EFFECTS OF CARGO DIVERSION ON REVENUE PERFORMANCE IN KRA : CASE STUDY OF THE CUSTOMS AND BORDER CONTROL SERVICES DEPARTMENT

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

2018

DECLARATION

This proposal is my original work and has not been presented for a degree in any other University

Signed_____ **Date:** _____

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This proposal has been submitted for examination with my approval as University Supervisor

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DEDICATION

First and foremost is to thank our Almighty God who has seen me through the proposal writing. I would also like to dedicate this project to my lecturers who have guided me in my work.

ACKNOWLEDGEMNT

The completion of this proposal has been made possible through the contribution of many people from whom their efforts cannot be fully expressed.

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ABBREVIATIONS

NACADA National Authority for the Campaign against Alcohol and Drug Abuse

WHO World Health Organization

ECTS Electronic Cargo Tracking Systems

GPRS General Packet Radio Service

UK United Kingdom

KAM Kenya Association of Manufacturers

KRA Kenya Revenue Authority

VAT Value Added Tax

EU European Union

RARMP Revenue Authority Reforms and Modernization Programme

RSP Resale Price

ABSTRACT

The advent of maritime and cross-border trade has brought intense pressure on governments to fundamentally change how they manage the cargo that move across so as to mitigate loss of revenue as well as enforce security in the dynamic business environments across international boundaries. Revenue collected is at the centre stage in Kenya‟s long-term development goals this is evident especially in the national policy strategic goals known as vision 2030. Vision 2030 aims at transforming Kenya into an industrialized middle income that enabled the country to be able to develop and compete global with the other developing nations. To be able to sustain development in parity with the expected levels, Kenya must maximize on revenue collected and reduce tax evasion incidences. One such key revenue collected is customs duty. This refers to taxes levied on imported or exported goods. The two types of customs duties collected under international trade are import and export duty. The duties are listed in the country's tariff schedule. Duties may be ad valorem or specific. Cargo diversion is an unacceptable trade practice because it undercuts government revenue and discourages private sector investments in the oil and gas free zones. The objective of the study is to determine the effect of cargo diversion on revenue performance, focusing on the Customs and Border Control Services Department at KRA. The main objective of the study was to assess the causes of cargo diversion in Kenya, determine extent to which cargo diversion influences on revenue performance and determine challenges faced on cargo diversion management. The study was informed by Technological Determinism and Queuing Theory. This study adopted an explanatory design. The target population of this study comprised 1500 employees in KRA customs. Simple random was used to select a sample size of 110 employees. This study utilized only primary data which was obtained through questionnaire consisting of closed structured and open ended structured questions. The variables were tested for reliability by computing the Cronbach's alpha statistical tests. Quantitative data was analyzed using descriptive statistical method, the statistical tools such as frequency distribution, tables. The data collected analyzed using regression analysis and correlation analysis.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

1.1.1 Global perspective

Globally Asia is a force to reckon with when it comes to electronic cargo tracking, with rapid industrialization comes increased traffic by land, sea and also air transport therefore this has led to sophistication and diversity in transportation and logistics services (Bowen and Leinbach, 1995) with this there is increased misappropriation in the share of cargo transportation.

Revenue performance as a set of procedures through which revenues are brought together by established entities (McLinden, 2015). Thus, revenue mobilization puts a lot of pressure on the ability of an organization's members to mobilize revenues and people towards the goal of achieving its objectives. Revenue mobilization approaches are the means and mechanisms by which revenues can be brought together from revenue providers (Carmignani, 2012). The mechanisms are the initial ways of requesting for revenues like, coming up with proposals, making fundraising (Haynes, 2016). Hence, identifying various revenue mobilization strategies is one way for communities to widen their understanding of revenue mobilization and make their strategies to be beyond the process of writing proposals.

Diversion was predicted by first estimating the elasticity of demand for container transportation based upon a regression analysis using the ratio of total transportation costs vs. the ratio of relative port gateway market shares. Schied (2017) attributed several factors that cause cargo diversion. First is the issue of variations in port charges. The variations are due to the difference in the nature of approach (the port channel) and draft of the ports, hours of operation, the cost of labour in the different countries, the availability and sophistication of port facilities and equipment, level of computerization and of course, the difference in the

billing system for port services. Secondly, the freight rate charged to get goods to the different ports by the calling shipping companies varies. Most of the shipping companies operating in Nigeria were simply charging importers whatever they can get away with, without any rational basis for some of these charges; thereby raising rather highly the cost of shipping and associated port services in Nigeria (Leary, 2016).

In the East African region with the example of Tanzania it can be noted that Cargo travels from the seaport in Dar es Salaam to neighboring countries, such as Zambia, Malawi, Uganda, Rwanda, Burundi and the Democratic Republic of the Congo (DRC), at a rate of approximately 15,000 loads per month (Swedberg, 2013). Unfortunately however there is an increase of theft while moving the load and most cargo that consists of food and medical supplies and this happens when the vehicles are either parked or the drivers divert the trucks. The Tanzania government has therefore called for the introduction of the electronic cargo tracking system. This goes to illustrate that we have a number of countries in Africa that have are in the process of implementation of the system.

Related studies locally have shown that truck and cargo owners have increased efficiency by averagely 45% increase in savings on turn-around times and this has led to the realization of increased revenue with the introduction of the system. The system is well equipped to protect and keep tabs on the movement of goods for customs purposes. It is evident that the resulting efficiency and security improvements are beneficial for both security related and government agencies, cargo owners and truck owners. Studies on export goods in Kenya, have established that the solution is quite generic in nature and can be implemented by customs administrators in the neighboring countries in this region as well as any entity interested in secure tracking of cargo (Sorir, 2010).

1.1.2 Kenya Perspective

Export products from Kenya enjoy privileged status on taxation and excise duties with most exempted. Taxes and duties are usually paid by manufacturers upon selling the goods. Refund claims are then processed by the tax authority upon proof of export from the traders. Unscrupulous traders however misuse the provision by making fake claims. Goods would be loaded and leave their factories with documents indicating that the goods are destined to foreign markets, but along the way the goods are diverted and dumped to the local market. Additionally, they would thereafter lodge refunds claims for the same cargo on pretext that they were exported. Other traders exaggerate what is exported to facilitate diversion of the cargo difference to the domestic markets. While some would dump the cargo, others however exchange the original contents for prohibited or illegal goods such as narcotics to facilitate transiting to other destinations.

This is done due to weaknesses in tracking or bribery of those responsible for escorting or verifying the export cargo. According to UN's International Narcotics Control Board (INCB), Kenya is an emerging transit area for narcotics where they arrive, are repackaged and exported to Europe disguised as legitimate cargo. Export cargo is carried mainly by trucks with full covered bodies, tankers and containers on trailers or on rail. Manual seals are used to secure the doors, valves or hatches prior to departure to the port or frontier office. Upon the cargo crossing the frontier office or the port with intact seals; the cargo is assumed not to have been tampered with. High risk cargo is additionally physically escorted by customs officers. Use of mechanical security seals and physical escorts has however not been effective in curbing diversion of goods. Instances of seals being broken, goods dumped or exchanged and a substitute imitation seal fixed abound. The high levels of taxation, collusion by law enforcement agents, particularly at border points or the port, increasing volumes of trade, inadequate physical and technological infrastructure, vast distances traversed by cargo trucks,

need to facilitate faster movement of cargo have created a conducive environment for these practices. Thus, despite the measures, large quantities of export goods still get diverted to the local market with most undetected. These challenges impact negatively on revenue collections, confidence in customs controls, costs of controlling revenue leakages, security and cost of doing business in the region and increased risk of export goods from the region. The magnetic gadget is attached on the container's rear and armed before the lorry leaves the port. It contains details about the container and lorry registration details including the driver's contacts.

Any diversion from the transit route is viewed from the command centre in the three capitals with a team of customs officials and the police on patrol at different check points to respond to any violations triggered by the system. Revenue Authorities in Kenya, Uganda and Rwanda have officially unveiled a Regional Electronic Cargo Tracking System (RECTs) enabling them to jointly track movement of goods from port to destination electronically; that is from Mombasa Port to Kampala and Kigali. The system will reduce the cost of doing business by reducing transit time, enhancing cargo safety and helping traders to better predict arrival of goods. RECTs comprises satellites, central command centers in each of the revenue authorities in Nairobi, Kampala and Kigali, smart gates and rapid response units. An electronic seal is attached on transit cargo vehicles and communicates with the command centers giving real time updates such as vehicle location, speed, and if the container is tampered with or not. Importers, transporters, and the revenue authorities can see this information. Rapid response units are stationed along sections of the Northern Corridor identified as notorious for diversion of goods. These rapid response units respond to alerts, received from the command centers, about suspicious behaviour like diversion from designated route, unusually long stop over, or attempt to open a container, which they investigate and resolve on the spot.

ECTs play such a critical role in curbing dumping and theft of goods in the regional block thereby sealing revenue loopholes. Safety of goods coming into the Kenyan market will be enhanced as the “black market” slowly closes down. Substandard goods will not be poured easily into the market and the consumer will be safe. Use of the system does not only benefit the tax collector and the consumer but it also ensures that a commercial transport rips benefits from its use. The transport is able to monitor the goods they ferry on a real-time basis. This will lead to less penalties on late deliveries or no deliveries and necessary measures can be taken to ensure that the cargo they are transporting gets to their clients intact and in time.

Electronic Cargo Tracking Systems (ECTs) have therefore been introduced to be able to facilitate fair trade and also enhance cargo security. This particular system is a Kenya Revenue Authority (KRA) initiative. The primary role of ECTs is not only to enhance national security but to also curb evasion of payment of duties and taxes and eventually maintaining the integrity of the supply chain. Dumping of goods in the market is also drastically reduced as the goods are tracked from one border point to another. The interests of the public sector are therefore catered to.

The interest of the private sector which are primarily to maintain their Standard Operating Procedures (SOPs) that include just-in-time deliveries, cost-effective logistics, and maintaining the integrity of goods are addressed by this system. The private is able to get a better Return on Investment (ROI). Research will be able to study the operational performance before and after implementation of the system. Based on the findings we will be able to establish if this particular infrastructure is indeed assisting the “Tax Collector” deliver on its mandate (Kihara, 2010). The process of information processing by the border officials and other intelligence agencies is currently quite taxing and the vulnerabilities associated with container stacking are also quite high. The introduction of real-time information processing

1.1.2 Electronic Cargo Tracking

An Electronic Cargo Tracking System (ECTs) is a multi-tiered system developed to remotely monitor goods electronically while on transit, and controls as the goods move along the supply chain from source to destination. Monitoring of the movement of the cargo is done on a real time basis. Implementation is done using Radio Frequency Identification (RFID) and GPS/GPRS technology. It is a legal requirement to have all outbound trucks/vehicles, tankers and containers loaded with transit goods fitted with a tracking device for basic tracking and vehicle monitor. In addition to this the vehicle should be fitted with an electronic seal which reports the truck location and reports on all violations on a real time basis (Musyoki, 2010). In addition to this the system users a series of features such as a virtual fence known as the geofence that is set-up along gazetted routes used by transporters carrying export cargo. The process starts with the collection of co-ordinates of the routes that the trucks will be using, this information is then stored. If the truck is driven off route, the system sends out geofence violations that are system generated.

