs performance by ($\beta1=0.313$), The risk analysis practices adopted by the customs at the port of Mombasa have a strong positive effect on the customs performance. Risk Assessment resulted to ($\beta2=0.237$), improvement on the Customs Performance. Risk treatment strategies, have a very strong effect on the performance of the Customs at the port of Mombasa inferring that a unit increase in Risk Treatment Strategies , resulted to improvement in Customs Performance by ($\beta3=0.305$), From the findings, the researcher recommended on the following; More resources should be allocated towards risk identification procedures, to advance the performance of risk management department, Interconnectivity of risk assessment information systems with other Partner Government Agencies so as to improve the assessment of risks and more and efficient risk control measures should be employed which are backed by a sound and strong ERM policies.

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Enterprise Risk Management is an organized and systematic approach, which is applied in an organization, aimed at identification and assessment of possible risks to the enterprise, therefore acting upon to managing the risks identified. Consequently, ERM incorporates risk management entire levels of an organization (PWC, 2018). According to Biljan and Trajkov (2012) in customs context defines Risk management to being the systematic identification and application of actions aimed at reducing the exposure to custom risks, therefore these actions are aimed at ensuring compliance while at the same time the customs administrations facilitating trade.

Risk management is the core of customs administration, it is very helpful in a manner that the customs Administrations are enabled to classify risks therefore acting on high risks while allowing the lesser risks unhindered, these high risks are therefore targeted during clearance into the country (Harrison, 2007). In the recent years Risk management has gained importance due to challenges caused by regulatory changes and the threat of terrorism, amongst other trends and factors (AON, 2009; Vanany & Pujawan, 2009). Implementing risk management programs in the public sector contributes to more efficient allocation of resources, (Hintsa, Ahokas, Mannisto & Sahlsted, 2011) argues that Risk management enables customs administrations achieve the overall organizational goals, that is, to protect the safety of citizens, domestic industry, and sovereignty of state. Notably, Risk management could also be used to aide public and private sectors to becoming more efficient in their operations (Hintsa et al., 2011).

Abrams, von Kanel, Mueller, Pfitzmann and Ruscha-Taylor (2007) argue that risk management programs should be aligned with organizational strategy. No public risk management program should be implemented without clearly defined objectives (Fraser & Simkins, 2007). Linking risk management and strategy is essential in attainment of organizational objectives (Francis & Paladino, 2008).

The concentration of customs risk management activities are in most cases on high-risk prone areas, therefore allowing for trade facilitation at border points (World Customs Organization, 2008). Some of the customs risks based on the nature of violation are; wrongful declarations,

fraud, smuggling through concealment and declaration of goods incorrect value or amount (Vita, Leonid & Dmytro, 2017).

Risk management (RM) may be undertaken at the strategic, tactical and operational levels (Berezhniuk, 2014). At the strategic level of RM, risk identification is the initial step in risk management, this is given priority as well as the assessment of the risks identified, these activities fall onto the strategic level of risk management and the approval of the risk register. Tactical level of Risk Management by customs authorities, will include identifying and evaluating the risks according to the risk register developed, these measures for risk management are vital. During the operational level, is the application of risk management instruments, policies and practices in specific cases of movement of goods (Berezhniuk, 2014). Risk management ensures that that the impending or potential risks identified has been assessed and treated through the appropriate action, which guarantees the Customs administration trade facilitation role (Hammadi, Ouhman & Ibourk, 2014).

In risk identification, the types of risks have to be defined, for example, strategic risks to the goals and objectives of a company. Participants who are affected by the risks also have to be identified. Past events and future developments also have to be considered (Iordache & Voiculet, 2007). Risk means the possibility of an adverse action that would hinder the performance or smooth functioning of the Administrations treatment of goods (Iordache & Voiculet, 2007). Risks in customs can relate to mis-declarations of goods, smuggling either prohibited, restricted or excess goods with an aim of avoiding payment of duties and taxes, intellectual property violations among other dishonest activities. Customs risk management (CRM) enables customs administrations to fight more efficiently against any form of smuggling or contraband (Hintsa et al., 2011).

Risk analysis stage involves the examination or scrutiny of the identified risks, through quantification based on occurrence possibility as well as the estimated conseqences in case such a risk was to occur (Hammadi, Ouhman & Ibourk, 2014). Risk analysis considers the probability and frequency of happening of risks events as well as the impact, cost or consequences of those events occurring. The impact could be economic, political or social (Iordache & Voiculet, 2007; Vita, Leonid & Dmytro, 2017). Risk analysis techniques can be classified into qualitative (focuses on descriptive measurement scale), quantitative (Mathematical computations) and

hybrid – which is a combination of both qualitative and quantitative (Marhavilas, Koulouriotis & Gemeni, 2011).

Hinta (2011) noted that during the Customs audits, a lot of attention should be given to the quantification of acceptable risk per traders and collection and sharing of risk related data. Risk analysis provides valuable information to decision-makers on whether and how risks under consideration need to be treated, as well as the available and most appropriate treatment possibilities (Desiderio & Bergami, 2011). The two essential risk elements are the probability that something will happen and the consequences if it happens. Both elements define the importance of specific risk for customs administrations. The importance of the risk and associated risk level are the highest if the probability of an event to happen, and the negative consequences of this event are both high. Customs risk is the potential for non-compliance with customs laws. Anything that prevents a customs administration from achieving its objectives would be considered the main risk (Zivkovic & Sutevski, 2018).

After risks have been analysed, follows the risk treatment; Customs authorities should come up with an action plan to specifically counter or address the risks identified. Strategic and operational priorities as well as human, financial and technical resources have to be considered (Iordache & Voiculet, 2007). Low risks may be accepted. It is important to record the risk management plan and explain the reasons behind the adoption of the risk treatment plan or necessitated action taken.

All other risks are included in the management plan which catalogues the risks, risk levels as well as description of a risk treatment -the action proposed to address the risk, which requires resource allocation (Iordache & Voiculet, 2007). A risk profile, which is normally specific to a customs office, is established as a of operationalizing risk management. Detailed information is used to create a profile, goods consignments, transportation modes which narrows down the search areas to target risky consignments (Iordache & Voiculet, 2007).

While the principal mandate of KRA is to assessment, collection and accounting for all revenues in accordance with specific laws, the Authority acknowledges that risks are common to its operations therefore, effective mangement of such risks is vital for the Authority to meet its short and long term goals and objectives. The risks might be due to personnel, systems or environment

which could be triggered by certain events whether internally or externally thereby having either a positive or negative consequence towards the Authority's achievement of objectives (KRA sixth corporate plan, 2015).

1.1.1 Port of Kilindini

The Port of Mombasa also known as Kilindini is the access point to East and Central Africa, and is one of the robust Ports along the East African coastline. The Port of Mombasa in Kenya is strategically placed to serve various countries in Eastern and Central Africa, with majority of Kenyan imports being handled at the port. Uganda, South Sudan, Southern Ethiopia, Eastern Congo, Northern Tanzania, Rwanda, and Burundi are among the countries that use the port of Mombasa (KPA, 2016).

1.1.2 Enterprise Risk Management in KRA

Due to the identified shortcomings, the Authority adopted a formal Enterprise Risk Management process in the year 2010 aiming to enhance performance while managing inherent risks, that pose threat to hindering it from attaining its goals and objectives. Milestones have been made significantly made in the establishment of organizational structures to deal with Enterprise Risk Management (KRA sixth corporate plan, 2015).

Kiambati (2016) in his article pointed out that, Enterprise Risk Management is necessary for the development of an effective business plan, this is because the ERM enable the organizations towards designing and constructing the best corporate governance program that deals with risk management in the firm.

A well-made, integrated governance structure doesn't swap the need for vigorous ERM. An effective enterprise risk management is the one that encompasses information technology and communication ICT, information systems among other modern technology while seeking to improve accountability and transparency within the organization. Effectiveness of the ERM if upheld will enable the organization to identify and quantify all risks whether regarding compliance, or day to day operations of the organization and enabling the firm to handle the risks.

1.1.3 Risk Management and Customs Compliance

IBM Corporation manages risk related to achieving the objective of compliance with the laws and regulations governing imports in more than 170 countries of operation. Risk management aims at understanding and identifying those events and circumstances within the realm of business operations which have the greatest potential of non-compliance. Managing risk to ensure compliance is not only mandatory but also as strategic (Trapani, 2012). In Switzerland, CRM practices are mostly operationally oriented and compliance focused. In practice, CRM seems to be used only for customs control and compliance purposes (Bicimseven, 2010). The Revised Kyoto Convention requires customs administrations to commit to adopt the use of risk management techniques. The WCO, through the provisions of the Revised Kyoto Convention, aims to achieve a general adoption of a risk-managed style of regulatory compliance.

1.2 Statement of the Problem

Risk management is very important in ensuring customs compliance. Customs authorities are majorly focused on putting in risk management initiatives to ensure compliance with customs laws and regulations in international trade transactions (Hammadi, Ouhman & Ibourk, 2014). Despite risk management being fundamental in ensuring customs compliance, cases of non-compliance have been reported across the world.

In Kenya, smuggling is a major problem as well as other cases of misdeclaration in import and export clearance (Marete, 2016; Mghenyi, 2016; Akwiri, 2016; Vogt, 2015). The short term deleterious consequences of this problem are; loss of revenue which hinders provision of vital public services or facilities by the government, slowed development of domestic companies, terrorism and health issues to citizens from the importation of hazardous, toxic and counterfeited goods such as sugar and plastic rice among other products. This will eventually result in negative effects to Kenya's economic growth, grinding down of Kenya's social development programs and erosion of investor confidence (Hammadi, Ouhman & Ibourk, 2014). A number of studies conducted reveal that risk management affects customs compliance.

