

**COMPUTERIZED SYSTEMS EFFECTS AND PERFORMANCE OF CUSTOMS AND  
BORDER CONTROL DEPARTMENT OF KENYA REVENUE AUTHORITY**

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## DECLARATION

This research project is my original work and has not been presented for a degree in any other University. No part of this work should be produced without permission of the author and/or of Kenyatta University.

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## TABLE OF CONTENTS

DECLARATION .....	ii
ACKNOWLEDGEMENT .....	iii
LIST OF TABLES .....	vii
LIST OF FIGURES .....	ix
OPERATIONAL DEFINITION OF TERMS .....	x
ABBREVIATIONS AND ACRONYMS .....	xi
ABSTRACT.....	xii
CHAPTER ONE: INTRODUCTION.....	1
1.1    Background to the study.....	1
1.1.1    Organization performance .....	2
1.1.2    Computerized system .....	3
1.1.3    Kenya Revenue Authority .....	5
1.2    Statement of the Problem .....	6
1.3    Objectives of the study.....	7
1.3.1    Specific Objective.....	7
1.4    Research Questions .....	7
1.5    Significance of the Study .....	8
1.6    Scope of the study .....	8
1.7    Limitation of the study .....	8
CHAPTER TWO: LITERATURE REVIEW.....	9
2.1    Introduction .....	9
2.2    Theoretical Review .....	9
2.2.1    Technology Acceptance Model.....	9
2.2.2    Theory of Planned Behavior.....	11
2.2.3    Theory of Reasoned Action.....	11
2.2.4    Diffusion of Innovation Theory.....	12
2.3    Empirical literature.....	13
2.3.1    Cargo security.....	13
2.3.2    Tax clearance.....	14
2.3.3    Tax administration.....	15
2.3.4    Revenue collection .....	16

2.4	Summary of Research gaps .....	16
2.5	Conceptual Framework .....	17
CHAPTER THREE: RESEARCH METHODOLOGY .....		19
3.1	Introduction .....	19
3.2	Research design.....	19
3.3	Target population .....	19
3.4	Sampling Design .....	20
3.4.1	Sampling size.....	20
3.5	Data collection instrument .....	21
3.6	Data collection procedure.....	21
3.6.1	Piloting test.....	22
3.7	Validity of instrument .....	22
3.7.1	Reliability of instrument.....	23
3.8	Data analysis and presentation .....	23
3.9	Ethical considerations .....	24
CHAPTER FOUR: RESEARCH FINDINGS, DISCUSSION AND INTERPRETATIONS.....		25
4.1	Introduction: .....	25
4.2	Sample characteristics .....	25
4.2.1	Analysis of Response rate and descriptive statistics .....	25
4.2.2	Gender characteristics of the Respondents.....	25
4.2.3	Respondents Work Experience.....	26
4.2.4	Designation in KRA .....	27
4.2.5	Level of Education.....	28
4.3	Computerized systems and performance of customs .....	29
4.3.1	Cargo security and Customs performance.....	29
4.3.2	Tax Clearance time and Customs performance.....	33
4.3.3	Tax administration and Customs performance.....	36
4.3.4	Revenue Collection and Customs performance.....	40
4.3.5	Customs performance and computerized systems.....	43
4.3.6	Regression Analysis .....	47
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS.....		51

5.1	Introduction .....	51
5.2	Summary of Findings .....	51
5.3	Conclusions .....	52
5.4	Recommendations .....	52
5.1	Suggestions for Further research.....	53
REFERENCES .....		54
Appendix 1: Introduction Letter .....		57
Appendix 2: Questionnaire .....		58