Electronic cargo tracking services provide among other services, the ability to view your vehicles on a realtime basis and remote and control in the movement of local and international cargo (Kihara, 2010). The installation of the electronic cargo tracking system has been made mandatory in Kenya and its neighbours both Tanzania and Uganda. The main focus for this has been to help in various activities such as revenue collection, improve how cargo is handled and overall assisted to enhance the business environment of the respective countries‟ and their trade routes. This is being spearheaded by the state-owned tax collection agencies and the improved custom duty collection has not only enabled a reduction of import tax in some instances, but has also made it possible for governments to reduce tax on cargo (Oirere, 2015).

To be able to offer these services organizations must obtain a license from Kenya Revenue Authority. The revenue authority is charged with the responsibility of vetting organizations that are interested in offering the service. The Freight Watch International reported that countries in East Africa are on the list of spots about the raise in cargo theft and this is quite a challenges facing their operations. Cargo theft is ranked together with corruption incidences, increase in

crime and violence, poor infrastructure, weak governance, political instability and social unrest, (Griffin, 2015). The use of this technology will therefore assist Kenya‟s

In summary the design of the system is a three part component which includes movement visibility system whose components include the global positioning system receiver for relaying vehicle and cargo co-ordinates that give the location of the truck and availing it to the system user via the GSM/GPRS modem in real time down to five seconds. Secondly an active radio frequency identification reader, for interrogating the electronic seals to establish truck status every short interval and relay this information, status alerts and events to the user in real time via the GSM/GPRS modem. At the beginning of every journey the seal is armed and at the end of the journey when the cargo arrives to its destination the seal is disarmed (Sorir, 2010).

1.1.3 Kenya Revenue Authority

The Kenya Revenue Authority (KRA) was established by an Act of Parliament, Chapter 469 of the laws of Kenya, which became effective on 1st July 1995. The Kenya Revenue Authority was formed to help the government of Kenya in tax collection such as customs tax, income tax as well as value added tax on selected goods. The Authority is charge with the primary responsibility of collecting revenue on behalf of the Government of Kenya. Kenya Revenue Authority‟s mission is to build trust through facilitating compliance policies with tax and customs legislation. The authority‟s vision is to facilitate Kenya's transformation through innovative, professional and customer-focused tax administration. Their mission and vision is supported by a set of core values that include, trustworthiness, ethics, competence and helpfulness.

Key roles played by Kenya Revenue Authority include assessment, collection, administration and enforcement of regulation relating to revenue. In summary some of the roles that Kenya Revenue Authority plays in the economy of Kenya that are relevant to this research include

the elimination of tax evasion by simplifying the procedures and streamlining the same procedures with an aim of improving tax payer service and education. Promotion of professionalism and eradication of corruption amongst its team members by compensating them adequately so that the institution can be able to attract and retain professionals who are upright and uphold ethical standards whilst carrying out their duties, is another mission of the authority (Act of Parliament, Chapter 469 of the laws of Kenya, 1995).

KRA in Kenya uses an integrated tax management system to provide effective and efficient services to Kenya taxpayers. The Kenyan taxing system has led to improved services within the revenue collection unit. Since the inception of the Kenya Revenue Authority, the government of Kenya has been able to provide much needed services to citizens of Kenya such as provision of free primary education in Kenya. The Kenya local taxes collected provide for over 90% funding of proposed budgets annually (Wamugunda, 2014**)**. Restoration of economic independence and sovereignty of Kenya through the elimination and eventual eradication of perennial deficits from the national budget deficit through the creation of structures that maximize revenue collection is also one of the authority‟s roles. Protection of industries locally so as to nurture and create an environment for economic growth through the effective administration of laws that are tax related and enhance trade.

The authority is a 'watchdog' for the Government agencies through the control of exit and entry points with the aim of ensuring that prohibited and illegal goods do not pass through the Kenyan borders (Act of Parliament, Chapter 469 of the laws of Kenya, 1995). Operations of the authority are run in a similar manner as those of private enterprises. In order to centralize services, KRA is divided into the Rift Valley Region, Western Region, Southern Region, Northern Region and the Central Region. The procurement, accounting and asset management processes must follow central government policies and they are audited by the external auditor general Kidd and Crandall (2006).

1.3 Statement of the problem

Kabiru (2016) acknowledges that cargo diversion is a comprehensive and illegally structured approach for individuals, groups and organizations to evade remitting customs duty to the government for goods crossing the borders. The process of cargo diversion begins with laxity in the organizational level in the strategy for arresting cargo diversion in its initial stage, then

with the creation of an initiative that is aligned with that strategy. Peterson (2015) emphasizes that revenue collected experiences a shortfall as a direct response to non remittance of taxes at the border points. Performance in revenue collection by the Customs and Border Control Services Department is determined by the ability of the department to constantly adapt, survive, perform and influence the oversight of cargo coming into the country and ensuring due taxes are paid to the authority as is required by law. However, this is not always successful. To mitigate the risk of cargo diversion, the CSD has adopted modern implements such as RECTS so as to improve their ability to prevent cargo pilferage and diversion. The outcomes of such undertakings are meant to steer KRA towards attaining the pre-determined goals and objectives as far as revenue collection is concerned (Andrews, 2014).

Efficient and sustainable revenue collection in Kenya has been fronted as a key driver in achieving the vision 2030. KRA has had to conduct changes in the way the Customs and Border Control Services Department operates so as to enhance tax collection. This is entailed in the organization's 6th corporate plan of 2015/16 – 2017/18. Considerable effects of cargo diversion studies relevant to the performance of KRA have been conducted over the years. Kubai (2015) traces the metamorphosis of the customs department under KRA to its present form which encompasses border control. He discusses that organizations nowadays are under intense pressure to fundamentally change how they operate and do business if they are to ensure their survival and competitiveness. Awitta (2010) contributes that due to development of new products and processes, social and political change and economic fluctuations organizations are forced to change so as to align themselves to the environment. Developing effective ways in revenue collection has been an important matter in tax and revenue collection. Mwai (2017) adds that the advent of new instruments to help businesses work more efficiently affects the way taxes and revenues are collected. This was to significantly enhance revenue collection in all Departments. Implementation of innovative revenue collection

strategies was supposed to improve its organization structures, training, manpower planning, developing teamwork among management and staff, new approaches to reward management and adaptation of TQM (Masinde, 2015).

However, previous studies by Manji (2015), Oriere (2015) and Nkirote (2012) that have delved into the operations of the Customs and Border Control Services Department, in light of the shortcomings experienced and evidenced by revenue target shortfalls, have failed to underline the effect of cargo diversion on the department as far as revenue collection is concerned. Hence, this gap is what this study will aim to address by answering the research question: What is the effect of cargo diversion on the revenue collection performance of Kenya Revenue Authority, focusing on the Customs and Border Control Services Department?

1.4 General Objectives

The main objective of the study will be to determine the effects of cargo diversion on revenue performance of the Customs and Border Control Services Department.

1.4.1 Specific Objective

a) To assess the causes of cargo diversion in Kenya.

b) To determine extent to which cargo diversion influences on revenue performance by the Customs and Border Control Services Department.

c) To determine challenges faced on cargo diversion management by the Customs and Border Control Services Department.

1.5 Research Questions

a) What are the causes of cargo diversion in Kenya?

b) What is the extent to which cargo diversion influences on revenue performance by the Customs and Border Control Services Department?

c) What are the challenges faced on cargo diversion management by the Customs and Border Control Services Department?

1.6 Significance of the study

1.6.1 Revenue remittance in the national coffers

Customs duty is one of the largest contributors of revenue remittance to the national coffers. The requirements for additional revenue in the management and day to day running of the government requires that all importers are roped in by the Kenya Revenue Authority and tax compliance tendencies of the taxpayers in the bracket checked.

1.6.2 Kenya Revenue Authority

KRA, through the Customs and Border Control Services Department, enforces customs duty more than 4,500 importers who move goods across the country's borders. The department has not met the projected revenue collection targets. This is inconsistent given the fact that there exists evidence to the effect that the amount of goods imported into Kenya has witnessed an annual growth rate of 7.2 percent in the 2010-2017 periods. Contrary to this, there has not been any notable increase in excise duty remittance to that effect. The intent of this research initiative is to: Provide a comprehensive analysis of the effect of cargo diversion on revenue performance and formulate options to mitigate such risks and challenges.

1.6.3 Importers

The study is necessary as imports have grown significantly across the country but the coinciding tax revenue from the sector does not mirror the growth. The study will generate dependable data on the relationship between Customs Duty collected and imports into the country, in light of the factors which contribute to the either compliance or non compliance. The study's hypotheses will therefore be; H_1: Cargo diversion affects revenue performance of

the Customs and Border Control Services Department; $H_{2:}$ Cargo diversion does not affect revenue performance of the Customs and Border Control Services Department

1.6.3 Port Managers

Therefore, this research will help inform the managers of the port and the administrators of customs of the usefulness of the cargo in-fast tracking the operations of the ports and reduction of trade related malfeasance through the rightful application of the system. The findings of the study will provide the required strategies for improving the efficiency of the ports. It will also help to establish the strength and weaknesses of cargo, which will suggest to management ways to provide tailored made services to customers.

1.7 Limitations of the Study

The main challenge faced by the researcher was access to up-to-date data because the research elicited relevant information from multiplicity of respondents drawn across stakeholders such as exporters and importers (both local and foreign), of The researcher also faced some difficulty securing face-to-face interviews and even when it was possible some respondents were unwilling to give accurate and up-to-date information. Apart from the systems administrator at customs who allowed the interview section with him to be recorded, all other interviewees declined to be recorded.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature in the field of cargo diversion and customs duty forgone as a result of the same. Many studies have been conducted to explain what motivates the growth of cargo diversion. Although the literature covers a wide variety of studies, this review will primarily focus on their application to the Kenyan context.

2.2 Theoretical Foundation

Notable studies have been conducted by researchers and scholars on the topic. The studies elaborate and delve into the theories that scholars in the field have found consistent with dynamics of the cargo diversion phenomena. Relevant models of Technological Dynamism Theory, Theory of Social Dynamism and Queuing Theory have been discussed in the following subsections.

