

**EFFECT OF CUSTOMS PROCEDURES ON CARGO CLEARANCE: A CASE
OF INLAND CONTAINER DEPOT EMBAKASI**

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**A RESEARCH PROJECT SUBMITTED IN THE PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE POST GRADUATE
DIPLOMA IN CUSTOMS ADMINISTRATION TO JOMO KENYATTA
UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

2019

DECLARATION

This study project is my original work and has not been presented to any other examination body. No part of this work should be reproduced without my consent or that of Kenya School of Revenue Administration.

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DEDICATION

This research study is dedicated to my entire family for their moral support throughout the entire customs administration program especially during this Research Project development.

ACKNOWLEDGEMENT

My glorious thanks, is to the Almighty God who has given me the power and peace of mind, special thanks go to The Kenya Revenue Administration Lecturers for their tireless efforts to sharpen my knowledge.

Special thanks to my Supervisor Dr. Bruce Ogaga for guidance that has seen the success of this study project.

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OPERATIONAL DEFINITION OF TERMS

Custom Taxes	Import and export duties as listed and defined in EACCMA
Customs Agent	A person or company that is paid to make the formal arrangements for imported goods to go through customs.
Customs Officer	A person whose job is to collect customs duties and prevent illegal or contraband goods from leaving a country
Dwell Time	The number of days that cargo spends at the port site awaiting shipment.
Inspections	Customs inspection structure described by the physical inspection of cargo
Inspection	custom procedure for checking that a product, service, or system meets requirements and specifications and that it fulfills its intended purpose.
Warehouse	It is a building or other secured area in which dutiable goods may be deposited, until duty is paid or are cleared for export

LIST OF ACRONYMS/ABBREVIATIONS

CASE	Customs Automated Services
CET	Common External Tariff
EAC	East African Community
EACCMA	East Africa Community Customs Management Act
EACU	East African Customs Union
GATT	General Agreement on Tariff and Trade
GCNet	Ghana Community Network Services Limited
GPD	Gross Domestic Product
HTS	Harmonized Tariff System
ICDE	Inland Container Depot Embakasi
KEPHIS	Kenya Plant Health Inspectorate Service
KPA	Kenya Ports Authority
KRA	Kenya Revenue Authority
KRB	Kenya Roads Board
NII	Nonintrusive Inspection
NTBs	Non-Tariff Barriers
OSBP	Stop Border Post Strategy
UNCTAD	United Nations Conference on Trade and Development
WCO	World Custom agencies
WEF	World Economic Forum
WTO	World Trade Organization

ABSTRACT

The study aimed to establish the effect of customs procedures on cargo clearance with reference to Internal Container Depot Embakasi (ICDE). The specific objectives of the study were to establish the effects of scanning, inspection, customs warehouse procedures on cargo clearance in ICDE. The study used mutual benefit theory queuing theory and agency theory to substantiate the concept of custom procedures and cargo clearance. Descriptive research design was used in the study, purpose sampling used for the top management and stratified random sampling used for both middle and operation level management. The study used a target population of 120 respondents drawn from ICDE comprising of custom clearance agents. The primary data was collected using interviews with management, and using questionnaires administered to ICDE agents. The study also used secondary data by reviewing custom's reports and publications from ICDE and KRA. The data was analysed quantitatively and qualitatively using tables, percentage and charts for a period of four weeks. The study targeted the clearing agents who operate from ICDE. The study found that scanning, inspection of cargo and customs warehouse procedures affect cargo clearance at ICDE. Most respondents considered time taken by the procedures as long but also they concurred that more can be done to address the issue. The study established that scanning procedure is operational at ICDE and its importance in ensuring cargo clearance even though a number of challenges hamper it. Custom staff lack sufficient training in the use of the scanning equipment and operate under comprehensive standard operating procedures. Imported containers go through different types of inspections for many different reasons. Some inspections are random and some others are targeted by customs and other government agencies. The study recommended that customs department should add more scanners and during each inspection, all aspects of the scanning equipment should be checked, including all safety related features. Customs staff should be fully trained in all aspects of the use of the scanning equipment, including safety. The study also found out that warehouse procedures take time and that more staff should be added by customs to make it faster. The study also recommends that customs should sensitize the clearing agents on the importance of the custom procedures which is apart from collection of revenue is also important in protection of the society.

CHAPTER ONE

1.0 Introduction

This Chapter explored study background as viewed in literature, it stated the statement of the problem, objective of the study, study questions, significance of the study, and scope of the study on effects of customs procedures on cargo clearance.

1.1 Background to the Study

According to Schware and Kimberley (2010), one of the worries in intercontinental trade is the time spent to clear export and import products by consenting to the customs procedures and practices of the nation being referred to, and the corresponding exchange expenses related with such strategies. Diminishing the time required for the clearance of merchandise at customs reacts to exchange necessities where the administrators need to prepare for the movement of merchandise goods across borders so as to meet tight manufacturing plans and in the just-in-time stock systems that require forward planning.

Notwithstanding direct export/import exercises, there are various unmistakable administrative processes and administrations that influence cross border activities. These tasks fall into the more extensive classes of income gathering, open wellbeing and security, condition and wellbeing, purchaser insurance and exchange strategy issues. Customs methods, narrative necessities, examination just as general security issues, can all seriously hamper the auspicious movement of merchandise crosswise borders. Instances of bottlenecks and hindrances are various, and they comprise generous managerial and budgetary weights for any merchant and involve significant financial and social expenses to the national economy (Schware and Kimberley, 2010).

As per European Union Commission (2015), the United States current framework progressed by the United States includes singling out a bunch of "high-hazard" cargo containers for radiation filtering. The present examination system being progressed by the U.S. Branch of Homeland Security and generally upheld by the global network can just deal with a little level of the complete burden. An other assessment convention that accentuates screening (a fast essential sweep everything being equal, trailed by an increasingly cautious optional output of just a couple of compartments that bomb the essential test) holds guarantee as a possible answer for gathering the 100 percent examining prerequisite.

The CSI review procedure is equipped only towards U.S.- bound containers, it starts 24 hours ahead of time of a compartment's filling onto a maritime vessel, and it utilizes data contained in the delivery shows to choose whether or not explicit compartments require concentrated nonintrusive examination (NII), European Union Commission (2015). The SFI convention uses drive-through entryways to check each compartment as it enters a port terminal, and the aftereffects of these sweeps notwithstanding delivery show information can trigger the requirement for increasingly concentrated NII.

Malaysia pursues the Harmonized Tariff System (HTS) for the order of merchandise. All imported and sent out merchandise into the nation must be arranged dependent on the Malaysian Customs tax numbers. Any inquiries in regards to characterization of import and fare products ought to be made to the specific customs station of which the merchandise are to be imported. Malaysia Cargo Scanning Services initially is a completely financed Public Private Partnership (PPP) conspire; incorporation in

existing physical stream and narrative procedures; plan of operational and security methodology; site the executives including traffic marshaling, framework activity and radioprotection checking; full upkeep (counting ensured uptime); wellbeing and security observing, radioactivity insurance; framework overhauls; and preparing, limit building and ability transfer.

According to Agbesi (2013), Ghana's ports play a major role in the economic growth of the country, with Tema port being one of the biggest ports in Ghana and handling about 80 percent of the country's national and exports and import. Of course one cannot dispute the fact that Ghana is dependent on trade because of the low cost of sea transport. According to the sector report on port development Ghana, 2014 Ghana has benefited from an increase in cargo inflow due to the political turmoil in Cote d'Ivoire (de Jong and Baas 2015). Cargo clearance agencies incorporate Customs, the Port, other receipt conveyance specialist co-ops, Shipping Lines and Agents. Customs regulation 2015 sec. 891 part 43 orders all shippers except for Self-Declarants to draw in the administrations of authorized Customs House Agents for the clearance of cargo at any cargo station in Ghana.

According to Broni (2014), the clearance procedure contains; Statement of freight information on to the GCNET incorporates; Customs Document Inspection, System Validation, consignment Classification and Valuation, Risk Assessment and quality affirmation, payment of obligation, cargo check. Discharge by the Shipping Agent, Delivery by the port and other receipt conveyance specialist organizations; Customs physical assessment or examining of freight before cargo is permitted to leave the port.

Port clearing in Ghana requires a ton of administrative work and along these lines expecting one to experience numerous procedures.

The port authority is responsible for the physical custody and treatment of goods as they make their transition from the vessel to the temporary storage until they are availed to the proprietor, Broni (2014). Clearing cargo in Ghana through seaports includes managing various coordination specialist organizations and government associations so as to satisfy legally binding and assessment obligations that may be associated with the shipment.

According to South African Revenue Service (SARS) Report (2017), the revenue authority has around 90,000 item codes that carefully apply to all imports. Outside exporters are emphatically urged to look for a nearby specialist for customs freedom with a decent comprehension of South African enactment. Customs SA, a division of SARS, expects shippers to enroll and acquire a SARS merchant code. SARS utilizes a Single Administrative Document (SAD) to encourage custom freedom for shippers, exporters and cross-border merchants.

The SAD is a multi-reason products affirmation structure that spreads imports, sends out, cross-outskirt and travel developments. The accompanying archives are required to acquire the SAD: One debatable and two non-debatable duplicates of the Bill of Lading. A Statement of Origin Form, DA59, is to be used in situations where a pace of obligation lower than the general rate is asserted just as for products subject to antidumping or countervailing obligation; four duplicates and one unique Commercial Invoice. Solicitations from providers are not acknowledged as fulfilling. For the entry

of commercial tests, publicizing materials and expert equipment, South Africa applies the ATA (Temporary Admission) Carnet system. Products ought to be enough set apart for distinguishing purposes in order to encourage their passage through customs. South Africa is a member of the ATA Convention

1.1.1 Custom Procedures

In Kenya, customs is in the forefront of the various agencies that intervene in worldwide trade in merchandises. Customs is, for case in point deeply involved in controlling goods which cross borders, determining goods nomenclature and origin, and collecting revenue as well as administering trade policies. Hence, the way of how customs operates highly affects international trade either negatively or positively. In other words, the means of how customs operates can either complicate or simplify intercontinental echage in merchandises and this introduced us to the concept of trade facilitation (Kafeero, 2012).

According to ICDE (2017), the tasks of clearing and forwarding firms are licensed and regulated by the Kenya Revenue Authority (KRA) under the Customs Services Department. There are certain minimum necessities which a firm must comply with to get approval for licensing or have the existing license renewed. These includes, membership to KIFWA, obtaining a certificate of good conduct for directors, a recommendation letter by a bank, clearance by the Domestic Taxes Department in relation to Income Tax and Value Added Tax returns among others.

According to Awitta (2014), with the ascent of globalized exchange and dangers to store network security, holder Inspection systems are progressively used all through the

world to check compartments, trucks and other cargo conveying vehicles for booty, snuck products, drugs, explosives, weapons and other non-proclaimed cargo. The Kenya custom is at the front line in the utilization of such advancements to guarantee consistence with universal inventory network security best operations and the safety of its boundaries.

with the rise of globalised trade and threats to supply chain security, container Inspection systems are increasingly used throughout the world to scan containers, trucks and other cargo carrying vehicles for contraband, smuggled goods, drugs, explosives, weapons and other non-declared cargo. The Kenya custom is at the forefront in the use of such technologies to ensure compliance with intercontinental supply chain security best practices and the security of its borders.

According to Buyonge (2012), the scanning process involves the container carrying truck being guided into the scanning tunnel. The motorist unboards the truck and waits in the special shielded waiting area. The x-ray scanner consisting of a housing which includes an x-ray source and sensor passes over the container on a fixed rail system. The x-ray scanner uses a dual source energy (6/3MeV) linear accelerator which can easily discriminate different types of material both organic and non-organic. Full containers can be unpacked and the palletized consignment is scanned using smaller pallet x-ray scanners. Skilled and trained operators can very quickly analyze the image produced by the scanners and determine concealed items and under-declared quantities.

According to Ndikom and Emeghara (2012), the scanning systems are completely furnished with a full scope of wellbeing highlights which incorporates: Shielding

offices: protecting is used in the filtering gear and the related examining burrow just as the activities structures. The avoidance zone is completely outfitted with hindrances and alerts. What's more, a PA and CCTV systems are used to guarantee against unapproved access during examining activities. Radiation security interlocks with crisis stops in the filtering passage and activities rooms. During scanning tasks, the ability to the scanner can be ceased momentarily by squeezing these crisis stops, Malterud et al (2016). Radiation dose screens are used all around the system to screen radiation levels. The indicators used in the scanners are incredibly delicate and guarantee that solitary the base measure of radiation required for an image is used.

Using movable machineries and applications, the time between the examination and Customs freedom of the products could be diminished and the measure of data about investigations accessible to every single controlling specialist would increment. Utilizing portable advances and applications for investigation forms, Customs freedom time is relied upon to be chopped down during the pilot by a normal of three to four hours for every compartment or truck examined (ICDE, 2017).

As per Clarete (2012), physical examinations right now completed at the Port by customs monitors and customs authorities request evidence of documentation identified with the products ahead of time. On numerous events, one physical examination may square more containers, trucks, or products pronounced in a similar Single Administrative Document. Customs select one compartment or a truck (in the event of a move on move off traffic) to investigate from the rundown of components pronounced yet the remainder of components are held until Customs clearance of the selected one has been acquired.

Subsequently, the customs dealer must resend the filtered report with the aftereffect of the investigated hardware or even present it at Customs premises to free the remainder of the gear. An extra issue is introduced by the way that few investigation bodies need to control and assess shipments emptied from a specific vessel and they each have their very own principles and strategies and complete their work independently from the rest, (Clark et al. 2002).

Clarete (2012) notes that a Private Bonded Warehouse is any protected structure or spot delegated by the Comptroller of Customs by warning to be a private warehouse for the putting away and verifying of merchandise without the payment of obligations and assessments. Obligations and expenses must be therefore paid by means of a Customs passage/presentation when there is a solicitation for arrival of the products by the merchant for home utilization or for fare. This sort of warehouse is liable to severe Customs controls and limitations.

As indicated by European Union Commission (2015), the strategies sketched out hereunder manage the necessities concerning the warehousing of products on the Entry for Warehousing as pursues: Entry for Warehousing is set up by the shipper from solicitations and other significant records. This is submitted to the Customs Inventory Audit Unit, Customs House Kingstown for checking, acknowledgment and mark. Archives are taken to the Import location for landing of the product to the Warehouse. At the Warehouse, the product are tallied and inspected, and a record is taken of the substance of the bundles by the warehouse manager and the Customs Officer and each package is marked with the rotation number that is assigned.

1.1.2 Cargo Clearance

Aliet (2011) observes that, Inland Container Depots, also called ICDEs, are dry ports prepared for dealing with and impermanent capacity of containerized cargo just as discharges. This implies hinterland clients can get port administrations all the more advantageously closer to their premises. Kenya Ports Authority claims and oversees Inland Container Depot deliberately situated in Embakasi-Nairobi. Awitta (2014) likewise takes note of that ICDEs are an advantageous transportation option stretching out port administrations closer to hinterland clients. The stations are legitimately connected to the compartment terminal at the port of Mombasa by rail through an administration called 'railtainer' given by the Rift Valley Railways. This administration transports containerized freight by rail, on Through Bill of Lading (TBL) status. As indicated by Kafeero (2012), ICDE office gives a one-stop shipping center that caters for all delivery needs and incorporates; a business bank to ease budgetary exchanges, a weighbridge and a railroad siding for transportation logistics.