Fei (2015) studied compliance risk measurement in food import in EU. The study determined that interaction between enterprise risk management and customs vision on one hand; and real-time compliance operations management and customs order planning on the other hand ensures

coordination of decisions and actions, made to effectively manage risks. Desiderio and Bergami (2011) established that for customs, risk analysis and management techniques are helpful to expedite clearance and limit corruption; thereby improving their overall efficiency and performance. It is clear from the review of relevant literature that no study has been conducted in Kenya on the effect of enterprise risk management on customs performance. None of the studies reviewed analysed customs performance as the dependent variable. Moreover, no study reviewed assessed the effect of risk identification, risk treatment and risk analysis on customs performance. Therefore, this study will establish the effect of enterprise risk management on customs performance in Mombasa, Kenya.

1.3 Objectives

1.3.1 General Objective

The study's general objective was to establish the effect of enterprise risk management on customs performance at the Port of Mombasa, Kenya.

1.3.2 Specific Objectives.

i. To analyse the effect of risk identification practices on customs performance at the Port of Mombasa, Kenya.

ii. To determine the effect of risk analysis practices on customs performance at the Port of Mombasa, Kenya.

iii. To establish the effect of risk treatment on customs performance at the Port of Mombasa, Kenya.

1.4 Research Questions

i. What is the effect of risk identification practices on customs performance at the Port of Mombasa, Kenya?

ii. What is the effect of risk analysis practices on customs performance at the Port of Mombasa, Kenya?

iii. What is the effect of risk treatment on customs performance at the Port of Mombasa, Kenya?

1.5 Justification of the Study

The study is of importance to KRA as it will provide empirical evidence on the effects of enterprise risk management on customs performance. KRA will also provide valuable information on the implementation of the customs reform and modernization program, where enterprise risks management is of great significance. This will be useful to both current and future reform initiatives that KRA will implement. To the government and policy makers, it is expected that based on the findings of this research, initiatives to fight dangerous practices of fraud through misclassification, undervaluation, Rules of origin and many more will make the organization to make informed decisions when it comes to risk management. This will be very fundamental in informing decisions on enhancing economic growth and development in Kenya. To researchers, the findings of this study will be expected to fill the knowledge gap on effects of enterprise risk management on customs performance and to form appoint of reference and basis for future research on enterprise risk management in customs.

1.6 Scope of the Study

This study was conducted to examine the effects of enterprise risk management on customs at the Port of Mombasa, Kenya. The research was conducted between the months of June 2018 and February 2019. Customs and Border Control staff based at the port was the study respondents.

1.7 Limitations of the Study

The researcher had to spend some time to explain to the respondents' reason for research and assure respondents that the study was purely for academic purpose. Most of respondents were not well conversant with ERM as it is a new concept in KRA that is gaining momentum. This was a major challenge, a researcher had to spend extra cost in travelling making calls to book appointments. Despite, assuring respondents on confidentiality, some were still not free to disclose information. The researcher had the time table for data collection and allocate more time to convince respondents. Due to limited finances and time, the study could not be carried out in all Customs stations in Mombasa, but confined to the port due to ease of accessibility. With all the challenges, the researcher waded through and came up with credible conclusions.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter introduces a review of the theories guiding the study. The empirical literature review, the conceptual framework for variables under study, critique of past relevant literature and summary of reviewed literature relevant to the study are also presented

2.2 Theoretical Review

The section presents a review of theories related to the study. They are; contingency theory, prospect theory and coordination theory which is relevant to this study because it supports all the fundamentals of ERM which work together in a coordinated way. This study is pinned on coordination theory.

2.2.1 Contingency Theory

Contingency theory was founded back in the 1950s, by Fred Edward Fielder who postulated that in managing a situation or an organization, making decisions there exists no best way to, but rather a decision or action taken is largely depended on varied situations which include the internal and external factors within the firm (Otley, 2016). A firm's effectiveness will result from the balance of choices of course actions taken while handling a situation, which is the contingency, since the situation a firm is faced by is uniquely different from other firms caused by the interaction of both the internal and external factors (Donaldson, 2001).

The theory proposes that a properly aligning both the internal and external factors facing the firm, has a positive effect on its performance (Linton, 2014). According to Galbraith (1973, as cited in Linton, 2014) the basic underlying postulations of contingency theory are that; there is no best way manage.

The concept of contingency theory has been borrowed in various management levels and departments, in risk management, contingency theory has been adopted as a way to manage, make decisions by taking actions based on the balance of the interaction of the internal and external factors. In Customs Administration, risk management decisions are made entirely based on the situations at hand facing the Customs. Global competition and general market shifts have necessitated management risks such as operational and market risks (Nedaei, 2015).

Kaplan & Mikes (2015) asserts that the effectiveness of risk management is dependent on matching of the innate risk nature and controllable nature of risks a firm is faced with. Furthermore, effective risk management is contingent on or depends on the organization's context and circumstances (Kaplan & Mikes, 2015). Risks in customs are usually contingent and therefore the process of risk management should be contingent as well. External, strategy and preventable risks are contingent variables that should be dealt with through risk management in order to enhance customs compliance (Mikes & Kaplan, 2014). The contingency theory was the basis for conceptualizing that risk identification, risk analysis and risk treatments affect customs performance in Mombasa County, Kenya.

2.2.2 Prospect Theory

Prospect theory is a behavioral theory originally advanced in the year 1979 by Amos Tversky and Daniel Kahneman, explains the behavior of people while handling unknown probability based risk options. Decisions are made based on the possibility of either a loss or a gain instead of the anticipation of the final results, managers or decision makers arrive at these decisions using various heuristics. (Kahneman & Tversky & Kahneman, 1979). Kahneman and Tversky (1979) describe the decision process in two either editing or evaluating stages: the edit stage involves ordering decisions based on certain heuristic, therefore eliminating any chances of framing effects.

Prospect theory, smartly captures the experimental evidence on taking risks by individuals, which include documenting some breach of expected utility, it perfectly describes how individuals examine risk probabilities while making decisions (Barberis, 2013). The theory relies on basic assumptions which include; depended to refers, aversion of losses, declining sensitivity and probability measures.

The theory was founded on four assumptions namely; firstly, in prospect theory, it is assumed that people obtain utility through comparing the gains from a reference point; Secondly, it is assumed that people are oftenly sensitive to losses, even small losses, than to gains of equivalent measure (Barberis, 2013). The third assumption of diminishing sensitivity infers that, while replacing small amount loss or gain is more significant compared to a larger loss or gain replacement. Finally, it is also assumed that weighing of transformed possibilities is common rather than weighing of objectives (Barberis, 2013).

The original version of 1979 has been criticized by various researchers though its application in behavioral economics is beginning to bear fruit (Barberis, 2013). However, Tversky and Kahneman (1992) published a modified version of their theory the cumulative prospect theory which addressed the limitations of application only in gambling enabling it to be used in economic analysis (Barberis, 2013).

Prospect theory has also been criticized by Rosu (2009) who differed with the assumption of reference points and coding of outcomes. According to Rosu (2009), it is hard to find any weighting function satisfying conditions of prospect theory. Secondly, it is not clear how the theory can be generalized to simple lotteries of a different form from that of lotteries for which the theory is developed. Thirdly, the utility function in prospect theory cannot be used to compare directly two lotteries as one has to go through a complicated editing process. The prospect theory also formed the basis for conceptualizing that risk identification, risk analysis and risk treatments affect customs perfomance in Mombasa county, Kenya.

2.2.3 Coordination Theory

Coordination theory was originally developed by Malone and Crowston in 1994. According to this theory, group action is analysed based on the actors acting interdependent activities, which may require different types of resources, in order to achieve goals. The theory is concerned with how coordination can occur in different kinds of systems (Crowston, 1997).

The proponents argued that the dependency and dependency management mechanisms are general (Crowston, Rubleske & Howison, 2004). The second contribution of the Malone and Crowston was when he analysed the group action based on actors who perform tasks which are inter dependent (Crowston, Rubleske & Howison, 2004). They described these activities as being reliant to the other, decision making, communication among others.

Applying the theory to the risk management process in customs, it is implied that the processes of identification, analysis and treatment of risk ought to be coordinated, both individually and severally, in order to achieve the goal of ensuring customs compliance. The coordination theory was the basis for conceptualizing that risk identification, risk analysis and risk treatments affect customs performance in Mombasa county, Kenya.