2.2.1 Technological Determinism Theory

Technological determinism (TD), simply put, is the idea that technology has important effects on our lives. This idea figures prominently in the popular imagination and political rhetoric, for example in the idea that the Internet is revolutionizing economy and society. According to the Technological Determinism theory wherein this study underlies, technology, specifically media decisively shapes how individuals think, feel and act and how societies organize themselves and operate. The thinking behind this theory is that we shape our tools, and in turn they shape us. Wood (2016) indicates that as an example, the computer is one technology that has promoted in society expectations of immediacy, and ability to multitask by engaging in several tasks simultaneously or in overlapping and interactive ways. Inventions in technology have made it convenient to perform any form of transaction. Hall, an anthropologist has these human historical developments (inventions and innovations) as follows: Today man has developed extensions for practically everything he used to do with his body. The evolution of weapons begins with the teeth and fist and ends with the atom bomb (Whitey, 2014). Clothes and houses are extensions of man's biological temperature-control mechanisms. Furniture takes the place for squatting sitting in the ground. Power tools, glasses, Television, telephones

and books which carry the voice across both time and space are examples of material extensions. Money is a way of extending and storing labor. Our transportation networks now do what we used to do with our feet and backs. In fact, all man-made material things can be treated as extensions of what man once did with his body or some specialized part of his body (McLuhan, 2016) TD has also had a long and controversial history in the social sciences in general and in organization studies in particular. Critics of TD argue variously that technology itself is socially determined, that technology and social structures co-evolve in a non-deterministic, emergent process, or that the effects of any given technology depend mainly on how it is implemented which is in turn socially determined. Given the proliferation of new technologies in modern capitalism, the TD debate is continually renewed.

2.2.2 Theory of Social Determinism

The theory of Social Determinism which also impacts this study to some extent was developed as a reaction to McLuhan's theory of Technological Determinism. Mackenzie and Wajeman (2014), and later Wiebe and Law (2015), make passionate arguments concerning the impact of social and economic factors on technology. According to them, it is the human race which shapes technology and not vice versa, because technologies are continually re-interpreted by users and given new, often unexpected trajectories. While the internet was first used as a communication and information searching engine, it has now developed to other uses including E- business, marketing media and social interactive media.

The central premise of this theory that Mackenzie and Wajeman (2012) refer to as the 'social shaping of technology' (SST), was that what matters is not technology itself, but the social or economic system in which it is embedded. Their view provides an antidote to what they call "naïve Technological Determinism" and caution that those who have not recognized the ways in which technologies are shaped by social and economic forces have not gotten very far. They dismiss the theory of Technological Determinism as mere "technological politics" that has fascinated historians, philosophers, and political scientists. Technologies always embody compromise. Political, economics available raw material all of these are thrown into the melting pot whenever an artifact is designed or built. Technologies do not, we suggest, evolve under the impetus of some necessary inner technological or scientific logic. They are not possessed of an inherent momentum. If they evolve or change, it is because they have been pressed into that shape. Williams and Edge (2016) hold the same view and posit that organizational, political, economic and cultural factors do influence the design and

implementation of technology. The above arguments do suggest that it is not only technology that affects society, but that social factors do affect technology as well

2.2.2 Queuing Theory

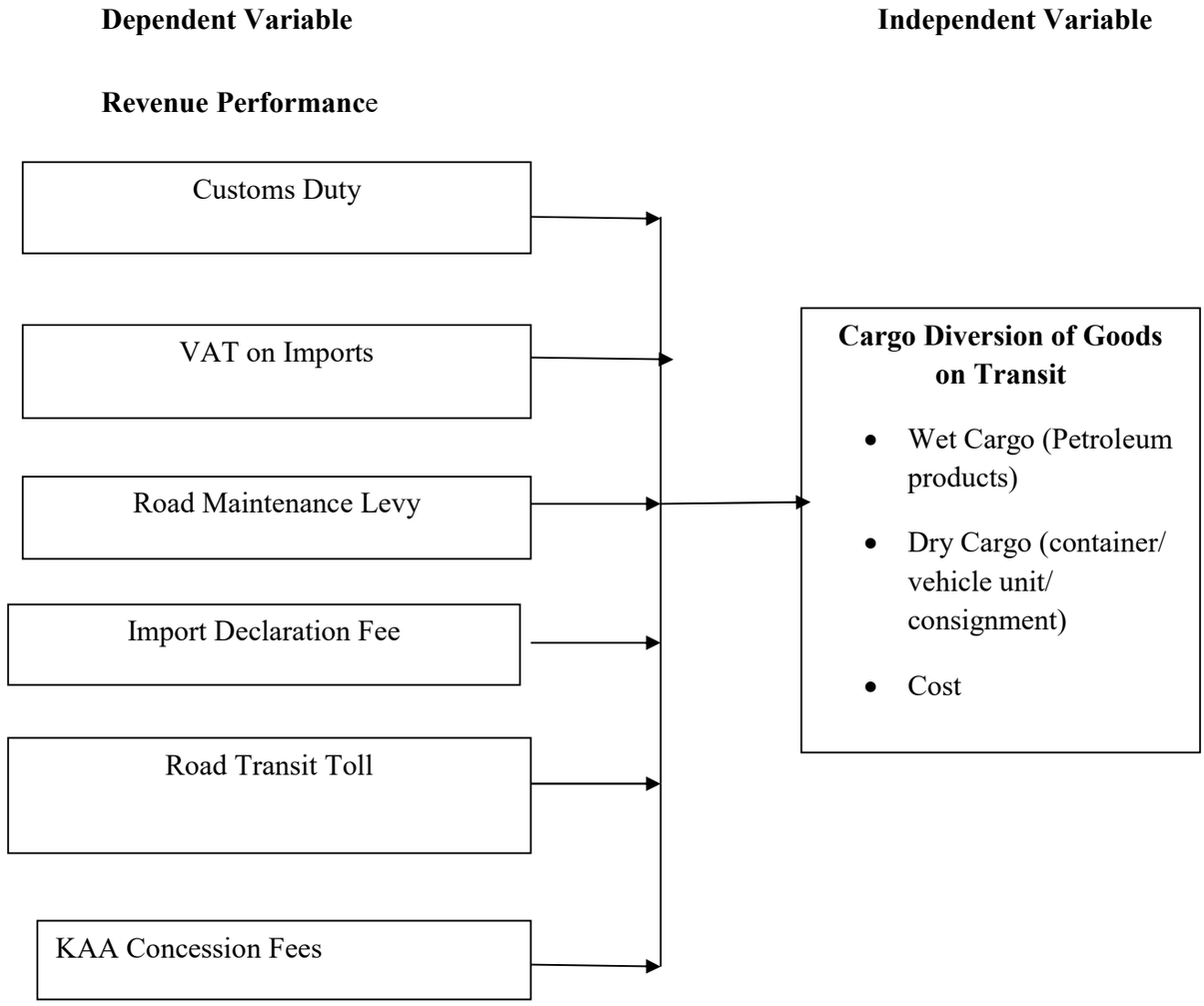
Queuing theory is used to study the phenomenon of waiting in lines. Some people use the information gathered from queuing theory in order to determine how to best serve customers and so prevent them from waiting in line longer than they have to. Adedayo et al. (2006) stressed that many situation in life requires one to line up or queue before being attended to. This lines formed are referred to as waiting lines or queues. According to them queue occurs when the capacity of service provided fall short of the demand for the service. Sanish (2015) in his article on application of queuing to the traffic port refers to queuing theory as an analytical techniques accepted as valuable tool for solving congestion problems. According to him the primary inputs to the model of queue theory are the arrival and service patterns. The theory allows researcher to analyze several things such as arriving in line, waiting in line, and the time it takes to service customers. The above information in line with the theory helps in predicating on a customer's waiting time, the expected amount of customers that were in a line, the probability of a customer encountering a line among other relevant information that can help in reducing on congestion. This information can be used in order to find ways to reduce lines and wait time. There are several queuing disciplines that have been developed because of queuing theory as explained by Saaty (1961) and four of which are First in First Out (FIFO), Last In First Out (LIFO), Processor Sharing, and Priority. Under FIFO describes the practice of serving customers in the order they arrive in so that the person waiting longest is served first. Just like in port operations, ships that arrive in time at the port are cleared earlier before those that arrive later.

LIFO describes the practice of serving customers so that the person who comes in last leaves first. Processor sharing serves customers at the same time to that the average waiting time for all customers is about the same. The Priority discipline serves the customer with the highest priority first. In line with the study some ships may arrive last but cleared first before those that appeared first because of different reasons such as corruption, immanency cases, order from the government among other reasons. Examples of how queuing theory works is present in many aspects of everyday life. At bank tellers and credit unions, one may see one line and multiple tellers. This happens to help ensure that one slow transaction does not hold up the entire line. Some stores open more registers if there are more than three people waiting in a

line. There are also ports that have more than one inland port such that when one port is congested, another port is used to offload and load cargo, while other ports have separate loading and off loading service centers.

2.3 Conceptual framework

The conceptual framework is an approach elaborated either in graphical or narrative forms of the main points to be studied in a research work (Miles and Huberman, 2014). A conceptual frame work is an abstract indication of how the basic concepts and constructs are expected to interacting the actual setting and the experiences that form the foundation of the research study



2.1 Conceptual framework

Source: (Author, 2017)

2.4 Empirical review

Revenue refers to all amounts of money received by a government from external sources like those originating from “outside the government”, net of refunds and other correcting transactions, proceeds from issuance of debt, the sale of investments, agency or private trust transactions, and intra-governmental transfers (Lymer and Oats, 2015). Revenue comprises amounts received by all agencies, boards, commissions, or other organizations categorized as dependent on the government concerned. The amount of revenues collected by countries is related to historical and current political decisions regarding the goods and services governments provide and the way that they are produced (OECD, 2009).

All governments raise revenues to finance public spending, from highways to schools to social security among other government budgetary needs. Revenue is measured over the full fiscal year of the government. Tax revenue is the income that is gained by governments through taxation. Just as there are different types of tax, the form in which tax revenue is collected also differs; furthermore, the agency that collects the tax may not be part of central government, but may be an alternative third-party licensed to collect tax which they themselves will use (Haughton and Desmeules, 2017). Tax and revenue agencies are under constant pressure to find ways to maximize revenue and efficiency and improve constituent services. They realize that achieving these goals requires taking a strategic view of their enterprise. Success only comes with the alignment of all elements of an organization people, processes and technology with an overall strategy.

2.5 Cargo Diversion

All over the world, the existing major ports are facing significant challenges in expanding on-dock capacity due to constraints on land availability in the vicinity of existing terminal and harbor facilities and these have created an impact on over traffic congestion and quality of life impacts (Clark, et al 2014). Developed nations like United States have had most of their ports congested and this has been mainly attributed to the ever increasing volume of import and export cargo in marine containers (Notteboom and Rodrigue, 2005; Iannone, et al 2008). In Europe, substantial container volume growth has made it more difficult for ports to efficiently serve drayage trucks entering and exiting with containers, especially during peak periods. Queues of drayage trucks frequently form both at port entrance gates and also within the facility at container pickup and drop off points. While on- facility rail connections help

alleviate truck congestion at some ports, demand for trucking service is likely to remain at high levels. (Notteboom, 2014). African countries have realized the growing market for goods and services and this has called for increased transportation of products to other countries with the help of water transport however huge challenges and risk in managing mainland or deep sea ports as well as inland container deports have been encountered (Obeng, 2010).