## LIST OF TABLES

Table 2. 1: Operationalization of variables.....	<b>Error! Bookmark not defined.</b>
Table 3. 1: Target population.....	20
Table 3. 2: Sample size .....	21
Table 3. 3 Reliability Statistics .....	23
Table 4. 5: Decrease in cases of lost cargo .....	30
Table 4. 6: Number of cargo intercepted .....	30
Table 4. 7: Real time information on cargo .....	31
Table 4. 8: Handling of cases has been streamlined .....	32
Table 4. 9: Easy to track cargo.....	32
Table 4. 10: Decrease in time of clearance of cargo.....	33
Table 4. 11:Tax queues have reduced.....	34
Table 4. 12: Information on taxes and updates is available on time.....	34
Table 4. 13: Increase in volume of trade because of Pre-arrival clearance of goods .....	35
Table 4. 14: Increase in expectations as timelines in clearance are always met.....	36
Table 4. 15: The systems are user friendly .....	37
Table 4. 16: Faster resolution of matters .....	37
Table 4. 17: Easy communication and interaction.....	38
Table 4. 18: Increase in volume of cargo as a result of decrease in bureaucratic policies .....	39
Table 4. 19: Cost of maintaining the system is low .....	40
Table 4. 20: Increase in revenue collection .....	40
Table 4. 21: Easy to account for taxes .....	41
Table 4. 22: Tax leakage has reduced.....	42
Table 4. 23: Tax expenses has reduced.....	42
Table 4. 24: The system is efficient in production of revenue records.....	43
Table 4.25 Increase in Customs performance.....	44
Table 4. 26: Customers are always satisfied.....	44
Table 4. 27: Revenue targets are always met.....	45
Table 4. 28: Increase in corporate growth as a result of taxpayer recruitment.....	46
Table 4. 29: Increase in rate of tax compliance .....	46
Table 4.30: Model summary.....	47

Table 4.31: Anova table.....	48
Table 4. 32: Coefficients.....	49

## LIST OF FIGURES

Figure 2. 1: Technology Acceptance Model.....	10
Figure 2. 2: Theory of Reasoned Action to this Research .....	12
Figure 2. 3: Conceptual framework. ....	18
Figure 4. 1: Gender characteristics of the respondents .....	26
Figure 4. 2 Work experience in KRA .....	27
Figure 4. 3 Designation held in KRA .....	28
Figure 4. 4: Academic qualification for the respondents.....	29

## **OPERATIONAL DEFINITION OF TERMS**

**Computerized systems** – This term refers to, intelligent “ facility” that allows parties involved in trade and transport to lodge standardized information, mainly electronic, with a single entry point to fulfill all import, export and transit related regulatory requirements”.

**Customs-** an authority or agency in a country responsible for collecting and safeguarding customs duties and for controlling the flow of goods including animals, personal effects and hazardous items in and out of a country. Depending on local legislation and regulations, the import or export of some goods may be restricted or forbidden, and the customs agency enforces these rules

**Customs tax** – refers to a levy imposed on imported or exported goods and services by the government on to run its business.

**Examination account** – This is a written description of what goods a verifying officer has seen and verified, the marks and numbers on the container, the contents of the container.

**ICT-** term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as video-conferencing and distance learning.

**Performance** – the term includes the outcomes of the efficiency of customs clearance process, the revenue collected from facilitating trade. The indicators include taxpayer compliance, customer satisfaction and corporate growth

**Transit period** – This is the period within which transit goods that have entered the country through the port of entry should have exited the country from the time of entry.

## ABBREVIATIONS AND ACRONYMS

APTF –	Asia Pacific Trade Facilitation Forum
C&BCD –	Customs and Border Control department.
DPC -	Document Processing Center
EAC-	East African customs
ECTS -	Electronic cargo tracking system
GPS –	Global Positioning System
GPRS –	General Packet Radio Service
ICT-	Information Communication Technology
IDF –	Import Declaration Form
KRA -	Kenya Revenue Authority
LDCs –	Least Developed Countries
PEOU -	Perceived Ease of Use
PU -	Perceived Usefulness
RFID -	Radio Frequency Identification Device
TAM -	Technology Acceptance Model
TFA -	Trade Facilitation Agreement
TRA -	Theory Reasoned Action
UNECE –	United Nations Economic Commission for Europe
VAT-	Value Added Tax
WTO -	World Trade Organization

## **ABSTRACT**

The public has for long time complained about the performance of customs and border control department due to its numerous complex procedures for clearance of goods imported to the country. This study examines the effectiveness of the computerized system on the performance of Customs and border control department of Kenya Revenue Authority. The research design used for this study was descriptive survey. The target population was 120. The sample chosen comprised staff working in various tax collection stations. The sample size comprised of 120 respondents selected using stratified random sampling. The main instrument of collecting primary data was questionnaire. Data was analyzed mainly by use of descriptive and inferential statistics. Descriptive statistics included mode, mean, median, standard deviation. Inferential statistical techniques like correlation and regression coefficients were used to draw relationships between the independent variables and the dependent variable. The study revealed that computerized systems have contributed positively to the performance of customs department. Independent variables cargo security and tax clearance time had a positive significant impact on the performance. Revenue collection and tax administration had an insignificant impact hence there may be other many factors which affect revenue collection other than computerized systems. Based on research findings, the study recommends the need for Kenya Revenue Authority to recheck the need to enhance reforms and enhance systems validations and integrity so as to enhance customs performance. Systems enhancement based on risks management will be a key game changer in this era of digitization