2.3 Conceptual Framework

The independent variables are risk identification, risk analysis and risk treatment. The dependent variable is customs compliance in Mombasa County, Kenya. The conceptual framework is shown in Figure 2.1

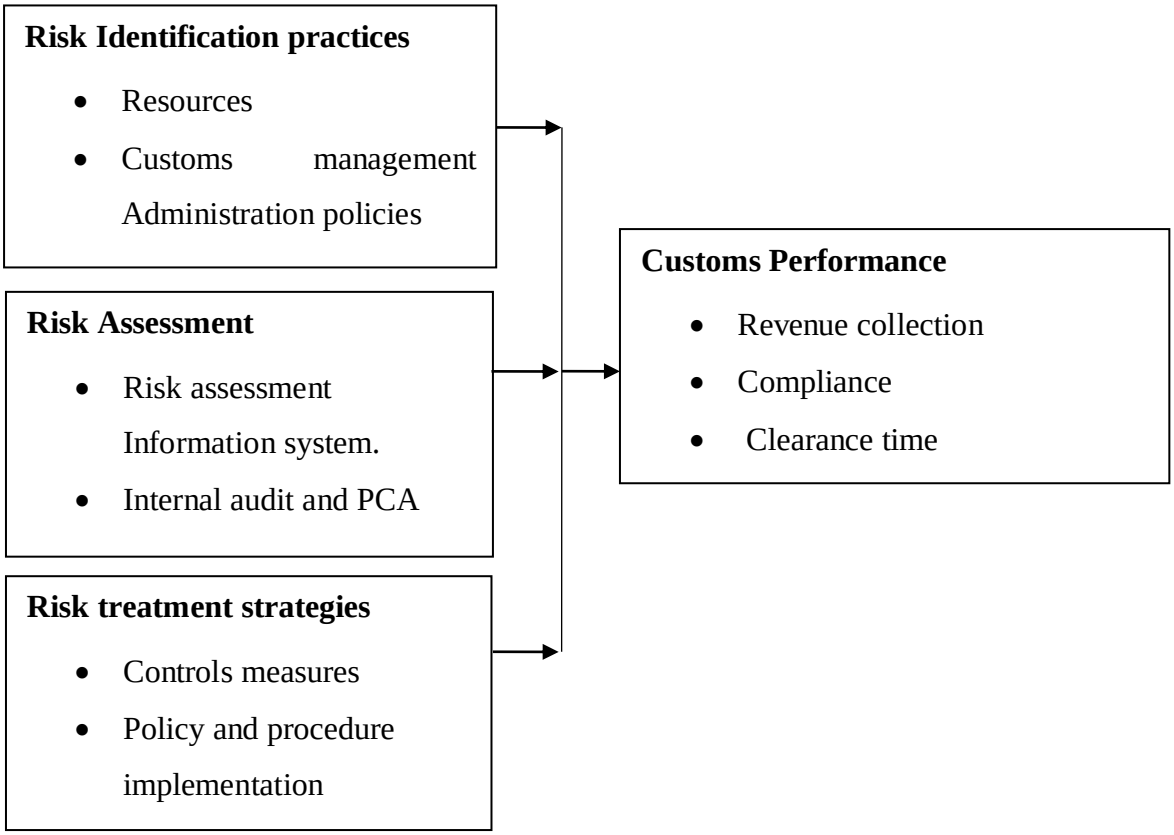


Figure 2.1:Conceptual Framework

Source: Researcher (2019)

2.4 Review of variables

2.4.1 Risk identification practices

The risk identification practices and procedures used by the Kenya Revenue Authority Customs and Border Control department. These risk identification practices and policies should minimize or eliminate ambiguity, discord, disagreements, and other vagueness as possible (Kersnar, 2009). The risk identification practices involve the activities carried out by an organization or an enterprise purposely to identify, collect information concerning the risks, occurrence, and possible effects.

Risk identification practices is largely dependent on the resources available to the organization, these resources ranging from human resources to equipment makes it possible for a firm to identify, or train its workforce towards identification of the risks associated in their practice. Management decisions towards the risk identification is also important aspect in this practice, an organization having a firm policy towards the risk management and training of its employees, equipping its work force with an up to date resources; materials and knowledge, will be able to manage and identify these risk factors and be able to collect vital information relating to the impending risks and be able to formulate strategies in time. (Florio and Leoni, 2017).

2.4.2 Risk Assessment

According to Drobot and Klevleeva (2016), outlines risk assessment as the second step of risk management, it involves the Determination of potential damage the risk may cause to customs, strengths and weaknesses of the control systems in place to determine gaps, determine of availability of data and its reliability (JICA, 2012). Risk analysis, likelihood and consequences of the identified risks are determined and analyzed. Risk evaluation and prioritization, levels of each risk are considered to evaluate and prioritize the major risks that may require further analysis (Drobot and Klevleeva 2016).

Customs of today operates in a different environment compared to customs of yesteryears, most of the operations are risk based and are highly based on technology. The reason CBCD has not been left behind in this endeavour which is a critical component in supply chain. Many systems have been put in place for example ICMS, ITMS, SIMBA, and ASCYUDA.

As a rule of thumb, transmission of entries via Simba 2005 system are identifiable from a number coding which accounts for the time and the section dealing with the entry. These aides in risk profiling, taking into account the number of detections or occurrence of risks at a station or at the particular period in a year, this is made possible by the risk management information system which processes declarations based on information given while taking into account the profiles of importers, country of origin among other variables to code the entry as highly risky or low risk. Consignments, which require a thorough document review or physical examination, however this has been replaced by scanning and is very minimal. The system allocation proposes for necessary actions while color-coding, for instance, a Red code would mean 100% verification, Yellow Partial inspection while Green is direct release (KRA, Customs service departmental instructions, 2009).

2.4.3 Risk Treatment Strategies

The risk treatment strategies will involve the control measures adopted by the authority and the implementation of the Authority's policies and procedures which are aimed at addressing the risks identified. Risk treatment involves Risk control which is a type of risk treatment which encompasses the implementation of the developed strategies, policies, actions, innovations aimed at managing the risk identified.

After risks have been analyzed, follows the risk treatment; Customs authorities should come up with an action plan to specifically counter or address the risks identified. Strategic and operational priorities as well as human, financial and technical resources have to be considered (Iordache & Voiculet, 2007). Low risks may be accepted. It is important to record the risk management plan and explain the reasons behind the adoption of the risk treatment plan or necessitated action taken. At this stage of risk treatment, when the firm has formulated an effective strategy to treat the identified risks, its important also to monitor the progress which will enable the firm to review the strategy either by modification on areas of short coming so as attain effective risk management (Drobot & Klevleeva, 2016)

2.4.4 Customs Performance

Customs performance is examined on the quantifiable metrics on quality and efficiency in the execution of the port duties (Bichou, Bell & Evans, 2014). Performance indicators in the scope of customs administration include factors such as; quality of service delivery, speeds in task

executions, perceived levels of efficiency, levels of technology integration and revenue collected Efficient customs department, notably is able to undertake momentous activities within the scope of port operations without experiencing any operational redundancies and mishaps Equally, the level of accountability in the customs operational framework demonstrates the performance yardstick in the execution of port operations. This indicates that, accountability factor is critical in determining customs activities operational standards The customs operations workforce is responsible for overseeing all the extensive activities within the scope of customs administration. Drobot and Klevleeva, (2016) observed that, the competency levels in customs tasks execution offered an important indicator which can be used to evaluate the quality service in port operations. The customs labor force is expected to demonstrate skillfulness in performing their duties, through demonstrating high levels of agility and prowess in the use of tools and equipment in performing their duties as it affects the overall customs operational productivity and performance (Rastogi & Arvis, 2014).

Revenue collection is the main responsibility of customs departments. The performance of Customs authorities is based on their ability and effectiveness in revenue collection. Revenue collection can be improved by the use of information technology, to reduce the costs associated with payment of taxes (Wanjohi & Ndambiri 2017). Using technology reduces the hassle of paying taxes, while widening the tax net to increase revenue collected by customs department. By automating revenue collection processes, increased taxpayers identification, collaboration between government agencies and all private firms, tax revenues can be increased considerably.

2.5 Empirical Review

A lot of studies have been conducted to investigate the enterprise risk management, Mwangi (2010) did a study on enterprise risk management effects on commercial banks, and established that the risk management activities positively influences the financial performance of the firm, he further concluded that these practices differ on the way they improve performance with some being greater than others.

Hinta (2011) noted that during the Customs audits, a lot of attention should be given to the quantification of acceptable risk per traders and collection and sharing of risk related data. Risk analysis provides valuable information to decision-makers on whether and how risks under consideration need to be treated, as well as the available and most appropriate treatment

possibilities. The two essential risk elements are the probability that something will happen and the consequences if it happens. Both elements define the importance of specific risk for customs administrations. The importance of the risk and associated risk level are the highest if the probability of an event to happen, and the negative consequences of this event are both high. Customs risk is the potential for non-compliance with customs laws. Anything that prevents a customs administration from achieving its objectives would be considered the main risk (Zivkovic & Sutevski, 2018).

Lubano (2011) studied the strategic risk management practice by Kenya Revenue Authority, the researcher established there was a strong relationship between the risk management and the organization mission, there exist a structured and well documented risk management approach, there was a link between the strategic plan and an understanding of all organizational risks, there is a risk implementation team in the organization. He emphasizes that organizations should formulate risk management practices in order to mitigate innumerable risks facing them.

ERM is a very important process during capital allocation, Kimitei (2017) did a research on effect of enterprise risk management on capital allocation among insurance companies in Kenya, and revealed that revenue, net liquid assets, underwriting loss/profits, and credit risk exposure and market risk exposure had a significant effect on the allocation of capital among insurance companies.

Odum (2014) carried a study on enterprise risk management among commercial bank. The study concluded that implementation of an ERM program may improve a firm's image or goodwill which is most felt in the long-term. The study also highlighted that ERM adoption tends to occur during a period in which various reputation measures tend to be decreasing, suggesting the commercial banks may be implementing ERM as a response to a decline in corporate fortunes.