One of the significant of challenges is the issue of congestion which is facing most developing economies in the sea ports. These congestions do normally undermine the fluidity of business transactions as well as the general operation of the ports. The congestion at the African ports has cause decline of the competitive advantages of these ports as well as increasing direct cost such as port congestion penalties or surcharges and indirect costs such as inventory costs to the port users (Oyatoye and Okoye, 2016). Many African countries according to Zeddy (2007) include Tanzania face numerous challenges in ports and harbors, which include increasing tariffs, introduction of new and sophisticated vessels and equipment, deficits of technical know-how, insufficient and inefficient manpower that hinders operation of various operation terminals. Considering tremendous increase in cargo volumes that African ports terminals receive monthly, it is evidently clear that such volumes do really impede the efficiency of ports in Africa, thereby grinding down their competiveness from the perspectives of output and return time of vessels and container utilization (Chioma, 2011).

There is the need therefore, within the framework of global trade integration and sustainability, for international ports, especially those on the African continent, to comply with required international security and maintenance protocols (Rambo, 2012). For instance, in Ghana, the port of Tema until recently suffered from low berth productivity as a result of lack of gantry cranes (Obeng, 2010).Increasing container volumes also forced carriers to wait several hours for berths and, in turn, imposed congestion surcharges on shippers, similarly, in Durban, cargo handling demand had exceeded the terminal's handling capacity, causing berth congestion and forcing carriers to impose penalty surcharges (Obeng, 2010)

According to Freight Watch International, the East African countries are on the list of spots in Africa where businesses and supply managers have reported cargo theft as one of the main challenges facing their operations. This ranks alongside corruption, high rates of crime and violence, poor infrastructure, weak governance, political instability and social unrest. Amanfu (2010) reflects that Africa therefore faces numerous challenges in its ports and harbors, which include increasing tariffs, introduction of new and sophisticated vessels and equipment,

deficits of technical know-how, insufficient and inefficient manpower that man various operation terminals.

Considering tremendous increase in cargo volumes that African port terminals receive monthly, it is evidently clear that such volumes do really impede the efficiency of ports in Africa, thereby grinding down their competiveness from the perspectives of output and return time of vessels and container utilization. There is the need, therefore, within the framework of global trade integration and sustainability, for international ports; especially those on the African continent, to comply with required international security and maintenance protocols. Lack of available land for expansion is among one of the most acute problems; an issue exacerbated by the deep-water requirement for handling ships. Increased port traffic may lead to diseconomies as local road and rail systems are heavily burdened. Environmental constraints and local opposition to port development are also significant (Notteboom and Rodrigue, 2005).

In Ghana, the astronomical increase in international trade over the last decade has resulted in a number of challenges notable amongst them is the inadequate port facility and infrastructure to handle the teaming number of vessels that arrive at the two ports for offloading and loading daily. Another important challenge worth mentioning is the cumbersome and bureaucratic clearing process which brings about vessel traffic and delay in cargo flow leading to congestion and corruption. The GPHA (2006) admits that these challenges and problems hinder the smooth operations of the ports.

2.5.1 Cargo diversion influences on revenue performance

Constant ports congestions have also limited the efficiency of operations whereby with the advent of containerization, time spent by clearing agents or shippers in clearing their goods from the ports occupies most of their business time. In addition to that constant port congestion in Tanzania has contributed to the shift of some importing land locked counties to shift to Mombasa port that has led to loss of a lot of government revenue (Eyakuze, 2008). In order to achieve a proper balance of development through port decongestion, it is important to planning and design proper strategies for port decongestion and development**.**

2.5.3 Dry and Wet Cargo Distinction

The Officers at the loading zones shall adhere to the ECTS work procedure manual. This includes ensuring authenticity of declarations, capturing truck and driver details, programming

and arming e-seals and properly fixing the e-seals on the container/ vehicle unit/ consignment. The officer shall fix the e-seal onto the hatch and valves of the petroleum tanker. Other responsibilities include ensuring authenticity of declarations and locking the seals. All authorizations and monitoring will be done by the operators at the Control Centre in Real Time for wet cargo.

2.5.3 Rapid Response Unit

The Rapid Response Teams shall be established and deployed at identified hot spots to ensure quick and timely response in case of a violation. Each team shall be provided with the one unit motor vehicle that will be fitted with the following tools: One unit vehicle, surveillance camera system, to allow video contact with the control room with capabilities such as rear view, front view, inside of the vehicle view and navigation tools to be able to identify the actual crime scene.

These teams are not only responsible for assessment and apprehension of individual instances of non-compliance, but also facilitating trade and protecting Government revenue related to electronic cargo tracking. More specifically the team shall enhance, improve and strengthen the enforcement of border control procedures, coordinate the fight against loss of revenue.

2.5.4 Exit points/ Destination

When the means of conveyance and cargo arrive at destination or exit point, the truck shall be driven alongside the fixed readers at the gates or at the border station. The fixed reader will then communicate with the e-seal to verify its ID and status. In an event that the e-seal is in tampered with on arrival, the ECTS work procedure for handling non-compliance shall take effect. The seal will then be disarmed at the destination point.

2.6 Cargo Diversion Prevention and Revenue Collection Performance

Mintz (2016) argues that cargo diversion mitigation brings about a significant improvement in the revenue collection time for the customs and border control services department. Revenue mobilization is considered as one of the key factors key for economic development of nations and links into national agenda on social wellbeing, poverty reduction and economic development of countries and their citizens. Kenya Revenue Authority is considered as a mandatory element when it comes to the movement of goods across borders and the procedures applied to these goods significantly influence the role of national industry in international trade and their contribution to national economy.

In the context of the international trade environment, Kenya Revenue Authority plays a significant role not only in meeting the goals of the governments but also in ensuring effective controls that secure revenue compliance with national laws, ensuring security and protection of society. The efficiency and effectiveness of Kenya Revenue Authority procedures has an important influence on the economic competitiveness of nations and in the growth of international trade and the development of the global marketplace. As government organizations that control revenue generation, Kenya Revenue Authority administrations are so much in a unique position to provide increased security to the global supply chain and to contribute to socio-economic development through revenue collection and trade facilitation (Jenkins, 2015).

According to Hawley (2016), modern trading practices make it essential for Kenya Revenue Authority administrations to offer simple, predictable as well as efficient procedures for the clearance of goods and movement of people while simultaneously tackling increasingly complicated national and international requirements to ensure compliance with national laws, international agreements and meeting security challenges. Travis (2014) also indicated that in a bid to strengthen and go beyond existing programmes and practices, Kenya Revenue Authority has put in place a regime that seeks to enhance the security and facilitation of revenue collection. A Framework of Standards is indeed a regime that enhances the security and facilitation of international trade.

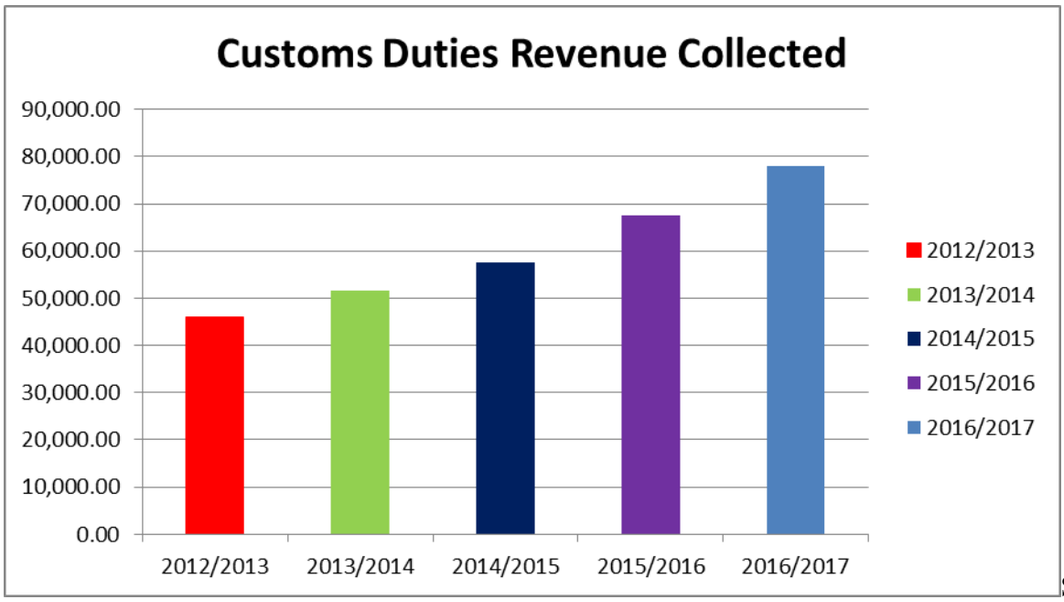
According to Sani (2017), automation of cargo clearing and tracking system helps to improve revenue collection. This is because they are based on the electronic payment system via applications such as toll revenue collection, automatic fare collection, bus revenue system and parking system. Additionally by automating revenue collection, service providers are in better audit trail since all transactions captured can be detailed by time, whom and where. This prevents revenue loss through abuses as all moves are recorded electronically. Automation also provides huge transactions that need to be handled efficiently. According to him, automating revenue collection is key especially within the revenue collection agencies, which therefore requires fast and efficient output, as there will always be a trade-off between control and operational needs.

Table 2.1: Revenue Collection (Customs Duties) Performance over the Years

Year	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017
Total Collection (KES in Billion)	46,071.81	51,711,.78	57,649.68	67,554.64	78,024.90

Source: ICPAK Revenue Report. (2017)

Figure 2.2 Revenue Collections from FY 2012/2013 to FY 2016/2017



Source: (Ogallo, 2018)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter gives the methodology that will be used to accomplish the already set up research objectives and questions. It gives direction to follow so as to get answers to area of concern. The research design, target population, sampling design, sample size, data collection and analysis, reliability and validity and ethical consideration is discussed here quite briefly

3.1 Research Design

Research design is the arrangement of condition for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy as procedure (Kothari, 2008).This study will adopt an explanatory design. This is because the research is a cause- effect relationship. This design will be best for ascertaining the effects of cargo diversion on revenue will allow the use of questionnaires that will facilitate data collection in the listed firms. The study will adopt an exploratory research design. (Rajendra, 2008) argued that research design focus on the structure of an enquiry, which lead to the minimization of the chance of drawing the wrong casual inferences from the data. Exploratory research is defined by Burns and Groove (2001) as research conducted to gain new insights, discover new ideas, and for increasing knowledge of the phenomenon.

