FACTORS AFFECTING CUSTOMS CLEARANCE OF DANGEROUS GOODS AT THE PORT OF MOMBASA

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A RESEARCH PROJECT SUBMITTED TO THE DEPATMENT OF ECONOMICS, ACCOUNTING AND FINANCE OF THE SCHOOL OF BUSINESS IN PARTIAL FULLFILMENT OF THE REQUIREMENTS FOR THE AWARD OF POST GRADUATE DIPLOMA IN CUSTOMS ADMINSTRATION OF THE JOMO KENYATTA UNIVERSITY OF AGICULTURE AND TECHNOLOGY.

2019

DECLARATION

This project is my original work and has not been presented for any award in any academic or non-academic institution.

……. …….

Signature Date

GRACE WAITHERA KABUI

HDB335-C016-4514/2016

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

……. …….

Signature Date

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LECTURER KESRA

DEDICATION

I dedicate this project to advocate Michael Ngure to whom I am greatly endeared to.

ACKNOWLEDGEMENT

I would like to first acknowledge God for life, wisdom and intelligence to take on this daunting yet interesting task. I would also like to acknowledge and appreciate KESRA for allowing me to take up the PGD Course, the lecturers who have been very helpful in and out of class, my parents, Mr and Mrs Waithaka Kabui for their support in all possible realms.

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LIST OF ABBREVIATIONS AND ACRONYMS

IMO	International Maritime Organization
IMDG	International Maritime Dangerous Goods Code
SOLAS	Safety of life at sea (SOLAS).
LPG	Liquefied Petroleum Gasses
LNG	Liquefied Natural gasses
CO	Customs Officers
KRA	Kenya Revenue Authority
CCD	Customs Clearance of Dangerous Goods

DEFINITION OF TERMS

Customs	An official department that administers and collects duties levied by a government on imported goods.
Customs Clearance	The act of passing goods through customs so that they enter or leave the country.
Dangerous Goods	Restricted articles, hazardous (IATA)
Port	A town or city with a harbor or access to navigable water where ships load and unload.
Customs Officer	a person whose job is to check travelers' bags to make certain they are not taking goods into a country without paying taxes
Specialized Storage Facilities	A building or structure such as reefer container used for handling, storing and transportation of hazardous goods
Enforcement Tools	Equipment used to ensure that process of clearance of dangerous cargo is done efficiently

ABSTRACT

The study sort to establish factors affecting clearance of dangerous goods at the port of Mombasa. The best port that clears dangerous goods is Dalian port in China. The highly trained customs officers and enforcement tools together with specialized storage facilities make customs clearance of dangerous goods very efficient. In Kenya, however, an acute shortage in the above stated sectors makes clearance of dangerous goods inefficient. For this study, structured questionnaire which was self-administered was used to collect data which was analyzed using the SPSS 25 to understand the relationship between the dependent variable and the independent variable. The Cluster Sampling Technique was used. Karl Pearson's Moment of correlation and multiple regression models were generated. From my population of 363 a sample size of 190 was obtained using the Slovins Formulae. The study unveiled that Customs Enforcement tools had strong effect on the clearance of Dangerous Goods at the Port of Mombasa, with coefficient r = 0.50. Customs Officers Skills and Competence were found to have influence on the clearance of Dangerous Goods at the port of Mombasa supported by coefficient of r of 0.612.The Specialized Storage facilities were found to have a great influence on the clearance of dangerous goods, the specialized facilities required to handle, store and transport these dangerous goods at the port during clearance were supported by coefficient of correlation r=0.720. The researcher recommends the following: Improvement on the Customs Enforcement tools used by the customs officers at the port of Mombasa while clearing dangerous goods, Regular and frequent training of officers dealing with the clearance of dangerous goods at the port, this will improve on the efficiency during handling of dangerous goods at the port of Mombasa, More resources should be allocated to aide in the specialized storage facilities involved in the handling, storing of dangerous goods.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Dangerous goods are goods which are potentially hazardous to human beings and the environment. If mis-handled; some can corrode, explode and cause fire accidents. Others can cause painting by smell or discoloration, because of that, dangerous goods must be handled with utmost care. Dangerous goods are packaged into three modes depending on their level of being dangerous with the first one being highly dangerous and the third one being least dangerous. International Maritime Organization (IMO) governs shipping through an amendment introduced which is International Maritime Dangerous Goods (IMDG) Code from SOLAS convention to ensure safety of life at sea (SOLAS). Amongst the requirements of the code is to assign a class for every dangerous cargo. Hartzenberg (2011)

They have nine classes of dangerous goods. Ogaga (2013). The first one is Explosives, for example, firearms grenades and detonators. The second one is Flammable gasses for example Liquefied Petroleum Gasses (LPG) such as Butane and Propane and Liquefied Natural gasses (LNG) such as Methane and Ethane. The third class is that of Flammable Liquids such as Methanol and the fourth is Flammable Solids. The fifth class is that of Oxidizing agents and at number six is Toxic or Poisonous substances such as pesticides. At number seven is a class of corrosives, number eight, Radioactive Substances such as Battery Cells and lastly is a class called Miscellaneous substances for instance when a vehicle is shipped in a container it falls under this class because the vehicle has fuel in it and can cause harm if not properly handled.

It is a requirement that all packages that bear dangerous goods should have placards which should indicate the class of the dangerous cargo and the UN number. The shipper should declare the cargo as dangerous to the merchant and provide a 24 hour working telephone number to the shipper in case of any unintended accidents. Should the shipper fail to declare the goods as hazardous for purposes of evading freight charges and the cargo begins to show any kind of eruptions then it is required that the shipper offloads the cargo at the nearest port for destruction after which the exporter will pay for damages. Mclntyre& Meredith (2005)

Bifwoli (2016) notes that dangerous or hazardous goods are subjected to Chemical regulations which they are handled by the highly trained Customs Officers. The hazardous goods usually have signage on them, a warning indication of presence of the dangerous materials whether on the item and the facilities they are kept. People handling dangerous goods should wear protective clothing and apparatus while those who accidentally come into contact their health is monitored to ensure the exposure does not exceed stipulated limits and if need be treatment.

For China, Dalian Customs requires that all clients finish the clearance formalities of all Dangerous Goods before the vessel arrival failure to which the terminal won't discharge the cargo. The shipper needs to provide a 24-hour emergency phone number of the customer located in China and make sure that all related clearance requirements are delivered to the consignee in good time. The consignee then submits all necessary documents to the Customs Office according to the updated policy for Customs clearance.

Customs South Africa, a division of South African Revenue Service (SARS),has strict measures that expects an importer to register and obtain Tariff codes from their office which at times causes cargo clearance delays. One negotiable and two non-negotiable copies of the Bill of Lading are required in addition to four copies and one original Commercial Invoice. Three copies of the Packing list are also required for clearance as this data should agree with that in other documents. Import licenses are needed for restricted goods. Egypt's system is similar to that in South Africa only that the documents are split and there is no strictness on the number of copies of Bill of Lading and other supporting documents.

Locally, the Port of Mombasa is a state corporation under the management of Kenya Ports Authority (KPA) - which is charged with the responsibility of managing all other ports along the Kenyan coastline. Automation has minimized traders and officers' contact notably therefore minimizing the possible adverse effect of physical inspections. "ICT applications minimize waiting times at border crossing points as well as at ports, safe appropriate processing of fees and Customs duties, simplification of formalities and provision of timely information to owners. It also reduces transaction costs enhancing supply capacities and increasing global market access" (UNCTAD, 2006).

For clearance, once the Electronic manifest is uploaded by the shipping line, Bill of Lading which is approved by the consignee is submitted to the shipping line for issuance and release of delivery order after settlement of the shipping line charges. Uploaded entries are cleared after payment of Customs duty or confirmation of duty exemption shipment. The clearing agent prepares a set of documents which are dispatched to the Customs office in Mombasa for endorsement by Customs office. The documents are dispatched to the final clearance point where verification is done. In verification, containers have to be opened and items inspected one at a time. A verification report from the Customs Officer, which should tally with the Customs declaration, is uploaded on the Tradex – Simba system. A pick-up order is generated by the system for all cargo cleared within the port and attached to three more documents, namely; the delivery order, passed customs entry and customs release order after which Port charges are then paid before cargo can now be carried out of the Port premises.