2.6 Critique of Existing Literature Relevant to the Study

The study by Lubano (2011) regards risk management measures adopted by the Kenya Revenue Authority. It recommends stringent measures to address risks that are inherent to the functions of the Kenya Revenue Authority. The study supports strategic measures to identify and document all known as well as anticipated risks that might compromise efforts by the Kenya Revenue Authority to attain its goals. Although this study is useful to inform risk management, it presents a simple generalization of risk management to all departments at the Authority. It is notable that the different departments at the Authority experience different risks. Customs and border control departments' risk factors may differ from that of the Domestic Taxes Department. This necessitates measures that are responsive to the customs and border control department at the Authority.

Mwangi (2010) did a study on enterprise risk management effects on commercial banks, and established that the risk management activities positively influences the financial performance of the firm, he further concluded that these practices differ on the way they improve performance with some being greater than others.

In a study conducted by Wanjohi & Ndambiri (2017) on the effect of financial risk management on the financial performance of Kenyan Commercial Banks, the findings indicated that most of the Kenyan commercial banks always practice the financial risk management, which were found to have a positive impact on the financial performance of these banks. The researchers using a descriptive research design with a target population of 44 banks, they concluded risk measurement practice has the major influence, or is a major determinant of the firm's financial performance followed by risk mitigation practice.

2.7 Research gaps

A lot of studies have been undertaken specifically on enterprise risk management both locally and internationally. Most of the studies undertaken focused on the effects of enterprise management on financial institutions. Mwangi (2010) did a study on enterprise risk management effects on commercial banks, while Wanjohi & Ndambiri (2017) conducted a study on the effect of financial risk management on the financial performance of Kenyan Commercial Banks. However, the studies focused mostly on commercial banks and none focused on performance of

customs. This study sought to fill the research gap by studying the effects of enterprise risk management on customs performance.

2.8 Summary

Literature review has taken an in-depth study of related empirical studies done in the past and relevant theories by other scholars and researchers on the enterprise risk management. The research adopted contingency theory, coordination theory, prospect theory whereby they explained reasons why firms adopt enterprise risk management. The theories put forward explanations to how organizations were able to mitigate loses hence adoption of risk management measure to control any anticipated loss for happening of the identified events. The empirical review was done where a number of studies explain the effects of enterprise risk management adoption to firm's performance. The chapter has critically reviewed the literature with the goal of finding gaps in knowledge with the aim of justifying the current study. A conceptual framework was developed to act as the guiding model in order to answer the research questions in this study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents discussions on step by step procedures that will be followed in addressing the research problem. In the chapter, research design, study population, sampling technique and sample size, data collection techniques, pilot testing of data collection instrument, data collection, analysis and processing are also presented.

3.2 Research Design

The research used a descriptive design. This provided for a quick and ensure accuracy and efficiency during accessing of the information, as well as provision of meaningful picture of events. Descriptive study describes the behavior or characteristics of a group to determine the relationships that exist between different factors and establish statistical relationships based on quantitative measures of two or more parameters (Goertz & Mahoney, 2012).

3.3 Population

Population consists of all individuals or objects the researcher is interested in and to which the study results are applied. It is an abstract idea of a given group which has observable characteristics from which a sample is drawn (Kumar, 2011). The population was 200 customs officers, of Customs and Border Control working at the port in Mombasa.

Table 3:1 Population

Category	**Target Population**	**Percentage**
Managers	15	7.5
Supervisors	50	25
Officers	135	67.5
Total	**200**	**100%**

Source: KRA Human Resource Southern Region (2018)

3.4 Sampling Frame

Cooper and Schindler (2014) defines a sample frame as a list from which the sample is actually drawn, the researcher is guided by the Southern Region Human Resource staff establishment

whereby 200 customs officers of the Customs and Border Control based at the Port of Mombasa shall be the sample frame.

3.5 Sample and Sampling Technique

Stratified random sampling approach was adopted in the study, where the population was divided into different stratum; Managers, Supervisors and Officers. The study population consisted of officers working at the Port in Mombasa. Two hundred (200) staff were sampled. The researcher used slovin's formula to compute the sample size;

$$\mathbf{n} = \frac{N}{1 + N(e)^2}$$

n = sample size,

N is the population size,

e is the level of precision. 95% level of confidence was used which gives p = 0.05 chance of deviation from the actual. The equation is therefore;

$$\mathbf{n} = \frac{200}{1 + 200\ (0.05)^2}$$

n = 133

Table 3:1 Sampling Size

Category	**Target Population**	**66.5% Sample size**
Managers	15	10
Supervisors	50	34
Officers	135	89
Total	200	133

3.6 Data Collection Instruments

The study relied on primary data, using a structured questionnaire on a likert scale of 1-5, which was be collected through a self-administered method. According to Khan (2014), questionnaires save time and are economical to administer. A questionnaire was ideal because it is easy to administer and to analyze using SPSS (Brace, 2013).

3.7 Data Collection Procedure

According to Ader, et al (2008) questionnaires are relatively easy and economical to administer for the simplest designs hence the reason they were employed. The researcher will first obtain the letter of introduction before conducting a pilot study. After conducting the pilot study, permission for data collection for the actual study from the Kenya school of revenue administration at KRA will be sought. The respondents will be informed about the purpose of the study before questionnaires are delivered to them. Afterwards, the research questionnaires will be delivered and distributed in person to the participants and collected immediately once they were duly filled. Respondents who will not able to provide data will be given a duration within which the questionnaires will be required to be filled up and follow ups will be made.

3.8 Pilot Testing

A pilot study will be conducted to test the reliability of the research questionnaire and also ensure its validity. A sample of 10% of the study sample is sufficient for piloting the research questionnaire (Kothari, 2004). Hence, a sample of 14 respondents will participate in pre-testing the research questionnaire. Piloting helps in revealing questions that are vague so that they are reviewed until they convey the same meaning to all the subjects. The questionnaire was revised according to the findings of the pilot test. The revised research questionnaire was then used in the actual study (Adams, Khan, Raeside, & White, 2007; Khan, 2014).

3.8.1 Validity

Validity is upheld when the instrument measures what it is intended to measure, this is determined as the degree where measuring instrument measures what it is supposed to. Face validity and content validity of the research questionnaire was ensured through consultations with the research supervisor. Face validity safeguards the logic of the research question to the research objectives. Content validity focuses on the scope of what is measured (Kumar, 2014).

3.8.2 Reliability

Reliability estimates the internal consistency of the measurement the degree to which to an examination measure gives a steady assessment of an idea (Adams, Khan, Raeside, & White, 2007; Khan, 2014). Cronbach's alpha was adopted to test the reliability, whereby the cronbach's alpha of above 0.70 is considered sufficient to rule that the instrument is reliable (Sreevidya & Sunitha, 2011).

3.9 Data Analysis

Data Analysis involved the coding, correction and summarising of the collected data to enable computation of measures of dispersion and measures of central tendency through the application statistical techniques (Cooper and Schindler, 2014). Frequencies, percentages, means and standard deviations will constitute the descriptive statistics that will be used by the study. A correlation and regression analysis will be conducted to measure the relationship between variables. The results of statistical analysis will be presented in tables, Statistical Package for Social Science (SPSS) version 25. SPSS will be used.

3.9.1 Linear regression Model

The multiple regression model that will be adopted is depicted in Equation below.

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where; **Y** represents Customs performance

$\boldsymbol{\beta_0}$ = Constant

$\boldsymbol{\varepsilon}$ = error term

$\boldsymbol{\beta_1}$, = Coefficient of variable 1

$\mathbf{X_1}$ =Risk identification practices

$\boldsymbol{\beta_2}$ = Coefficient of variable 2

$\mathbf{X_2}$ =Risk assessment

$\boldsymbol{\beta_3}$= Coefficient of variable 3

$\mathbf{X_3}$ =Risk treatment Strategies

$\boldsymbol{\beta_0}$-**Y** intercepts the constant. The level of risk when $\mathbf{X_1, X_2, X_3 = 0}$

$\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$, $\boldsymbol{\beta_3}$-Coefficients determining the levels of $\mathbf{X_1, X_2}$ **and** $\mathbf{X_3}$ on how they affect **Y**

$\boldsymbol{\varepsilon_0}$- Other factors outside the model which the researcher did not consider into but can affect efficiency(**Y**)

CHAPTER FOUR
RESEARCH FINDINGS

4.1 Introduction

This chapter outlines the results for response rate, pilot testing, demographic analysis, variable analysis, correlation analysis, regression analysis and their interpretations.

4.2 Response rate

The researcher computed the response rate of the questionnaire received versus the questionnaires that were issued. The findings indicate that out of 133 questionnaires issued, 91 were returned making the response rate at 68.4%. According to Adams, Khan, Raeside, & White (2007), a response rate of 60% was adequate representation.

Table 4:1 Response rate

	Response rate	Percentage %
Respondents	91	68.4%
Non-respondents	42	31.6%
Total	133	100.0%

4.3 Pilot results

The researcher conducted Pilot study to test reliability and validity of the collection instrument, the pilot results are presented in the table below.

Table 4:1 Reliability Results

Scale	**Cronbach's Alpha**	**Items Tested**	**Comments**
Risk identification practices	0.781	5	Accepted
Risk Assessment	0.804	5	Accepted
Risk Treatment Strategies	0.759	5	Accepted
Customs Performance	0.771	5	Accepted

Reliability is a measure of an instrument's internal consistency, the degree to which to an examination measure gives a steady assessment of an idea (Adams, Khan, Raeside, & White, 2007; Khan, 2014). From the results obtained, Risk identification practices had a Cronbach alpha of 0.781, Risk Assessment having 0.804, Risk Treatment Strategies had an index of 0.759 while Customs Performance an index of 0.771. all the variables had an index above 0.700, according to Sreevidya & Sunitha (2011) coefficient above or equal to 0.70 is considered sufficient to rule that the instruments are reliable.