3.2 Target Population

The population of this study involved Kenya Revenue Authority officials and transporters. It has an estimated 10,610 employees both at the Head office, regional stations and border points. These employees were the target population for the study

Table 3.1: Sample Size Organization Officials	**Total Number**	**Rate**	**Sample size**
Transporters	50	0.3	15
Headquarter Officials	100	0.3	30
Border Point Officials	100	0.3	30
Loading Point Officials	100	0.3	30
Port Officials	100	0.3	30
Patrol Officials	50	0.3	15
TOTAL	**450**		**150**

3.3 Sample size sampling Procedure

3.3.1 Sample Size

The employees are classified into 9 departments. The study will be carried out on total population of management teams of Kenya revenue Authority. According to Mugenda and Mugenda (1999) he proposed 30% of the total population on study; hence the study will select 30% from each department providing a sample size of 215 employees.

3.3.2 Sampling Procedure

Sampling procedure is the process of deriving a sample from a given population with the understanding of characteristics of a population. The method of sampling will be stratified sampling. This is due to the diversity of the level of employees in the firm and the need to have a representative sample. The study will adopt random sampling technique to select the firms to be researched on.

3.4 Data Collection

3.6 Data Collection Methods

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

3.6.1 Primary Data

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

Disagree, 4= Disagree and 5 = Strongly Disagree. The data collected was edited to ensure consistency across respondents and detected omissions. (Schwab, 2005) A5- point Likert scale was used to obtain the ordinal data (Kannan & Aubur, 2004) from questionnaires with structured questions were adopted.

The primary data collection procedure started with identifying the respondents and their accessibility. Purposive sampling was adopted to identify the specific respondents in the companies since it is clear which employees in the companies has knowledge and access to the information required in the study. Since most of the information require financial knowledge, in each identified the Chief Executive Officer, Chief Financial Officer and Financial Officers filled the questionnaires. The research instruments were selected on the basis on which instrument was to bring out the objectives of the study most clearly. The questionnaires were used for the top level and middle level management because they save on time, confidentiality is upheld, reduces opportunity for respondent bias and the information can be collected from a large sample and diverse region (Orodho, 2002). The questionnaires are the most used methods when respondents can be reached and are willing to co-operate. This method can get to a large number subjects who are able to write and read independently. According to Mugenda & Mugenda (2003), and Kothari (2004) agree that questionnaires have various merits; it is free from the bias of the interviewer; answers are in respondents' own words, respondents have time to give well thought out answers; respondents who are not easily approachable can also be reached conveniently.

3.6.2 Secondary Data

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

3.7 Data collection procedures

The primary data collection procedure starts with identifying the respondents and their accessibility. The availability the questionnaires and competent research assistants was ascertained. The availability of request permission to collect data was confirmed and advance letters send to the respondents regarding the voluntary nature of the study and how the information would be used. The data collection procedure involved distribution of the questionnaires to the respondents by the researcher and four research assistants. The research assistants were instructed to ensure punctuality in appointments, friendliness and use of clear and simple language when physically delivering questionnaires. Secondary data was extracted from KRA Annual Performance reports.

3.8 Pilot test results+

The study carried out a pilot test to test the validity and reliability of the questionnaires in gathering the data required for purposes of the study.

The questionnaires was validated by discussion it with the supervisors and six randomly selected KRA officers. Their views were evaluated and incorporated to enhance content and construct validity of the questionnaire. The six selected firms formed 10% of the target sample. According to Mugenda & Mugenda (2008) argue that (10% of the sample size) is represented in order to facilitate identification of the potential errors or biasing effect of different questions and procedures. The pilot test sample was within the recommended range as the rule of the thumb suggests that 5% to 10% of the target sample should constitute the pilot test (Mugenda & Mugenda, 2008).

The major purpose for pilot testing was to test whether the questionnaires could obtain the required results. The pilot study was used to find out the clarity and objectivity of the selected questions. The advantages of conducting the pilot test include enhancing the training of field staff, review of the instrument, prevention of wasteful expenditures on a full blown survey whose results may not be applicable. Piloting involves testing the validity and reliability of the data collection instrument and in this case the questionnaires. Validity in qualitative research refers to credibility and trustworthiness of the data presented. Reliability in relation to qualitative research data is the measure that the data provided is consistent with what previous research literature has said or if similar research with a different group of participant's yields a similar set of data.

3.8.1 Reliability of the Research Instruments

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 & Nachmias, 1996).Reliability is measure of the degree to

which a research instrument yields consistent result after repeated trials (Mugenda & Mugenda, 2003). According to Sekaran & Bougie (2010) the measurement of the reliability and the validity of a data instrument help the researcher to gauge the goodness of the variables of measurement. Reliability was measured using Cronbach's Alpha coefficient which is used to measure the internal consistency of the variable measures. Factor Analysis was further used to determine the underlying dimensions of variables and to determine the key factors from a large number of variables.

Reliability in research is influenced by random error. According to Zikmund (2010), errors may arise from inaccurate coding, ambiguous instruction to the subjects, fatigue, interview bias etc. These errors results to inconsistencies in the measurement, which ultimately affect the reliability of the data collected (Mugenda & Mugenda, 2003)
Cronbach's Alpha which measures how well a set of items or variables, measures a single un-dimensional latent construct that is a coefficient of reliability or consistency was used for this study. Cronbach's Alpha was adopted since it was used with continuous and non - dichotomous data. In particular, it was used for testing questionnaires using a Likert scale. The study employed test re-tests method to determine the reliability tool.

Cronbach's alpha general increase when the correlations between the items increase. The coefficient measures the internal consistency of the test. A commonly accepted rule of thumb is that an alpha of 0.7 indicates acceptable reliability and 0.8 or higher indicates good reliability (Gliem & Gliem, 2003). Very high reliability (0.95 or higher) is not necessary desirable, as this indicates that the items may be entirely redundant. The

reliability of the questionnaires was tested using the Cronbach's Alpha correlation coefficient with the aid of Statistical Package for Social Sciences (SPSS) software.

Table 3.3: Reliability tests results

Constructs	Reliability Cronbach's alpha	Comment
Customs duty	0.863	Accepted
VAT on imports	0.781	Accepted
Road maintenance levy	0.791	Accepted
Import declaration fee	0.893	Accepted
Road Transit Toll	0.813	Accepted
Wet Cargo diversion	0.819	Accepted
Dry Cargo diversion	0.896	Accepted

Cronbanch's Alpha was used to test the reliability of the proposed constructs. The findings indicated that corporate income tax had a coefficient of 0.863, capital adequacy had a coefficient of 0.781, firm ownership has a coefficient of 0.791, market capitalization had a coefficient of 0.893, financial leverage had a coefficient of 0.813, financial performance had a coefficient of 0.819 and board composition has a coefficient of 0.896. Reliability is expressed as a coefficient between 0 and 1.00. The higher the coefficient, the more reliable is the test. According to Cronbach (1951) a threshold of a Cronbach alpha of 0.7 and above is acceptable. For this study all constructs depicted a value of Cronbach's Alpha which were greater than 0.7, Gliem & Gliem, 2003) asserts

that Cronbach Alpha reliability coefficient value of 0.7 or higher is considered sufficient thus, all the study constructs were reliable.

3.8.2 Validity of the Research Instruments

Validity measure ensures that the research tool is measuring what researcher intends to measure (Polit & Hunger, 1985). There are three methods to measure the validity of the research tool, which are: content validity, criterion related validity and construct validity. Evidence of validity is reported as a validity coefficient, which can range from 0 to + 1.00. The validity scores approaching 1 provide strong evidence that the tests scaores are measuring the construct under investigation (Kurpius & Stanfford, 2006) further point out that the validity coefficient for a test's score cannot be greater than the square root of the test's reliability. The study adopted content validity and the questionnaire was validated by discussing it with six randomly KRA Officers. Further with the help of the supervisors their views were evaluated and incorporated to enhance content and construct validity of the questionnaire.

3.9 Data management

Data collected was initially screened with the purpose of cleaning any errors that could have occurred either due instruments of data collection and procedures, mistakes of research assistants or fatigue due to pressure of the respondents on deadline of collecting the instruments. Before data was exposed to statistical procedures and test such as multiple regressions, researcher checked the assumptions that the study variables were normally distributed and whether samples selected were adequate. To ensure that there

was no violation of the assumptions, this study tested for multicollinearity, homoscedasticity, and autocorrelation and normality test. The following tests were undertaken.

a) Multicollinearity test

Multicollinearity or excessive correlation amount explanatory variables can complicate or prevent the identification of an optimal set of explanatory variables for a statistical mode. Cohen et al, (2013)'s definition of variance inflation factor (VIF) is that it provides an index of the amount that the variance of each regression coefficient is increased relative to a situation in which all of the predictor variables are uncontrolled" and suggest VIF to be too large hence not suitable. The study adopted the variance inflation factors and the tolerance levels. Variance Inflation Factor (VIF) and the Tolerance are indicators of multicollinearity. Low levels of VIF are preferred since higher levels are deemed to adversely affect the results from the regression analysis. VIF indicates the magnitude of the inflation in the standard errors associated with Multicollinearity (Ayako & Wamalwa, 2015). A VIF of more than 10 (VIF >10 indicates a problem of multicollinearity (Montgomery, 2001) The commonly used cut-off points for determining the presence of multicollinearity are (tolerance value of less than 10, or a VIF value of above 10). To determine whether multicollinearity existed, collinearity test was conducted using, Tolerance and Variance Inflated Factor (VIF). The VIF presented in table 4.18 does not suffer from multicollinearity since the results indicated that the variables have a VIF that is less than 10 and tolerance value more than 0.1 ruling out the possibility of multicollinearity. Therefore, the results imply that there was no multicollinearity problem among the variables.

b) Heteroskedasticity Test: Breusch-Pagan

Heteroscedasticity is a situation where the variability of a variable is unequal across the range of values of a second variable that predicts it. In this study, Heteroscedasticity was tested by performing the Breuch-pagan. Breusch-Pagan test the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables. Homoscedasticity is to be evident when the value of "Prob > Chi-square" is greater than 0.05 (Park, 2008). Results in table 4.19 showed that the constant variance (Chi-square= 1.459) is insignificant (P = 0.918). Thus we fail to reject the null hypothesis and conclude that the error variance is equal thus heteroscedasticity is not a problem in the data.

c) Autocorrelation test

Autocorrelation was tested using Durbin Watson test. This tested whether there is a (linear) correlation between the error term for one observation and the next. A Durbin Watson test value (d) takes on values between 0 and 4. A value of d = 2 means there is no autocorrelation. A value substantially below 2 (and especially a value less than 1) means that the data is positively auto correlated, i.e. on average a data element is close to the subsequent data element. A value of (d) substantially above 2 means that the data is negatively auto correlated, i.e. on average a data element is far from the subsequent data element. Based on the results in table 4.20 showed that the Durbin Watson test value (d) was 2.001(close to two) and therefore implied that there was no autocorrelation

d) Normality test

The Shapiro-Wilk Test was carried out to test whether the score of the samples were normally distributed with the same mean and standard deviation.