1.2 Statement of the Problem

Customs procedures in Kenya experienced manual activities, discretionary choices, defilement and deferrals in clearance. Despite simplification of Customs procedures in recent times, Customs procedures in Kenya were lengthy and less than efficient, leading to delays in the release of goods. All imported goods are subject to customs clearance in every destination country. Merchants and exporters are required to discover ahead of time the clearance prerequisite at goal nation and get ready intends to satisfy them. Regardless of the arrangements made by clearing officials, still redemption of merchandise from port to the organization warehouse is as often as possible postponed. It is that delicate, passionate human response of opposition that issues (Maurer, 2010).

Clearing agents in Kenya see the effects of customs as for the most part ominous a blend of evident and slight obstructions. This effect is felt principally in some interconnected ways, for example, costs that can be immediate (by means of expenses) or backhanded (by means of additional staff costs) to play out all methodology required for customs or through capacity costs for products anticipating preparing; they can be expanded if the handling time is drawn out; Elongated time because of stretched handling time for imports can prompt deficiency of materials subsequently the activities can stop; and firmness as the merchandise winds up tied up in customs handling are not accessible for further choice or sale, (McTiernan 2010).

Kenya International Freight and Warehouse Association (Kifwa) (2017), notes that more than 1,000 containers arrive at the Mombasa port daily. ICDN yard population is at 9,200 containers against a capacity of 3,000. The slow clearing process, the players said, had led to the reduction in the number of containers ferried through the Standard Gauge Railway from the Port of Mombasa to ICD in Nairobi. Long distance transporters also voiced their concerns saying they have been wasting a lot of time due to the delays. Importers would have a day to collect their cargo cleared by the Kenya Revenue Authority (KRA), failure to which they would also pay a punitive charge of Sh10, 000 for a 20-foot container and Sh20, 000 for a 40-foot container per day. This even as the importers earlier this week blamed KRA for the delays experienced in clearing cargo at the ICDN (KRA, 2017).

According to Kifwa (2017), KRA withdrew the passwords of 200 clearing agents in a recent crackdown and created additional layers of approval where two commissioners have to clear cargo before it leaves the ICDN. As a result, more than 10,000 20-foot

containers are lying at the ICDN. It takes more than 14 days for the KRA commissioners to decide, noting that the taxman's role had transformed into one "of interference than trade facilitation. Other impediments are cumbersome regulatory systems and decentralized documentation processes coupled with bureaucratic clearing procedures; and Lack of communication between stakeholders.

A few examinations have been directed on reactions and difficulties of clearing and sending firms and Customs changes and modernization at the Kenya Revenue Authority. Kosgei (2011), led an investigation on the reactions by clearing and sending firms in Mombasa to changes in condition. Aliet (2011) embraced an examination on reactions by the KRA to the difficulties in the execution of the Customs changes and modernization. Awitta (2014) directed an examination on the viability of income gathering methodologies of KRA in Nairobi. This represents no specific examination has been directed on of customs methodology on cargo freedom. It is in this soul that this study assessed the impacts of customs methods on cargo clearance with reference to Internal Container Depot Embakasi.

1.3 Objectives of the Study

The general objective of this study was to establish the effect of customs procedures on cargo clearance with reference to Internal Container Depot Embakasi (ICDE).

1.4.1 Specific Objectives

The specific objectives of the study were;

- i. To establish the effect of scanning on cargo clearance at Internal Container Depot Embakasi.

- ii. To determine the effect of inspection on cargo clearance at Internal Container Depot Embakasi.
- iii. To determine the effect of customs warehouse procedures on cargo clearance at Internal Container Depot Embakasi.

1.4 Research Questions

The study was guided by the following study questions: -

- i. What is the effect of scanning on cargo clearance in Internal Container Depot Embakasi?
- ii. What is the effect of inspection on cargo clearance in Internal Container Depot Embakasi?
- iii. What is the effect of warehouse procedures on cargo clearance in Internal Container Depot Embakasi?

1.5 Significance of the Study

The study is important to the following groups:

1.5.1 Customs Administration

To the customs policy makers the study will help in making policy pertaining customs administration operations to help on time cargo clearance for national development.

1.5.2 General Public

This study is useful to public who are widely interested in understanding the effects of customs procedures on cargo clearance. It will also contribute to the literature due to the scarcity of publications about effects of customs procedures on cargo clearance.

1.5.3 Academicians and Study

It will be of value to the academicians since customs procedures on cargo clearance issues have for a long time been viewed as a complex subject that should be left largely to customs experts and the government. This perception has contributed to the huge information gaps on issues of effects of customs procedures on cargo clearance reaching the public. Academicians and studys to use the study results as a reference material for further study.

1.6 Scope of the Study

This study focused on the effects of customs procedures on cargo clearance a case of ICDE. ICDE Nairobi (Embakasi) is located close to Nairobi's busy industrial area, the ICDE was established in 1984 and has a container stacking area of 99,000sq m with a capacity to handle 180,000 TEUs annually. The study used a sample size of 60 derived from its target population of 120. The study covered the period of 2014 to 2018 financial years.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review is a process, which is dynamic and cuts through all the stages of study in a dynamic way. It helps clarify, strengthen and direct each stage of study. This section looked at the effects of customs procedures on cargo clearance. The various thematic namely scanning of cargo, inspection of goods and customs warehouse procedures, critical issues, gaps to be filled and the conceptual framework.

2.2 Theoretical Literature

2.2.1 Mutual Benefit Theory

Laine and Vepsalainen(1994) pointed out the theory of mutual benefit in a cooperative solution that, in practice the port operator is not much interested in fighting port decongestion as it ensure high utilization of terminal facility, unless the congestion scares away some potential customers. Also the ship owner is only interested in the port operators overall cost to the extent that it lead to higher fees being charged .At the end the customer ,bears the cost of all delays in the chain of all activities, such cost are demurrage, vessel delay surcharge(VDS) and loss of market. Hence all parties could find mutual benefit in a cooperative solution to problem encountered.

Awitta (2014) urge by the government to enhance effort of logistics improvement so as to preempt the problem in order to make life easy to the stake holder and community at large. However the organization, political and cultural aspects of the shipping business should also be taken into account when determining the technology and size of ships. The specific condition in the intended transportation market determines the most

economical route length and concerned for environmental protection. Here the problem was availability of capital as well as resource full shipping entrepreneurs, who could determine the realization of new innovative shipping solutions and cargo handling system that could reduce congestion.

Mutual benefit theory helped identify the benefits realized between custom procedures and the clearing agents regarding scanning process, inspection procedures and warehouse procedures. The study concludes that close contact should be maintained at all times between the port authorities, shippers, agent, customers, trade association and inland transport operator in order to facilitate rapid cargo transshipment.

2.2.2 Queuing Theory

Queueing Theory was created by Wargne (1969). Queueing framework comprises of at least one billet that gives administration or some likeness thereof to arriving ships. Boats touched base to discover all compartments occupied by and large go along with at least one (lines) in front or close to the billets, subsequently the name queueing frameworks. There queueing frameworks in ports has the target of measure execution, for example, line length and holding up time. The arbitrary normal for line framework is explicitly considering giving outcomes which are long haul normal and change of measure. This is to be diverged from reenactment approach where the yield would speak to the postponement or blockage at the port.

Adedayo et al. (2010) focused on that numerous circumstances in life expect one to arrange or line before being taken care of. This lines shaped are alluded to as holding up lines or lines. As per them line happens when the limit of administration gave miss

the mark regarding the interest for the administration. Sanish (2012) in his article on utilization of queueing to the traffic at the Port alludes to queueing hypothesis as a diagnostic methods acknowledged as profitable device for taking care of blockage issues. As indicated by him the essential contributions to the models are the landing and administration designs. These examples are commonly depicted by reasonable arbitrary appropriation. He saw that the landing pace of boats pursues exponential circulation while the administration time pursues Poisson conveyance.

As indicated by Price Waterhouse Coopers (2012) thinking about the variables of approaches to arrive at client, administration, gear and staff administration, additionally proposals dependent on the examination will be given out which may will be shrewd to build the quantity of hardware and individual to improve administration level, decrease queueing time and draw in more client; standards of need of queueing. Orchestrate legitimate path for client to line in different circumstances. What's more, embrace standards of equity to improve consumer loyalty. From the perspective of client, taking care of the issue of queueing is powerful for bettering client administration and sparing expense. It can both supply better administration in a minimal effort and increment client dedication to improve intensity in the market. Queueing hypothesis will help decide the postponements and the underlying driver while cargo experiences filtering, assessment and custom warehouse procedures at ICDE. The hypothesis will held decide the time taken by to clear a solitary cargo, inactive time and holding up time between custom strategies.

The study reasoned that queueing hypothesis can be utilized to anticipate some significant parameters like normal holding up time of boats, normal queueing length,

normal number of boats in the port and normal billet use factor nearer to the real qualities. In this way this hypothesis is significant in overseeing blockage and its related issues at the port. Queuing theory was used in this study to help facilitate inconsistencies among clearing and sending administration cost and clients holding up expense with the goal that it can improve the degree of planning of administration framework and accomplish a sensible portion. It is identified with the designation of gear and work force and that influence clearing and forwarding.

2.2.3 Agency Theory

Agency theory was generated by Jensen and Meckling (1976). They proposed a theory of how the administration of an agency depends on the irreconcilable situations between the agency's proprietors (investors), its chiefs and significant suppliers of obligation fund. An agency, by and large terms, is the connection between two gatherings, where one is a head and the other is a specialist who speaks to the head in e-transactions with a third-party. Agency connections happen when the principals enlist the operator to play out an administration for the principals' sake, Kiser. (2013). Principals ordinarily delegate decision-making power to the representatives.

Kosnik and Bittenhausen (2011) observe that agency issues can emerge as a result of wasteful aspects and inadequate data. In account, two significant office connections are those among investors and chiefs, and investors and lenders. The hypothesis gave important bits of knowledge on the elements encompassing custom methods and cargo freedom. It decided the connection between the operators and the customers just as the custom expert. This way of thinking was encouraged by the necessity of custom techniques as for cargo filtering, examination and custom warehouse procedures.

2.3 Literature Review

2.3.1 Scanning

ICDE (2017) affirms that, customs X-beam scanners are introduced on trucks that work the nation over, which implies that substantial products vehicles can wind up being checked by Customs at any harbor or outskirts intersection point. Every year, an impressive number of sneaking endeavors are revealed with the assistance of Customs' x-beam scanners. On the off chance that the verifier uses filtering the holder is stacked on a truck and went through X-Ray examining machines either in the port or at the Container Freight Station. In the event that the filtering picture demonstrates any abnormalities, customs will as a rule continue to do open confirmation. Anomalies ordinarily imply unreported things or possibly unlawful things. In customs check, containers must be set down, opened and stripped, one thing at any given moment, Bhero, Hoffman, Lusanga, and De Coning (2015). In the event that confirmation is to be performed at a Container Freight Station, all cargo must be moved to the individual Container Freight Station by the Container Freight Station administrator.

2.3.2 Custom Warehouse procedures

As indicated by Mbirimi (2010), customs warehousing implies the customs method under which imported products are put away under customs control in an assigned spot (a customs warehouse) without payment of import obligations and taxes. Storage in customs warehouses ought to [also] be took into account merchandise which are qualified for reimbursement of import obligations and expenses when exported...[and] products that have recently been managed under another customs procedure...[This] makes it workable for the customs authorities to allow release of such different customs technique or to reimburse the import obligations and assessments, all things considered,

before the products are really re-sent out. Warehoused merchandise are permitted to experience regular types of dealing with to improve their bundling or attractive quality or to set them up for shipment, for example, breaking mass, gathering of bundles, arranging and reviewing and repacking...it isn't proposed to approve any adjustment in the fundamental character of the products themselves (ICDE, 2017).

2.2.3 Inspection

According to East African Business Council (2011), customs uses technology to make its job easier, to speed up inspections and to ensure the legality of its activities. Besides cameras, weighing appliances and various measuring instruments, Customs has one superior technical device: namely, the X-ray scanner. Using the same x-ray technology that a doctor uses to check if any bones are broken, Customs scans cargo in order to protect society. In passenger terminals and vehicle inspection halls, Customs uses small X-ray devices to scan suitcases and spare tyres. By using fixed x-ray scanners, Customs is able to scan entire trucks. Cargo inspection thusly is a basic perspective in shielding the production network security and assurance of society against sorted out transnational violations of fear based oppression, dangerous substances and ecological wrongdoings, and help of genuine exchange. Throughout the previous 15 years, the Kenya Revenue Authority has utilized current cargo review instruments through operationalisation of X-beam freight examining arrangements at the Mombasa seaport and airports.

2.4 Empirical Literature

Yang (2015) did a research on factors affecting port development in China, with special reference to Shanghai international shipping center[j].Acta Geographica Sinica, 2015, 65(3): 193-201. Efficiency of container transport in China is still low and has a long

way to go to improve her position in international container shipping market. A preliminary conclusion is: socio economic factors and human actions are exerting greater influence on development of Chinese ports, while the traditional notion “port as the base of city development” is no longer totally true. The construction of Shanghai International Shipping Center has great significance in port development of the whole country. It will be a port group, consisting of a center port——Shanghai, two sub center ports Beilun on the south and Taicang on the north, and a number of major tributary and feeder ports.

A rational division of port functions is of utmost importance so that favorable conditions for one port could be used to help less favored ports and duplication in berth construction and irrational competition among ports could be avoided, Yang (2015). Shanghai as a center port of Changjiang delta must also be a container hub port. For improving the transportation efficiency and economic benefit, container shipping should be concentrated in Shanghai, for it has several advantages except the limitation of water depth. Beilun should fully take advantage of her deepwater and develop intercontinental container traffic, however, its development is limited by the small hinterland, poor port service system, fewer ocean container ship routes, so it needs to be greatly innovated to meet the demand of sub center port of Shanghai international shipping center.

Taicang has the best comprehensive conditions. It will be constructed jointly by Jiangsu province, Suzhou city and COSCO. Taicang has the Suzhou city and Wuxi city as its direct hinterland, these two cities will supply plenty of containers, and good distributing conditions. As one of the investors, the construction of International COSCO city in

Taicang will be speed up to catch the development of Shanghai International Shipping Center, COSCO is the fourth largest ocean container carrier in the world, with her support, it can be foreseen that new ocean container ship routes will be opened from Taicang to all over the world (Yang, 2015).

Ansah (2014) researched the challenges facing meridian ports services (MPS) in the handling and delivery of containers to customers on the MPS terminal, the case at the Tema port. The study revealed that the equipments being used at MPS include; Reach stackers, Rubber-tyred gantry (RTG) Ship-Shore Gantry (STS), Empty Handlers, Computers and LXE Trucks. Also, the challenges facing MPS in the delivery and handling of containers include, clerks who are not properly trained to direct the operator and twist lock not accurately fixed on trucks making landing of containers difficult. There is no maintenance culture which has led to the equipment not properly being maintained. Limited equipment to handle and deliver, power outages and high electricity bill were some of the challenges identified by the study.