4.4 Demographic analysis

The researcher sought to examine and analyse the demographic characteristics of the respondents relating to the study, the analysis focussed on areas such as highest level of education of the respondents and work experience.

4.4.1 Highest level of education

The researcher wanted to know the respondents' highest level of education so as to ascertain if the opinions expressed were quality in relation to the study.

Table 4:1 Level of Education

Level of Education	**Frequency**	**Percentage %**
Secondary	3	3.3%
Post-secondary	14	15.4%
Graduate	45	49.5%
Master's degree	29	31.8%
Total	**91**	**100.0%**

The finding from the table 4.3 above indicates that most of the respondents were graduates with 49.5%. Respondents who held master's degree were 29 in number translating to 31.8%. 15.4% of the respondents had post-secondary education. Lastly, the results indicated only 3% of the respondents had only secondary education. This indicated that the respondents had adequate education to make informed decisions.

4.4.2 Cadre

The study wanted to establish the respondent cadre in the organization so as to determine the impact of position to the study.

Table 4:2 Working Position

Working Position	**Frequency**	**Percentage %**
Manager	5	5.5%
Supervisor	27	29.7%
Officer	59	64.8%
Total	**91**	**100.0%**

The table 4.4 above shows results of respondents' cadre. Most of the respondents worked as officers with 64.8%, followed supervisors at 29.7% and managers were 5 in number translating to 5.5%.

4.4.3 Work Experience

The study sought to investigate the respondents' experience. This was to establish whether the respondents had enough experience to impact on this study.

Table 4:3 Work Experience

Working Experience	**Frequency**	**Percentage %**
Below 2 years	4	4.4%
2-5 years	16	17.6%
6-10 years	43	47.2%
Above 10 years	28	30.8%
Total	**91**	**100.0%**

From the findings in table 4.5 above, most of the respondents had experience of 6-10 years, with 47.2% followed by respondents with experience of above 10 years with 30.8%. Respondents with 2-5 years were 17.6% and the least were those with below 2 years with 4.4%.

4.5 Variable analysis

4.5.1 Risk Identification Practices

Table 4:1 Risk Identification Practices

Statements	Mean	STD Dev
The Customs Department has adequate resources for risk identification at the port of Mombasa.	**3.725**	**1.103**
Sources of risks and the persons likely to incur risks are usually defined, the likely time of incurrence of risk is usually defined	**4.018**	**1.029**
Customs officers at the port of Mombasa are well equipped with an up to date resources materials and information systems to facilitate efficient risk management	**4.012**	**0.894**
To increase the breadth of identified risks, the strengths and weaknesses of the organization are analyzed	**3.946**	**1.094**
The department has firm policies on continuous training and seminars for officers to equip them with newer risk identification strategies globally	**4.015**	**0.934**

The respondents were in agreement with statement that The Customs Department has adequate resources for risk identification at the port of Mombasa with a mean score of 3.725 and standard deviation of 1.103. they also agreed on the statement that Sources of risks and the persons likely to incur risks are usually defined, the likely time of incurrence of risk is usually defined. The results also indicate that the respondents in the study agreed that Customs officers at the port of Mombasa are well equipped with an up to date resources materials and information systems to facilitate efficient risk management with a standard deviation of 0.894 to the mean score of 4.012. The statement to increase the breadth of identified risks, the strengths and weaknesses of the organization are analysed, the respondents were in agreement with a mean of 3.946 and a standard deviation of 1.094. The department has firm policies on continuous training and seminars for officers to equip them with newer risk identification strategies globally having a mean of 4.015 with a standard deviation of 0.934. these findings are in tandem with Simmons (2000) that Management decisions towards the risk identification is also important aspect in this practice, an organization having a firm policy towards the risk management and training of its employees, equipping its work force with an up to date resources.

4.5.2 Risk Assessment

Table 4:2 Risk Assessment

Statements	Mean	STD Dev
The likelihood of specific risks occurring is usually examined, the potential consequences of occurrence of risks is usually analyzed by experienced analysts.	**3.705**	**1.018**
Customs risk management system includes a central office responsibility for controlling risk assessments	**3.629**	**0.982**
People who understand the risks faced are usually involved in assessing probability and impact of occurrence of risks	**3.421**	**1.131**
Risk levels are usually estimated with the use of Customs Risk management information systems in order to determine whether to accept risks or take further actions using the color codes.	**4.181**	**0.891**
A reliable risk assessment criteria and strategies, based combinations of risk probability and impact, has been put in place to determine risk levels	**3.976**	**1.102**

The findings indicate that the respondents were in agreement with statement that The likelihood of specific risks occurring is usually examined, the potential consequences of occurrence of risks is usually analysed by experienced analysts with a mean of 3.705 and a standard deviation of 1.018. The statement that Customs risk management system includes a central office responsibility for controlling risk assessments had a mean was 3.629 with a standard deviation of 0.982, indicating positive response from the respondents. The respondents were in agreement with statement People who understand the risks faced are usually involved in assessing probability and impact of occurrence of risks with a mean of 3.421 and a standard deviation of 1.131. With a mean of 4.181 and 0.891, the respondents greatly agreed that Risk levels are usually estimated with the use of Customs Risk management information systems in order to determine whether to accept risks or take further actions using the colour codes. A reliable risk assessment criteria and strategies, based combinations of risk probability and impact, has been

put in place to determine risk levels a mean response of 3.976 with a standard deviation of 1.102. Risk evaluation & prioritization, levels of each risk are considered to evaluate and prioritize the major risks that may require further analysis (Drobot and Klevleeva 2016).

4.5.3 Risk Treatment Strategies

Table 4:3 Risk Treatment Strategies

Statements	Mean	STD Dev
The authority at the port of Mombasa usually adopts sound and timely policies and procedures which are aimed at addressing the risks identified.	**3.948**	**1.049**
The risk management plan adopted are recorded and justification for the adoption of the risk treatment plan or necessitated action taken during risk treatment	**3.871**	**1.071**
The declarations and supporting documents usually compared against the information in risk profiles Risks of low priority are usually accepted and monitored	**4.012**	**0.827**
Customs administration at the port of Mombasa has come up with an action plan to specifically counter or address the risks identified in the current and near future.	**3.738**	**1.139**
Continuous and Regular risk monitoring while addressing the identified risks at the port of Mombasa is conducted by the customs department.	**3.977**	**1.165**

The findings indicate that the respondents were in agreement with the statement that The authority at the port of Mombasa usually adopts sound and timely policies and procedures which are aimed at addressing the risks identified with a mean of 3.948and a standard deviation of 1.049. For the statement that The risk management plan adopted are recorded and justification for the adoption of the risk treatment plan or necessitated action taken during risk treatment, the respondents agreed with it with a mean of 3.871 and a standard deviation of 1.071. The respondents were in agreement that The declarations and supporting documents usually compared against the information in risk profiles Risks of low priority are usually accepted and monitored by a mean of 4.012 and a standard deviation of 0.827. For the statement that Customs

administration at the port of Mombasa has come up with an action plan to specifically counter or address the risks identified in the current and near future had a mean of 3.738 and standard deviation of 1.139. its important also to monitor the progress which will enable the firm to review the strategy either by modification on areas of short coming so as attain effective risk management (Drobot & Klevleeva, 2016). they further agree on the statement that Continuous and Regular risk monitoring while addressing the identified risks at the port of Mombasa is conducted by the customs department with a mean of 3.977 and standard deviation of 1.165. Strategic and operational priorities as well as human, financial and technical resources have to be considered (Iordache & Voiculet, 2007).

4.5.4 Customs Performance

Table 4:4 Customs Performance

Statements	Mean	STD Dev
Revenue collection in customs performance has improved due to the effective risk management at the port of Mombasa.	**4.162**	**0.875**
The appropriate and effective risk treatment strategies have improved the Traders compliance at the port of Mombasa.	**3.957**	**1.103**
The performance of Customs authorities is based on their ability and effectiveness in revenue collection.	**3.853**	**1.005**
Experience and effective labor force have led to improve customs performance. Quality and service delivery is efficient	**3.732**	**0.928**
Revenue collection has improved due to the use of information technology in risk management therefore the Level of accountability has improved	**4.121**	**0.995**

The respondents were in agreement that Revenue collection in customs performance has improved due to the effective risk management at the port of Mombasa with a mean of 4.162 and a standard deviation of 0.875. The results indicate that the appropriate and effective risk treatment strategies have improved the Traders compliance at the port of Mombasa with a mean of 3.957 and a standard deviation of 1.103. For The performance of Customs authorities is based on their ability and effectiveness in revenue collection, a mean of 3.853 and a standard deviation

of 1.005 was achieved showing that the respondents agreed to the statement. Experience and effective labor force have led to improve customs performance. Quality and service delivery is efficient statement results posted a mean of 3.732 and standard deviation of 0.928. the respondents agree with the statement that Revenue collection has improved due to the use of information technology in risk management therefore the Level of accountability has improved with a mean of 4.121 and a standard deviation of 0.995. these findings are in tandem with Richards (2017) that Performance indicators in the scope of customs administration include factors such as; quality of service delivery, speeds in task executions, perceived levels of efficiency, levels of technology integration and revenue collected.

4.6 Correlation analysis

The researcher conducted correlation analysis to find out the relationship between the independent variables and the dependent variable.