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the study

The use of computerized systems in customs involves the use of information and communication technologies (ICT) to attain the core business of customs, and that is to improve the entire clearance process - from lodging of entries, acceptance and processing of cargo and goods declarations for import, export and transit, payment of relevant taxes and assessments, to arrival of the goods from Customs and border control (UNECE, 2012). ICTs include a scope of quickly advancing technologies which incorporate telecom innovations, for example, a mobile phone, Television and Radio, PC intervened conferencing and video conferencing and in addition computerized advances which incorporate personal computers, data systems, for example, web, World Wide Web, intranets and extranets and programming applications (Chisenga, 2006).

Studies done by researchers indicate that making trade procedures easy to follow could bring on board small and medium-sized ventures in international trade. Faster transport and easier predictability of goods will encourage poor and third world countries to grow interest in their participation in worldwide value chains. Trade facilitation is a main factor in international trade proficiency and the economic growth of countries (UNCEA, 2013) this is as a result of its impact on competitiveness and market integration and its growing role and visibility in contribution in direct foreign investments. This can be gained by simply harmonization of the complex customs trade procedures. Alongside advancing the accessibility of, and access to trade related infrastructure, streamlining trade procedures has become key for companies in poor nations

Research that has been done by the World Bank show that interest in world trade tends to support development and that nation that have merged quickly into the world economy has shown tendency to record the highest growth rates. This outcome ought not to come as amazement. Integration carries with it improved allocation of resources, increased competition, and pressures to raise efficiency, and interaction to new advancement (Wulf and Sokol, 2005).

### **1.1.1 Organization performance**

Organization performance is a term that includes the outcomes of the efficiency of customs clearance process, the revenue collected from facilitating trade and clearance times. The indicators include taxpayer compliance, customer satisfaction and corporate growth.

The procedures for clearance of cargo from Kenya to other partner states have been difficult and bureaucratic for many key players. cargo that enter Kenya through the port are in two classifications, those that are bound for home utilization ordinarily known as local imports which pay import duty locally and those that are bound for partner states, normally referred to as transit cargo, which are secured through bonds but don't pay import duty. The Customs & border control department of KRA accounts for more than 45% of all revenue collection. The department's functions are geologically scattered all through the nation and incorporate air and sea port operations, border operations, x-ray cargo scanners, transit monitoring, trade statistics management function(KRA, 2013). Internationally, a few researchers and scientists have evaluated revenue system modernization and revenue collection. (Mathew, 2014) did a study on the computerization system procedure of the Ghana Revenue Authority on the viability of revenue collection using a case investigation of customs division. (Muthama, 2013) established a positive impact of automation system usage and the cost of tax administration, automation and viability of revenue collection.

In Kenya, (Muthama, 2013) did a study on the correlation between representative tax framework and large scale premise for revenue equalization systems in Kenya. The study shows that the large scale model performs better the varieties in funds distributed to counties than the representative tax system. (Njenga, 2009) did an investigation on revenue efficiency of the Kenyan Tax System by discovering methods for bridging financial deficiencies. From the discussions above, it is obvious that limited studies if any have focused on the relationship between system modernization and performance of C&BCD of KRA in Kenya. This study in this manner looks to fill this research gap by answering the question: What is the impact of modernized system and the performance of C&BCD at KRA in Kenya.