Mtaki (2013) did a research on Investigation on the possible causes of declining dry cargo throughput at Dar-es-Salam port. She noted that the growth of dry cargo throughput has been fluctuating. Between 1991 and 1992 and between 1992 and 1993, the throughput increased by 23.8% and 4.6% respectively. In 1994, it decreased by 15.6%. In 1995 and 1997, it increased by 0.7% and 10.2% respectively. In 1996, it decreased by 20.1% and in 1998, it decreased by 0.9%. The average growth rate is 0.3%. The throughput in the last three years is lower than that of 1991. The performance of the port in terms of productivity, container dwell time, vessel time in port and security of cargo is measured by comparing it with the performance of other ports in other

countries and with the International Standards. The ability of the hinterland to generate cargo which, can pass through the port is analysed by looking at the economic development of Tanzania and that of the landlocked countries which pass their cargo through the port. If the economic development is poor, it is concluded that, it is one of the causes for the declining cargo throughput. It is also analysed by looking at the total dry cargo throughput at the main competing ports that is, DSM, Mombasa and Durban. If the throughput at these ports is also not increasing, it is concluded that, the hinterland's ability to generate dry cargo is poor. If the traffic at the competing port(s) is increasing, it is concluded that, some shippers have decided to use the other port(s) instead of the port of Dar-Es-Salaam because, the quality of service provided at the port of is poor. In case the total dry cargo traffic is increasing, it is concluded that, the hinterland's ability to generate cargo is growing. The throughput at Dar-Es-Salaam port is not growing because, the port is not competitive.

United Nations Conference on Trade and Development (2011) noted that in Malawi, the lack of human and institutional capacity at the Department of Customs led to the use of foreign firms for pre-shipment inspection in 1995. The benefits accruing from the implementation of the Agreement on Customs Valuation cannot be fully realized without capacity building in the area of enforcement, and the installation and enhancement of the necessary Customs-related infrastructure. It is reported that computerization in Customs stations is the single most important step required by the authorities to undertake Customs valuation, based on the use of transaction value, and risk management. Currently 85 per cent of border stations are computerized. The installation of Customs-related infrastructure, including a Customs laboratory for

classification purposes and large scanners for cargo containers, would help expedite Customs clearance.

Malawi complies with the PSI Agreement, which elaborates a code of conduct for the “preshipment inspection entity” and for the importing-country government. The code of conduct lists a number of obligations relating to non-discrimination, transparency, site of inspection, the use of standards, delays and methods for price inspection. It also imposes institutional requirements relating to appeals, procedures and independent review. Malawi introduced pre-shipment inspection in 1992, and requires such inspection of all imports with an f.o.b. price of \$3,000 or more. Certain goods are exempt from PSI. The service is currently contracted to Intertek Testing Services (ITS). Inspection concerns mainly quality, quantity and value using government guidelines, procedures and standards with which importers, suppliers and ITS must comply. The Agreement’s provisions on PSI are an integral part of the inspection contract (UNCTD, 2011).

Wanyama (2017), researched on Causes of delay in clearance of goods at the port of Mombasa. Customs and Excise branch of the KRA is accused of the obligation of guaranteeing that the imports are cleared from the port inside the stipulated time of seven days from the time the committal touches base at the port (CAP 472). In the previous three years, the office through its client care work area, has gotten (400) instances of grumblings from merchants and customs authorized clearing Agents relating to the postponements in the freedom of their containers.

As indicated by the protests, it was taking around fourteen days to clear a committal from the port. The investigation embraced an exploratory examination plan which was expressive in nature. A populace of 265 was utilized out of which an example of 100 respondents was picked. To choose the 100 testing units/respondents, the analyst utilized purposive inspecting strategy. The information was gathered utilizing surveys which had both open and shut finished inquiries, Wanyama (2017). The techniques utilized in the investigation of the information were clear insights, for example, rates, frequencies, pie graphs and cross-arrangement.

The findings in the examination by Wanyama (2017) showed that a portion of the difficulties confronting clearing and sending forms at the port of Mombasa included poor instruction and preparing of clearing specialists, deserting of merchandise by operators because of poor evaluating, absence of robotization, low level automation, bureaucratic procedures from legislative offices and poor street arrange which causes clog. Taking everything into account, the exploration recognized that the difficulties were both human asset arranged (deficiently gifted workforce) just as fundamental (coming about because of a disappointment in the coordination between the different players in the clearing framework).

Wanyama (2017) suggested in this examination that the different players, for example, KRA, KPA, legislative offices, merchant/exporters, clearing operators among others ought to improve their individual procedures and proficiency to upgrade coordination and quicker clearing. It was suggested that a further report ought to be done by both the KPA and the KRA the executives including a bigger populace and test to mirror the methodologies that other significant ports on the planet have attempted to empower

them facilitate the clog at their ports with the goal that they discover what components should be actualized to secure the freedom. Further examination ought to likewise incorporate partners outside the clearing and shippers organization, for example, the legislature, and the community in general.

Taking everything into account, the investigation recognized that the difficulties were both human asset situated (insufficiently gifted workforce) just as foundational (coming about because of a disappointment in the coordination between the different players in the clearing framework). Be that as it may, the study just focused on reasons for deferral without considering the custom systems included and how the effect freight freedom workmanship ICDE. This study will connect this gap by giving data to conquer any hindrance between custom strategies and freight clearance.

Cheruiyot and Rotich (2016) completed an investigation on challenges facing the utilization of one stop border post methodology: a contextual analysis of the Malaba Border. The examination additionally found that utilization innovation, for example, computerized hazard investigation, information base computerization and utilization of outskirts the executives data framework altogether affected the usage of OSBP technique. The investigation set up that noteworthy speculation had been made on streets and structures to guarantee the outskirts has adequate infrastructural ability to take into account the execution of One Stop Border Post Strategy since foundation impacts usage of OSBP procedure.

The analysis by Cheruiyot and Rotich (2016) utilized stratified arbitrary inspecting method in thinking about an example size of 59 respondents which was 30% of without a doubt the 197 staff concentrated on. Straightforward arbitrary testing was utilized to choose respondents from every stratum. The examination utilized a survey to gather

essential information. The survey involved both open and close-finished inquiries. The examination created both subjective and quantitative information. Quantitative information was coded and went into Statistical Packages for Social Scientists (SPSS Version 20.0) and dissected utilizing illustrative measurements. Quantitative measurements was appeared in tables and diagrams and depiction was introduced in exposition.

The investigation additionally found that use innovation, for example, computerized risk examination, data base automation and use of border management information system essentially impacted the usage of OSBP methodology, Cheruiyot and Rotich (2016). The investigation set up that huge speculation had been made on streets and structures to guarantee the fringe has adequate infrastructural ability to take into account the execution of One Stop Border Post Strategy since framework impacts usage of OSBP system.

The examination built up that different offices required to work amicably to execute the methodology since joint effort was observed to be a hindrance in effective usage of the OSBP system. The examination further settled workers limit affected usage of OSBP technique. The investigation discovered that improvement in the productivity of customs administrations and other government organizations through maintaining a strategic distance from superfluous duplication of clearance methodology and expanding collaboration has been a noteworthy effect of execution of OSBPs, (Cheruiyot and Rotich, 2016).

The analysis set up that various organizations required to work amicably to execute the procedure since cooperation was observed to be a hindrance in fruitful usage of the OSBP system. The investigation further settled representatives limit impacted usage of OSBP system. The investigation discovered that improvement in the effectiveness of customs administrations and other government organizations through maintaining a strategic distance from superfluous duplication of clearance systems and expanding collaboration has been a noteworthy effect of usage of OSBPs. Be that as it may, Cheruiyot and Rotich (2016) did not demonstrate the custom system associated with cargo clearance. This examination will connect this gap by giving data to cross over any barrier between custom systems and cargo freedom.

Vorush (2013) carried out a study on customs obstacles and decision to import. The study observed that, one of the conveyance time parts that has not been studied much yet is the time required for products clearing at the customs. This, in its turn, relies upon numerous different factors, for example, guideline, the degree of debasement, outskirts transparency, size of the bundle sitting tight for fare or import and its pronounced substance. About 24% of the transportation time is spent at fringes, while a progressively sensible customs clearing time should add up to 2% of the all-out transportation time that is pre-shipment board. Obstructions illogically increase import such deterrents are treated by casual gifts or expenses that, in its turn, can even encourage more trade. The study concentrated on obstacles but did not indicate the custom procedure in place and how they impact cargo clearance. This study will bridge this gap by providing information to bridge the gap between custom procedures and cargo clearance.

One of the conveyance time segments that has not been explored much yet is the time required for merchandise clearing at the customs. This, in its turn, relies upon numerous different factors, for example, guideline, the degree of debasement, border transparency, size of the package sitting tight for fare or import and its pronounced substance. About 24% of the transportation time is spent at borders, while a progressively sensible customs clearing time should add up to 2% of the complete transportation time that is pre-Schengen target, Vorush (2013). In the interim Djankov (2010) gauges that 75% of transportation deferrals were brought about by authoritative obstructions — different customs and duty methods, customs clearances and cargo control. In the event that the time spent on customs is excessively long, firms may choose to quit bringing in and change their suppliers to local ones.

According to Vorush (2013) understood expense of the transportation is an a lot more prominent hindrance for imported items than direct fiscal expenses of intersection the outskirts - an assortment of obligations, in this manner requiring nitty gritty examination and consequent usage of arrangements. The investigation utilized the information on import for organizations from every accessible round of the BEEPS. To fill the missing information introduction and ascription procedures were utilized. To contemplate the impact of time clearing the customs on the level of imported data sources, OLS relapses were utilized on every one of the examples – introductory benchmark, inserted and attributed. The outcomes demonstrate that a 10-day delay in customs clearing of imported products, overall, diminishes their imports by 1.6% (4.1% for Ukraine). Government endowments, being a device to secure residential makers, likewise decrease imports. Simultaneously 100% remote responsibility for organization is related with a 15% expansion in imports.

The results from the study done by Vorush (2013) demonstrated that the vast most factors utilized are noteworthy. Each 10 days of custom-freedom delay all things considered prompts 1.6% decline in outside data sources import (4.1% for Ukraine). Customs hindrances lead to visit casual payments when clearing the customs that, in its turn, encourage worldwide exchange expanding data sources import by 4%. Completely remote possessed firms will in general import 15% more. Be that as it may, government endowments filling in as a protectionism approach and the firm size disincentive import by 10% each.

Although the work by Vorush (2013) assessments time contrasts that emerge because of various transportation modes, it is perceived to be the reference paper when looking at exchanging time general. The researchert analyzes time to clear the customs as a factor of effect on the choice to import. Verifiable expense of the transportation is an a lot more noteworthy boundary for imported items than direct money related expenses of intersection the fringe - an assortment of obligations, along these lines requiring point by point study and resulting usage of solutions. However, Vorush (2013), did not indicate how scanning, custom warehouse procedures and inspection as procedures affect cargo clearance. This study will present comprehensive findings and recommendations to bridge the gap between custom procedures on cargo clearance at ICDE.

2.4.1 Scanning

As per United States Government Accountability Office (2016), factors, for example, assessments and group changes influence cargo rail developments in the four U.S.

fringe port of passage (POE) people group GAO visited, which can bring about blocked roadway rail level intersections. Government offices and others have taken activities to speed up rail in these networks. As a component of its central goal to protect the bordert, U.S. Traditions and Border Protection (CBP) checks inbound rail autos on the two borderts utilizing the Rail Vehicle and Cargo Inspection System (RVACIS), a machine used to recognize peculiarities and dangers to national security.

CBP for the most part expects trains to ease back so as to go through R-VACIS. To speed up cargo rail and lessen blocked thruway rail grade intersections, CBP, for instance, balanced its strategies to enable certain trains to experience R-VACIS quicker at two POEs on the northern fringe. So also, group changes can bring about halted prepares and blocked U.S. thruway rail grade intersections, especially on the southern bordert. U.S. Branch of Transportation (DOT) authorities expressed that team changes are required because of contrasts in security guidelines between the U.S. Government Railroad Administration (FRA) and Mexico. Railways have communicated enthusiasm for taking out such group changes however face difficulties, for example, FRA and trade guild wellbeing concerns.

The Container Security Initiative (CSI) program is intended to target and assess high-chance payload containers at outside ports before they leave for the United States. It has brought about improved data sharing between U.S. what's more, outside traditions tasks and an uplifted degree of worldwide mindfulness with respect to verifying the worldwide transportation framework. However, a few variables limit CBP's capacity to effectively target containers to decide whether they are high-hazard. One factor is staffing uneven characters, brought about by political and down to earth

contemplations, which block CBP's focusing on endeavors at CSI ports. Accordingly, 35 percent of U.S.- bound shipments from CSI ports were not focused on and not expose to investigation abroad—the key objective of the CSI program.

Additionally, as of September 11, 2004, 28 percent of the containers alluded to have governments for investigation were not assessed abroad for different reasons, for example, operational confinements. One percent of these referrals were denied by host government authorities, for the most part since they accepted the referrals depended on elements not identified with security dangers. For the 72 percent of alluded holders that were examined abroad, CBP authorities revealed to us that no WMD were found.

Be that as it may, the nonintrusive investigation hardware utilized at CSI ports differs in discovery ability, and there are no base specialized prerequisites for gear utilized as a feature of CSI. Therefore, CBP has constrained affirmation that investigations led under CSI are successful at distinguishing and recognizing fear based oppressor WMD in containers. At long last, CBP keeps on making refinements to the key arrangement and execution estimates expected to help deal with the program and accomplish program objectives. Until these refinements are finished, it will be hard to survey advancement made in CSI activities.

Every year, around 12 million delivery containers enter U.S. ports. After the September 11, 2001, assaults, concern emerged that psychological oppressors may utilize holders to sneak weapons of mass pulverization—especially atomic weapons—into the nation. To decrease that risk, the central government actualized a few safety efforts. Among them, Customs and Border Protection (CBP), an organization of the Department of

Homeland Security (DHS), checks each compartment entering the United States via ocean or land to recognize radiation.¹ CBP likewise distinguishes around 5 percent of all approaching seaborne holders as high hazard, and it investigates those holders with X-beam or gamma-beam

Difficulties and open doors for actualizing X-beam examining innovation at the Korean center point ports Over the most recent couple of years, a progression of administrative endeavors to command 100% filtering of payload containers destined for the USA has compelled remote port specialists to embrace increasingly effective holder assessment procedures. One of such methodologies incorporates the reception of X-beam examining innovation at outside trading port offices which can give clear and subtle perspectives on the substance of things covered up inside containers before they are transported to the US goal ports.

In 2007, the Congress commanded that DHS utilize both radiation indicators and imaging frameworks to output and picture all approaching seaborne holders before they are stacked onto a U.S.- bound ship. That approach would move the radiation examining and nonintrusive imaging from U.S. ports to abroad ports, with the objective of identifying any genuine dangers before they arrive. The methodology likewise would expect to picture all containers as opposed to restricting the utilization of costly imaging assets to high-hazard holders. The law gave DHS until 2012 to completely actualize this framework, however the due date has been expanded multiple times and is currently 2018. The Congressional Budget Office inspected five choices that delineate the expense and ramifications of gathering the order just as elective ways to deal with increment the examining and imaging of containers.