The electronic lodgment system captures the entries, calculating import duties and relevant taxes thereafter validating the entry by connecting seamlessly to the Customs Automated Services (CASE) website. Entries can easily be reconciled with the collected fees through the Integrated Customs Cash Remittance System at Customs locations. E-Payment is also available in automated system, and the customs agents are able to lodge the entries and pay the relevant duties through the internet.In 1981 the UNCTAD developed Automated System for Customs Data (ASYCUDA) to automate customs which was adopted by many countries widely both African and Caribbean Nations (Buyonge, 2007).

Abrenica and Tecson (2003), notes particular interest in e-lodgment allows agents tolearn about the outcome of the selection process much earlier, allowing them to take measures toensure that the cargo is processed and released smoothly. Congestion at the port of Mombasa has been understood to occur seasonally and major projects in the past have been taken to address it through budgeting and infrastructural improvement at the port (Cochran, 2016).

1.2 Statement of the Problem

Dangerous goods are hazardous and injurious to the health if not properly handled. An ideal situation is exhibited in Mumbai, China engaged in providing excellent Dangerous Cargo clearance Services to the customers. These services are executed with highly talented and proficient professionals. They provide efficient integrated air express and ground transportation of time sensitive documents, packages and freight worldwide. Mombasa port handles a large volume of imported goods for Kenya and its neighboring countries such as Uganda, Ethiopia, Rwanda and Sudan. Customs and Border Control department of the KRA is charged with the responsibility of ensuring that the imports are cleared from the port within the stipulated period of four days or less from the time the consignment arrives at the port

Despite all the interventions by KRA Customs according Kasila (2018) The department through its customer care desk has received many complaints from importers and Customs - licensed Clearing Agents pertaining to the delays in the clearance of their containers. Despite simplification of Customs procedures in Kenya, the formalities are still felt to be long and less efficient in which some delays are associated with such inefficient formalities.

Several studies have been conducted on responses and challenges of clearing and forwarding firms and Customs reforms and modernization at the Kenya Revenue Authority. Kosgei (2008) conducted a study on the responses by clearing and forwarding firms in Mombasa to changes in environment. Aliet (2008) undertook a research on responses by the KRA to the challenges in the implementation of the Customs reforms and modernization. Awitta (2010) conducted a study on the effectiveness of revenue collection strategies of KRA in Nairobi. Ndambuki (2017) Studied factors affecting clearance of cargo at the port of Mombasa While Kasila (2018) Undertook a study on effects of customs procedures on trade facilitation at the port of Mombasa.

This study therefore was aimed at establishing the factors affecting clearance of dangerous goods at the port of Mombasa.

1.3 Objectives of the study

The main research objective of the study was to examine the factors affecting Customs Clearance of dangerous goods from Kenya Port Authority-Mombasa.

1.3.1 Specific objectives

i. To assess the effect of enforcement tools on customs clearance of dangerous goods at the port of Mombasa.
ii. To establish the effect of Customs officers on customs clearance of dangerous
iii. To establish the effect of specialized storage facilities on customs clearance of dangerous goods at the Port of Mombasa.

1.4 Research Questions

The research questions are as follow

i. What is the effect of enforcement tools to the clearance of dangerous goods at the port of Mombasa
ii. What is the effect of Customs Officers to the clearance of dangerous cargo at the port of Mombasa?
iii. What is the effect of Specialized Storage facilities to clearance of dangerous goods at the port of Mombasa?

1.5 Significance of the study

The government will find this research to be of paramount importance as it will enable them to make informed decisions that will ease customs clearance of dangerous goods. Decisions such as

; Training customs officers to equip them more in handling dangerous goods, during clearance. The findings of this study are useful in determining the challenges faced by the importers in clearing dangerous goods and analyzes how they can overcome them. The researcher will obtain deep knowledge on the challenges that are faced by customs officers in the process of clearing dangerous goods. The findings of this study are also useful in building up ground work for further desk research on the same area or other related fields. To the policy makers; Kenya Ports Authority and Kenya Revenue Authority; the study may help in making policies pertaining port operations to improve the clearance time for dangerous cargo to aid in National Development.

1.6 Scope of the Study

The study will confine itself to the factors affecting the Clearing and Forwarding process at the port of Mombasa. The Kenya Port Authority presents a perfect choice in studying challenges facing Clearing and Forwarding of Dangerous Cargo. This is because the sea port of Mombasa is the largest entry port to the East Africa countries.

1.7 Limitations of the Study

The study faced financial and time constrains. It was also not easy to access the targeted population for interviews at a go because of the nature of their jobs. At the time of the interview, the new system ICMS Integrated Customs Management System was being rolled out for use by the officers and therefore, a lot of them were undergoing on- job training.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The objective of this research was to assess factors affecting clearance and forwarding of dangerous goods at the Mombasa port. This review looked at related studies on issues such as cost, efficiency of port services and delays among the factors influencing logistics service delivery.

2.2 Theoretical Review

The theoretical framework is the structure that can hold or support a theory of a research study. Kimani (2016) defines a theory as a set of interconnected concepts, definitions, and propositions that highlight a gradual or systematic perspective of phenomena by clearly defining relationships between variables targeting the explanation and/or prediction of phenomena the theoretical framework introduces and describes the theory that explains why the research problem under study exists. The study adopted Mutual benefit theory, queuing theory and Human Capital theories.

2.2.1 Mutual Benefit Theory

The mutual benefit theory is reciprocal interchange of resources and services for mutual benefit. It involves the receiver and giver benefiting from each other's act of giving. Laine & Vepsalainen(1994) terms the mutual theory as being a cooperative act that the giver and receiver mutually benefit from their activities. Therefore, through mutual theories where there is interchange of resources between two or more parties, whenever a problem is experienced through this cooperative activity the solution to a particular problem. Likewise, close cooperation between the stakeholders is crucial to the achievement of mutual benefits theory.

Close contact ought to be maintained between the port management with shippers, clearing agents, trading associations to facilitate rapid cargo trans-shipment. The government also is not left out, in order to promote improvement of logistics in the country, thus making the theory relevant to the study.

Taking into account the external environment surrounding the firm such as politics, social and cultural aspects, is an area of concern especially technological advancement in the shipping industry especially the size of ship among other key cornerstones of decision making in shipping

business. Capital availability has been a challenge in the arena of the shipping entrepreneurs in the region so as to achieve the technological advancement and cargo handling infrastructure to address the problem of congestion.

2.2.2 Queuing Theory

Queuing theory is a mathematical study of predicting waiting lines developed by Agner Krarup Erlang as a way of determining telephone exchange. Queuing theory is useful in the port especially in determination of the vessel arrival and berth allocation. The queuing systems in ports takes into consideration the queue length in berths and the waiting times while taking into account the previous results whether long term averages.

A lot of scenarios in the world require a queuing simulation before being adopted, for instance in the service industry, banks uses the queuing models in determining the customer services and time and infrastructural planning to achieve their goals and objectives (Adedayo, 2006).When the capacity budgeted for a service or queue fall short, congestion problem is experienced. Through the application of queuing theory on port traffic Sanish (2007) argues that the theory is crucial being an analytical technique that should be considered while developing the infrastructural development to address the problem of congestion. This theory is useful in predicting the waiting time of vessels as well as berth utilization, the clearing and forwarding agents are also factored in this theory on matters related to the service delivery since they are clients being served and the number of personnel serving them will determine their waiting time to be served during the clearing of these dangerous good imported as well as in the process of coming up with plans and budgets to ensure effectiveness in the clearing of dangerous goods.