### **1.1.2 Computerized system**

This term refers to, intelligent “ facility” that allows parties involved in trade and transport to lodge standardized information, mainly electronic, with a single entry point to fulfill all import, export and transit related regulatory requirements”. The variables that will be used to measure the independent variables include cargo security, tax clearance time , tax administration and the revenue collection. Customs need a dynamic use of information and communication technologies (ICT) to be more effective and efficient. The goal is to make use of electronic information rather than paper records and to connect different computer systems of government agencies and businesses. Against the backdrop of a fast evolving international trade environment and information technology innovation, the Single Window concept started and has been adopted by a few governments with intentions to streamlining and simplifying regulatory requirements in the trans-border movement of goods (Jai yang choi, 2011). In December 2013, World Trade Organization (WTO) members summed up their transactions on the Trade Facilitation Agreement (TFA) in Bali, they agreed on the main multilateral assertion since the WTO was established about two decades before. It indicated how world guideline making was working successfully to remove obstacles to business. As much as endeavors to further liberalize trade policies, the streamlining, accelerating, and coordinating of trade processes are adding to the extension of world trade and helping developing least developed countries (LDCs) integrate into today's global economy (WTO, 2015).Significant advancement has been made in trade facilitation in the Asia-Pacific area. Be that as it may, information on the usage of particular trade facilitation measures is for the most part inadequate.

Which trade facilitation measures have the nations officially actualized and would they say they are prepared for paperless exchange? These are a portion of the inquiries that the recent expert survey (Wang and Duval, 2013) endeavored to address. The study was done between September 2012 and January 2013, and results demonstrate that usage of trade facilitation and paperless trade vary altogether crosswise over 22 Asian nations as anyone might expect, Singapore, Japan, and the Republic of Korea lead in general implementation, followed closely by Thailand, with the region's least developed nations and landlocked developing nations by and large a long ways behind. The study likewise evaluated the readiness of nations as far as actualizing paperless

trade. Findings are entirely promising in such manner, as almost all nations have electronic or computerized traditions frameworks set up or a work in progress.

At any rate a few customs declarations are submitted electronically in everything except one of the nation overviewed, and 90% of custom declarations are gotten in electronic form in half of the nations. In any case, computerization and utilization of electronic reports past the custom declaration is observed to be more constrained, with 54% of the nation either having or being effectively engaged with the advancement of "single window frameworks" for one time submission of data to all trade administrative offices. Somewhat more than 33% of the nations surveyed are included in cross-border electronic information and records trade, basically on a pilot basis. Trade facilitation reduces the transaction expense and unpredictability of international trade and enhances the trading and investment environment in a nation, while in the meantime enhancing government control. As a consequence, trade facilitation results in mutually benefits for both people in general and private division and in this way, at last, transforms into expanded welfare for the individual citizens.

A fundamental issue with Customs procedures in developing nations is the absence of clear systematization. The Customs authorities in developing nations have frequently developed specially appointed with old systems interweaved with new situations and a continued adding-on of laws and controls. The work and control of Customs must mirror the evolving environment. The level of trade is consistently expanding at a heightening rate, a certainty that implies that administrative bodies, for example, Customs must adjust to the new circumstances or danger turning into a major barrier to trade, additionally debilitating the security of the nation by not having the capacity to adapt to the new times. This suggests there is an awesome need to enhance the Customs methodology, both to make it less complex and more methodical, without losing any of its authorizing obligations.

The different government services have for quite some time been subjected to judgment for, among others, wastefulness, excessive formality, absence of adaptability, inadequate responsibility and poor execution. Such judgments have paved the way for regulatory changes and rearrangements trying to address different managerial weaknesses and improve the

proficiency and execution of public organizations. Be that as it may, notwithstanding much talk, concrete proof of the impacts of ICT on administration, particularly on ICT and administration in local government is rare. Any entity of whichever form or size ought to set up its own particular arrangement of controls so as to accomplish its objectives (Brian, 2013). Information and communication technology (ICT) is an important tool that gives access to people, administrations, information and technologies.

The role of customs has advanced from being that of checking the physical flow of goods at border points to being the key border agency, in charge of trade facilitation and securing the general public through averting cross border movement of prohibited and restricted products. In perspective of these roles, numerous nations have given considerable resources to transforming and modernizing their customs administrations (Lewis, 2009)

### **1.1.3 Kenya Revenue Authority**

Customs Systems are typically run by Revenue Authorities in a particular nation in handling of imports and exports. For the instance of Kenya it is controlled by the Kenya Revenue Authority. Customs systems facilitate the declaration of goods, valuation, following of any bonds and additionally clearance of imports and exports. As per KRA 2014, the essential function of the Customs Department is to gather and account for import duty and VAT on imports. Aside from the financial obligations, the Customs and border control division is likewise in charge of facilitation of legitimate trade; and protection of society from unlawful entry and exit of prohibited goods. Kenya presented the Tax Modernization Program in 1986 with the trust this would, in addition to other things, enhance revenue collection, enhance tax administration and decrease compliance and collection costs. Despite the tax modernization, there are worries that the difficulties that stand up to the Ministry of Finance and Kenya Revenue Authority today are not different as the difficulties that confronted these revenue authorities before the reforms (Ronge, 2006).