4.6.1 Karl Pearson's Correlation

Table 4:1 Karl Pearson's Correlation

Pearson Correlation Correlations					
Model		Risk_ identification practices	Risk_ Assessment	Risk_ treatment_ strategies	Customs_ Performance
Risk_ identification_ practices	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	91			
Risk_ Assessment	Pearson Correlation	.398**	1		
	Sig. (2-tailed)	.000			
	N	91	91		
Risk_ treatment_ strategies	Pearson Correlation	.575**	.618**	1	
	Sig. (2-tailed)	.000	.000		
	N	91	91	91	
Customs_ Performance	Pearson Correlation	.679**	.649**	.739**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	91	91	91	91

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

The results from the Karl Pearson's Correlation Analysis indicate that the correlation figure between risk identification and customs performance was 0.679 this indicated there was a strong positive correlation. A strong positive relationship between the risk identification strategies towards the Customs performance, implying that these risk identification strategies adopted by the customs strongly influence the customs performance.

The Coefficient r explaining the relationship between the Risk assessment and Customs performance r= 649, which indicates a strong positive relation between the variables. This infers that the risk assessment strategies by customs have a strong influence on the customs performance.

Risk treatment strategies and customs performance had a strong positive correlation of 0.739. this implies that Risk Treatment strategies adopted by customs have a very strong influence on the customs performance. This was in tandem with Drobot & Klevleeva (2016) that risk treatment strategies are very important in determining the performance of a firm. Correlation is significant at the 0.01 level (2-tailed) for all the variables implying that the model is statistically significant to predict the relationship between the dependent and independent variables, therefore to predict the effect of enterprise risk management on customs performance at the Port of Mombasa, Kenya.

4.7 Regression Analysis

To further understand the relationship between the dependent and independent variables further multiple regression analysis was conducted.

4.7.1 Coefficient of Determination (R^2)

With an aim of discovering the extent to which the dependent variable affects the independent variable, coefficient of determination was used.

Table 4:1 Coefficient of Determination (R2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 [a]	**.693**	**.683**	**1.82683**

a. Predictors: (Constant), Risk_ treatment_ strategies, Risk_ identification_ practices, Risk_ Assessment

The R Square explains the variation of the dependent variable which is attributable to the independent variables under study, whereas R represents a simple correlation between variables. The R which indicates simple correlation shows there is high degree of correlation of 0.833. From the table 4.11 above, R^2 was 0.683 meaning the independent variables which were risk treatment strategies, risk identification practices and risk assessment explained 69.3% variation in the customs performance. Adjusted R^2 at 0.683 which indicates how well a model can be used to generalize a population shows the high predictability of the dependent variables by the independent variables.

4.7.2 Analysis of Variance

Analysis of variance is used to explain the significance of the regression model employed in a study.

Table 4:2 Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	**655.765**	**3**	**218.588**	**65.499**	**.000[b]**
	Residual	**290.344**	**87**	**3.337**		
	Total	**946.110**	**90**			

a. Dependent Variable: Customs_ Performance

b. Predictors: (Constant), Risk_ treatment_ strategies, Risk_ identification practices, Risk_ Assessment

The results from the 4.12 above shows that the model was signification with F=65.499 and P<0.05. This implies that the regression model employed was statistically significant at

explaining and forecasting variations in customs performance cause by independent variables; risk treatment strategies, risk identification and risk assessment.

4.7.3 Coefficients

The researcher also adopted the use of multiple regression analysis to check the main determinants

Table 4:1 Regression coefficient

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.828	1.108		3.455	.000
	Risk_ identification_ practices	.313	.063	.361	4.968	.000
	Risk_ Assessment	.237	.062	.287	3.787	.000
	Risk_ treatment_ strategies	.305	.073	.354	4.170	.000

a. Dependent Variable: Customs_ Performance

Table 4.13 above indicates multiple regression analysis of the independent variables; Risk Identification Practices, Risk Assessment and Risk Treatment Strategies to the independent variable the Customs Performance.

The linear regression model that was adopted by the researcher is:

$Y=\beta 0 +\beta 1X1+\beta 2X2+\beta 3X3+\varepsilon$

Where; Y represents Customs performance,

There the equation $Y=3.828 +0.313X1+0.237X2+0.305X3+\varepsilon$

Y=3.828 +0.313(Risk Identification Practices) +0.237 (Risk Assessment) +0.305 (Risk Treatment Strategies) + ε (Other variables not included in the study but affect performance)

The y intercept in the model is given by β0=3.828 which represents the customs performance when all other variables are at zero, this implies that there still exists performance even when other variables are nonexistence.

Risk identification strategies X1 from the model is 0.313, therefore a unit increase in the Risk identification strategies results to an improvement in the customs performance by 0.313. it is sufficient to infer that Risk identification strategies affects the customs performance by 31.3%. an Improvement in the risk identification strategies will result to improvement in the customs performance by 31.3%.

Risk Assessment represented by X2 from the model, X2= 0.237 whereby a unit increase in Risk Assessment will result to an improvement in the Customs Performance by 0.237, then Risk Assessment affects customs performance by 0.237. improvement in Risk Assessment will result to a 23.7% improvement on the Customs Performance.

Risk Treatment Strategies were found to affect the customs performance by 0.305, inferring that a unit increase in Risk Treatment Strategies results to improvement in Customs Performance by 30.5%.

The error term used to denote variables which are influence of enterprise risk management on customs performance at the Port of Mombasa, but not included in the study. The model significance levels are within the minimal levels of below 0.05 whereby all variables have 0.000, indicating that the model is statistically significant to explain the relationship between the independent and dependent variables.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND FINDINGS

5.1 Introduction

The chapter represents the discussions on the summary of findings, conclusions and recommendations. The areas of further research study are also presented in the chapter.

5.2 Summary of findings

5.2.1 Risk Identification Practices

What is the effect of risk identification practices on customs performance at the Port of Mombasa, Kenya?

The researcher found out that Risk identification strategies have a significant effect on Customs Performance at the port of Mombasa, these findings were arrived from the descriptive analysis and the correlation analysis whereby, results from the Karl Pearson's Correlation Analysis indicate that the correlation figure between risk identification and customs performance was 0.679 this indicated there was a strong positive correlation. A strong positive relationship between the risk identification strategies towards the Customs performance, implying that these risk identification strategies adopted by the customs strongly influence the customs performance. This concurs with (Florio and Leoni, 2017) findings that firms with well laid down policies levels of ERM implementation records higher performance, both as financial performance and market evaluation". From the Linear regression model, Risk identification strategies affects the customs performance by 31.3%. an Improvement in the risk identification strategies will result to improvement in the customs performance by 31.3%.

5.2.2 Risk Analysis Practices

What is the effect of risk analysis practices on customs performance at the Port of Mombasa, Kenya?

The risk analysis practices adopted by the customs at the port of Mombasa have a strong positive effect on the customs performance. The correlation Coefficient r explaining the relationship between the Risk assessment and Customs performance r= 649, which indicates a strong positive relation between the variables. This infers that the risk assessment strategies by customs have a

strong influence on the customs performance. Further analysis from the linear regression supported the findings that Risk Assessment affects customs performance by 0.237. Improvement in Risk Assessment will result to a 23.7% improvement on the Customs Performance.

5.2.3 Risk Treatment

What is the effect of risk treatment on customs performance at the Port of Mombasa, Kenya?

Risk Treatment strategies has a very strong effect on the performance of the Customs at the port of Mombasa. Risk treatment strategies adopted by customs have a very strong influence on the customs performance. This was in tandem with Drobot & Klevleeva (2016) that risk treatment strategies are very important in determining the performance of a firm. While using the linear regression analysis, risk treatment strategies were found to affect the customs performance by 0.305, inferring that a unit increase in Risk Treatment Strategies results to improvement in Customs Performance by 30.5%.

5.3 Conclusion

The study was guided by general objective to establish the effect of enterprise risk management on customs performance at the Port of Mombasa, Kenya. The study therefore concludes that the Enterprise risk management has a positive effect on the Customs performance at the port of Mombasa.

With the first specific objective of analysing the effect of risk identification practices on customs performance at the Port of Mombasa, Kenya. The findings indicated there exists a strong positive effect on the Risk identification strategies on the customs performance at the port of Mombasa.

The second specific objective aimed at determining the effect of risk analysis practices on customs performance at the Port of Mombasa, the researcher concludes that Risk analysis have a strong effect on the customs performance at the port of Mombasa.

With the third objective seeking to establish the effect of risk treatment on customs performance at the Port of Mombasa, Kenya. The researcher findings indicated that the Risk Treatment strategies adopted have a positive effect on customs performance at the port of Mombasa.

5.4 Recommendations

From the findings, the researcher recommends on the following

i. More resources should be allocated towards risk identification procedures to Advance the performance risk management department.

ii. Interconnectivity of risk assessment information systems with other Partner Government Agencies so as to improve the assessment of risks.

iii. More and efficient risk control measures should be employed which are backed by a sound and strong Risk treatment policies.

5.5 Areas for further research

The researcher sought to examine the effect of enterprise risk management on customs performance at the Port of Mombasa, Kenya. The researcher investigated three independent variables which include; Risk identification Practices, Risk Assessment and Risk Treatment strategies on their effect on customs performance. From the model obtained, the Coefficient of determination indicated that only 69.3% of variation in the customs performance is attributable to the independent variables studied, the rest 30.7% variation of customs performance is explained by other variables not under study. The researcher recommends further research on the rest of these factors or the effects of the enterprise risk management on the customs performance.