Regardless of various advantages of utilizing X-beam examining innovation, sea industry areas and port specialists still are reluctant to use it for various concerns. Those worries include: vagueness and expenses related with 100% compartment examining approaches, potential specialized glitches, and coordinations wasteful aspects made by lengthier lead time. To address these worries, this paper distinguishes a large number of components that may thwart the productive utilization of X-beam examining innovation in the Korean center ports from the points of view of transporters. Additionally, this paper expects to survey the overflow impacts of X-beam examining innovation appropriation on port income.

Exporters send containers from many ports in different nations to the United States. The command to output and picture every inbound holder presents three difficulties for CBP: cost, potential delivery deferrals, and conceivable refusal to consent by certain administrators and host nations. Despite the fact that CBO inspected the initial two issues, full consistence will likewise require settling the third issue, which is past the extent of this examination. CBO inspected two choices that would meet the necessity to output and picture 100 percent of U.S.- bound containers. Under Option 1, CBP or remote accomplices would introduce checking and imaging gear at the 453 outside ports in 130 nations that heap containers onto U.S.- bound boats.

Leading that examining and imaging would cost, all things considered, \$150 to \$220 per holder, which the U.S. government could either pay or recover through expenses evaluated on shippers. On the off chance that present progressions of inbound holders develop at 2.5 percent every year, actualizing and working such a framework would

cost between \$22 billion and \$32 billion out of 2015 dollars more than 10 years, CBO gauges. For examination, CBO gauges that, utilizing current techniques and gear, CBP would spend about \$1.3 billion more than 10 years to picture around 5 percent of inbound holders. Thus, the assessed expense of Option 1 is around 17 to multiple times the expense of CBP's present examining and imaging framework. Paying for the more thorough framework would require an expansion of 17 percent to 25 percent in CBP's absolute spending plan, a decrease in other spending by CBP, an increment in charges evaluated on shippers, or a mix of those activities.

Actualizing the command under Option 1 or Option 2 expanded the quantity of holders checked and imaged; doing as such additionally expanded the odds of recognizing atomic weapons or materials before they arrived at the United States. Also, imaging each compartment improved CBP's capacity to recognize increasingly regular stash and transporting abnormalities. In any case, to be viable, those choices conceivably require in excess of 100 nations and many port administrators to consent to checking and imaging. Additional imaging of imported holders at U.S. ports (Options 3–5) likewise would expand the odds of distinguishing atomic materials or weapons yet would dodge the strategic difficulties related with across the board imaging of U.S.- bound containers abroad.

United Kingdom give testing and examination administrations, helping customers with quality control and inconvenience shooting support for oil refining, stockpiling, dissemination and investigation and creation tasks. The UK oil labs are situated in key zones close significant oil refining, compound plants, pipelines, stockpiling and seaward E&P exercises, offering brief and solid administration for customers in

England, Scotland, Wales and Northern Ireland. The United Kingdom labs offer quality control testing, R&D backing, and inconvenience shooting knowledge. Items tried incorporate raw petroleum, feedstocks, energizes, synthetic compounds, gases, petrochemicals and substantially more. Oil and concoction testing is performed to ISO, IP, ASTM, and other industry conventions.

As indicated by Qtech Control Limited (2016), Qtech Control is a UK based pre shipment examination organization giving pre shipment assessment benefits all through the UK and all around. We are designated by purchasers or merchants to give fair-minded quality and amount control of merchandise before despatch by means of pre shipment investigation. The point of the investigation is to guarantee that merchandise sent meet the legally binding particular and that the products are as per applicable reports, for example, Letter Of Credit, Purchase Order or the agreement between the two exchanging parties. Qtech Control profoundly experienced assessors take care to guarantee that all merchandise and adornments are dispatched in sound condition and in full amount. Qtech Control additionally check that the merchandise are pressed by suitable norms and that the bundling is stamped effectively. Photographic proof is furnished alongside a nitty gritty report and duplicates of supporting documentation.

According to Awitta (2014) container Examination Facility (CEFs) scans a truck carrying one or more shipping containers. The process involves the truck parking in the scanning hall and the driver entering a shielded waiting room for the duration of the x-ray scan. The x-ray housing, incorporating the linear accelerator and detector array, passes across the container on a rail-type system at a rate of 10 metres per minute. The truck cabin is not x-rayed in this process.

According to Clarete (2012) Customs uses technology, tactics and advance information when controlling the flow of goods. Based on risk profiling and other observations, Customs picks out goods, vehicles and persons for inspection. Sometimes, Customs also performs spot checks. The purpose of all the inspections performed by Customs is to protect society and to contribute to the lawful recovery of taxes.

According to ICDE (2017), a check report from the Customs confirmation official, which must count with the customs revelation, is transferred on the Tradex – Simba framework by the Customs Officer. On the off chance that the consequences of the assigned confirmation system demonstrate any inconsistencies, at that point the customs will more often than not continue for 100% check. Any disparities on worth, quality, amount or the finding of any undeclared things will prompt customs filling an offense against you and the results are differed and guided by the customs the board demonstration. Trust me, if the verifier is resolved to discover an offense against you, they will. On the off chance that cargo was not checked or examined or if the aftereffects of confirmation was a perfect bill, Kenya customs issues a Customs Release Order (CRO) when it is affirmed that the conveyance request got before is reflecting on the web. It shows the clearing specialist for which the cargo was checked by customs is undoubtedly to be released.

The confirmation official will observe the stuffing (stacking) of the compartment. Upon effective check, a customs seal is utilized to bolt the compartment and the confirmation official will give the committal an online discharge on KRA's SIMBA framework. The fixing of the holder must be seen by the clearing specialist, office

administrator (delegate/proprietor) and the truck driver. The stuffing office must be affirmed by the Commissioner of Customs (ICDE, 2017).

As indicated by Frankel, et al (2011), ocean transport will keep on assuming a key job in this development, given that roughly 90 percent of products on the planet are moved via ocean. In any case, this quick development in global exchange prove via cargo volumes, explorers and movements shows progressively new difficulties. They incorporate security dangers of psychological oppression, unlawful exchange regular assets, exchange substances that represent a risk to general wellbeing and security, illegal budgetary streams (tax evasion) just as ocean robbery.

In such manner, Frankel, et al (2011), custom agencies and different players in the worldwide store network need to consistently fabricate and overhaul ability to deal with the expanded volumes in universal exchange and travel while upgrading inventory network security. This undertaking calls for striking a harmony between assistance of exchange and travel and implementation of customs controls to protect open wellbeing and security.

According to Aliet (2011), the utilization of non-meddling review hardware is steady with the World Customs Organization's Safe Framework of Standards, which expresses: That non-nosy investigation gear and radiation location gear ought to be accessible and utilized for directing examinations, and as per hazard evaluation. This gear is important to review high-chance freight and additionally transport movements rapidly, without upsetting the progression of genuine trade.

According to ICDE (2017), the recent commissioning of three additional scanners, donated by the People's Republic of China, at the Port of Mombasa is therefore a major milestone in sealing revenue leakages and in the fight against illegal importation and exportation of restricted and prohibited goods. The launch and deployment of these scanners will increase the port's throughput capacity to scan up to 1,000 containers per day while at the same time increasing considerably the KRA scanner assets under the national scanner solution framework.

In 2015/2016, the X-beam cargo examining unit at the Port of Mombasa made various prominent interferences. At a certain point, nine top of the range vehicles disguised as bikes and toys from the United Kingdom and in travel to Uganda were caught. Examination concerning the syndicate had the option to uncover more vehicles which had been enlisted unpredictably and the offenders brought to book. Different cases required more than 21 containers of new articles of clothing camouflaged as virus rooms just as three compartments of milk powder masked as gypsum sheets. Further, undeclared hardware, save parts, ivory and sandalwood under CITES were also intercepted through scanning over the same period (ICDE, 2017).

Kihimbi, (2013), observe that, apart from the interception of stash merchandise, the scanners have additionally kept culprits of the crimes from dumping modest, unsatisfactory and destructive items in the nearby market to the disadvantage of the natives. To supplement the limit of the current scanners, KRA hopes to get another gift of 10 things scanners from the Peoples' Republic of China for stuff screening at airplane terminal terminals to help client assistance at air terminals.

Moreover, Kihimbi (2013) observe that KRA is introducing keen entryway innovation at the purposes of section that will robotize the catch of compartment and vehicle enrolment stamps and numbers preceding the arrival of cargo from the ports and holder cargo stations, viably eliminating manual procedures and upgrading the honesty of freight discharge records. Different activities, for example, the usage of the single customs region, the provincial electronic freight following framework and the incorporated customs the board framework, will all in all lessen the cargo stay time at the Port of Mombasa. The upgraded frameworks will likewise altogether lessen the time taken to move cargo to inland holder warehouses and neighboring goals. It will likewise change the Port of Mombasa to be progressively focused and advance monetary development in the area and universally.

As indicated by Mbirimi (2010), countries will consistently be experiencing strain from partners to speed up the clearing and development of merchandise from ports and other outskirt presents on limit the expense of working together. The ascent in oceanic rush hour gridlock will keep producing the interest for trend setting innovation in taking care of the development of cargo through ocean and land fringes and, to this end, the checking innovation will remain a basic instrument now and later on.

2.4.2 Custom Warehouse procedures

Ministry Of Commerce People's Republic of China (2017), as per the Customs Law of the People's Republic of China, these Measures are proclaimed to address the issues of the improvement of remote exchange, to encourage generation, stockpiling and transportation and to advance the improvement of communist modernization. Article 2. Fortified distribution centers can just store merchandise for fare handling with provided

materials or imported materials, export trade products and merchandise that have been endorsed by the Customs to experience the Customs obligations revelation systems sometime in the future. Different products and product are not permitted to be put away in bonded distribution centers. All bonded distribution centers must have exceptional security and stacking offices to store imported merchandise; must keep up a total administration framework and a total and point by point set record books, and be staffed by qualified work force who have been prepared and affirmed by the Customs.

Fortified stockroom administrators must demonstrate that they can meet the Customs obligations and commitments. To set up a fortified distribution center, the administrator will apply to the Customs for endorsement by showing its business permit issued by the managerial divisions of the organization of industry and business, a finished "Bonded Warehouse Application structure" and the endorsement records issued by its predominant remote exchange office. The Customs will inspect the application and send Customs officials to do on the spot examination before it will issue the "Fortified Warehouse Registration Certificate" to the candidates (Ministry Of Commerce People's Republic of China, 2017).

As per Technology for Mobile and Online (TMO) Group (2018) as the eCommerce biological system in China is ceaselessly changing, so are the strategic arrangements that accompanied it. The fundamental intricacy for strategic arrangements are import traditions leeway and guidelines. Indeed, it isn't troublesome getting your item from A to B, however because of the required import licenses item enrollments, and changing guidelines it isn't that simple and direct.

Cross-border eCommerce began for the most part by means of offers of Chinese people living abroad, and offering outside items on Taobao. Because of the upheaval of this semi-lawful cross-fringe shipments from abroad people, the Chinese government allocated 6 cross-border eCommerce thorough pilot urban communities in 2012. These complete pilot zones are assigned regions, by and large close huge exchanging ports, which give a good business condition and foundation for cross-fringe eCommerce. The fundamental element of these pilot zones are the alleged bonded warehouses ((TMO Group, 2018).

As indicated by Awitta (2014), organizations can store the merchandise at their own characterized area (Private Warehouse), utilize their stock framework to control the products or pay an outsider to store them in a characterized area (Public Warehouse). A characterized area can be a wgap building, a little compartment in a structure, an open site, a storehouse or a capacity tank. The area or stock framework must be approved by Customs before the Customs Warehouse methodology can be utilized.

Buyonge (2012) takes note of that having the option to suspend the installment of Import Duty as well as VAT, with no time limitations, can be extremely valuable to organizations, not least for capital reasons. Agreeing to the commitments to utilize the Customs Warehouse strategy can, however, be off-putting. Langdon Systems give a Customs Warehouse module that has been intended to rearrange the strategies for running either an open or private warehouse while exploiting the most extreme advantages accessible.

Kafeero (2012) takes note of that Warehouse Module deals with the merchandise that are put away under the Customs Warehouse methodology. The framework stores data about imported products, and records for all issues produced using these stocks. The data can be downcargoes from a business framework or physically entered. The framework gives an affirmation to Customs containing information identified with the Duty and VAT counts and factual data for all issues.

As per ICDE (2017), there are three principle classifications of customs stockrooms, Public sort I, Public sort II and Private. Open sort I is utilized when the duties lie with the holder of the authorisation and with the holder of the technique Public sort II is utilized when the obligations lie with the holder of the framework; A private stockroom is held for the use of the endorsed seller who is moreover the giver of the items. The dealer need not be the owner of the products being kept.

Merchandise set under the customs warehousing system can in specific situations be moved between various warehouse offices referenced in the authorisation. The merchandise can be moved from where they were put under the technique to a warehouse, or from a stockroom to the workplace of exit or to a customs office where the products can be put under the accompanying strategy. No different permission is expected to move the goods. Notwithstanding, the enactment necessitates that the area and developments of the products are gone into the warehouse records (ICDE, 2017).

As per Awitta (2014), a customs warehouse enables brokers to store merchandise with obligation or import VAT payments suspended. When merchandise leave the stockroom, obligation must be paid except if they're re-traded or move to another

customs system. Customs warehousing empowers the owner to hold imported non-Community stock in the Community and pick when he pays the commitments or re-conveys the items. The proportion of working or getting ready allowed on product held in warehouses is limited essentially to keeping them defended with a view to resulting scattering. Regardless, it is possible to process stock under inward getting ready or dealing with under customs control on the premises of a customs warehouse.

According to Kafeero (2012), the procedures outlined hereunder deal specifically with the requirements concerning the warehousing of goods on the Entry for Warehousing as follows: Entry for Warehousing is prepared by the importer from invoices and other relevant documents. This is submitted to the Customs Inventory Audit Unit, Customs House Kingstown for checking, acceptance and signature. Documents are taken to the Import location for release of the merchandises to the Warehouse. At the Warehouse, the goods are tallied and examined, and an account is taken of the contents of the packages by the warehouse keeper and the Customs Officer. Each package is marked with the rotation number that is assigned.

Muita (2015) takes note of that travel cargo for neighboring nations Uganda and South Sudan is piling at the port. The Kenya Revenue Authority has additionally suspended staff associated with a tax avoidance outrage thus prompting more deferrals inside the port. As per KIFWA, Kenya Revenue Authority contracted staff inexperienced with recently presented clearing techniques planned for lessening instances of join at the port subsequently influencing smooth off take of cargo at the port. KIFWA secretary

Bernard Simiyu said huge numbers of the transporters have lost a huge number of shillings due to delays. Recently KRA said they were examining how 104 compartments worth Sh100 million were expelled from the port among June and July 2016 without payment of expense.