In the KRA 6<sup>TH</sup> corporate plan, C&BC is mandated to take on board a completely fledged border control function and electronically control all the goods and services entering and leaving the country's borders. Pursuing a policy decision by the significant government arm to allow legal mandate to KRA to oversee border agencies' activities which incorporate among others, pre

clearance of freight and passengers through Advance Passenger Information (API) and Advance Cargo Information systems, single customs territory which eliminates numerous clearance procedures through, Integrating ICT platforms of all partners, One stop border post, where all organizations sit under one rooftop and all consignment stop once for checks, Integrated scanner administration which has been required by the way that it's impractical to do 100% confirmation of all the load that enter the port, Electronics cargo tracking system which empowers all transit cargo to be tracked as it leaves the border(Sixth Corporate Plan, 2015)

## **1.2 Statement of the Problem**

Many issues have been raised by the public, more so the traders and investors who are involved in both local and international business about the bureaucracy of customs in trade facilitation. The issues that emerge are, Lack of transparency about standards and regulations, redundant and protracted clearance processes, and multiple documents requirements in various formats and with different information elements, expand the cost and time of doing trade. Today these obstacles are seen as posturing greater boundaries to trade than tariffs and quotas do. They are "thickening" the border of nations (Wilson, Norbert 2007). Thus, it is more essential than any other time in recent memory to accomplish trade facilitation to improve administrative efficiency and effectiveness, reduce expenses and time to business sectors, and expansion predictability in global trade (Wilson, Norbert 2007).

The difficulties of this trade are various, demands in regards to the quick movement of goods, combined with complex regulatory requirements, require modern innovative approach. The cargo security has dependably been an issue with goods reported lost or damaged before it arrives at the border point. Monitoring of goods is additionally a challenge since the customs officers have been not able to keep up with the substantial volume of transit cargo. It has likewise been hard to know whether goods have been tampered with using the custom seals since containerized goods can be opened through different ways including entryway pivots without touching the seals. Interventions have likewise been a significant undertaking following the failure to recognize what is going on at remote regions (Ronge, 2006).

The current system don't incorporate maximization of revenue collection because of dumping or diversion of transit goods, lack of improvement in the level of cargo security, poor cargo visibility and status to all partners, use of manual procedures along the supply chain, which

necessitated the requirement for physical escort and movement of trucks in convoy. Additionally there has been no improvement in truck turnaround times and responsibility to the transporters. Based on the above issues, the motivation behind this study will look at and assess the impact of computerization operations of CBC division at Kenya Revenue Authority with a perspective of knowing whether the utilization of computerized systems have impact on the performance of Customs & border control department of KRA (Sixth Corporate Plan, 2015).

### **1.3 Objectives of the study**

The general objective of this study is to evaluate the use of computerized system and the performance of C&BC department of Kenya Revenue Authority.

#### **1.3.1 Specific Objective**

The study intends to pursue the following specific objectives

- i. To establish the effect of cargo security on the performance of C&BC department of KRA.
- ii. To evaluate the impact of tax clearance on the performance of C&BC department of KRA.
- iii. To determine the effect of tax administration on the performance of C&BC department of KRA.
- iv. To assess the impact of revenue collection on the performance of C&BC department of KRA.

### **1.4 Research Questions**

- i. Is assessing the effect of cargo security effective in measuring performance of C&BC department of KRA
- ii. Is assessing the impact of tax clearance effective in determining the performance of C&BC department?
- iii. Is assessing the effect of tax administration effective in measuring the C&BC department performance?

- iv. Is assessing the impact of revenue collection effective in determining the C&BC department performance?