If the test is significant (P<0.05) then the distribution is not significantly different from a normal distribution, but if the test is non – significant (P>0.05) then the distribution of the sample is significantly different from a normal distribution (Kilungu et al., 2015). The tests results in table 4.21 showed that the p-values for the variables > 0.05. The tests f reject the hypothesis of normality when the p-value is greater than 0.05 (Sharpiro & Wilk, 1965) illustrating that the standardized residuals were significantly normally distributed. The probabilities of all the variables tested were less than 0.05 and therefore the data was normally distributed and hence parametric method was applicable to test the hypothesis.

3.10 Data Analysis and Presentation

Data was analyzed through statistical procedures which covered a broad range of descriptive analysis, from simple procedures that are used regularly like computing an average to complex and sophisticated methods. Besides using frequencies and descriptive analysis, the study used multiple linear regression analysis to test the statistical significance of the various independent variables. According to Faraway (2002) multiple linear regressions is used in situations where the number of independent variables is more than one and hence was suitable for this study as it has more one independent variable. According to International Business Machines (IBM) (2010), the assumptions of linear regression must be met by the data to be analyzed, these assumptions state that the coefficients must be linear in nature, the response errors should follow a normal distribution and the errors should have a common distribution. The study applied

normality test which included one sample Shapiro-Wilk Test to test whether the data was normally distributed.

The study sought to ascertain the causal effect of one variable upon another and to explore such issues; the researcher collected data on the underlying variable of interest and employed regression to estimate the quantitative effect of the causal variable upon the variable that they influence. The study assessed the statistical significance of the estimated relationships, through (t-test) to check whether there was a significance difference between the means of the two groups in the dependent variable when the independent variable was held constant. IBM Base (2010), states that a pared samples t-test compares the means of two variables for a single group. Analysis of Variance (ANOVA – F test) was also used to determine the effect of independent variables and the control variable on the dependent variable, separately and in combination. According to Jackson (2009) multiple regression analysis involves combining several predictor variables in a single regression equation. Therefore with multiple regression analysis; the study was able to assess the effect of multiple predictor variables on the dependent measures.

3.10.1 The Qualitative Analysis

Qualitative data collected through questionnaires was first edited and response rate calculated. The data was then categorized into different themes according to research variable and descriptive statistics such as mean, standard deviation and frequency distribution which according to Kothari (2012) measures the point about which items have a tendency to cluster and describe the characteristics of the data collected was

computed. Qualitative data for the study was derived from the questionnaires and the purpose for analyzing them was to establish, evaluate, examine, determine, assess and to investigate moderating of board composition on the relationship between capital structure and financial performance of companies listed on the NSE in Kenya.

3.10.2 The Quantitative Analysis

Quantitative data was analyzed using inferential statistics where both parametric (Chi-Square test) and non- parametric (Pearson correlation coefficient) test were used. Chi-square test was used to test statistically significant difference between large and mutually unrelated parametric samples. The aim was to determine if the means of two unrelated samples differ.

Pearson correlation test was conducted to test level of significance between all independent variables and dependent variables. Pearson's correlation coefficient was used as a measure of linear correlation. The measure is symbolized by letter ® and varies between -1 and +1, with 0 indicating no linear relationship while Coefficient of determination (R^2) measures the amount of variation in the dependent variable explained by independent variables. The closer the R^2 is to 1 the better the regression line to the actual data (Sekaran, 2000).

Factor analysis was used to group together variables which have something in common. In factor analysis, the goal of extraction is to remove as much common variance in the first factor as possible (Child, 2006). ANOVA was used to test whether the regression analysis model used is fit or the relationship of the variables just occurred by chance. Significance of F ratio was used to determine whether model used was fit or not.

When the F ratio is significant the model used is considered fit and vice versa (Weeks & Namusonge, 2016). A P- value of less than 0.05 indicates that the P - statistics is high and that the null hypothesis of independent needs to be rejected since it's not true.

3.10.3 Empirical Model

In multivariate analysis, multi-linear regression model was used in explaining decision to financial performance by testing variables used as the independent variables of the study. The idea was to identify meaningful, stable relationship among the sets of data. Regression measures the causal relationship between one dependent and one independent variable. Multiple regression analysis measures the effects of multiple independent variables on one dependent variable. Multiple regressions was therefore adopted to measure the effects of multiple independent variables on the dependent variable and effects of multiple independent variable on the moderating variable. (Okello et et al., 2015). The five independent variables were regressed against dependent variable on a multiple linear regression analysis and a combination of the five independent variables were then regressed on financial performance while controlling for board composition, to ascertain the moderating effect of board composition.

The study builds on the models developed by Kajola (2008) and advanced by Okougbo (2011) in his study of corporate and firm performance; empirical evidence from selected listed companies in Nigeria which specifies the model given below;

The multiple linear regression models before moderating effect is specified as follows:-

$$\mathbf{Y=\beta_0+\beta_1 x_1+\beta_2 x_2+\beta_3 x_3+\beta_4 x_4+\beta_5 x_5+\varepsilon\ldots\ldots\ldots\ (i)}$$

Where:

Y =Revenue performance

$\beta_0=\beta_1\beta_2\beta_3\beta_4$ and β_5 are regression coefficients to be estimated

X_1=Customs duty

X_2= VAT on imports

X_3=Road Maintenance

X_4=Import declaration fee

X_5= Road Transit Toll

ε = Error term

The multiple linear regression model after moderating to be as follows:-

$$\mathbf{Y=\beta_0+\beta_1 x_1{}^z+\beta_2 x_{2z}+\beta_3 x_{3z}+\beta_4 x_{4z}+\beta_5 x_{5z}+\varepsilon\ldots\ldots\ldots\ (ii)}$$

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter provides an analysis, presentation, and interpretation of the data collected from the study respondents on electronic cargo tracking and operational performance at Kenya Revenue Authority and by the transporters. A total of 150 questionnaires were distributed, 125 questionnaires were successfully filled and collected, and this gives a response rate of 83%. This chapter gives insight into the questionnaire response and background of the respondents.

Table 4.1 Characteristics of the Respondents

	Frequency
Transporters	30
Headquarter Officials	10
Border Point Officials	13
Loading Point Officials	27
Port Officials	40
Patrol Officials	5
TOTAL	**125**

It is clear from the findings as tabulated in Table 4.1 that all the required respondents participated in the study.

Table 4.2 Position held in the Organization

	Frequency	Percentage
Top Management	20	16%
Middle Management	65	52%
Support Staff	40	32%
TOTAL	**125**	**100%**

Based on the study findings, a majority 52% of respondents were under middle management, 16% are top management and 32% are support staff.

4.2 System Expectation – Kenya Revenue Authority

	System User	1	2	3	4	5
1	The web-based systems is able	**30%**	**23%**	**14%**	**23%**	**34%**
2	The electronic cargo tracking	**38%**	**45%**	**19%**	**13%**	**45%**
3	Electronic Cargo Tracking System software has been able	**27%**	**20%**	**34%**	**45%**	**36%**
4	The system captures	**45%**	**50%**	**50%**	**37%**	**45%**
5	Information is made available	**56%**	**38%**	**45%**	**53%**	**20%**

The findings shows that 70 (56%) of the respondents agreed strongly and were able to open the web-based software using multiple browsers, whilst 30 (24%) of respondents agreed that the system could be opened using multiple browsers.

Findings indicate that some of the users of the system were indifferent 10(8%) on whether or not the system could be accessed using multiple browsers a similar percentage 10 (8%) disagreed that the system was accessible using multiple browsers.

A majority 70/125 of the respondents have strongly agreed that the system can be used using multiple browsers. It was established that the software is friendly to use 80 (64%) of the respondents strongly agreeing that the system software is user friendly. The respondents that agree are 25 (20%) that the software is indeed friendly to use, of the respondents that filled the questionnaire, only 10(8%) were indifferent on whether or not the software was friendly to use. A very small percentage of 5 respondents each which is 4% disagree and strongly disagree respectively that the software is indeed user friendly.

There is still quite a lot that needs to be done to be able to effectively meet all the requirements that have been set up by Kenya Revenue Authority. Based on the findings only 35 (28%) of the respondents strongly agree that the providers have been able to meet the requirements as set-up by the revenue authority. 45(36%) of the users agreed that the organizations contracted to carry out the role of providing the electronic cargo tracking services were able to indeed meet the requirements. There are respondents who are however of the view that the set up requirements have not been fully complied to and they therefore have to be monitored to do so as to retain their licenses.

Once the requirements have been complied with capturing of data will also improve as there is still room to do so based on the findings with 20 (16%) of the respondents strongly agreeing that the system is able to capture all the required data, 50 (40%) agreeing that data has been captured and 30(24%) remaining indifferent as to whether or not the system has such a capability. The number of respondents who felt that indeed the system is able to capture all the data is quite low with 15(12%) indicating that they that they disagree and 10(8%) strongly disagreeing therefore indicating that the system just needs a bit of improvement in this area. The system has enabled information to be made available across the different departments with 45(36%) strongly agreeing, 35(28%) agreeing, 25(20%) remaining indifferent, 10(8%) disagreeing and 10(8%) strongly disagreeing. Based on this findings there is room for improvement when it comes to information availability**.**

Table 4.4 System Infrastructure

	System Infrastructure	**1**	**2**	**3**	**4**	**5**
1	The software has a decentralized database that is efficient in information storage and sharing	**35%**	**35%**	**23%**	**23%**	**34%**
2	The software server is able to store information for over 12 months	**45%**	**34%**	**23%**	**23%**	**34%**
3	The software has relevant and reliable reports	**27%**	**20%**	**34%**	**45%**	**36%**
4	The reports generated can be saved and used in any Microsoft format making it easier to work on the data	**45%**	**20%**	**10%**	**11%**	**33%**
5	The software is able to store information and make it available even when offline	**45%**	**23%**	**23%**	**53%**	**23%**

The findings show that the system has been set up in such a way that its infrastructure allows it to be able to have a decentralized database with 50(40%) of the respondents strongly agreeing to this, 30(24%) agreeing, 28(22.4%) remaining neutral to this, 10(8%) strongly disagreeing and 7(5.6%) strongly disagreeing. This would indicate that general IT system set up of the different stations is more advance in some areas then others. The software has a server that is able to store information for a period of 12months, 55(44%) of the respondents strongly agree, 40(32%) of the respondents agree, 15(12%) of the respondents were indifferent, 5(4%) and 10(8%) of the respondents disagreeing and strong disagreeing respectively.