Recommendations from the study are adopting principles of justice to improve customer satisfaction during clearance of Dangerous Goods. The theory is relevant to the study since it aids in determination of the vessel arrival and berth allocation.

2.2.3 Agency Theory

Agency theory explains the relationship between two parties, between the principal and the agent, the agent is therefore entitled to represent the principal while transacting with other parties or in the events that require the presence of the principal. There is legislation that describes the nature of agency that is required in the transactions between parties. In Customs administration through the administration of the East African Community Customs Management Act from

section 142 to section 148 of EACCMA, 2004 where the customs agents are to be transacted on behalf of the importers and exporters on matters relating to declaration and clearance of goods. At times there exist the Agency-Principal problems due to poor communication or clearly spelt out agreement between the agent and the principal.

Differences in the parties interests also causes the principal agency problems and asymmetric information, agents might have more detailed information than the principal and keep the information without disclosing to the principal, and hence mistrust between the two parties. The theory is therefore relevant to the study because of the Principal Agency relationship experienced in the clearing and forwarding industry.

2.3 Conceptual Framework

A conceptual framework assists the researcher to establish connections between the existing literatures with the research objectives(Haralambos, & Holborn, 1997).The measurable variables involved in the conceptual framework are: -Independent variables, namely; Customs Enforcement Tools, Documentation at KRA - Mombasa port, Clearance Personnel, Non-Payment of Agency fees, Clearing Process expertise among others; while Dependent Variable is Clearing and Forwarding of Dangerous Goods at the port of Mombasa. In respect to this particular study a conceptual framework provided below helps to show the relationship between independent and dependent variables.

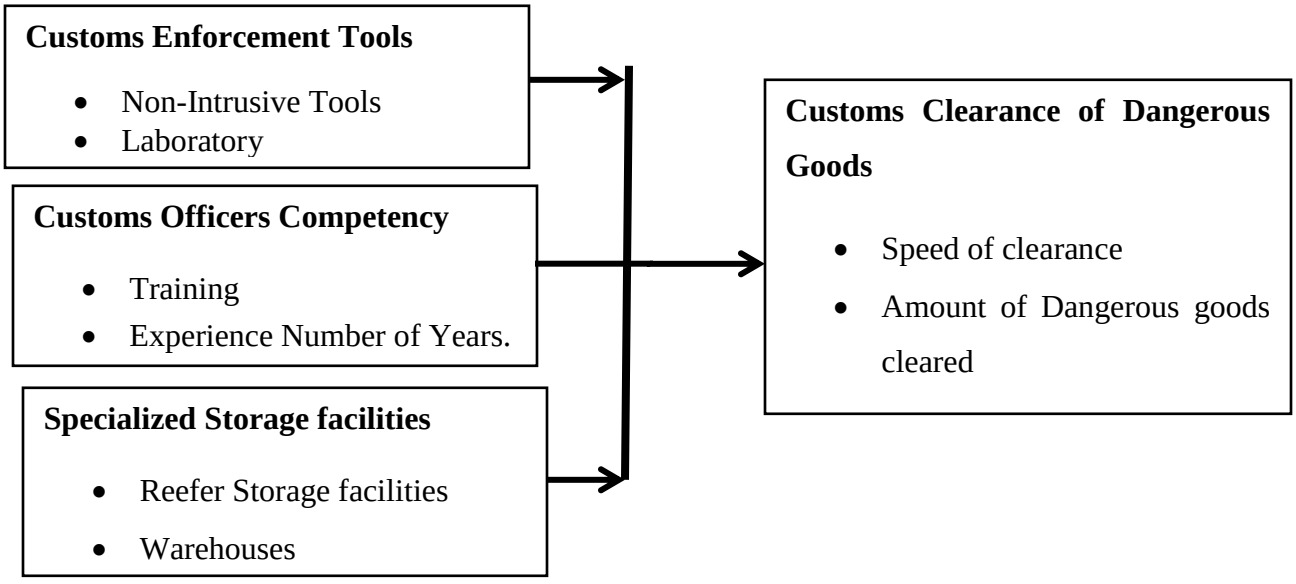

Figure 2.1 Conceptual Framework

Independent variables **Dependent variables**

2.4.1 Customs Enforcement Tools

The Customs Enforcement Tools involves the tools that are adopted in the clearance of dangerous goods at the port of Mombasa which include both Intrusive and Non-Intrusive Tools, the Presence of Laboratory Facilities for handling, testing of these imported Dangerous goods such as Chemicals and Corrosives .Under the non-intrusive methods for clearing dangerous goods we have the canine sniffer dogs or K9 unit which are used to detect dangerous goods at the port of Mombasa.

There are variety of enforcement tools that are used by the customs service Department during the clearance of general goods and dangerous cargo. Depending on the nature of the cargo being imported, the choice of the tool in use is specific, for example some dangerous chemicals or hazardous chemicals are specifically handled by specialized laboratory, at the same time being tested in the desired quality by other Governmental Agencies involved at the port such as Kenya Bureau of Standards-KEBS, Port health among other organizations. It is prudent to note that each Class of Dangerous Goods requires a specified and sophisticated enforcement tools during their handling or importation, which also differs from the general cargo.

The main challenge adopting the electronic lodgment includes inadequacy in connectivity characterized by frequent system downtimes; this could be due to poor or limited infrastructure. The Information Technology implementation has been affected by how the various stakeholders have prepared in implementing such measures to enable effectively operational IT, which the Government ought to provide clear guidelines and update them frequently especially during these times of fast changing IT procedures (Harzing, 1999).

Non-intrusive technology has in most cases been adopted during the verification of most of the imported cargo at Mombasa port, as a way to facilitate trade in the region through faster clearance. This non-intrusive methodology of inspecting these dangerous goods has in most imports currently. Other major challenges include; lack of clarity/transparency of procedures, direct transactions with several employees, many control entries with difficult policies and procedures, lack of coordination among various trade facilitating agencies and unclear standards for the valuation of goods (Buyonge, 2007).

The mechanisms put in ensuring that there is a positive effect of the information technology in facilitation of trade, would be fully achieved if business community is safe and the government support is felt (Matsudaira, 2007). Differences in interests hinder the successful implementation

of the initiatives and policies to facilitate trade by the government (Grainger, 2008). In pursuit of trade facilitation, customs administrations have adopted the pre-arrival clearance mechanism so as to enable faster clearance of cargo notwithstanding to balance between enforcement of the law and facilitation of trade (Abrenica, & Techson, 2003).

2.4.2 Customs Officers

Customs Officers Competency, education and skills in the clearance of the clearance of dangerous goods plays a vital role on when these dangerous goods are cleared at the port of Mombasa. The Knowledge of the legislation, Customs clearance procedures that are required to be followed during the Clearance of dangerous goods, their handling, and storage among other activities that determines the efficiency and speed of the clearance of these Dangerous goods at the Mombasa Port.

The competency and skills required for this activity should therefore be quite explicit to enable the Customs officers perform their duties efficiently. Therefore, it is duty of the management to ensure that trained adequate staffs are availed to perform the required tasks. This notwithstanding, the advancement in technology which means that continuous staff development programs have to be in place to ensure that the staff are well equipped with modern techniques and equipment to facilitate their work.

Customs clearance of goods will always be speedily made through proper documentation. Having improper or incorrect documents may hinder or cause unnecessary delays in the whole process of trade facilitation. The Customs Officers' knowledge in the relevant legislation and laws governing the importation and warehousing of dangerous goods is crucial, especially when some of the chemicals such as agricultural chemicals and some industrial chemicals including Methyl – parathion are prohibited according to EACCMA, 2004. The legislation also extends to clarification of goods which are not supposed to be warehoused. When you are conversant with the procedure and the problem arises, you will always refer to it to help you uphold the rights of the participants and manage it effectively. Most of the formal procedures have a basis in law and should ensure that all of a company's shareholders are treated equally; all participants should have access to the rules governing procedures so that they are aware of their obligations and rights.