### **1.5 Significance of the Study**

This study would be important to KRA in formulating policies and procedures for assessing the effectiveness of computerized systems. The findings of this research would also contribute to theories by providing additional evidence to support the existing theories. Researchers will use information in this study as part of literature review while carrying out other research on the impact of internal control on the performance of C&BC department. This research will also be helpful to the Kenyan government in coming up with the budget and setting out policies that will create enabling environment for trade in East African countries

### **1.6 Scope of the study**

The study will focus on the effect of computerized systems on enforcement procedures, cargo security and interventions at C&BC department. This is the conceptual scope. The contextual scope will be KRA and specifically the Customs and Border Control Department. The places of interests will be Malaba station, Kilindini port, and Times tower, where the staff and stakeholders work. The study targeted the management, supervisory and the lower cadre employees at Kenya Revenue Authority. This study will use descriptive study design because it provides the best answers when “how” or “why” questions are raised in a study. Being the most preferred method, it enables the investigator achieve his objectives even with little control over events surrounding the research problem.

### **1.7 Limitation of the study**

This study requires long time duration and great financing to achieve the best findings as much as possible. The two factors are the constraints for the researcher. The other constraints will be to get time from the busy staff of KRA to cooperate and fill the questionnaire. The introduction of the 24/7 working hours for all the border points, the nature of the work of a custom officer has been that of fully engaged.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This research is intended to evaluate the impact of computerized systems on the performance of C&BC department of KRA. The review of available literature therefore endeavors to set up whether there is a relationship between computerized systems as an independent variable and C&BC department performance as a dependent variable. This chapter deals with the accessible literature that has been reviewed for the study. The literature is primarily from KRA online material. The double missions of guaranteeing national security and collecting duties and levies are driving numerous administrations towards executing policies to maintain the integrity of the supply chain.

#### 2.2 Theoretical Review

Adoption is an individual's choice to become a user of a product or a service. (Gitau and Nzuki, 2014). This study seeks to find out the factors that influence the adoption of system automation by the staff of C&BCD of KRA from the existing literature. Emerging information innovation can't deliver enhanced organizational effectiveness in the event that it is not acknowledged and utilized by potential users.

In this area of research, to explore the individual acknowledgment conduct on Information technology and Information systems, numerous models have been recommended by the researchers. These include the Theory of Reasoned activity (TRA), Theory of arranged conduct (TPB), diffusion of theory.