Software generated reports would appear to have system reports that 50(40%) of the respondents strongly agree are reliable and relevant, 35(28%) agree are reliable and relevant, 20(16%) are indifferent on the subject matter and 15(12%) disagreeing to whether or not the reports are reliable and relevant and a very small fraction of 5(4%) strongly disagreeing on the reliability and relevance of the report. This indicates that there needs to be training for the users so as to make sure that they are conversant on 37

what is being offered and make room for suggestions on how to add more reports. These reports are can be saved in formats that users are able to use to make their work easier. 40(32%) strongly agree on this, 30(24%) agree, 25(20%) are indifferent, a similar number of 25(20%) disagree and 5(4%) strongly disagree. The system is usable while the respondent is without internet. The findings had a 100% response rate with all 125 respondents agreeing to this.

Table 4.6 System Modification

	System Modification	1	2	3	4	5
1	The system is compatible with the other set-up organizational systems	**23%**	**23%**	**23%**	**12%**	**11%**
2	The system is able to easily merge with the systems for the neighboring countries	**34%**	**34%**	**23%**	**23%**	**34%**
3	The ECT system is able to pair and works well with android systems	**34%**	**20%**	**34%**	**45%**	**36%**
4	The system allows multiple users to be online and work at the same time	**33%**	**43%**	**10%**	**11%**	**33%**
5	The systems allows for tasks to be handled faster at the different stations	**23%**	**23%**	**23%**	**53%**	**23%**

The extent of system compatibility was found to be at 62(49.2%) agreed that it was to an extreme extent compatible to other systems, 20(16%) agreeing it is to a great extent, 25(20%) remaining indifferent and indicating it is to an extent, 15(12%) indicating not at all and 3 (2.4%) indicating that they were not at all sure. It was established that the system was easily compatible with the systems of other neighboring countries with 48(38.4%) of the respondents suggested that it was to an extreme extent, 45(36%) indicating it was to a great extent, 10(8%) of the respondents indicated it was to an extent, on the other hand 15(12%) of the respondents said not at all and 7(5.6%) were not sure.

Given that global most mobile-phones are on the android system the findings established that 53(42.4%) agreed that this was to an extreme extent, 40(32%) responded that this was to great extent, 19(15.2%) responded that this was to an extent, 7 (5.6%) were of the view that

this was not at all and lastly 6(4.8%) were not sure to what extent the system was compatible with android.

4.2.1 System Modification

The findings on whether the system could be modified to be able to meet the emerging expectations and requirements is as follows: Indicate your level of expectation on the system by ticking in the appropriate box where 1= Strongly Agree 2= Agree, 3= Indifferent, 4= Disagree, 5= Strongly Disagree

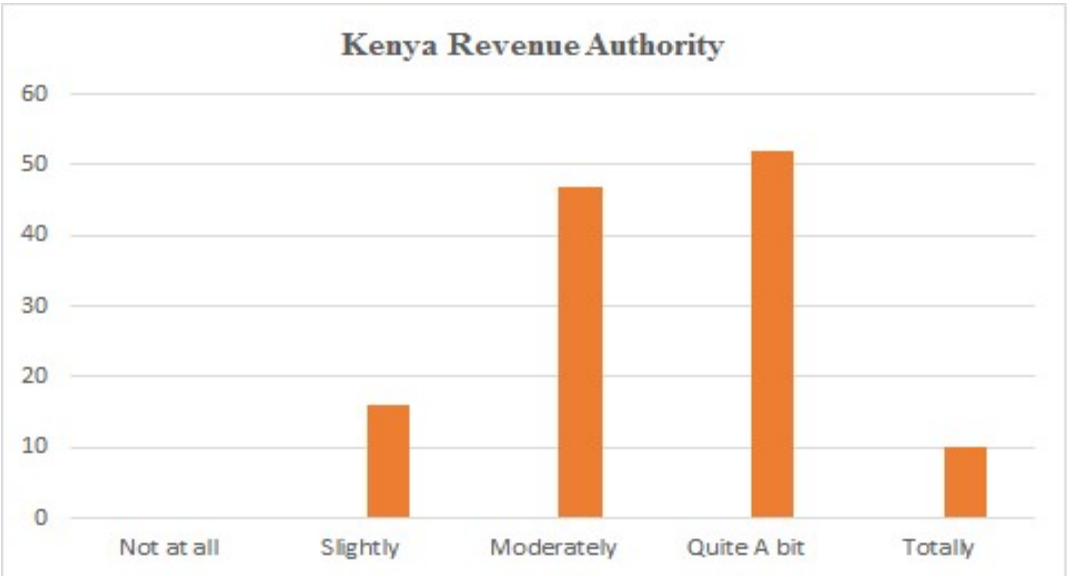
Table 4.6 System Modification

	System Modification	**1**	**2**	**3**	**4**	**5**
1	The system easy to customize	**21%**	**13%**	**55%**	**16%**	**10%**
2	The system has a knowledge database that can be used for data mining.	**24%**	**23%**	**23%**	**23%**	**34%**
3	The system allows the users to be able to make parameter changes when required	**47%**	**20%**	**34%**	**45%**	**36%**
4	The system has progressive periodic upgrades	**20%**	**33%**	**20%**	**11%**	**10%**
5	Does the system has a working feedback mechanism	**33%**	**23%**	**23%**	**33%**	**11%**

The system software is easy to customize based on the findings of 43(34.4%) strongly agreeing, 31(24.8%) agreeing, 30(24%) being indifferent on this matter, 18(14.4%) disagreeing and 3(2.4%) strongly disagreeing.

Vendors are required to provide progressive periodic system upgrades based on the emerging requirements, 42(33.6%) strongly agreed that this was indeed taking place, 33(26.4%) agreed, 27(21.6%) were indifferent if at all this was taking place 16(12.8%) disagreed that the periodic upgrades were being released and 7(5.6%) strongly disagreed. System users indicated in the findings as follows that the feedback mechanism was working; 43(34.4%) strongly agreed that it was working, 37(29.6%) agreed, 21(16.8%) were indifferent and therefore remained neutral, 15(12%) disagreed and 9(7.2%) strongly disagreed.

To what extent, do you think electronic cargo tracking system is implemented?



4.3 System Expectation – Transporters

Table 4.7 System User

	System User	1	2	3	4	5
1	The web-based system is able to open using multiple browsers.	**20%**	**15%**	**51%**	**10%**	**11%**
2	The electronic cargo tracking software is user friendly	**24%**	**23%**	**23%**	**23%**	**34%**
3	Electronic Cargo Tracking System software has been able to meet all the set up requirements	**30%**	**20%**	**34%**	**45%**	**36%**
4	The system captures all the required data from the port to its destination	**20%**	**33%**	**23%**	**15%**	**16%**
5	Information is made available across the organization on a real time basis	**30%**	**25%**	**26%**	**37%**	**19%**

The findings of the study indicates that 74/125 (59.2%), and 28/125 (22.4%) of transporters agree that the system can be used on a variety of browsers. This is indicative of a high level of awareness regarding the capabilities of the system due to exposure.

However, 18.4% of the transporters disagree, indicating that they are unaware, or unable to use the system on multiple browsers.

In terms of user-friendliness, a majority of transporters (66.4%) concur that the system is friendly and can be easily navigated. This points to the intuitive nature of the graphic user interface in allowing users to achieve their objectives with relative ease. The system software was designed to meet a lot of user objectives. However, 20/125(16%) and 10/125(8%) of the transporters are unsatisfied with the build. Other factors such as ability to capture all required data, and real-time availability of information score averagely.

4.3 System Expectation – Transporters

Table 4.7 System User

	System User	1	2	3	4	5
1	The software has a decentralized database that is efficient in information storage and sharing	33%	11%	44%	30%	41%
2	The software server is able to store information for over 12 months and make it downloadable when required	22%	23%	23%	23%	34%
3	The software has relevant and reliable reports	24%	20%	34%	45%	36%
4	The reports generated can be saved and used in any Microsoft format making it easier to work on the data	55%	22%	23%	15%	16%
5	The software is able to store information and make it available even when offline	55%	34%	26%	37%	19%

The design of the system and its infrastructure plays an important role in delivering the objective of different users. At its conception, the electronic cargo tracking system was

intended to provide a robust information system that would provide benefits to users in terms of cost, efficiency, and safety. However, Table 4.2 indicates that quite a number of users are unaware of the system‟s capabilities. 34.4% and 28.8% of the quizzed transporters were indifferent, and disagreeing respectively, as to whether the system was decentralized thus providing efficiency.

On a positive note, a majority (74.4%) of transporters were aware that the system could store information for long periods (up to 12 months). This feature is crucial for transporters who regularly require historical reports of their assets locations. It is important to note that only 10/125(8%) and 35/125(28%) of the same transporters agreed that the reports provided were relevant and reliable. Vast majorities (64%) of the transporters were indifferent or in disagreement about the reports generated by the system.

This view extends to the ability of the system to generate reports in different formats that are useful for the users. In this case, an overwhelming 49.6% of transporters were indifferent about the reports being in Microsoft formats. The ability of the software to store information while offline is a great advantage to users. An overwhelming majority 120/125 (96%) were pleased that information could be generated and retrieved from the system even while offline.

Table 4.9 System Compatibility

	System Compatibility	1	2	3	4	5
1	The system is compatible with the other set-up organizational systems	**33%**	**11%**	**44%**	**30%**	**41%**
2	The system is able to easily merge with the systems for the neighboring countries	**22%**	**23%**	**23%**	**23%**	**34%**
3	The ECT system is able to pair and works well with android systems	**24%**	**20%**	**34%**	**45%**	**36%**
4	The system allows multiple users to be online and work at the same time	**55%**	**22%**	**23%**	**15%**	**16%**
5	The systems allows for tasks to be handled faster at the different stations	**55%**	**34%**	**26%**	**37%**	**19%**

The compatibility of electronic cargo system with other computer systems is necessary for both users and administrators. 48/125 (38.4%) of users view the compatibility as a positive attribute that eases their work and provides cost savings. Unfortunately, a majority of the transporters are unaware of the ability of the system to merge with other systems. The same view is replicated by the response regarding compatibility of the system with android systems. Table 4.3 indicates that 89.6% of transporters are impressed with the ability of the system to handle multiple users at the same time. This level of multiplicity allows for multitasking, thus ensuring that work is done faster, and with greater efficiency.

To what extent, do you think electronic cargo tracking system is implemented?