2.4.3 Inspection

The China paper outlined enforcement actions that would be conducted at its busy ports. “All marine management agencies should perform random checks on the verified gross mass of packed containers loaded onto vessels,” the guidelines stated. Any discrepancy between the VGM declared by the shipper and the VGM obtained by maritime agencies, vessels, carriers or terminal operators must be within plus or minus 5 percent or 1 ton. Should the variance be outside that, agencies should request that the vessel carrying the box correct the weight information “after the potential risk of safety has been minimized.” This presumably means the container contents must be reduced and the box re-weighed by the terminal and loaded back on the ship.

Should marine management agencies receive a report, or are in doubt about the accuracy of the VGM information, the agency can request the shipper who signed the VGM declaration to again verify the container's gross mass. The guidelines request the shipper, the carrier and its agencies and the terminal operator to cooperate in this area. As with other jurisdictions, the China guidelines went over the SOLAS regulation governing the weighing of containers for which the shipper is responsible: Method 1, which calls for weighing the loaded and sealed export container, and Method 2, where each piece of cargo in the box was weighed and the total added to the packaging used, the pallets, the securing material and the actual weight of the box itself, known as the tare weight.

Djibouti's Galafi border post has offices for customs, a barrier, and an in-lane booth where documentary checks are made. The in-lane booth is equipped with networked computers running the ASYCUDA World computerized customs management system, and so is linked to ASYCUDA World's central servers. There are no facilities for vehicle inspections, and there is no weighbridge (scale) to determine the weight of trucks. If a truck does need to be inspected, or if there is a problem with the paperwork, the truck remains in the queue until the issue is sorted out, and this causes what could be regarded as unnecessary delays to other goods in transit. An inspection zone and a parking could contribute to reduce these delays.

The Ethiopian Revenue and Customs Authority has two customs checkpoints between the Galafi border and the Modjo internal container depot, those being at Mille and at Awash. At these checkpoints, the customs authority records the registration and container numbers of the trucks and does physical inspections of the cargo – checking for damage and checking that container and cargo seals are intact. The process does not take more than 10 minutes, but the queues that develop can be exceedingly long. At Awash, queues of more than 300 trucks build up daily, with drivers spending four to five hours in line. The infrastructure at Awash is still being built, and it remains to be seen whether the completion of the facilities will reduce the waiting times.

According to Schware and Kimberley (2010), and progressing worldwide interest of products, containers have been one of the biggest and quickest developing cargo classes in a large number of the ports around the world. These containers convey anything from gear and apparatus parts to kids' toys and dress to transient merchandise. Because of

this expansion in the generation of containers there is a more prominent need of dependable reviews. Deciding if a holder is unacceptable for cargo can extraordinarily diminish the danger of risk for firms trading products.

As indicated by Buyonge (2012), organizations look for shop reviewers who have the experience and capabilities to confirm the basic respectability of containers. Cargo inspection therefore, is a critical aspect in safeguarding the supply chain security and protection of society against organised transnational crimes. For the last 15 years, the Kenya Revenue Authority (KRA) has employed modern cargo inspection tools through use of x-ray cargo scanning systems at the Mombasa seaport and airports.

Kosgei (2011), observe that before the genuine vessel landing date in Mombasa, the transportation line stops its online show with customs into Simba Tradex framework . The show number will be given to your by your freight master or sending line. Give exceptional consideration to the spot of freedom: – port/CFS (Container Freight Station. This may contrast contingent upon unique nature of the freight (perilous cargo) or uncommon solicitation from the merchant as expressed on the bill of lading (BOL) or allowed by the ports experts. A clearing operator will set up a customs section against the transferred show on the Simba Tradex online framework.

As per Mushi (2002), when the freight arrives, the customs investigator gets the T1 from the trucker, confirms that the cargo is as was stacked at the port of passage, the seal is unblemished, and passes the report to the travel official. The travel official thinks about the data enrolled in the T1 against the data enlisted in the ASYCUDA++ System and records extra data. Fastens the seal of the checking station and allows the

cargo to continue to the goal customs station. On entrance of the consignment, the customs inspector receives the T1 from the trucker, verifies that the cargo is as was cargoed at the port of entry, the seal is intact, and passes the document to the transit officer.

When the manifest is transferred by the transportation line, the first Bill of Lading appropriately embraced by the representative (or the wire discharge) is submitted to the transportation line for issuance and arrival of a conveyance request. You'll get the arrival of conveyance request after settlement of the neighborhood delivery line charges. Try not to defer these payments as it might result in demurrage gathering. The transportation line needs to guarantee the conveyance request is additionally transferred online Mushi (2002). Transferred passages are passed after either payment of obligations or affirmation of obligation exception shipment by methods for the exclusion letter code in the customs. The clearing specialist affirmation group readies a customs envelope and a lot of archives are dispatched to customs long room in Mombasa.

In long room, these records are checked and embraced by Kenya Customs, Ndikom and Emeghara, (2012). Endorsed documents are then dispatched to the point of definite freedom, , that is, Port of Mombasa (KPA) or assigned Container Freight Station to the occupant customs officials. At the purpose of clearance the method of check is doled out by customs, executed, that is, sight, and discharge, direct discharge, ordinary confirmation, 100% confirmation or filtering. The verifier has the order to open and review everything in the container.

Ndikom and Emeghara (2012) noticed that the controller actualized the standard requiring all merchandise to be joined by an endorsement of similarity in December a year ago to check the importation of inadequate products. The arrangements of pre-send out check of similarity (PVoC) plot requires all ocean and air conveys to guarantee that their freight is assessed and ensured by named specialists in the source markets. At first, the rundown of things and items secured under the plan directly affected the wellbeing and wellbeing of Kenyans however KEBS extended the rundown, excluding just crude materials for preparing into completed items, save parts for claim use by producers and altered apparatus not implied for sale.

According to European Union (2012), the utilization of non-meddling examination hardware is steady with the World Customs Organization's Safe Framework of Standards. The ongoing appointing of three extra scanners, given by China, at the Port of Mombasa is in this manner a noteworthy achievement in fixing income spillages and in the battle against illicit importation and exportation of limited and precluded products. The dispatch and organization of these scanners will expand the port's throughput ability to look over to 1,000 containers for every day while simultaneously expanding extensively the KRA scanner resources under the National Scanner Solution system.

East African Business Council (2011) takes note of that Kenya fills in as the passage to East and Central Africa through the Port of Mombasa, which is both a vehicle and a coordination center point for the Northern Corridor Region. In 2015/2016, the x-beam cargo examining unit at the Port of Mombasa made various prominent capture attempts. At a certain point, nine top of the range vehicles disguised as bikes and toys from the

United Kingdom and on travel to Uganda were caught. Examination concerning the syndicate had the option to uncover more vehicles which had been enlisted sporadically. Different cases required more than 21 compartments of new pieces of clothing masked as virus rooms just as three containers of milk powder camouflaged as gypsum sheets. Further, undeclared gadgets, save parts, ivory and sandalwood under CITES were also intercepted through scanning over the same period.

Apart from the interception of contraband goods, European Union (2012), the scanners have additionally kept culprits of the crimes from dumping shoddy, inadequate and hurtful items in the neighborhood market to the inconvenience of the natives. KRA hopes to get another gift of 10 Baggage Scanners from the Peoples' Republic of China for air terminal terminals to help client facilitation.

According to Clark, Ximena, Dollar and Micco (2002), clearing and sending specialists have accused non-levy boundaries for sluggish development of cargo at the Mombasa port. They state the Kenya Revenue Authority (KRA) presented new systems at the key foundation that have now turned into a hindrance to exchange. Freight is going to the port yet the rate at which it is leaving is moderate. The issue is that there are systems that have been acquainted which are driving with moderate freight clearance.

Mbirimi, (2010), see that the coordination entryway gathering guaranteed that about all products going to the nation via ocean were being exposed to stringent techniques including required confirmation that took excessively long. Without precedent for the historical backdrop of clearing and sending, all freight is drawing away charges since it is absurd to expect to clear the products inside the stipulated four days. The Kenya

Ports Authority (KPA) gives a remittance of four days to clear residential cargo for nothing while travel merchandise ought to be cleared inside nine days after which they begin gathering stockpiling charges.

According to Schware and Kimberley (2010), over the ongoing past, the administration has fixed observation techniques after it rose that dealers and medication dealers were exploiting escape clauses made by more changed procedures embraced a year ago trying to attach cargo clearance. The KRA is said to have moved to tidy up the customs operators list this year by striking out those accepted to be occupied with obscure arrangements. The taxman, be that as it may, denied boycotting specialists yet said screening was continuous as a component of a permitting assessment process.

2.5 Review of Critical Literature

Clarete (2012) see that Customs utilizes innovation, strategies and advance data when controlling the progression of products. In light of hazard profiling and different perceptions, Customs chooses products, vehicles and people for investigation. Now and then, Customs likewise performs spot checks. In any case, the scientist did not set up how the impact of innovation utilized in examining could be improved to guarantee a lot speedier and non-nosy technique. This investigation will connect this hole by giving pertinent data on filtering impact on cargo clearance.

Awitta (2014) says that organizations can store the merchandise at their very own characterized area (Private Warehouse), utilize their stock system to control the products or pay an outsider to store them in a characterized area (Public Warehouse). As per Buyonge (2012), having the option to suspend the payment of Import Duty as

well as VAT, with no time restrictions, can be exceptionally useful to organizations, not least for income reasons. Consenting to the commitments to utilize the Customs Warehouse method can be off-putting. Be that as it may, the scientists did not set up how warehouse conventions utilized in filtering could be upgraded to encourage compelling custom methodology to clear products. This examination will connect this hole by giving important data on stockroom customs impact on cargo clearance.

According to Buyonge (2012), organizations look for shop monitors who have the experience and capabilities to check the auxiliary uprightness of containers. Cargo inspection in this manner is a basic perspective in shielding the production network security and insurance of society against sorted out transnational violations. As indicated by Mushi (2002), when the cargo arrives, the customs auditor gets the T1 from the trucker, checks that the freight is as was stacked at the port of section, the seal is flawless, and passes the report to the travel official. Be that as it may, the specialists did not give solution(s) identifying with investigation and freight freedom. This investigation gave suggestions on the most proficient method to guarantee effectiveness of examining on freight freedom.

2.5 Summary

Cargo inspection in this way is a basic viewpoint in shielding the store network security and insurance of society against composed transnational wrongdoings of psychological warfare, perilous substances and ecological violations, and help of genuine exchange. Throughout the previous 15 years, the Kenya Revenue Authority has utilized present day freight examination devices through operationalisation of X-beam cargo inspection arrangements at the Mombasa seaport and airplane terminals.

Products set under the customs warehousing methodology can in specific situations be moved between various warehouse offices referenced in the authorisation. The merchandise can be moved from where they were put under the system to a warehouse, or from a warehouse to the workplace of exit or to a customs office where the products can be put under the accompanying method. No different authorisation is expected to move the merchandise.

The utilization of non-meddlesome inspection gadgets is predictable with the World Customs Organization's Safe Framework of Standards. The ongoing authorizing of three extra scanners, given by China, at the Port of Mombasa is accordingly a noteworthy achievement in fixing income spillages and in the battle against unlawful importation and exportation of limited and restricted merchandise.

Automation decreases corruption by minimizing direct contact between Customs officers and traders, and significantly reduces the potential negative effect of physical reviews. ICT applications can lessen holding up times at outskirts crossing and at ports, secure proper preparing of expenses and Customs obligations, streamline conventions, and give auspicious data to move administrators. It additionally decreases exchange costs, improves supply limits, and expands worldwide market.

2.6 Conceptual Framework

A conceptual framework represents the researcher's combination of writing on the best way to clarify a wonder. It maps out the activities required over the span of the investigation given his past learning of other scientists' perspective and his perceptions

regarding the matter of research. The applied system of this examination clarifies both the independent factors and dependent variable. Independent variables comprise of scanning, warehouse procedures and inspection. The dependent variable is cargo clearance.

As indicated by Mbirimi (2010), customs warehousing implies the customs method under which imported products are put away under customs control in an assigned spot (a customs warehouse) without payment of import obligations and taxes. According to East African Business Council (2011) custom uses technology to make its job easier, to speed up inspections and to ensure the legality of its activities. Besides cameras, weighing appliances and various measuring instruments, Customs has one superior technical device: namely, the X-ray scanner. Despite simplification of Customs procedures in recent times, Customs procedures in Kenya were lengthy and less than efficient, leading to delays in the release of goods.

Independent Variables

Cargo Clearance Procedures

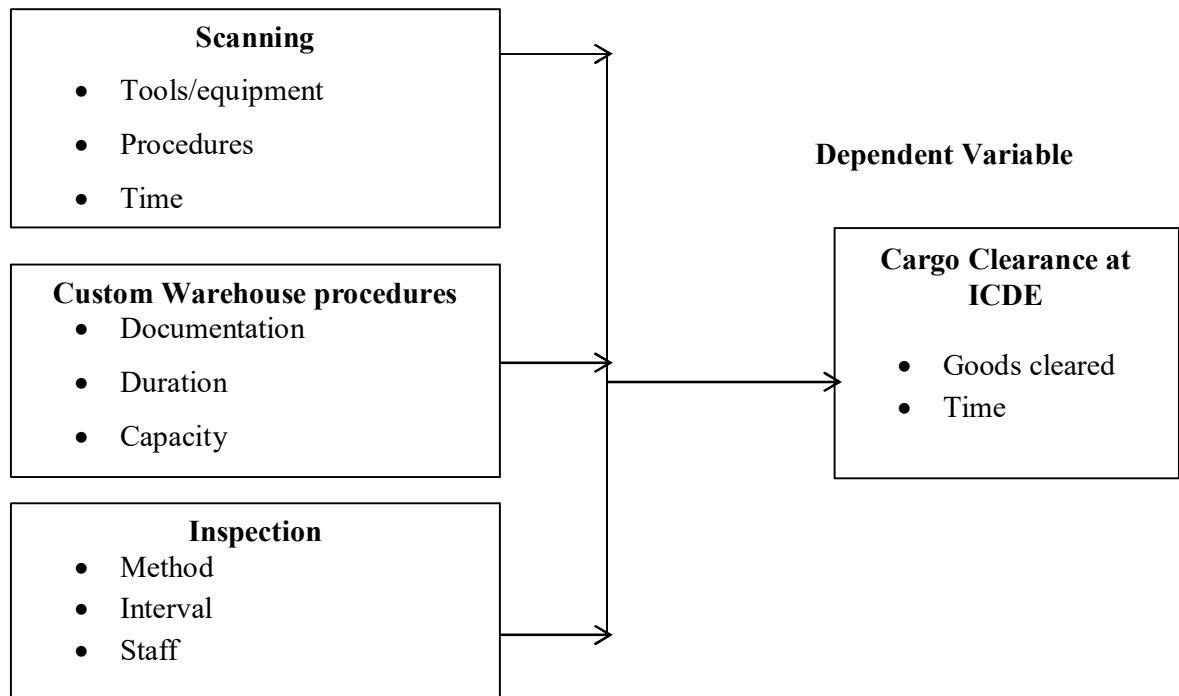


Figure 2.1 Conceptual Framework

Source: Author (2019)

2.6.1 Scanning of Cargo

According to Consulting Company Limited (2011) Scanning of cargo is the process of checking import/export goods using a scanner to verify them. The scanners are also a mode of security in control of smuggling. However, inland depots face array of challenges having less scanning equipment, less human labor that lead to delays in examining the cargo in the scanning machines. According to Zejan (2016), he stated that most African countries do not have most innovative scanning machines to aid in cargo clearance.