In these circumstances, the question of timely submission and correctness of the information declared on the documents are both of high importance and do jointly determine the speed of processing and timely release of both documents, initially, and the goods at the later stage, from Customs control. The role of KRA on the other end is to make sure competent and knowledgeable staff are always available to properly handle the processes.

2.4.3 Specialized Storage

Hazardous goods are used in all sorts of industries and in innumerable factories. There is enough Reason as to why some of these industrial chemicals are transported or warehoused in their specialized storage facilities and containers away from other general cargo, their transportation or storage in such specialized storage facilities or containers are in pursuant with the respective legal requirements of handling such chemicals or explosives, safety requirement while handling at any levels among other practical and environmental benefits and user-friendliness Keiser & Kraft (2017).

The clearance of dangerous goods at the port requires specialized storage facilities such as reefer facilities, and warehousing facilities. Reefer Storage facilities includes the use of refrigerated containers in transportation or storage of temperature sensitive commodities, these temperature sensitive items such as corrosive chemicals which are also transported either through drum handling, their specialized containers are also proofed to avoid any leakages while in transportation, use of safety containers among other measures adopted.

The availability of adequate or ample warehousing facilities for some dangerous goods determines how they are cleared in terms of speed and quantity. According to the Kenya Time Release report for ports November, 2004, it is clear that the Customs and Excise department has a significant role to play in expediting clearance of goods and simplifying clearance procedures to make it helpful to their importers, exporters and national economies. An agent is any person who is authorized by the owner to carry out any transaction on his behalf while the agency fee is the charge that an agent charges the owner after carrying out transactions. The choice of an efficient, caring, clearing and forwarding agent is of vital importance to any importer. Most importers are quite a distance from ports and airports and therefore they rely heavily on their agents to perform a number of tasks on their behalf (Rowland's, 1986).

2.4.4 Customs Clearance of Dangerous goods

Dangerous or hazardous goods are subjected to Chemical regulations which they are handled by the highly trained Customs Officers. The hazardous goods usually have signage on them, a warning indication of presence of the dangerous materials whether on the item and the facilities they are kept. People handling dangerous goods should always wear protective equipment and those who accidentally come into contact their health is monitored to ensure the exposure does not exceed stipulated limits and if need be treatment.

Dangerous goods such as petroleum which is classified as class II together with Flammable gasses for example Liquefied Petroleum Gasses (LPG) such as Butane and Propane and Liquefied Natural gasses (LNG) such as Methane and Ethane, are of importance hence requires faster customs clearance, the explosives on the other and do require caution during handling and faster clearance. There are other chemicals

2.5 Empirical Review

In the attempt to solve the question concerning factors affecting clearance of dangerous goods various studies have been conducted on the subject, but to this day, the question still remains lacking satisfactory answers..Harlina and colleagues (2011) reviewed the logistics and supply chain management factors in Malaysia that affects the clearing and forwarding activities in the country. Using various techniques such as; Interviews to gather the information from a sampled company in Malaysia discovered; inadequate education, poor service response and operational logistics, poor policies and inadequacy in the flow of information limits effectiveness in clearing forwarding in Malaysia.

Krejčí (2016) studied on the risk factors for hazardous goods transportation in the Czech Republic and found out that Hazardous goods accidents are often harmful to environment than to the drivers and handlers themselves while the level of professionalism of hazard goods handlers is very high compared to the passenger serving vehicles.

Batarliene (2008) on the other hand studied Transportation and improvement of the transportation of dangerous goods while proposing a way of reducing accidents during transportation, and faults the security, methods of grouping these dangerous goods in their danger features which he cited to be fundamental during carriage of dangerous goods and handling.

According to Maesk Shipping Line report (2009) the releasing procedures for Import cargo is based on presentation of original bills of lading, duly signed container guarantee forms and payment of local charges. Import containers must be cleared within stipulated time or they are subject to a demurrage and detention tariff. Uncoordinated and un-harmonized activities by the institutions involved in clearing/forwarding due to their emphasis on control aspect rather than facilitation of clearance results in delays. The researcher sought to find out which factors among these led to delays in clearance of dangerous goods (DG).

Dinwoodie, (2011) purposed that timely cargo delivery is an appropriate way of determining the effectiveness in the European countries. Using interviews and questionnaires to collect the data, during this survey study, the researcher found out that security check points were limiting the agents to effectively operate.

Wilson, (2006) studied port efficiency, using survey with interviews and questionnaires to collect the data, the researcher was able to conclude that the port congestion negatively affected the clearing and forwarding agents' performance. As clearly indicated from the survey, port efficiency dramatically affected the performance of clearing and forwarding agents. Another study by Msigwa (2002) proposed that the clearing sections' objectives in Tanzania were to be ensured so as the condition of imported goods being received to conform to their specifications and meet importers expectations and the need to be careful with specifications during documentation to enhance efficiency.

Nchimbi (2003) insisted that timely clearance of cargo could be affected due to presence of undisclosed goods which eventually accumulates the demurrage charges threatening the liquidity of an organization

2.6 Critique on Existing Literature relevant to this study

Several studies have been conducted in the clearing and forwarding area. It can be seen that they have highlighted factors hindering clearing and forwarding of goods at the port. They have also acknowledged the electronic lodgment system has improved documentation process resulting in applying for clearance of goods even before they arrive at the port. There is very little literature on clearance of dangerous goods.

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to the drivers and handlers themselves while the level of professionalism of hazard goods handlers is very high compared to the passenger serving vehicles.

Batarliene(2008) on the other hand studied Transportion and improvement of the transportation of dangerous goods while proposing a way of reducing accidents during transportation, and faults the security, methods of grouping these dangerous goods in their danger features which he cited to be fundamental during carriage of dangerous goods and handling. Ndinda (2008) also carried out a study on the growth of clearing and forwarding business and concluded that although the business had been affected by 2007 post-election violence, firms operating in the subsector experienced growth in terms of employees, assets and profitability.

Wilson (2006) found out that port efficiency has a significant effect on the performance of clearing and forwarding agents. Goods have to be cleared in time as delays expose goods to theft, damage, double handling, deterioration and pilferage. This research will concentrate on factors affecting Customs clearance of Dangerous Goods. The above studies on the other hand utilized primary data collection methods only, thus were not conclusive. Use of both primary and secondary data collection methods will gather data exhaustively in order to answer the research objectives.

2.7 Research Gap

From empirical literature review, several studies have been carried in the field of handling of Dangerous goods across the globe. Majority of the studies conducted have been taken in other countries such as Russia, Czech Republic and United States of America (Krejčí, 2016). It is worth noting that the handling of Such Dangerous Goods is faced by myriad of factors which differ from a region to another, a country and more specific, from one port to another. The studies further focuses on the transportation of the dangerous goods, their security and ways of minimizing the accidents and their impacts on the surrounding environment to hinterlands but very little has been studied locally, in Kenya to investigate the Customs clearance of these Dangerous Goods at the Port of Mombasa, this study will therefore seek to bridge between the gap left by other researchers in investigating the factors that affect the Customs Clearance at the Port of Mombasa.

2.8 Summary

Throughout the review of literature, the implementation of the effective implementation of electronic system, personnel training are a key part of its effectiveness. The study has adopted the mutual benefit theory, queuing theory and human capital theory to explain the relationship between the variables under study. A rich literature on the variables including the Customs Enforcement Tools, customs documentation and clearance personnel and the clearance of the dangerous goods at the port of Mombasa.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter is composed of the following sections; Research Design, Population, Sample size and Sampling technique, Data Collection Instruments, Data Collection procedure, Pilot testing and Data Analysis.

3.2 Research Design

The research design is the specification of methods and procedures which will be used to gather the information for the study (Green, & Tull, 2009). The research design the study will adopt is a descriptive survey to investigate the problem which is the clearing and forwarding situation at the Mombasa port. This research design focuses on answering questions which are concerned on the current status of the study which will provide answers to questions of who, what, when and how (Mugenda,& Mugenda, 2013).