Figure: 4.2 Extent to which the electronic cargo tracking has been implemented by transporters

Factors Influencing implementation by the Kenya Revenue Authority

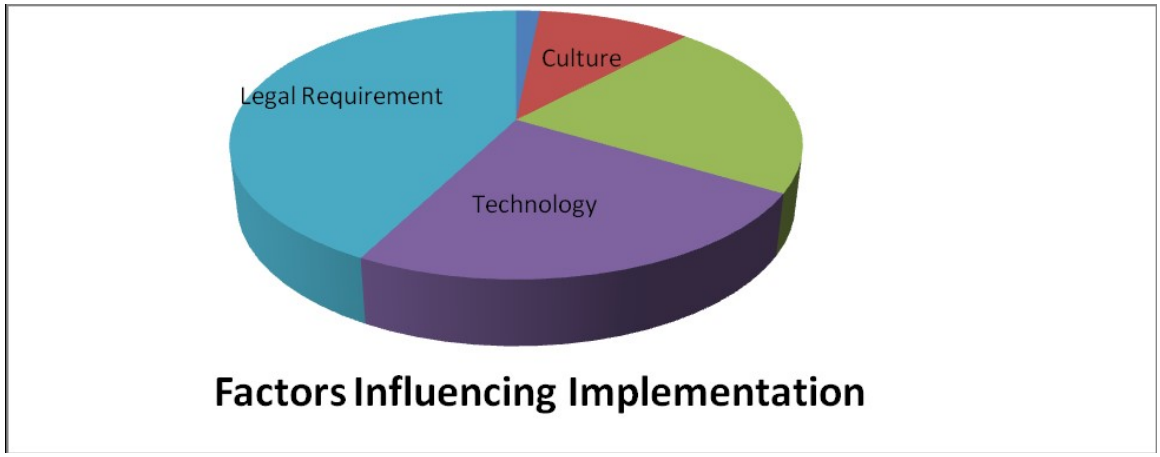


Figure: 4.3 Factors influencing implementation of Electronic Cargo Tracking by Kenya Revenue Authority

Factors Influencing implementation by Transporters

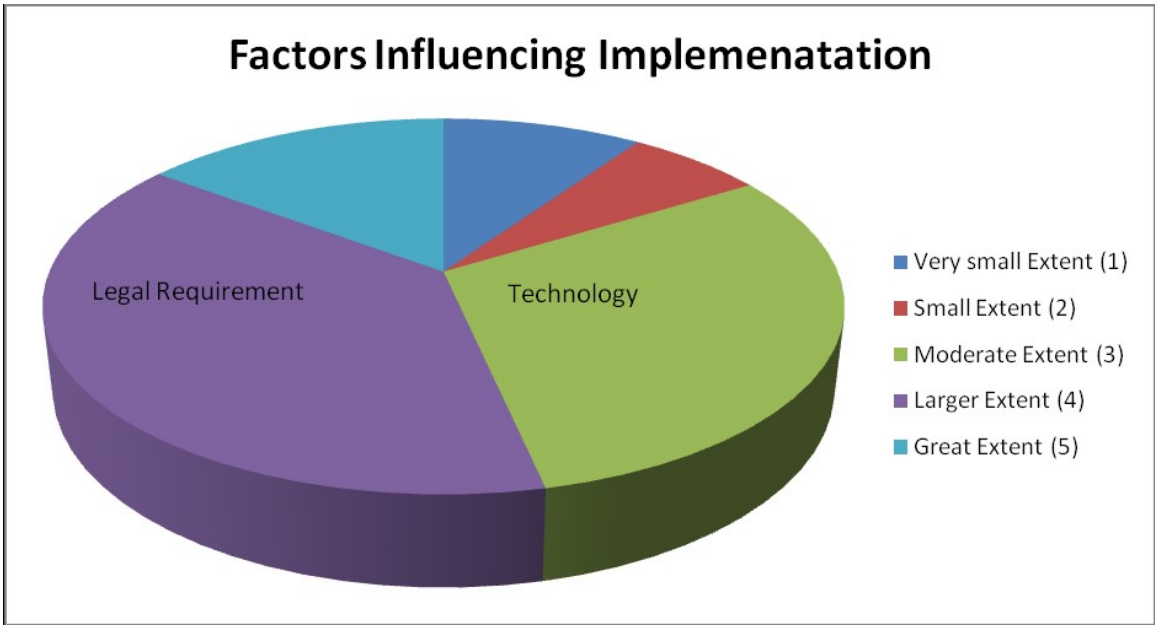


Figure: 4.4 Factors influencing implementation of Electronic Cargo Tracking by Transporters

Table 4.10 Operational Performance Indicator – Kenya Revenue Authority

Operational Performance Indicator	Question	1	2	3	4	5
Dry cargo diversion	The system is able to capture data of all outbound trucks	33%	11%	44%	30%	41%
	The system is able to report a violation on a real time basis Vehicle and cargo documentation is captured and stored on the system	22%	23%	23%	23%	34%
	Collection of duties and taxes is made easier	24%	20%	34%	45%	36%
	Clearance of cargo trucks at the border is made faster with the system	55%	22%	23%	15%	16%

Wet dry cargo diversion	The infrastructure set-up of the system is not expensive	**55%**	**34%**	**26%**	**37%**	**19%**
	There is a reduction of operating costs with the introduction of ECTs	**55%**	**22%**	**23%**	**15%**	**16%**
	Penalties and fines due to late delivery have reduced	**24%**	**20%**	**34%**	**45%**	**36%**
	There is realization of more revenue with introduction of ECTs	**55%**	**22%**	**23%**	**15%**	**16%**
	Cost reduction with the reduction of organization processes	**55%**	**34%**	**26%**	**37%**	**19%**
Cost	Cargo theft has reduced drastically	**55%**	**22%**	**23%**	**15%**	**16%**
	Cargo dumping has been reduced drastically	**55%**	**34%**	**26%**	**37%**	**19%**
	With the reduction of cargo dumping, infant business are now safer					

The findings were able to establish that data of outbound trucks is easily captured on the system with respondents with 42.4% agreeing that the system is able to do so. Violations are also easily captured on a real-time basis with a larger percent – 36% agreeing that the system capability of this feature actually does work.

The research further identifies that vehicle documentation such as logbooks and driver licenses are easily captured and stored for referring later when need be. Kenya Revenue Authority officials similarly agreed that collection of duties and taxes has greatly improved with a total of 36.8% strongly agreeing to this and only a small fraction of 2.4% strongly disagreeing that this was indeed the case. Border and port officials strongly agree that clearance of trucks has been made easier with the implementation of the system with 42.4% strongly agreeing to this. This goes to establish that the system

enhances efficiency of collection of taxes and duties and also clearance at the ports and border points.

Table 4.12 Cost

	Cost	1	2	3	4	5
1	The infrastructure set-up of the system is not expensive	**33%**	**11%**	**44%**	**30%**	**41%**
2	There is a reduction of operating costs with the introduction of ECTs	**22%**	**23%**	**23%**	**23%**	**34%**
3	Penalties and fines due to late delivery have reduced	**24%**	**20%**	**34%**	**45%**	**36%**
4	There is realization of more revenue with introduction of ECTs	**55%**	**22%**	**23%**	**15%**	**16%**
5	Cost reduction with the reduction of organization processes	**55%**	**34%**	**26%**	**37%**	**19%**

The research established that the cost of setting up the system is fair high however over a period of time the operating costs are seen to drop with 27.2% agreeing to this. Kenya Revenue Authority is able to also collect on any penalties and fines that need to be charged to the transporter as a result the revenue collector has realized an increase in revenues over time. 37.6% of respondents strongly agreed that there has been a cost reduction in the internal organization processes with the introduction of the system.

Table 4.13 Dry cargo diversion

	Dry cargo diversion	1	2	3	4	5
Dry cargo diversion	The infrastructure set-up of the system is not expensive	**22%**	**23%**	**23%**	**23%**	**34%**
	There is a reduction of operating costs with the introduction of ECTs	**24%**	**20%**	**34%**	**45%**	**36%**
	Penalties and fines due to late delivery have reduced	**33%**	**11%**	**44%**	**30%**	**41%**
	There is realization of more revenue with introduction of ECTs	**22%**	**23%**	**23%**	**23%**	**34%**
	Cost reduction with the reduction of organization processes	**24%**	**20%**	**34%**	**45%**	**36%**

The research established that cargo theft has reduced drastically and so as cargo dumping. Respondents to both these indicators strongly agreed with 40% and 45.6% respectively and only a small number strongly disagreeing to this. This has consecutively the amount of harmful and dangerous cargo has reduced in circulation. A major achievement in the installation is the reduction of road accidents and incidences due to the revenue collector being able to control road activities from being their desks.

Table 4.14 Operational Performance Indicator – Transporters

Operational Performance Indicator	Question	1	2	3	4	5
Dry cargo diversion	The system is able to capture data of all outbound trucks	33%	11%	44%	30%	41%
	The system is able to report a violation on a real time basis	22%	23%	23%	23%	34%
	Vehicle and cargo documentation is captured and stored on the system	24%	20%	34%	45%	36%
	Collection of duties and taxes is made easier	55%	22%	23%	15%	16%
Wet dry cargo diversion	Clearance of cargo trucks at the border is made faster with the system	55%	34%	26%	37%	19%
		55%	22%	23%	15%	16%
		24%	20%	34%	45%	36%
		55%	22%	23%	15%	16%
		55%	34%	26%	37%	19%
Cost		55%	22%	23%	15%	16%
		55%	34%	26%	37%	19%

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APPENDICES

APPENDIX I: QUESTIONNAIRE

SECTION B: DEMOGRAPHIC QUESTIONS

Indicate your response to the items below by ticking in the boxes.

1) What is your age bracket?
   a) Below 25 years ☐
   b) 25–30 years ☐
   c) 31–40 years ☐
   d) 41–50 years ☐
   e) Above 51 years ☐
2) What you is gender
   a) Male ☐
   b) Female ☐
3) How many years have you worked in this organization?
   a) 5 years or less ☐
   b) 6–10 years ☐
   c) 11–15 years ☐
   d) 16–20 years ☐
   e) More than 20 years ☐
4) What is your highest Educational Level?
   a) High school ☐
   b) Diploma ☐
   c) Undergraduate ☐
   d) Postgraduate ☐
   e) Doctorate ☐
5) What is your job designation?
   a) Senior Management ☐
   b) Middle Management (Supervisor, Administrator) ☐
   c) Technical Staff ☐
   d) Support Staff ☐
   e) Intern

7. Before being employed to the county where were you working?
   a) National government
   b) Local authorities
   c) Private sector
   d) None

CAUSES OF CARGO DIVERSION

Kindly, to what extent do you agree on the following statements? This is for academic purposes only and information provided is confidential.
5 = Strongly Agree, 4 = agree, 3= neutral, 2 = disagree, 1 = Strongly Disagree

CAUSES OF CARGO DIVERSION	SD	D	N	A	SA
Lack of enough cargo handling equipments					
Lack of enough skilled					
manpower					
Small size of the port					
Large number of the port users					
Poor port management					

Effect of cargo diversion	SD	D	N	A	SA
Use of appointment systems for ship arrival and departure					
Adoption of new technologies in cargo handling process					
Use of high management information systems					
Maximize loading capacity of truck and ships Increase of skilled staffs					
Privatization of container handling processes					
Formation of powerful policies useful in decongestion process					
Reduce bureaucracy in clearing process					
Increase/widen roads to reduce truck traffics toward and from the port					
Increase efficiency of the railway shipping system					
Increase efficiency or speed of the crane					

Challenges of cargo diversion management	SD	D	N	A	SA