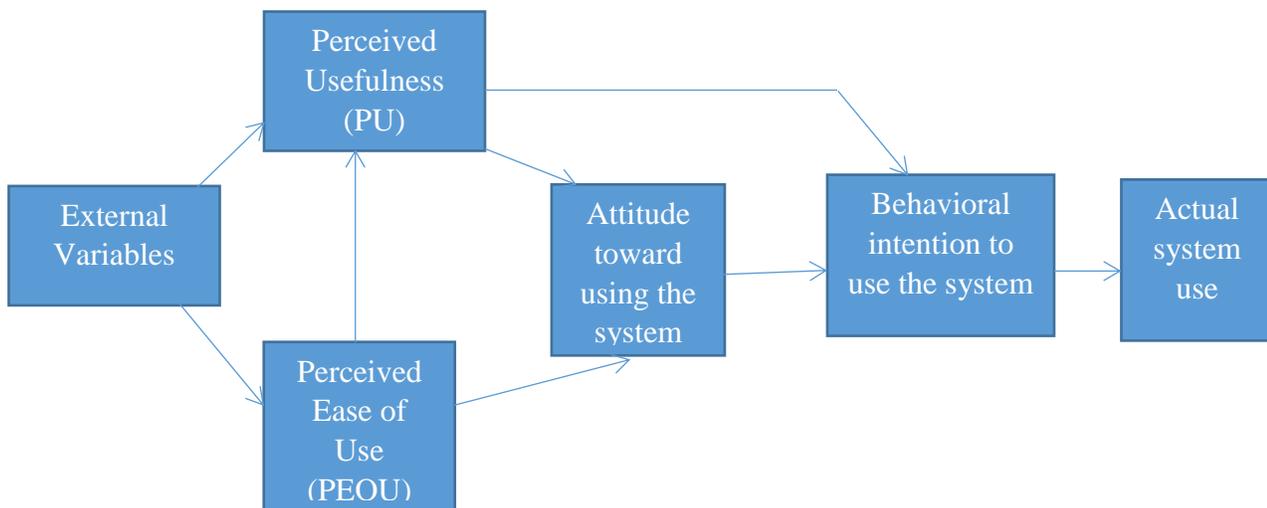
##### 2.2.1 Technology Acceptance Model

Technology Acceptance Model has been produced by Davis, (1989) is a standout amongst the most mainstream research models to predict use and acceptance of information systems and technology by individual users. The model proposes that when users are introduced to a new technology, various factors influence their decision about how and when they will utilize it In TAM model, there are two factors perceived usefulness and perceived ease of use is relevant in computer use behaviors. Davis defines perceived usefulness as the prospective user's subjective likelihood that utilizing a particular application framework will improve his or her employment

or life performance. Therefore PU can impact the intention to accept and adopt computerized systems directly or indirectly. PEOU can be characterized as the extent to which the prospective user anticipates that the target system will be free of effort. It is further described as the internal belief of mental effort required in using a system.

This study characterizes it as the degree to which the user acknowledges the system to be easy to use. Davis, (1989) clarifies that an individual may trust that an application is helpful however he or she may likewise find that the system is hard to utilize. As indicated by TAM, usability and perceived usefulness are the most imperative determinants of actual system use. These two components are impacted by external variables. The fundamental external factors that are generally showed are social elements, cultural elements and political variables. Social components incorporate dialect, skills and facilitating conditions. Political components are for the most part the effect of utilizing innovation as a part of legislative issues and political crisis. The attitude to use is concerned with the client's assessment of the attractive quality of utilizing a specific information system application. Behavioral intention is the measure of the probability of a person utilizing the application.

Technology acceptance model



**Figure 2.1:** Technology Acceptance Model

Source: adopted from Davis, (1986)

### **2.2.2 Theory of Planned Behavior**

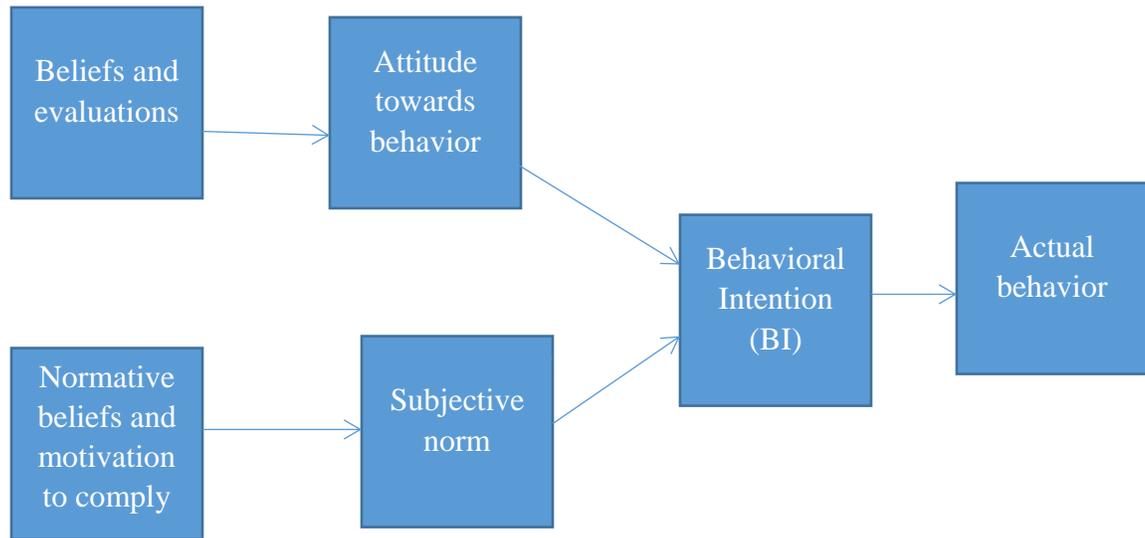
The Theory of Planned Behavior states that behavioral intention to perform an activity is controlled by attitude, perceived behavioral control, and subjective norm (Ajzen, 1991) and (Fusilier and Durlabhji, 2005). According to (Khalifa and Shen, 2008), TPB concentrates on social and individual factors which impact the adoption of a technology. (Ajzen, 1991); (Fusilier and Durlabhji, 2005).