Furthermore, Engel (2009) states that a descriptive research designs are used to obtain data useful in evaluating present practices and in providing bases for decision-making. While undertaking a qualitative study, the researcher has the intention of gaining a complete picture of the phenomenon in question ensuring the findings reflect respondents' perceptions accurately.

3.3 Population

The population of the study is that set of individuals who possess observable characteristics which the researcher is studying (Neuman, 2014).The target population of the study comprises of all customs officers working at the port of Mombasa as at Dec 2017 a per the table below.

CFS	105
Enforcement	58
Container Terminal and Shades	87
Mombasa Bonded Facilities	50
Petroleum Monitoring Unit	40
Export and Manifest	23
Total	363

Table 3.1 Target Population

Source: KRA Southern Region report 2018

3.4 Sampling Frame

Kothari (2004) defines sampling frame as a full list of elements that compose the population from which a sample is taken. For this study a sampling frame was 363 customs officers working at the port of Mombasa.

CFS	105
Container Terminal and Shades	87
Mombasa Bonded Facilities	50
Enforcement	58
Petroleum Monitoring Unit	40
Export and Manifest	23
Total	363

Table 3.2 Sample Frame List

3.5 Sample Size and Sampling Technique

The study adopted Slovins Formulae and cluster sampling technique to select respondents from various departments with an aim of providing equal chances, to the elements in the population

for selection. Amugune (2014). This included KRA officers at the Kilindini Port, Bonded Facilities, Enforcement, Petroleum Monitoring Unit, Export and Container freight facilities;

The Slovin's formula adopted in computation of the sampling size;

$n = N / (1+Ne^2)$

Where; n is the sample size,

N is the population size,

e -the level of precision.

95% level of confidence thereby giving p = 0.05 chance of deviation from the actual

Therefore;

Sample size n= 363/ (1 +363x 0.05x 0.05)

n = 190.

Work Station	**Number of Officers**	**Proportion**	**Sample Size**
CFS	105	29%	55
Enforcement	58	16%	30
CNT & Shades	87	24%	46
Mombasa Bonded Facility	50	14%	27
Petroleum Monitoring Unit	40	11%	21
Export	23	6%	11
Total	363	100%	190

3.6 Data Collection Instruments

The study adopted questionnaires as the main data collection instrument. According to Mugenda & Mugenda (2009), structured questions permit greater depth of response. The researcher used questionnaires because it is easier for the researcher to collect required data over a short period of time. There are three types of questionnaires: Structured, unstructured and semi structured. The study adopted the structured questionnaire Secondary sources of data will involve reading dissertations from other researchers, print medias as well as related legislation covering the Customs within the region for the purpose of understanding the key challenges experienced by clearing and forwarding at port of Mombasa.

3.7 Data Collection Procedures

Data was collected using questionnaire with the aim of explaining the questionnaire. The questionnaire was structured from which respondents select the answer that best describes their position. This study adopted a 5 point Likert scale which yields equal interval data therefore enabling further inferential analysis (Kothari, 2004).

3.8 Pilot Testing

According to Mugenda and Mugenda(2003) pilot testing is the administration of the data collection instrument with a small set of respondents from the population for the complete scale survey. In this study the researcher conducted a pilot test using the questionnaire on 10 individuals who were selected randomly

Pilot testing process of rehearsing a research study using a smaller size to administer the data collection instruments so as to correct errors of the collection instruments as well as determining the validity and reliability of the instrument (Sreevidya & Sunitha, 2011).

3.7.1 Validity

Validity is determined when a data collection instrument accurately represents what it is supposed to measure (Kothari, 2004). The validity of the data collection instrument was considered during the piloting so as to ensure the data collection instruments measures what it is intended to measure. During questionnaire construction, validity of the questionnaire was also determined by verifying the content of the questionnaire through study supervisor

3.8.2 Reliability

According to Amugune (2014) reliability is the degree to which an instrument yields the same results each time it is used. Cronbach Alpha was used to test the reliability. A reliability coefficient below 0.7 was regarded as poor and unacceptable while a value of between 0.7 and above was accepted as reliable

3.9 Data Analysis

The data that will be collected will be quantitative and qualitative; therefore, the descriptive presentation of the qualitative data will include use of pie charts, graphs as described through means.

Data that will be collected will be examined and arranged based on the research objectives, furthermore data editing during collection will be undertaken to identify the missing gaps during data collection. Data coding will be done on the collected data so as to analyze the data using the SPSS version 25.

The linear regression model:

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

Y - Clearance of Dangerous Goods

β_0- Y intercept indicating clearance of dangerous Goods without other variables of the study.

$\beta_1, \beta_2, \beta_3$- coefficients explaining the effects of independent variable X_1, X_2, and X3 to dependent variable Y

X_1- Customs Enforcement Tools

X_2- Customs Officers skills and Competency

X_3- Specialized Storage facilities

ε- The error term, other factors influencing Clearance of Dangerous Goods which are not included in the study

CHAPTER FOUR
DATA ANALYSIS, DISCUSSIONS AND PRESENTATION

4.1 Introduction

The chapter has highlighted the findings of the study, the pilot results, demographic analysis on the respondents, descriptive analysis together with correlation and regression analysis results.

4.2 Questionnaire Response rate

From a sampled respondent of 190 out of the sent questionnaires, the researcher was able to receive 119 duly filled questionnaires, this represented a 62.6% response rate which was adequate for the study, a response rate above 50% is appropriate for generalization of the findings (Mugenda & Mugenda 2003).

	Response rate	**Percentage %**
Respondents	119	62.6%
Non-respondents	71	37.4%
Total	**190**	**100.00%**

Table 4.1 Response Rate

4.3 Pilot Results

To determine the reliability of the questionnaires a pretest was conducted and the questionnaires tested using SPSS 25 Cronbach's Alpha.

Scale	**Cronbach's Alpha**	**Items Tested**	**Comments**
Customs Enforcement Tools	0.789	4	Accepted
Customs Officers	0.823	4	Accepted
Specialized Storage	0.792	4	Accepted
Customs Clearance of Dangerous goods	0.800	4	Accepted

Table 4.2 Pilot Results

The researcher during piloting tested the instruments' reliability, and through the use of SPSS 25 Cronbach's Alpha to measure the internal consistency of the instruments as shown in the table

above. Customs Enforcement Tools was measured to have an index of 0.789, Customs Officers had 0.823, Specialized Storage facilities had 0.792 while Customs clearance of Dangerous goods had an index of 0.800. all these indicated that the instrument was reliable, hence were accepted to collect the data.

4.4 Demographic analysis

Section A of the questionnaire aimed to collect background data of the respondents' education level, and experience of service. This was important to establish their knowledge level on Single Customs Territory. The results the data were as presented in the following sub-sections.

4.3.1 Level of Education

The researcher sought to determine the respondents highest education attained, from Certificates in O levels, Diploma, Bachelor's Degree and PHDs

Table 4:3 Experience at Customs and Border Control Department

Highest level of Education and training attained	**Frequency**	**Percentage %**
Certificate/O-level	19	16.0%
Diploma	21	17.7%
Bachelor's Degree	42	35.2%
Post Graduate	37	31.1
Total	**119**	**100.0%**

From the above findings, the certificate holders were 19 which represented 16% of the respondents, Diploma holders had 21 respondents, Bachelor's Degree had 42 respondents which represented a 35.25 being the majority, whereas Post Graduate were 37 representing 31.1 Percent from the results it is evidence that the clearance personnel involved in the clearance of Dangerous goods at the port of Mombasa, have been properly trained.