According to Galgher (2014), There are many challenges involved in customs control stations especially in developing countries, whereby, few technicians who are well trained in handling the machines, Also there is less labour to facilitate the scanning activities involved in order to reduce the time and cost of clearance of goods. More study is needed to solve the problems associated with customs scanning activities.

2.6.2 Inspection of Goods

According to Gallghaer (2011) cumbersome inspection requirements include: costly quality inspection procedures, nonexistence of recognition of inspection certificates issued by recognized laboratories, has no common acknowledgment of quality certification marks and test certificates issued by standardization bureau, varying quality inspection and testing procedures which are also introduced without prior discussions and consensus and varying procedures for issuance of export certification marks.

According to Freund (2013), inspection of cargo in ICDE is tedious and complex process especially in handling bulky cargo which requires more forced labour. Also requires more specialized technological equipment to aid in cargo clearance. It also, requires more space which sometimes is not available. Therefore, there is a need in further study.

2.6.3 Customs Warehouse procedures

As indicated by Kokko (2014), Governments utilize specialized customs guidelines and models to accomplish a scope of strategy objectives, for example, guaranteeing the wellbeing and security of merchant's cargo, insurance of the earth, and customer assurance. While most by far of specialized guidelines and gauges are intended to

accomplish customs warehouse from seizure of not used to products. In spite of the fact that there are exhibit of issues from long procedures of procuring a customs warehouse, staggering expense of customs bond that eventually influence the cargos cost and the high demurrage costs charged by the warehouses

Agreeing Muita (2015), there are numerous customs custom warehouse procedures customs engaged with the customs fortified warehouses and furthermore the arrival of freight, Due to low work power and increment in imports, the final product is delay in clearance of merchandise and furthermore staggering expense associated with terms of capacity charges. The administration Agency in a joint effort with Private accomplices should cooperate in concocting friendly arrangement, that is, disentanglement of customs custom warehouse procedures consequently more investigation is required.

CHAPTER THREE

STUDY DESIGN AND METHODOLOGY

This chapter presents the study methods that the study adapted in undertaking this study. The chapter highlights the research design, object population, selection techniques, sample size and the data collection and procedure that will be used in this study.

3.1 Study Design

According to Mugenda and Mugenda (2003), a study design is a framework for conducting the business study project. It details the procedures necessary for obtaining the information needed to structure or solve business study problems. Descriptive study design was used in this study. Mugenda and Mugenda (2011), observes that, descriptive study is appropriate because of its specific nature and fact that it facilitates a general understanding and interpretation of the problem. In descriptive study, the problem is structure and how well it is understood. The major purpose of descriptive was to provide information on characteristics of a population.

3.2 Target Population

Mugenda and Mugenda (2003) describes target population as a complete set of individual cases object with some common characteristics to which studies want to take a broad view of the results of the study. The population that is actually surveyed is the study population. The study used a target population of 120 respondents drawn from ICDE comprising of custom clearance agents.

3.3 Sample Size and Sampling Design

According to Malterud Siersma, and Guassora (2003) a sample is a subset containing the characteristics of a larger population. Samples are used in statistical testing when

population sizes are too large for the test to include all possible members or observations. Sampling is a process used in statistical analysis in which a predetermined number of observations are taken from a larger population. The methodology used to sample from a larger population depends on the type of analysis being performed.

The study used purposive sampling in the management level. The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable the study to answer the research questions. Moreover, the sample being investigated in management level is quite small, especially when compared to probability sampling techniques. The study adopted stratified random sampling technique to select the respondents in operational level and the clearing agents.. According to Mugenda and Mugenda (2003), in stratified random sampling, subjects are selected in such a way that the existing sub-groups in the population are more or less reproduced in the sample. Kothari (2012), observe that sample drawn randomly is unbiased in a way that no number of populations has any chance of being selected more than the other. From each stratum, 50% respondents were selected to form a sample size of 60 respondents and used to gather the required information.

3.4 Data Collection and Procedure

The study used interviews to collect primary data using interviews with management and using questionnaires administered to custom clearance agents. Secondary data was collected from ICDE and KRA Publications and Reports on Custom Procedures. The questionnaire comprised of both open and close-ended questions. According to Field (2013), structured questions are usually accompanied by a list of all possible alternatives from which respondents select the answer that best describes their position.

Questions were constructed so as to address specific objectives and provide a variety of possible responses.

Unstructured questions give the respondent autonomy of response which helps the researcher to estimate the state of mind of the respondent. According to Franker (2010) questionnaires have the added advantage of being less costly and using less time as instruments of data collection. A 5-point Likert scale ranging from 1 to 5 was used as answers to statement like questions. The Likert - type format is selected as the format yields equal - interval data, a fact that allows for the use of more powerful statistical to be used to test hypotheses (Kiess and Bloomquist, 2011). The study also reviewed different textbooks, journals, dissertations, and publications from ICDE reports and other unpublished sources

3.5 Validity of Research Instrument

According to Mugenda and Mugenda (2003), validity refers to whether an instrument is really measuring what it purports to measure. The study did a pilot testing to find out the validity of research instrument. The validity of the instrument was ascertained by conducting a pilot study involving a target of 10 professionals who are very conversant with the functioning of custom procedures in various outlets. This ensured that the instructions were clear and all possible responses to the questions are captured. Content validity of a measuring instrument is the extent to which it provides adequate coverage of the investigative questions guiding the study (Mugenda, 2003). In the study, content validity was determined by consulting the judgement of the study supervisors within the University. The study reviewed the instruments and sought opinion of the research

supervisor to recommend for further improvements and verify whether the instruments were able to address the objectives of the study.

3.6 Reliability of Research Instrument

According to Mugenda and Mugenda (2003), reliability is how much an examination instrument can yield steady outcomes after rehashed preliminaries. A dependability measure is how much research instrument yields steady outcomes after several trials (Fairchild, 2002). It is an indication of how much a user can rely on the data source. A pilot study was carried out in 10 respondents from ICDE who were not part of the actual study. Test re-test method was used to pilot the questionnaires. Tests were applied to the subjects for the first time then to the same subjects again after two weeks. Reliability of data is acceptable if it is dependable, authentic, reputable and trustworthy. According to Field (2013) a Cronbach's $\alpha > 0.7$ implies the instrument is relatively good measurement tool therefore reliable.

3.7 Data Analysis and Presentation

The study was generated was both qualitative and quantitative data. Quantitative data was coded and entered into Statistical Packages for Social Scientists (SPSS Version 17.0) and analyzed using descriptive statistics. Qualitative data was analyzed based on the content matter of the responses. Responses with common themes or patterns were grouped together into coherent categories. Descriptive statistics involved use of absolute and comparative frequencies, measures of central tendency and dispersion. Quantitative information was shown in tables and graphs and description was presented in prose.

3.8 Ethical Considerations

According to Mugenda (2003) protecting the rights and welfare of the participants should be the major ethical obligation of all parties associated with the investigation.

The objective of morals in study is to guarantee that the examination pursues the correct method in the accumulation, investigation and proposal of the investigation discoveries. The study ensured anonymity, confidentiality and avoidance of deception so as to protect all the parties concerned.

3.8.1 Informed Consent

Before conducting the study, the study conducted a pre visit to the organization and sought information from the organization management and the study involved the management on the extent and what information the study seeks.

3.8.2 Confidentiality

All data that was collected from the organization was only for education purpose and no information will not to be reproduced without the consent of the organization and the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter analyzed the data that was collected from respondents. Analysis has been done in frequency tables and percentages, presented in graphs and charts, and interpreted. Qualitative analysis analyzed information on information collected in open-ended questions.

4.2 Presentation of Findings

4.2.1 Response Rate

Table 4.1 Response Rate

Categories	Respondents	Percentage
Responded	56	93
Not responded	4	7
Total	60	100

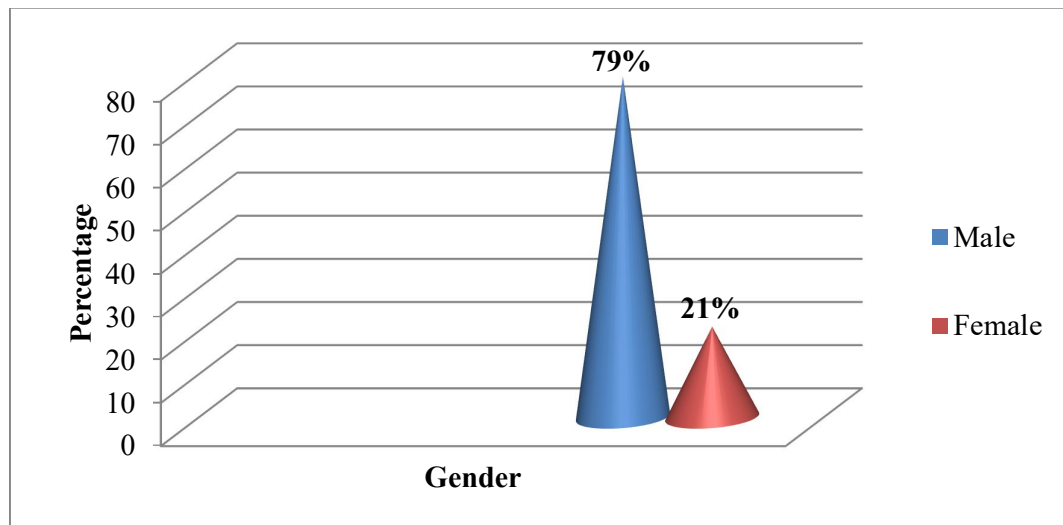
From the table 4.1, the study prepared and issued out 60 questionnaires to the respondents. However, 6 questionnaires were never responded. It is evident that 93% questionnaires were analyzed, while 7% questionnaires were not responded. A coefficient of 0.70 or more implied that there is a high degree of data reliability.

4.2 Demographic Information

4.2.1 Gender Composition

The research sought to establish the response rate of gender. From, the study revealed that gender composition in ICDE, is not equal. Male respondents dominate the work place by 79% while females accounts for 21%. It can therefore be concluded that male Employees exceeds females at ICDE.

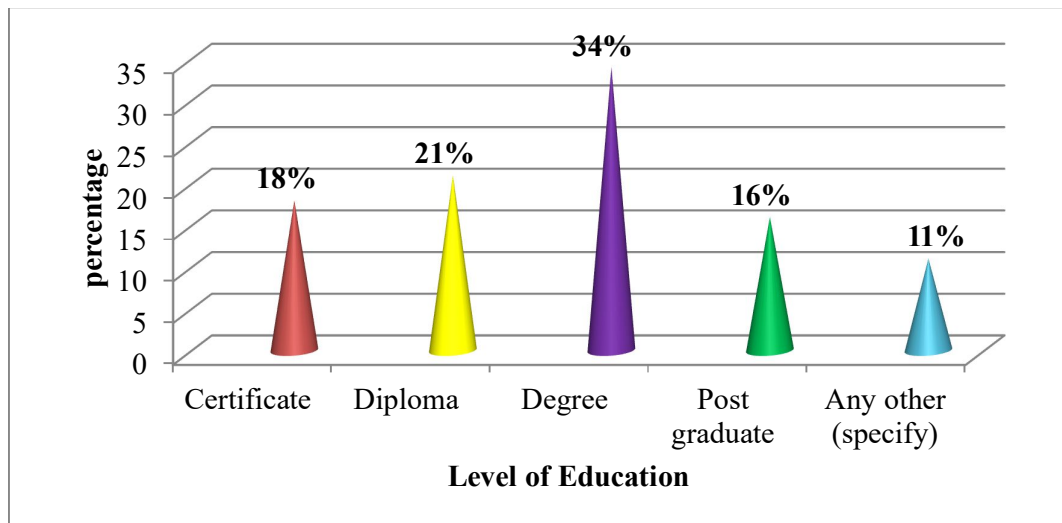
Figure 4.2 Gender Composition



4.2.2 Education Level

From the table 4.2 and figure 4.4, the study revealed that respondents have education from different levels of education. The respondents with degree education dominate the workplace by 34%, while 21% respondents have diploma education. Moreover, 18% respondents have certificate education while 16% are postgraduate employees. The study also established that 11% respondents have other qualifications like on-the-job learning, clearance of cargo at ICDE. Based on the findings it is worth noting that degree education is more compared to other levels.

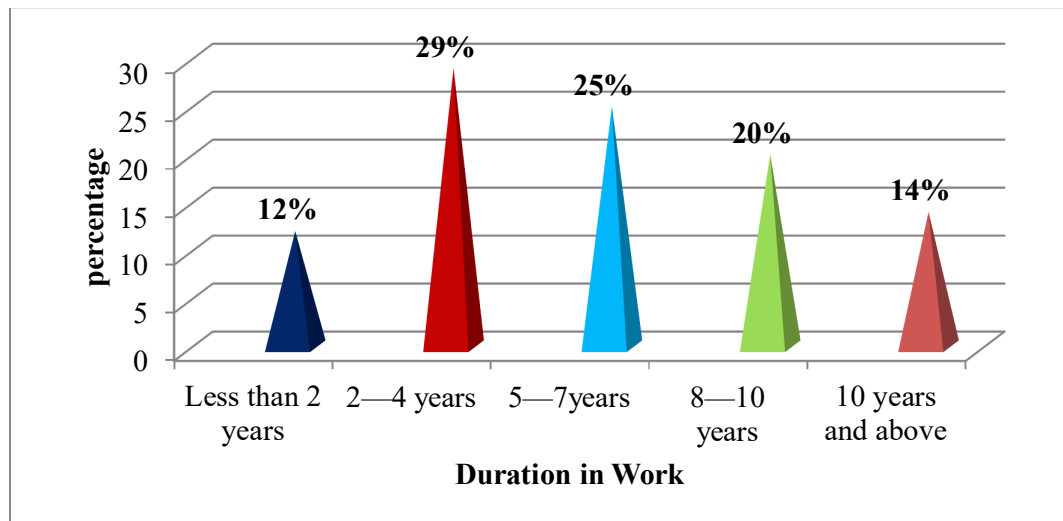
Figure 4.3 Education Level



4.2.3 Duration in Work

From the table 4.5 and figure 4.5 it is evident that respondents have differing experiences. The majority of respondents who accounts for 29% have 2-4 years, while 5-7 years respondents account to 25%. Moreover, the respondents with 8-10 years were 20%, whereas those less than 2 years accounts to 14%. However, 12% respondents have 10 years of experience and above. Given the analysis, it is worth concluding that most respondents have worked in ICDE for a period of 2-14 years.