REFERENCES

Abrams, C., von Kanel, J., Mueller, S., Pfitzmann, B., & Ruscha-Taylor, S. (2007). Optimized enterprise risk management. *IBM Systems Journal, 46*(2), 219-234.

Adams, J., Khan, T., Raeside, R., & White, D. (2007). *Research methods for graduate business and social science students.* London, United Kingdom: SAGE Publications Ltd.

Adèr, H. J., & Mellenbergh, G. J. (2012). *Research methodology in the life, behavioural, and social sciences.* London: SAGE Publications.

Akwiri, J. (2016). *Kenya replaces Mombasa port management amid smuggling probe.*

AON. (n.d.). *Global risk management survey 2009.* London, England: Author.

Barberis, C. (2013). Thirty years of prospect theory in economics: A review and assessment. *Journal of Economic Perspectives, 27*(1), 173-196.

Bell, J. (2014). *Doing your Research Project: A guide for first time researchers* (6th ed.). Berkshire, United Kingdom: McGraw-Hill Education.

Berezhniuk, I. H. (2014). *Risk management in customs: Foreign experience and domestic practice.* Khmelnytskyi: Vydavets A. A. Melnyk.

Bichou, K., Bell, M. G., & Evans, A. (2014). *Risk management in port operations,logistics and supply-chain security.* London: Informa.

Bicimseven, B. (. (2010). Organization wide customs risk management within the framework of enterprise risk management.

Biljan, J., & Trajkov, A. (2012). Risk management and Customs performance improvements: The case of the Republic of Macedonia. *Procedia - Social and Behavioral Sciences, 44*, 301-313.

Brace, I. (2013). *Questionnaire design: How to plan, structure and write survey material for effective market research.* London, United Kingdom: Kogan Page Ltd.

Cooper, D., & S. P. (2014). *Business Research Methods. 12th ed.* McGraw-Hill International.

Crowston, K. (1997). A coordination approach to organizational process design. *Organization Science, 8*(2), 157-175.

Crowston, K., & Kammerer, E. (1998). Coordination and collective mind in software requirements development. *IBM Systems Journal, 37*(2), 227–245.

Crowston, K., Rubleske, J., & Howison, J. (2004). *Coordination theory*. Syracuse, USA: Syracuse University.

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

Donaldson, L. (2001). *The contingency theory of organizations: Foundations for organizational science*. Carlifonia: Sage Publications, Inc.

Drobot, Elena & Klevleeva, Aziza.(2016).*Risk management in customs control*, MPRA paper 71677, University Library of Munich, Germany.

Fei, T. (2015). *Compliance risk measurement in global supply chain: A study in food import in EU*. Unpublished MSC. Thesis. Delft University of Technology, Delft, Netherlands.

Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *The British Accounting Review*(49), 1.

Francis, S., & Paladino, B. (2008). Enterprise risk management: A best practice approach. *The Journal of Corporate Accounting and Finance,* 19-33

Fraser, J.R.S., & Simkins, B.J. (2007). Ten common misconceptions about enterprise risk management. *Journal of Applied Corporate Finance, 19*(4), 75-81.

Goertz, G., & Mahoney, J. (2012). *A tale of two cultures: Qualitative and quantitative research in the social sciences.* Princeton, New Jersey, United States: Princeton University Press.

Hammadi, L., Ouhman, A. A., & Ibourk, A. (2014). Risk management and security practice in customs supply chain: Application of cross ABC method to the Moroccan customs. *International Scholarly and Scientific Research & Innovation, 85*(5), 1586-1596.

Harrison, M. (2007). *Challenges for customs*. Annual conference on APEC centres, Melbourne, Australia.

Hintsa, J. (2011). *Post-2001 supply chain security-impacts on the private sector* (Unpublished doctoral thesis). HEC University of Lausanne, Lausanne, Switzerland.

Iordache, E., & Voiculet, V.A. (2007). Customs risk management in the European Union. *The Romanian Economic Journal, 25*, 55-72.

Japan International Cooperation Agency. (2012). *Intelligence Analysis (IA) Handbook for Customs Administrations in East Africa Region. (2012 Ed.).* Nairobi: Kenya.

Kahneman, D., & Tversky, A. (1979). *Prospect theory: An analysis of decision under risk. Econometrica, 47*(2), 263-91.

Kaplan, R. & Mikes, A. (2015). When one size doesn't fit all: Evolving directions in the research and practice of enterprise risk management. *Journal of Applied Corporate Finance, 27*(1).

Kenya Revenue Authority. (2015). *Sixth Corporate Plan 2015/16-2017/18.* Nairobi: KRA.

Kenya Revenue Authority. (2017). *Customs and Border Control Profile*. Retrieved from http://www.kra.go.ke/index.php/about-kra/customer-service-directory/customs-services

Kersnar, J. (2009), "Warning signs: why risk management is letting down companies and what to do about it", *CFO Europe Magazine*, No.2 February, pp.25-30.

Kiambati, K. (2016, August 2). *Corporate governance and enterprise risk management.* Retrieved February 8, 2019, from Nairobi Business Monthly: http://www.nairobibusinessmonthly.com/corporate-governance-and-enterprise-risk-management/

Kimitei, S. (2017). *The Effect of Enterprise Risk Management on Capital Allocation Among Insurance Companies in Kenya.* Retrieved May 6, 2019, from http://erepository.uonbi.ac.ke: http://hdl.handle.net/11295/102031

Kothari, C. R. (2011). *Research Methodology: Methods and Techniques* (2nd ed.). New Dellhi, India: New Age International Publishers.

KPA. (2016). *About us*. Retrieved October 3, 2017, from Kenya Ports Authority: https://www.kpa.co.ke/AboutUs/Pages/default.aspx

Kumar, R. (2014). *Research methodology: A step-by-step guide for beginners* (4th ed.). Thousand Oaks, Carlifonia: SAGE Publications Inc.

Linton, G. (2014). *Contingency theory in entrepreneurship research*. Retrieved from https://www.diva-portal.org/smash/get/diva2:705459/FULLTEXT01.pdf

Lubano, M. (2011). *Strategic risk management practice by Kenya Revenue Authority.Masters thesis,University of Nairobi, November 2011*. Retrieved September 17, 2017, from http://bit.ly/2fnaFqg

Marete, G. (2016, December 15). KRA seizes Sh150m contraband goods at Mombasa port. *Business Daily*. Retrieved from https://www.businessdailyafrica.com/news/KRA-seizes-Sh150m-contraband-goods-at-Mombasa-port/539546-3487690-14i9cruz/index.html

Marhavilas, P. K., Koulouriotis, D. and Gemeni, V. (2011). Risk analysis and assessment methodologies in the work sites: On a review, classification and comparative study of the scientific literature of the period 2000-2009. *Journal of Loss Prevention in the Process Industries 24*(5), 477-523.

Mikes, A., & Kaplan, S.R. (2014). *Towards a contingency theory of enterprise risk management*. Retrieved from http://www.hbs.edu/faculty/Publication%20Files/13-063_5e67dffe-aa5e-4fac-a746-7b3c07902520.pdf

Mwangi, A.K. (2010). The Effect of Risk Management Practices on the Financial Performance

of Commercial Banks in Kenya, Unpublished MBA Project, University of Nairobi.

Nedaei, B. H. N., Rasid, S. Z. A., Sofian, S., Basiruddin, R. & Kalkhouran, A. B. A. N. (2015). A contingency-based framework for managing enterprise risk. *Global Business and Organizational Excellence, 34*(3), 54-66.

Odum, J. O. (2014). *Enterprise risk management among commercial banks. Masters thesis.* Retrieved May 6, 2019, from http://erepository.uonbi.ac.ke: http://erepository.uonbi.ac.ke/bitstream/handle/11295/73685/ABSTRACT.pdf?sequence =3

Otley, D. (2016). The contingency theory of management accounting and control: 1980-2014. Management Accounting Research.

PWC. (2018). *Federal Enterprise Risk.* Retrieved April 4, 2019, from https://guidehouse.com: https://guidehouse.com/wp-content/uploads/2018/10/GH-073d_WP-ERM-Survey-Report-2018.pdf

Rastogi, C., & Arvis, J.-F. (2014). *The Eurasian connection: Supply-chain efficiency along the modern Silk Route through Central Asia*.

Rosu, I. (2009). *Comments on prospect theory*. Retrieved from http://annalseas.faa.ro/download/Comments%20on%20prospect%20theory_%20rosu%20ioanid.pdf

Sreevidya, U., & Sunitha, K. (n.d.). *Business research methods.*

Trapani, L. (2012). Trade risk management: a global approach. *World Customs Journal, 6*(2), 101-108.

Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty, 5*(4), 297-323.

United States Agency for International Development. (2008). *Customs risk management: Trade facilitation and enforcement in global economy*. Washington, D.C., United States: Author.

Vita, A., Leonid, I., & Dmytro, Y. (2017). Modern approaches to risk management and their use in customs. *Traektoria Nauki = Path of Science, 3*(4), 1-14.