Table 4.4 Place of Work and specialization

Place of work and specialization	**Frequency**	**Percentage %**
CFS	30	15.78%
Enforcement	12	10.08
Container Terminal and shades	20	16.81
Mombasa Bonded Facilities	24	20.17
Petroleum Monitoring Unit	18	15.12
Export and manifest section	15	12.60
Total	**119**	**100.0%**

Majority of the respondents who took time to provide their opinions to the study were from the Clearing and forwarding officers with 35.3%, Warehousing and distribution section the researcher obtained 24 respondents representing a 20.2 %, fuel section obtained 18 respondents while private clearing and forwarding agents were 15, administration and finance departments had 12 and 8 respondents respectively. This indicated that the respondents were more qualified, had an experience in dealing with the clearance of dangerous goods at the port. It also indicated that they have a first-hand experience and information relating to the clearance of dangerous goods at the port of Mombasa.

4.3.3 Duration of service

Table 4:5 Duration of Service

Number of years worked in the position	**Frequency**	**Percentage %**
Below 5 years	22	18.5%
5-10 years	38	31.9%
11-15 years	26	21.9%
15-20 years	22	18.5%
above 20 years	11	09.2%
Total	**119**	**100.0%**

The respondents were asked to indicate the number of years they have worked on their respective positions within the department, 22 respondents had worked for less than 5 years, 38 respondents had worked for a period between 5 to 10 years, while 26 respondents had 11 to 15 years' experience, 22 respondents had 15-20 years' experience while 11 respondents had an experience of over 20 years. From the findings it can be said that most of the respondents had experience and were therefore considered to have of information with regard to the clearance of dangerous goods at the Mombasa port.

4.5 Descriptive Analysis

The respondents were engaged to provide their opinions on the clearance of dangerous goods at Mombasa port, the study relied on questionnaires, which was closed ended with likert scale options from 1-5, 1 denoted strongly disagree, while 5 represented strongly agree. The results were summarized using mean scores, where the mean score represents the overall rating on the extent to which respondents agree with the statement.

4.5.1 Customs Enforcement Tools

The findings of the study are as presented in Table 4.6

Table 4:6 Descriptive analysis on Customs Enforcement Tools

Statements	Mean	STD Dev
There are adequate and sufficient enforcement tools for the clearing of dangerous goods at Mombasa port.	3.211	0.987
The adoption of non-intrusive verification technology has significantly improved the clearance of dangerous and hazardous goods at the port.	4.102	1.077
The adoption of pre-arrival clearance at the port greatly improves the clearance of dangerous and hazardous goods at the port.	3.467	1.148
The electronic lodgment system has improved documentation process resulting in applying for clearance of goods	4.214	0.902

The respondents are neutral on the statement that There are adequate and sufficient enforcement tools for the clearing of dangerous goods at Mombasa port having a mean of 3.211 and a standard deviation of 0.987. the respondents were in strong agreement with the statement that the adoption of non-intrusive verification technology has significantly improved the clearance of dangerous and hazardous goods at the port had a mean of 4.102 with a standard deviation of 1.077, this indicates an agreement with the statement. The adoption of pre-arrival clearance at

the port greatly improves the clearance of dangerous and hazardous goods at the port having a mean of 3.467 with a standard deviation of 1.148 which implied that an agreement between the respondents, as evidenced by a significant standard deviation of 1.148 which implies variation between the responses. The respondents agreed with the statement that the electronic lodgment system has improved documentation process resulting in applying for clearance of goods had a mean of 4.214 and a standard deviation of 0.902. these findings are in tandem with Matsudaira (2007) who underscores that the mechanisms put in ensuring that there is a positive effect of the information technology in facilitation of trade, would be fully achieved if business community is safe and the government support is felt.

4.5.2 Customs Officers

The findings of the study are as presented in Table 4.7

Table 4:7 Descriptive Analysis on Customs Officers

Statements	Mean	STD dev
Customs officers handling the clearance of dangerous goods are highly trained	3.86	1.049
There is regular on job training for the officers handling dangerous goods to update on the changes in legislation governing dangerous goods.	4.02	0.996
There is adequate number of experts of dealing with dangerous goods at the port of Mombasa.	2.96	1.108
Most of the Dangerous Goods require lots of documentation supporting their import	4.10	0.984

The respondents were in agreement with the statement that Customs officers handling the clearance of dangerous goods are highly trained with a mean of 3.86 and a standard deviation of 1.049. on the statement that there is regular on job training for the officers handling dangerous goods to update on the changes in legislation governing dangerous goods with a mean response of 4.02 and a standard deviation of 0.996 indicating a strong agreement to the statement. The respondents further were neutral on the statement that there is adequate number of experts of dealing with dangerous goods at the port of Mombasa with a mean of 2.96 and a standard deviation of 1.108. finally when asked to comment on the statement that Most of the Dangerous

Goods require lots of documentation supporting their import having a mean of 4.10 and a standard deviation of 0.984 therefore indicating a strong agreement to the statement.

4.5.3 Specialized Storage Facilities

The findings of the study are as presented in Table 4.8

Table 4:8 Descriptive analysis on Specialized Storage Facilities

Statements	Mean	STD dev
The Clearance personnel involved in clearance of dangerous goods are well trained in the handling of the dangerous goods at the storage facilities.	3.67	1.065
The warehousing for dangerous goods at the port of Mombasa is properly managed.	3.89	1.026
There are adequate warehousing facilities at the port for the storage of the dangerous goods such as corrosives and petroleum.	3.34	1.049
There are adequate reefer facilities for handling of the dangerous goods imported through Mombasa port.	4.23	0.990

The researcher engaged the respondents with the following statements to measure their level of agreement or disagreement and their opinions. The respondents were in agreement with the statement that the Clearance personnel involved in clearance of dangerous goods are well trained in the handling of the dangerous goods at the storage facilities had a mean of 3.67 with a standard deviation of 1.065. they were also in agreement with the statement that the warehousing for dangerous goods at the port of Mombasa is properly managed had a mean of 3.89 with a standard deviation of 1.026. The respondents agree with the statement that thereare adequate warehousing facilities at the port for the storage of the dangerous goods such as corrosives and petroleum having a mean of 3.34 and a standard deviation of 1.049. There are adequate reefer facilities for handling of the dangerous goods imported through Mombasa port with a mean of 4.23 and a standard deviation of 0.990 therefore indicating a strong agreement to the statement.

4.5.4 Clearance of Dangerous Goods

The findings of the study are as presented in Table 4.9

Table 4:9 Descriptive analysis on Clearance of Dangerous Goods

Statements	Mean	STD dev
There has been significant improvement on the Amount of Dangerous goods cleared at the port.	4.01	0.963
Priority handling of dangerous and hazardous goods at the port is adopted at Mombasa port.	4.20	1.023
The clearance of Dangerous Goods at the port of Mombasa has improved in terms of speed of clearance	4.08	0.984
Adoption of Post Clearance Audit to Some Dangerous Goods has positively improved the speed of clearance at the port.	4.31	0.978

There has been significant improvement on the Amount of Dangerous goods cleared at the port, from this statement the mean response obtained was 4.01 and a standard deviation of 0.963, this therefore indicated that the respondents strongly agreed with the statement. The respondents further strongly agreed with the statement that Priority handling of dangerous and hazardous goods at the port is adopted at Mombasa port having a mean of 4.20 with a standard deviation of 1.023. they were in agreement with the statement that the clearance of Dangerous Goods at the port of Mombasa has improved in terms of speed of clearance had a mean of 4.08 with a standard deviation of 0.984. on the statement that the Adoption of Post Clearance Audit to Some Dangerous Goods has positively improved the speed of clearance at the port, the respondents demonstrated strong agreement by having a mean of 4.31 with a standard deviation of 0.978. These findings were in tandem with Abrenica, & Techson (2003) that through the pursuit of trade facilitation, customs administrations have adopted the pre-arrival clearance mechanism so as to enable faster clearance of cargo notwithstanding to balance between enforcement of the law and facilitation of trade.