Figure 4.4 Duration in Work



4.3 Reliability Results

Reliability refers to the ability of a research instrument to consistently measure characteristics of interest over time. It is concerned with consistency, dependability or stability of a test (Nachmias and Nachmias, 1996). The Cronbach's alpha was used in this study to measure the internal consistency of the variables. The study consisted of three independent variables, one dependent variable (Cargo clearance). SPSS version was used to find the reliability of the variables and the results are depicted in table 4.1 below

Table 4.2: Reliability tests of the constructs

Construct	Reliability Cronbach's alpha	Comment
Cargo clearance	0.72	Accepted
Scanning	0.81	Accepted
Inspection	0.71	Accepted
Custom warehousing	0.78	Accepted

Cronbach's Alpha was used to test the reliability of the proposed constructs. The findings indicated that Cargo clearance had a coefficient of 0.72, scanning had a coefficient of 0.81, inspection had a coefficient of 0.71 and custom warehousing had a coefficient of 0.78. All constructs depicted that the value of Cronbach's Alpha are above the suggested value of 0.5, hence the study instrument was considered reliable (Gliem & Gliem, 2003). Qualitative results of the study include on demographic factors and study variables.

4.4 Analysis of Findings

4.4.1 Descriptive Effect of Scanning on Cargo clearance at ICDE

The first objective of the study sought to establish relationship between scanning and cargo clearance. Respondents were asked to respond to a set of questions on a five point Likert scale.

Table 4.3: Effect of Scanning on Cargo Clearance

Statement	Mean	S.D
The scanning process encompasses the container carrying truck being guided into the scanning tunnel.	4.16	1.019
The x-beam scanner including of a lodging which incorporates an x-ray source and identifier ignores the holder on a fixed rail framework.	3.74	.668
Time taken waiting for the scanning procedure	4.21	.737

From table 4.2 most respondents concurred that Scanning affects clearance of cargo at ICDE as per the time taken awaiting in line (4.21) , Shielding facilities and Radiation

dosage monitors are used all around the system to monitor radiation levels (4.16) and the exclusion zone is fully equipped with barriers and alarms (3.74).

4.4.2 Effect of Custom Warehouse procedures on cargo clearance at ICDE

The second objective of the study sought to establish relationship between custom warehouse procedures and cargo clearance. Respondents were asked to respond to a set of questions on a five point Likert scale.

Table 4.4 Effect of Custom warehouse procedures on cargo clearance

Statement	Mean	SD
<ul style="list-style-type: none"> • Entry for Warehousing is prepared by the importer from invoices and other relevant documents. 	4.15	.617
<ul style="list-style-type: none"> • Time taken in Warehouse procedures 	4.56	1.214
<ul style="list-style-type: none"> • Documents are taken to the Import location for release of the goods to the Warehouse. 	3.95	.423
<ul style="list-style-type: none"> • At the Warehouse, the goods are tallied and examined, and an account is taken of the contents of the packages by the warehouse keeper and the Customs Officer. 	4.36	.890
<ul style="list-style-type: none"> • Each package is marked with the rotation number that is assigned. 	3.92	0.453

The respondents concurred that time taken in warehouse procedures affect cargo clearance (4.56), outsourcing technique has been applied to reduce remuneration (4.36), entry for warehousing is prepared by the importer from invoices and other relevant documents (4.15), documents are taken to the import location for release of the goods to the warehouse (3.95).

4.4.3 Effect of Inspection on Cargo clearance at ICDE

Objective three of the study was determined to establish effects of inspection on cargo clearance of manufacturing firms. Respondents were asked to respond to a set of questions on a five point Likert scale.

Table 4.5: Effect of Inspection on Cargo clearance

Statement	Mean	SD
Inspection procedure affects the cargo clearance	4.45	0.457
Inspection procedure affects the competitiveness of ICDE	3.95	0.498
ICDE have adequate internal regulations for inspection procedure	3.42	0.388
Clear policies regarding inspection procedure are in place	3.45	0.684

The study also sought to establish effects of inspection on Cargo clearance. Most respondents concurred that inspection procedure affects the cargo clearance (M=4.45, SD=0.457), there was however uncertainty on whether inspection procedure affects the competitiveness of ICDE (M=3.95, SD=0.498), or whether the firms have adequate internal regulations for inspection procedure (M=3.45, SD=0.684) as well as if clear policies regarding inspection procedure are in lace (M=3.42, SD=0.388) as indicated in table 4.4

Table 4.6: Inspection Tools available at ICDE

Statement	Mean	Sd
Inspections Form	3.95	1.042
Shielding facilities	4.12	0.152
Exclusion zone	4.15	0.428

Radiation safety	4.95	1.145
Radiation dosage monitors	4.02	0.899

The study established the mean deviation and standard deviation regarding the inspections available at ICDE. The tools were found to be; inspections Form (3.95, 1.042), Shielding facilities (4.12, 0.152); Exclusion zone (4.15, 0.428); Radiation safety (4.95, 1.145), and Radiation dosage monitors (4.02, 0.899). The findings indicates that various inspection tools are available at ICDE and Radiation safety (4.95, 1.145) is a highly regarded tool.

4.5 Inferential Statistics

Inferential analysis was conducted to generate correlation results, model of fitness, and analysis of the variance and regression coefficients.

4.5.1 Correlation Analysis between Cargo clearance and Other Variables

Table 4.7: Correlation Analysis between Cargo clearance and Other Variables

		Cargo clearance	Scanning	Inspection	Custom warehouse
Cargo clearance	Pearson Correlation	1	.123	.154	.062
	Sig. (2-tailed)		.069	.020	.114
Scanning	Pearson Correlation	.123	1	.582	.192
	Sig. (2-tailed)	.069		.699	.211
Inspection	Pearson Correlation	.154	.582	1	.308
	Sig. (2-tailed)	.020	.699		.042

Custom warehousing	Pearson Correlation	.062	.192	.308	1
	Sig. (2- tailed)	.114	.211	.042	
**. Correlation is significant at the 0.01 level (2-tailed).					

The study did a correlation analysis to determine the relationship between cargo clearance, scanning, inspection and custom warehouse. Finding from the research revealed that there was a positive correlation between cargo clearance and scanning with a correlation value of 0.123, also a strong positive correlation amongst cargo clearance and inspection with a correlation rate of 0.154, and a positive correlation among cargo clearance and custom warehousing with a correlation value of 0.062.

4.5.2 Regression Analysis

Further the researcher conducted a multiple regression analysis so as to determine effect of custom procedures on cargo clearance. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study. Coefficient of determination explains the extent to which variations in the dependent variable can be clarified by the change in the independent variables or the percentage of variation in the dependent variable (cargo clearance) that is explained by all the three independent factors (scanning, custom warehouse procedures, and inspection).

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.913	0.834	0.751	0.4538

The three free factors that were considered, clarify just 83.4% of the cargo clearance as spoken to by the balanced R2. This accordingly implies different variables not contemplated in this examination contribute 16.6% of the freight clearance. In this manner, further research ought to be directed to examine the other factors (16.6%) that affect cargo clearance at Inland Container Depot in Embakasi

Table 4.9 Analysis of variance (ANOVA)

		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.354	2	.202	7.54	.004 ^a
	Residual	5.328	3	.246		
		6.767	5			

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all 0 against the null hypothesis that = 0 (Weisberg, 2005). From the findings the significance value is .004 which is less than 0.05 thus the model is statistically significant in predicting how scanning, custom warehouse procedures affect cargo clearance at ICDE. The F critical at 5% level of significance was 3.23. Given that the F calculated (value = 7.54) is larger compared to F critical (3.23), this demonstrates that the total model was significant.

4.5.3 Multiple Regression

Multiple regression investigation was led as to decide the connection between ward variable and the four dependent variables, the condition

($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$) becomes:

$$Y = 4.234 + 0.456X_1 + 0.259X_2 + 0.374X_3$$

The regression equation established that taking all factors into account (scanning, custom warehouse procedures, and inspection) constant at zero, implementation of cargo clearance procedures will be 4.234. The findings presented additionally demonstrate that taking all other autonomous factors at zero, a unit increment in checking will prompt a 0.456 upgrades cargo clearance; a unit increment in warehouse techniques will prompt a 0.259 increment of cargo freedom; and a unit increment investigation will prompt a 0.374 increment in cargo clearance. This infers that scanning contribute most to cargo clearance at 45.6% followed by inspection and custom warehouse procedures at 37.4% and 25.9% respectively.

Table 4.10 Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Cargo clearance (Constant)	4.234	.189		14.325	.000
	Scanning	.456	.025	.268	1.115	.005
	Custom warehouse procedures	.259	.109	.198	2.473	.022
	Inspection	.374	.126	.278	3.217	.020

From above Table (4.8), the following observations were made;

On Scanning of cargo, the P value was .005 which meant that it was statistically significant. In Customs warehouse procedures, the value of P was .022 which was less than .005 which meant that it was statically significant. On Inspection, the P value was .020 which was statistically significant.

4.6 Key Findings

4.6.1 Scanning of cargo

The first objective sought to establish the effect of scanning on cargo clearance at ICDE. Most respondents concurred that scanning affects clearance of cargo at ICDE as per the time taken waiting in queue (4.21). This is in terms of shortage of scanners which makes the ICDE agents goods stay longer at the depot and the other factor of lack of proper safety measures by KRA to protect its staff from the harmful rays of the scanners. The findings concurred with Wanyama (2017) whose study revealed some of the challenges facing clearing and forwarding processes at the port of Mombasa included poor education and training of clearing agents, abandonment of goods by agents due to poor pricing, lack of automation, low level mechanization, bureaucratic processes from governmental agencies and poor road network which causes congestion. In conclusion, the research identified that the challenges were both human resource oriented (inadequately skilled workforce) as well as systemic (resulting from a failure in the coordination between the various players in the clearing system).

4.6.2 Inspection

The second objective sought to establish the effect of inspection on cargo clearance at ICDE. Most respondents concurred that inspection procedure affects the cargo clearance ($M=4.45$, $SD=0.457$), there was however uncertainty on whether inspection procedure affects the competitiveness of ICDE ($M=3.95$, $SD=0.498$), or whether the firms have adequate internal regulations for inspection procedure ($M=3.45$, $SD=0.684$) as well as if clear policies regarding inspection procedure are in place ($M=3.42$, $SD=0.388$). The study found that, in order to prevent any delays in custom clearance procedures, importers should provide complete and accurate information to the Customs Brokers/Freight Forwarders so that the clearance

process would be smoother and save time and increase revenue as imports would be more. The findings concurred with Clark, Ximena, Dollar and Micco (2002) who found that clearing and forwarding agents have accused non-tax boundaries for sluggish development of freight at the Mombasa port. They state the Kenya Revenue Authority (KRA) presented new methods at the key foundation that have now turned into an obstacle to exchange. Cargo is going to the port however the rate at which it is leaving is moderate. The problem is that there are procedures that have been introduced which are leading to slow cargo clearance.

4.6.3 Custom warehouse Procedures

The third objective was to establish the effect of customs warehouse procedures on cargo clearance at ICDE. The respondents concurred that time taken in warehouse procedures affect cargo clearance (4.56), outsourcing technique has been applied to reduce remuneration (4.36), entry for warehousing is prepared by the importer from invoices and other relevant documents (4.15), documents are taken to the import location for release of the goods to the warehouse (3.95). The study found that cargo clearance is affected by warehouse procedures like physical inspections of the goods by KRA Customs staff, inspection of the import documents via a view the exact nature and quantity of the goods at the warehouse.

The findings agreed with According to Kafeero (2012), the procedures outlined hereunder deal specifically with the requirements concerning the warehousing of goods on the Entry for Warehousing as follows: Entry for Warehousing is prepared by the importer from invoices and other relevant documents. This is submitted to the Customs Inventory Audit Unit, Customs House Kingstown for checking, acceptance and signature. Documents are taken to the Import location for release of the goods to the

Warehouse. At the Warehouse, the goods are tallied and examined, and an account is taken of the contents of the packages by the warehouse keeper and the Customs Officer.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a brief report on the summary of findings, answers to study questions, conclusion, recommendations, and suggestion for further studies.

5.2 Summary of Findings

5.2.1 Scanning

The first objective sought to establish the effect of scanning on cargo clearance at Internal Container Depot Embakasi. From most respondents concurred that Scanning takes a lot of time in waiting (4.21), shielding facilities and radiation dosage monitors are used all around the system to monitor radiation levels (4.16) and the exclusion zone is fully equipped with barriers and alarms (3.74). The 100% scanning of outbound containers which shifts the control of goods to the export point creates a need to reconfigure ports and terminals, find more space to accommodate the extra facilities required, re-design the established procedures and introduce revised regulations.

5.2.2 Warehouse Procedures

The respondents concurred that a lot of time is taken in warehouse procedures at ICDE (4.56), outsourcing technique has been applied to reduce remuneration (4.36), entry for warehousing is prepared by the importer from invoices and other relevant documents (4.15), documents are taken to the import location for release of the goods to the warehouse (3.95). Most customer cleared goods from port to warehouse and the frequency of stock taking inspection which normally done by KRA officials took place as per KRA warehouse guidelines. Majority of respondents to this study indicated that there is a shortage of manpower and

transport facility to match with number of bonded warehouse which resulted to poor logistics.

5.2.3 Inspection

Most respondents approved that inspection procedure affects the cargo clearance (M=4.45, SD=0.457), there was however uncertainty on whether inspection procedure affects the competitiveness of ICDE (M=3.95, SD=0.498), or whether the firms have adequate internal regulations for inspection procedure (M=3.45, SD=0.684) as well as if clear policies regarding inspection procedure are in lace (M=3.42, SD=0.388). Finding from the research revealed that there was a positive correlation between cargo clearance and scanning with a relationship value of 0.123, also a strong optimistic correlation among cargo clearance and inspection with a correlation value of 0.154, and a positive correlation between cargo clearance and custom warehousing with a correlation value of 0.062. Inspections cause extra costs to importers like inspection fee, demurrage, per diem and delay the delivery process of the shipments. Another problem importers might face at the destination is overweight or uneven distribution of the cargo inside the container. After the import containers arrive into port of destination and discharged from the vessel, as most of the port areas are so big, sometimes the discharged containers get lost. In these cases, the port staff searches for the container and to spot the container might take from one day to several days.

5.3 Conclusion

The 100% scanning of outbound containers which shifts the control of goods to the export point therefore creates a need to reconfigure ports and terminals, find more space to accommodate the extra facilities required, re-design the established procedures and introduce revised regulations.

Verifications cause extra costs to importers like verification fee, demurrage, per diem and delay the delivery process of the shipments. Another problem importers might face at the destination is overweight or uneven distribution of the cargo inside the container. After the import containers arrive into port of destination and discharged from the vessel, as most of the port areas are so big, sometimes the discharged containers get lost. In these cases, the port staff searches for the container and to spot the container might take from one day to several days.

Most customer cleared goods from port to warehouse and the frequency of stock taking verification which normally done by KRA officials took place as per KRA warehouse guidelines. Majority of respondents to this study indicated that there is a shortage of manpower and transport facility to match with number of bonded warehouse which resulted to poor logistics.