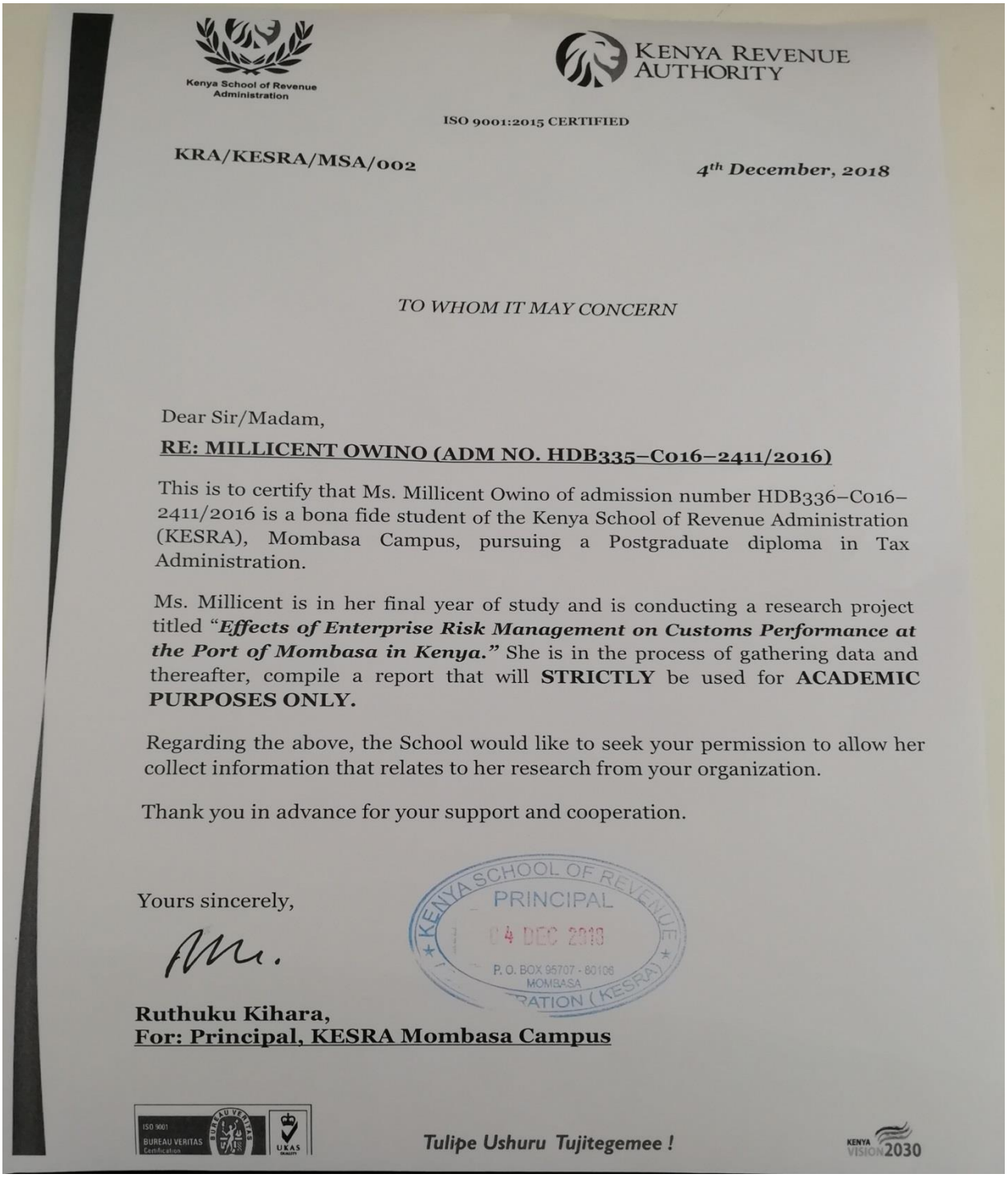
Wanjohi, S. M., Wanjohi, J. G., & Ndambiri, J. M. (2017, November 23). The Effect of Financial Risk Management on the Financial. *International Journal of Finance and Banking Research, 3*(5), 70-81

World Customs Organization. (2005). Managing risk in the customs context. In *Customs Modernization Handbook* (pp. 91-99).

Zivkovic, A., & Sutevski, D. (2018). *Facilitating trade: Improving customs risk management systems in the OIC member states*. Ankara, Turkey: COMCEC Coordination Office.

APPENDICES

APPENDIX I: INTRODUCTION LETTER



Kenya School of Revenue Administration

KENYA REVENUE AUTHORITY

ISO 9001:2015 CERTIFIED

KRA/KESRA/MSA/002

4th December, 2018

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: MILLICENT OWINO (ADM NO. HDB335–C016–2411/2016)

This is to certify that Ms. Millicent Owino of admission number HDB336–C016–2411/2016 is a bona fide student of the Kenya School of Revenue Administration (KESRA), Mombasa Campus, pursuing a Postgraduate diploma in Tax Administration.

Ms. Millicent is in her final year of study and is conducting a research project titled ***"Effects of Enterprise Risk Management on Customs Performance at the Port of Mombasa in Kenya."*** She is in the process of gathering data and thereafter, compile a report that will **STRICTLY** be used for **ACADEMIC PURPOSES ONLY.**

Regarding the above, the School would like to seek your permission to allow her collect information that relates to her research from your organization.

Thank you in advance for your support and cooperation.

Yours sincerely,

KENYA SCHOOL OF REVENUE ADMINISTRATION (KESRA) PRINCIPAL 04 DEC 2018 P. O. BOX 95707 - 80106 MOMBASA

Ruthuku Kihara,
For: Principal, KESRA Mombasa Campus

ISO 9001 BUREAU VERITAS Certification UKAS

Tulipe Ushuru Tujitegemee !

KENYA VISION 2030

APPENDIX II: QUESTIONNAIRE

This questionnaire is designed to gather research information for a study entitled "effect of enterprise risk management on customs performance in Mombasa county, Kenya''. The study will use the data collected for academic purposes only.

Questionnaire number [ ]

Section A: General information

Kindly put a tick (√) against the correct choice in the spaces provided

1. What is your highest level of education?

   Secondary [ ] Post secondary [ ] Graduate [ ] Maters [ ]

2. What is your current position?

   Manager [ ] Supervisor [ ] Officer [ ]

3. For how long have you been working in this organization?

   Below 2 years [ ] 2-5 years [ ] 6-10 years [ ] Above 10 years [ ]

SECTION B: RISK IDENTIFICATION

You are required to indicate your level of agreement/disagreement with the statements in the table below using the following 5-point Likert scale: 1 = Strongly disagree; 2 = Disagree; 3= Neutral; 4 = Agree and 5 = Strongly Agree. Kindly put a tick (√) against the correct choice.

	1	**2**	**3**	**4**	**5**
The Customs Department has adequate resources for risk identification at the port of Mombasa.					
Sources of risks and the persons likely to incur risks are usually defined, the likely time of incurrence of risk is usually defined					
Customs officers at the port of Mombasa are well equipped with an up to date resources materials and information systems to facilitate efficient risk management					
To increase the breadth of identified risks, the strengths and weaknesses of the organization are analyzed					
The department has firm policies on continuous training and seminars for officers to equip them with newer risk identification strategies globally					

SECTION C: RISK ASSESSMENT

You are required to indicate your level of agreement/disagreement with the statements in the table below using the following 5-point Likert scale: 1 = Strongly disagree; 2 = Disagree; 3= Neutral; 4 = Agree and 5 = Strongly Agree. Kindly put a tick (√) against the correct choice.

	1	2	3	4	5
The likelihood of specific risks occurring is usually examined, the potential consequences of occurrence of risks is usually analyzed by experienced analysts.					
Customs risk management system includes a central office responsibility for controlling risk assessments					
People who understand the risks faced are usually involved in assessing probability and impact of occurrence of risks					
Risk levels are usually estimated with the use of Customs Risk management information systems in order to determine whether to accept risks or take further actions using the color codes.					
A reliable risk assessment criteria and strategies, based combinations of risk probability and impact, has been put in place to determine risk levels					

SECTION D: RISK TREATMENT

You are required to indicate your level of agreement/disagreement with the statements in the table below using the following 5-point Likert scale: 1 = Strongly disagree; 2 = Disagree; 3= Neutral; 4 = Agree and 5 = Strongly Agree. Kindly put a tick (√) against the correct choice.

	1	**2**	**3**	**4**	**5**
The authority at the port of Mombasa usually adopts sound and timely policies and procedures which are aimed at addressing the risks identified.					
The risk management plan adopted are recorded and justification for the adoption of the risk treatment plan or necessitated action taken during risk treatment					
The declarations and supporting documents usually compared against the					

information in risk profiles Risks of low priority are usually accepted and monitored					
Customs administration at the port of Mombasa has come up with an action plan to specifically counter or address the risks identified in the current and near future.					
Continuous and Regular risk monitoring while addressing the identified risks at the port of Mombasa is conducted by the customs department.					

SECTION E: CUSTOMS PERFORMANCE AT THE PORT OF MOMBASA IN KENYA

You are required to indicate your level of agreement/disagreement with the statements in the table below using the following 5-point Likert scale: 1 = Strongly disagree; 2 = Disagree; 3= Neutral; 4 = Agree and 5 = Strongly Agree. Kindly put a tick (√) against the correct choice.

	1	2	3	4	5
Revenue collection in customs performance has improved due to the effective risk management at the port of Mombasa.					
The appropriate and effective risk treatment strategies have improved the Traders compliance at the port of Mombasa.					
The performance of Customs authorities is based on their ability and effectiveness in revenue collection.					
Experience and effective labor force have led to improve customs performance. Quality and service delivery is efficient					
Revenue collection has improved due to the use of information technology in risk management therefore the Level of accountability has improved					

THANK YOU FOR YOUR TIME AND COOPERATION!