4.6 Correlation Analysis

The researcher carried out Pearson correlation analysis to establish the relationship between independent variables and dependent variables in the study. The findings of the study are as indicated in table 4.9

Table 4:10 Correlation Analysis

Correlations					
		Customs_ Enforcement_Tools	Customs Officers	Specialized Storage Facilities	Clearance Of Dangerous goods
Customs_Enforcement_Tools	Pearson Correlation	1	.348**	.470**	.570**
	Sig. (2-tailed)		.000	.000	.000
	N	119	119	119	119
Customs Officers	Pearson Correlation	.348**	1	.566**	.612**
	Sig. (2-tailed)	.000		.000	.000
	N	119	119	119	119
Specialized_Storage_Facilities	Pearson Correlation	.470**	.566**	1	.720**
	Sig. (2-tailed)	.000	.000		.000
	N	119	119	119	119
Clearance_Of_Dangerous_goods	Pearson Correlation	.570**	.612**	.720**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	119	119	119	119

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

There is a strong positive correlation between the Customs Enforcement tools with the Clearance of Dangerous Goods at the port given by the Coefficient r=0.570. This implies that the Customs Enforcement Tools have a strong influence on the Clearance of Dangerous Goods at the port.

Customs Officers have also a strong influence on the clearance of Dangerous Goods at the port, this is supported by the coefficient of correlation r of 0.612. Therefore, the findings indicate that the Customs Officer's Skills and competency strongly affects the clearance of Dangerous Goods at the Port of Mombasa.

Specialized Storage Facilities have a very strong influence on the clearance of the Dangerous goods at the port, the coefficient of correlation r =0.720. this indicates that the specialized storage facilities significantly affect the clearance of dangerous goods at the port of Mombasa.

These facilities including warehousing adequacy and reefer facilities.Correlation is significant at the 0.01 level; hence all the variables are within the significant levels at 0.000, making the correlation significant to predict the relationship between the dependent and independent variables.

4.7 Regression Analysis

The study used a multiple regression analysis to test the factors affecting Customs Clearance of dangerous goods from the Port of Mombasa.

4.7.1 Coefficient of Determination

The extent, in which the variation of the dependent variable is attributed to the interactions of the independent variables, is given by the Coefficient of determination (R Square). Therefore, the clearance of Dangerous goods is affected by the studied variables; Customs Enforcement Tools, Customs Officers and Specialized storage facilities by 63.6% as shown in the table below. The models obtained explained the 63.6% variation of the clearance of the dangerous goods at the port of Mombasa attributed to the variables under the study, which include, Customs Enforcement tools, Customs Officers and Specialized storage facilities. The rest of the variation 36.4% is explained by variables not included in the study. R denotes the simple correlation whereby a value of 0.798 infers a high correlation.

Table 4:11 Coefficient of Determination

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798a	.636	.627	1.381

a. Predictors: (Constant), Specialized_Storage_facilities, Customs_EnforcementTools, Customs_officers

4.7.2 Analysis of Variance (ANOVA)

The Analysis of variance is used to test variation of means of two or more set of data, while establishing the significance of the models. From the analysis, the ANOVA. The model indicated significance level of 0.000, indicating that the models obtained is statistically significant to

predict the factors affecting the clearance of dangerous goods in Mombasa Port. ANOVA results showed that the model was significant at F = 66.980, with p<.05. At 95%, confidence level the analysis indicates high reliability of the results obtained thus indicating that the study was statistically determined.

Table 4:12 ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	383.433	3	127.811	66.980	**.000[b]**
	Residual	219.441	115	1.908		
	Total	602.874	118			

a. Dependent Variable: Clearance_of_Dangerous_Goods

b. Predictors: (Constant), Specialized_Storage_facilities, Customs_Enforcement_Tools, Customs_officers

4.7.3. Coefficients

The researcher relied on Multiple regression analysis to examine the relation between the clearance of Dangerous Goods and the independent variables; Customs Enforcement Tools, Customs Officers and Specialized storage facilities.

Table 4:13 Regression coefficient

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	**4.861**	**.911**		**5.334**	**.000**
	CustomsEnforcementTools	**.229**	**.055**	**.268**	**4.185**	**.000**
	Customs_officers_skills	**.217**	**.055**	**.269**	**3.913**	**.000**
	Specialized_Storage_facilities	**.363**	**.060**	**.442**	**6.059**	**.000**

a. Dependent Variable: Clearance_of_Dangerous_Goods

the linear regression Model equation can be derived as follows;

$$\mathbf{Y = 4.861 + 0.229X_1 + 0.217X_2 + 0.363X_3 + \varepsilon}$$

The y intercept being 4.861 indicates the clearance of the dangerous goods at the port of Mombasa when the other variables are at zero. This denotes that even without the variables under study, there is still the progress in the clearance of the dangerous goods at the port of Mombasa.

Customs Enforcement tools had a 0.229, this indicated that the customs enforcement tools influence the clearance of the dangerous goods at the port of Mombasa by 22.9%. implying that a change or an improvement in the Customs Enforcement Tools will result to an improvement in the clearance of the Dangerous Goods at the Port of Mombasa by 22.9%.

Customs Officers Skills and Competence were found to have influence on the clearance of Dangerous Goofs at the port of Mombasa by 21.7%. this indicated a moderate influence on the dependent variable, whereby in the event that the Customs skills and competencies were improved, this would result to an improvement in the clearance of Dangerous Goods at the Port of Mombasa.

The Specialized Storage facilities were found to have a great influence on the clearance of dangerous goods, the specialized facilities required to handle, store and transport these dangerous goods at the port during clearance were found to affect by 36.3%.

The error term indicates other variables that affects the clearance of dangerous goods at the port of Mombasa but has not been included in this study. The model is statistically significant to predict the relationship between the dependent and the independent variables whereby the significance levels are all at 0.00.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Introduction

This chapter presents the summary of research findings, conclusions and recommendations for future studies.

5.2 Summary of findings

The purpose of the study was to determine the factors affecting customs clearance of dangerous goods at the port of Mombasa. The researcher sought to examine the perceived factors such as enforcement tools, Customs officers skills and competence and specialized storage facilities. All the models obtained were statistically significant to predict the relationship between the independent variables and the dependent variable.

Customs Enforcement tools have a strong effect on the clearance of dangerous goods at the port of Mombasa. The researcher found out that to a great extent, the enforcement tools influence the clearance of dangerous goods.

From the correlation analysis which aimed in determining the relationship between the enforcement tools and clearance of dangerous goods, there is a strong positive correlation between the Customs Enforcement tools with the Clearance of Dangerous Goods at the port given by the Coefficient r=0.570. this implies that the Customs Enforcement Tools have a strong influence on the Clearance of Dangerous Goods at the port.

The findings were also supported by the linear regression model generated, whereby the Customs Enforcement tools had a 0.229, this indicated that the customs enforcement tools influence the clearance of the dangerous goods at the port of Mombasa by 22.9%. implying that a change or an improvement in the Customs Enforcement Tools will result to an improvement in the clearance of the Dangerous Goods at the Port of Mombasa by 22.9%.

5.2.2 How do Customs officers affect the clearance of dangerous cargo at the port of Mombasa?

To a great extent the Customs officers were found to affect the clearance of dangerous cargo at the port of Mombasa. Based on the correlation analysis, Customs Officers have also a strong influence on the clearance of Dangerous Goods at the port, this is supported by the coefficient of correlation r of 0.612. Therefore, the findings indicate that the Customs Officer's Skills and competency strongly affects the clearance of Dangerous Goods at the Port of Mombasa.

From the regression analysis results, the researcher found almost similar results whereby Customs Officers Skills and Competence were found to have influence on the clearance of Dangerous Goofs at the port of Mombasa by 21.7%. this indicated a moderate influence on the dependent variable, whereby in the event that the Customs skills and competencies were improved, this would result to an improvement in the clearance of Dangerous Goods at the Port of Mombasa.

5.2.3 How have Specialized Storage facilities affected clearance of dangerous goods at the port of Mombasa?

Specialized Storage Facilities were found to significantly affect the clearance of dangerous goods at the port of Mombasa, based on the correlation analysis, the specialized storage facilities were tested to have a very strong influence on the clearance of the Dangerous goods at the port, the coefficient of correlation r =0.720,this indicated a significant effect on the clearance of the clearance of dangerous goods at the port of Mombasa.