5.4 Recommendations

The study established that scanning has significant effect on cargo clearance at ICDE. The 100% scanning of outbound containers which shifts the control of goods to the export point creates a need to reconfigure ports and terminals, find more space to accommodate the extra facilities required, re-design the established procedures and introduce revised regulations. Customs should add the number of scanners so as to save

time and money. The scanning equipment should experience, every day, week by week and month to month checks to guarantee that it meets the stringent global wellbeing norms utilized. During every examination, all parts of the scanning equipment ought to be checked, including all wellbeing related highlights. Customs staff ought to be completely prepared in all parts of the utilization of the examining hardware, including security. Non-nosy investigation hardware and radiation discovery gear ought to be accessible and utilized for directing examinations, and as per hazard appraisal. This gear is important to review high-hazard cargo or potentially transport movements rapidly, without upsetting the progression of real exchange.

The study established that custom warehouse procedures have significant effect on clearance at ICDE. In order to prevent any delay in custom clearance procedures, importers should provide complete and accurate information to the Customs Brokers/Freight Forwarders so that the clearance process will be smoother and your shipment will be less likely to face with any exams.

The study established that inspection has significant effect on clearance at ICDE. Before goods under this procedure can be consumed in Kenya, the warehousing period must be completed and the products have to be released for free circulation, which means that import duty must be paid and other taxes related to the import of the goods (e.g. VAT or excises) will become due immediately or, in some cases, if the goods are destined for another Member State, in the country of final destination. Alternatively the goods could, following the warehousing period, be placed under a different special procedure (such as inward processing or end-use), subject to the conditions laid down for these procedures. Custom's staff needs to institute proper mechanism of dealing

with the customer's complaints promptly. It also needs to institute proper mechanism of monitoring dishonestly and keeping on soliciting customer feedback throughout the country; this eventually will enable them to identify other factors for customer satisfaction.

5.5 Suggestion for Further Studies

The study findings revealed that the strategies for cargo clearance in Kenya depots and to other countries have been troublesome and bureaucratic for some key partners. Load that enter Kenya through the port are in two groupings, those that are destined for home use conventionally known as neighborhood imports which pay import obligation locally and those that are headed for accomplice states, regularly alluded to as travel payload, which are verified through bonds however don't pay import duty. A study should be carried out regarding the effect of appropriation of customs electronic methods on exchange assistance. This study set up the advantages of receiving customs electronic methodology which incorporates all the distinctive custom strategies. It is prescribed that future research studies can look at the impact of cargo tracking system on the transit goods supply chain. A comparative report ought to in this way be done on other load freedom terminals in Kenya. The study suggests that a further report ought to be done to decide the difficulties confronting cargo tracking framework on cross-border exchange among Kenya and neighboring nations. Numerous different investigations ought to be done to decide the primary driver why the computerization of customs division has not been completely used to the ideal execution of clearance of cargo in Kenya.

REFERENCES

- Agbesi, K. (2013). *The impact of ICT on the Clearing of goods at Ghana Ports: A Study of Tema and Takoradi Ports*. Academic Research International 4, 3, 87.
- Aliet, J. O. (2011). *Responses by the KRA to the challenges in the implementation of the Customs reforms and modernization*. Unpublished MBA thesis. Nairobi: University of Nairobi.
- Ame, A., (2013). *The effect of service quality on satisfaction and its consequences on behavioral intentions, A case study of services firms in Tanzania*, PHD, Thesis UDSM.
- Bhero, E., Hoffman, A., Lusanga, K. & De Coning, A., (2015). Impact of a radio-frequency identification system and information interchange on clearance processes for cargo at border posts, *Journal of Transport and Supply Chain Management* 9(1),
- Ansah, E.O (2014). *Challenges facing meridian ports services (MPS) in the handling and delivery of containers to customers on the MPS terminal, the case at the Tema port*. Unpublished MBA Thesis, Ports and Shipping Administration; University of Ghana
- Asuliwonno C. (2011). *Improving port efficiency and custom operations in Ghana: the case of Ghana Community Network Services Limited (GCNET) under Customs Excise and Preventive Service (CEPS)*
- Awitta, J. (2014). Effectiveness of revenue collection strategies at KRA in Nairobi. Unpublished MBA Thesis. Nairobi: University of Nairobi.
- Ballou, Ronald, (2014) ‘‘Business Logistics Management’’ page 27. New York: Pearson Education.

- Broni K. M. K. (2014). An influence assessment of GCNet on the procedures of Ghana Revenue Authority (Customs Division) In Tema Port (Doctoral dissertation, School of Graduate Studies, Kwame Nkrumah University of Science and Technology).
- Buyonge, C. (2012). Developing concerns on the role of Customs in the 21st century: an African focus. *World Customs Journal*, (1), 55-62
- Cheruiyot and Rotich (2016), challenges facing the utilization of one stop border post methodology: a contextual analysis of the Malaba Border. Unpublished MBA Thesis. Nairobi: University of Nairobi.
- Cheruiyot, E. and Rotich, W. (2016). Factors influencing the application of one stop border post strategy: a case study of the Malaba Border; *Unpublished MBA Thesis. Nairobi: University of Nairobi.*
- Clarete, J. (2012). Customs valuation reforms in the Philippines. *Background Paper Prepared for the world Development Reports, 2012.* Washington, DC: World Bank.
- Clark, Ximena, Dollar and Micco. (2002). Maritime Transport Costs and Port Efficiency. *World Country Working Paper Series 2781. The World Country: Washington, D.C.*
- East African Business Council (2011). The Business Climate Index Survey. The Steadman Group, Riverside Drive, Nairobi, October.
- European Union (2012). Innovation and Growth in the Global economy: *A journal in Economic Literature Vol. 31.*
- European Union Commission. (2015). 2002 Report on US Barriers to Trade and Investment, DG Trade, EU Commission. 2015.

- Frankel, et al (2011). Estimating the Effect of Currency Unions on Trade and Output.
- ICDE (2017). Custom procedures revised. *ICDE Journal 2017 vol 3*. Nrb-Kenya
- Jensen, M., and Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Kafeero, E. (2012). Customs and trade facilitation in the East Africa Community (EAC) *World Customs Journal*, 2 (1), 63-72
- Kenya International Freight and Warehouse Association (Kifwa) (2017). *Delay in clearing cargo at city depot sparks fear of shortages;*
- Kihimbi, J.N (2013). *Difficulties of Information and communication technology to improve efficiency in the control of transit goods*, page Customs,
- Kiser, E.L (2013). Comparing varieties of agency theory in economics, political science, and sociology: An illustration from state policy implementation. *Sociological Theory*, 17(2), 146–170
- Kondo E.M (2015). The effect of revenue enhancement strategies on financial performance of Kenya Revenue Authority; Unpublished Master’s Degree Thesis thesis, University of Nairobi.
- Kosgei, J. K. (2011). Responses by clearing and forwarding firms in Mombasa to changes in the environment. Unpublished MBA thesis. Nairobi: University of Nairobi.
- Kosnik, R., and Bittenhausen, K. (2011). Agency theory and motivational effect of management compensation. *Group and Organization Management*, 17(3), 309–330.
- Kothari, C. R. (2012). *Study Methodology: approaches and procedures*: New Delhi: New Age International (P) Limited.

- Malterud, K., Siersma, V. D., and Guassora, A. D. (2016). *Sample size in qualitative interview studies: guided by information power*. *Qualitative health research*, 26(13), 1753-1760.
- Mario, H. and Florin P. (2014). *The impact of customs procedures on business performance: evidence from Kosovo*
- Mbirimi, E.K. (2010). Factors affecting efficiency of container freight stations: a case of Mombasa port, Mombasa County, Kenya; Unpublished MBA Thesis. Nairobi: University of Nairobi.
- Ministry Of Commerce People's Republic of China (2017). Measures on the administration of the customs of People's Republic of China concerning bonded warehouses and bonded goods; (Promulgated by the Customs General Administration on April 14, 1988)
- Mtaki, N.K (2013). *Investigation on the possible causes of declining dry cargo throughput at Dar-es-Salam port*; The Maritime Commons: Digital Repository of the World Maritime University
- Mugenda, O. M. and Mugenda, A. G. (2003). *Research Methods: Quantitative and Qualitative Approaches*; Acts Press, Nairobi-Kenya
- Muita, E. (2015). Tax reforms and revenue mobilization in Kenya, *AERC Study Paper 131, African Economic Study Consortium*, Nairobi, Kenya
- Mushi, N.J (2002). *Factors affecting Tax evasion in Tanzania, A thesis for the Degree of Masters in Business Administration (Marketing)* of the University of Dar-es-salaam
- Mutema C.T (2013). *Customer service as a competitive strategy for enhancing performance in the customs services department*, KRA; Unpublished MBA thesis. University of Nairobi Nairobi-Kenya

- Ndikom, L and Emeghara, M. (2012). An assessment on the performance of the improving Inland Container Depots (ICDE), *Convectional of Social Science, Volume 5*
- Nyema, S.M (2014). *Factors influencing container terminals efficiency: a case study of Mombasa entry port*; Department of Procurement in the School of Entrepreneurship, Procurement and Administration, JKUAT
- Price Waterhouse Coopers, (2012), *Perception Survey of Large Taxpayers, Dar es Salaam*
- Qtech Control Limited (2016). *International Inspection Engineers, Cargo Surveyors & Technical Resources*, United Kingdom
- Schware, R. and Kimberley, P. (2010). Information Technology and National Trade Facilitation. *World Bank Technical Paper* No. 317. Washington, D. C.: World Bank.
- Shepa, C.M (2013). Assessment Of The Challenges Behind The Ineffective Customs Clearance Of Goods At Sea Port The Case Study Of Medical Stores Department Dar Es Salaam.
- South African Revenue Service (SARS) Report (2017). *Export Customs procedures in South Africa*; Pretoria-SA
- Technology for Mobile and Online (TMO) Group (2018). *China Bonded Warehousing and Cross-border eCommerce Tax Reform*; TMO Group May 1st, 2018, Shanghai-China
- Thailand, F.N (2013). Bonded warehouses Customs Act, Customs Department of the Kingdom of Thailand, webpage <http://www.customs.go.th/Customs-Eng/Bonded>
- United Nations Conference on Trade and Development (2011). *Malawi and the multilateral trading system: the impact of WTO agreements, negotiations and implementation*; UN-New York and Geneva, 2011

- United States Government Accountability Office (2016). *U.S. BORDER COMMUNITIES Ongoing DOT Efforts Could Help Address Impacts of International Freight Rail*; GAO-16-274; New York-USA
- Vorush, A. (2013). *Customs obstacles and decision to import*; MBA thesis; Financial Economics Kyiv School of Economics
- Wanyama, T. (2017). *Causes of delay in clearance of goods at the port of Mombasa*; Unpublished MBA thesis, Catholic University of Eastern Africa, (CUEA)- Nrb-Kenya
- Yang, R.M.B (2015). *Factors affecting port development in China, with special reference to Shanghai international shipping center[j]*.Acta Geographica Sinica, 2015, 65(3): 193-201.

Journals

Kenya Revenue Authority. (2014). 4th Corporate Plan, 2015/2017

Kenya Revenue Authority. (2015). Custom Procedure Review, Vol. II

KRA departmental Instruction and Procedures (2017) Vol. VIII

Kenya Ports Authority Annual Review and Bulletin of Statistics, (2012).

APPENDIX I: QUESTIONNAIRE

Dear respondent this questionnaire aims to collect information on related to the effect of custom procedures on cargo clearance at ICDE in Kenya. The information on given is for academic purpose only and will be treated as very confidential. Please fill the question according to the instructions given.

SECTION A: GENERAL INFORMATION

1. Gender

Male

Female

2. Age bracket (years)

18—23 years

24—29 years

30—35 years

36—41 years

42 years and above

3. Highest education Level

Secondary

Tertialy College

University Level

No other

4. Duration at work

Less than 2 years

2—4 years

5—7years

8—10 years

11 years and above

SECTION B: SCANNING AND CARGO CLEARANCE AT ICDE

5. For each item, tick the box that best denotes the scanning procedures carried out at ICDE.

Use a scale of 1 to 5 where 1 = strongly disagree, 2=disagree, 3= not disagree, 4=neither agree/ disagree, 5=strongly agree

Statement	5	4	3	2	1
<ul style="list-style-type: none"> • The scanning process involves the container carrying truck being guided into the scanning tunnel. • The x-ray scanner consisting of a housing which includes an x-ray basis and detector permits over the container on a fixed rail system. • Time taken waiting for scanning procedure 					

SECTION C: CUSTOM WAREHOUSE PROCEDURES

13. For each item, tick the box that best denotes the relationship between custom warehouse procedures and cargo clearance at ICDE.

Use a scale of 1 to 5 where 1 = strongly disagree, 2=disagree, 3= not disagree, 4=neither agree/ disagree, 5=strongly agree

Statement	5	4	3	2	1
<ul style="list-style-type: none"> • Entry for Warehousing is prepared by the importer from invoices and other relevant documents. • Time taken in warehouse procedures • Documents are taken to the Import location for 					

<p>release of the goods to the Warehouse.</p> <ul style="list-style-type: none"> At the Warehouse, the goods are tallied and examined, and an account is taken of the contents of the packages by the warehouse keeper and the Customs Officer. Each package is marked with the rotation number that is assigned. 					
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SECTION D: INSPECTION AND CARGO CLEARANCE AT ICDE

9. For each item, tick the box that best denotes the effects of Inspection on Cargo clearance

Use a scale of 1 to 5 where 1 = strongly disagree, 2=disagree, 3= not disagree, 4=neither agree/ disagree, 5=strongly agree

Statement	5	4	3	2	1
<ul style="list-style-type: none"> Inspection procedure affects the performance of ICDE Inspection procedure affects the cargo clearance Inspection procedure affects the competitiveness of ICDE ICDE have adequate internal regulations for inspection procedure Clear policies regarding inspection procedure are in place 					

Thank for your cooperation and information

APPENDIX II: LISTED CARGO CLEARING AGENTS

1. JAMBO TRADERS LTD
2. STEJA GENERAL AGENCIES CO. LTD.
3. VISHAMMAH ENTERPRISES LTD
4. BAMBURI SHIPCHANDLERS (K) LTD
5. MUSTAFA FREIGHT FORWARDERS LTD
6. ZUKHRUF (K) LTD
7. ASK CARGO LTD
8. SHOOTERS CARGO AGENCIES LTD
9. WORLD TRADE FREIGHT LOGISTICS
10. NIBAL FREIGHTERS LTD
11. ERI KENYA LTD
12. INTERSPEED LOGISTICS LTD
13. RIPE FREIGHT SERVICES
14. DEEPMARK CARGO LTD
15. CORNERSTONE LIMITED
16. SUPER QUICK FREIGHTERS LTD
17. SINZA FREIGHT AND LOGISTICS
18. J. B. MAINA & CO. LTD.
19. SALMIR CLEARING & FORWARDING CO. LTD
20. KIAMBA CLEARING & FORWARDING LTD
21. GLOBAL FREIGHT LOGISTICS LTD
22. FREIGHT FORWARDERS (K) LTD
23. PHILSAM AGENCIES LTD
24. GOLD FIELDS LOGISTICS LTD
25. CHARITIES LOGISTICS LTD
26. INTERNATIONAL COMMERCIAL CO. (K) LTD
27. TRANSNET FREIGHT INTERNATIONAL LTD
28. GIFTLINE FREIGHT SERVICES
29. FARIHMA TRADING CO. LTD.
30. GOLDEN FREIGHT SERVICES
31. GREENBELT LOGISTICS LTD