The findings were supported by the regression analysis, whereby the Specialized Storage facilities were found to have a great influence on the clearance of dangerous goods, the specialized facilities required to handle, store and transport these dangerous goods at the port during clearance were found to affect by 36.3%.

5.3. Conclusions

The main research objective of the study was to examine the factors affecting Customs Clearance of dangerous goods from the port of Mombasa Authority-Mombasa. The researcher identified the Customs Enforcement Tools, Customs Officers and Specialized Storage Facilities to be affecting the clearance of Dangerous Goods at the Port of Mombasa.

With a specific objective of assessing effect of enforcement tools on customs clearance of dangerous goods at the port of Mombasa, the study concludes that Customs Enforcement tools have a strong effect on the clearance of dangerous goods at the port of Mombasa.

The second study objective aimed to establish the effect of Customs officers on customs clearance of dangerous goods at the port of Mombasa. From the findings above to a great extent the Customs officers were found to affect the clearance of dangerous cargo at the port of Mombasa. Based on the correlation analysis, Customs Officers have also a strong influence on the clearance of Dangerous Goods at the portof Mombasa.

With a third specific objective of establishing the effect of specialized storage facilities on customs clearance of dangerous goods at the Port of Mombasa.The findings indicated that Specialized Storage Facilities were found to significantly affect the clearance of dangerous goods at the port of Mombasa. The study concludes that Specialized storage Facilities have a significant effect on the clearance of Dangerous Goods at the port of Mombasa.

5.4 Recommendations

Following the successful research study, from the findings obtained during the study, the researcher recommends the following:

i. Improvement on the Customs Enforcement tools used by the customs officers at the port of Mombasa while clearing dangerous goods.
ii. Regular and frequent training of officers dealing with the clearance of dangerous goods at the port, this will improve on the efficiency during handling of dangerous goods at the port of Mombasa.
iii. More resources should be allocated to aide in the specialized storage facilities involved in the handling, storing of dangerous goods.

5.5 Areas of Future research

With the successful completion of the study on the factors affecting customs clearance of dangerous goods at the port of Mombasa, the regression analysis indicated that the models obtained explained the 63.6% variation of the clearance of the dangerous goods at the port of

Mombasa to attributed to the variables under the study, which include, Customs Enforcement tools, Customs Officers and Specialized storage facilities. The rest of the variation 36.4% is explained by variables not included in the study. The researcher recommends on further studies to unearth the 36.4% variation in the clearance of dangerous goods at the port of Mombasa, among related areas of study.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

KENYA SCHOOL OF REVENUE ADMINISTRATION

P.O BOX -80100

MOMBASA.

Dear respondent,

I am a Postgraduate student at Kenya School of Revenue Administration conducting research study on "Factors affecting Customs Clearance of Dangerous goods at the port of Mombasa".

Your response to this questionnaire is crucial to the successful completion of this research project. Individual responses will be anonymous. Your time and participation in this study will be greatly appreciated.

Thank you for your cooperation.

Yours Sincerely,

Grace Kabui

APPENDIX II: QUESTIONNAIRE

The study on FACTORS AFFECTING CLEARANCE OF DANGEROUS GOODS AT THE PORT OF MOMBASA. (Responses will be treated with utmost confidentiality). These Classes of dangerous Goods are listed below;

Class 1: Explosives, for example, firearms grenades and detonators.

Class 2: Flammable gasses for example Liquefied Petroleum Gasses (LPG) such as Butane and Propane and Liquefied Natural gasses (LNG) such as Methane and Ethane.

Class 3: Flammable Liquids such as Methanol

Class 4: Flammable Solids.

Class 5: Oxidizing agents

Class 6: Toxic or Poisonous substances such as pesticides.

Class 7: corrosives

Class 8: Radioactive Substances such as Battery Cells and

Class 9: Miscellaneous substances for instance when a vehicle is shipped in a container it falls under this class because the vehicle has fuel in it and can cause harm if not properly handled.

SECTION A: DEMOGRAPHIC INFORMATION

1. Highest level of Education and training attained?

Certificate/O-level [ ] Diploma [ ] Bachelor's Degree [ ] Master's Degree [ ] PHD [ ]

2. Where do you work?

Finance and Accounts [ ] Administration [ ] Clearing and forwarding Officers [ ]
Warehousing and Distribution [ ] Fuel Section [ ] Private Clearing and Forwarding Agents [ ]

3. Number of years worked in the position

Below 5 years [ ] 5-10 years [ ] 11-15 years [ ] 15-20 years [ ] above 20 years [ ]

SECTION B. CUSTOMS ENFORCEMENT TOOLS

This section seeks to establish how the Customs Enforcement Tools affects the clearance of the dangerous goods at the port of Mombasa. These enforcement tools including non-intrusive tools and scanners the systems in use by both the port and customs department. 5= Strongly Agree, 4= Agree, 3= Neutral, 2=Disagree, 1= Strongly Disagree

	STATEMENTS	**1**	**2**	**3**	**4**	**5**
B1	There is adequate and sufficient enforcement tools for the clearing of dangerous goods at Mombasa port.					
B2	The adoption of non-intrusive verification technology has significantly improved the clearance of dangerous and hazardous goods at the port.					
B3	The adoption of pre-arrival clearance at the port greatly improves the clearance of dangerous and hazardous goods at the port.					
B4	The electronic lodgment system has improved documentation process resulting in applying for clearance of goods					

SECTION C: CUSTOMS OFFICERS

The section examines the effects of customs officers' skills and competency on the clearance of dangerous goods at Mombasa port. 5= Strongly Agree, 4= Agree, 3= Neutral, 2=Disagree, 1= Strongly Disagree

	STATEMENTS	**1**	**2**	**3**	**4**	**5**
C1	Customs officers handling the clearance of dangerous goods are highly trained					
C2	There is regular on job training for the officers handling dangerous goods to update on the changes in legislation governing dangerous goods.					
C3	There is adequate number of experts of dealing with dangerous goods at the port of Mombasa.					
C4	Most of the Dangerous Goods require lots of documentation supporting their import					

SECTION D: STORAGE FACILITIES

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

	STATEMENTS	**1**	**2**	**3**	**4**	**5**
D1	The Clearance personnel involved in clearance of dangerous goods are well trained in the handling of the dangerous goods at the storage facilities.					
D2	The warehousing for dangerous goods at the port of Mombasa is properly managed.					
D3	The is adequate warehousing facilities at the port for the storage of the dangerous goods such as corrosives and petroleum.					
D4	There is adequate reefer facilities for handling of the dangerous goods imported through Mombasa port.					

SECTION E: CUSTOMS CLEARANCE OF DANGEROUS GOODS

The hazardous or dangerous goods have signage on them, a warning indication of presence of the dangerous materials whether on the item and the facilities they are kept.5= Strongly Agree, 4= Agree, 3= Neutral, 2=Disagree, 1= Strongly Disagree

	STATEMENTS	**1**	**2**	**3**	**4**	**5**
E1	There has been significant improvement on the Amount of Dangerous goods cleared at the port.					
E2	Priority handling of dangerous and hazardous goods at the port is adopted at Mombasa port.					
E3	The clearance of Dangerous Goods at the port of Mombasa has improved in terms of speed of clearance					
E4	Adoption of Post Clearance Audit to Some Dangerous Goods has positively improved the speed of clearance at the port.					

APPENDIX III RESEARCH WORK PLAN

Activity	Jan to march 2018	April to June 2018	June 2018	November 2018	March-June 2019	October 2019
Topic identification						
Proposal writing						
Proposal Defence						
Data collection						
Final project Defence						

APPENDIX IV: BUDGET

Activity	**Amount (Ksh)**
Data collection instruments	13000
Travel	2000
Data bundles	15000
Computer maintenance	3000
Typing, Printing and binding	12000
Data analysis	2350
Miscellaneous expenses	1700
Total amount	**49,050**