### **2.2.3 Theory of Reasoned Action**

The theory originates from social psychology, and it is an exceptional case of the Theory of Planned Behavior (TPB) (Ajzen, 2010). (Fishbein and Ajzen, 1975) developed TRA to define the connections between the beliefs, attitudes, norms, intentions, and behaviors of individuals. The Theory assumes that a man's conduct is controlled by the individual's behavioral intention to perform it and the intention itself is dictated by the individual's attitudes and his or her subjective norms towards the behavior. The subjective norm alludes to "the individual's discernment that many people who are important to him think he ought to or ought not to perform the behavior being referred to" (Ajzen, 2010). As indicated by the theory of reasoned action the individual behavior is motivated by behavioral objectives and these are a function of an individual's attitude toward the behavior and subjective standards encompassing the performance of the behavior. Technology acceptance mode (TAM) has been founded on theory of reasoned action (TRA) and has been utilized to clarify individual's acceptance behavior.

In these studies TRA will be utilized to contrast it and TAM. Theoretically, the theory of Technology Acceptance Model (TAM) depends on the Theory of Reasoned Action (TRA). In TAM, two theoretical constructs, perceived usefulness and perceived ease of use, are the central determinants of systems implementation and use, in this research the Revenue collection system. According to TRA, a person's performance of a specific behavior is determined by his/her behavioral intention (BI) to perform the behavior and BI is jointly determined by the person's attitude (A) and subjective norm (SN) concerning the behavior in question. **BI = A + SN**

## Theory of Reasoned Action to this Research



**Figure 2.2:** Theory of Reasoned Action to this Research

**Source:**Adopted from Fishbein and Ajzen, (1975)

TRA is applicable when studying on consumer conduct according to Revenue collection system applications in Kenyan regions. As to Revenue collection system acknowledgment study, (Githinji & Mwaniki, 2014) have connected the Theory of reasoned activity (TRA) in a study concerning user participation and involvement in Revenue collection system execution and context, their research intends to identify variables that need to clarify in Revenue collection system. As indicated by (Kanungo and Bagchi's, 2000) study has inferred that the model of theory of reasoned activity can be utilized for studying the use of systems in industries and higher establishments of learning context, and their research discoveries likewise demonstrated that the model explains user behavior compare to other model

### 2.2.4 Diffusion of Innovation Theory

Diffusion of Innovation theory expresses that there are five seen attributes of an innovation that can determine the adoption of an innovation (Rogers, 1995); (Chong and Ooi, 2008). The five perceived traits of the innovation are relative advantage, compatibility, complexity, trialability and observability (Rogers, 1995). Relative advantage is the "extent to which an innovation is perceived as being superior to the idea it supersedes". Compatibility is defined as the extent to which a development is seen as "predictable with past values, past experience, and the needs of

the potential adopters". The complexity of an innovation is whether the innovation is "perceived as generally hard to utilize and understand". Trialability alludes to whether an innovation might be "experimented with, on a constrained basis". Finally, observability is whether the "consequences of an innovation are visible to others" .

This study is therefore informed by a mix of the four theories i.e. TAM, TPB, TRA and DOI which together backing the social, behavioral and innovative ,constructs determining the utilization of computerized systems.

## **2.3 Empirical literature**

Criticisms of TAM as a "theory" include its questionable heuristic value, limited explanatory and predictive power , triviality, and lack of any practical value, as for revenue system ,its practical means .i.e. as per this research Taxation is an integral part of countries" development policies, interwoven with numerous other areas, from good governance and formalizing the economy, to spurring growth through, for example, promoting activities such as export activities system for revenue collections. (Chuttur, 2009) suggest that TAM "has diverted researchers' attention away from other important research issues and has created an illusion of progress in knowledge.

### **2.3.1 Cargo security and performance of C&BC department of KRA**

Electronic cargo tracking systems were introduced by KRA to replace the escort of goods by the custom officers that was considered inefficient, straining, and costly to both KRA and traders. By introduction of common check points as opposed to multiple check points that existed previously. The escort duties which were solely the duties of custom enforcement officers had many challenges. The custom officer was supposed to be at the gate of exit, known as gate18/20 at the port of Mombasa before the release of cargo. The officers duties was to register the truck details, cargo details and hold the drivers driving license to assist in controlling drivers movement along the authorized transit route. The officer was supposed to write a memo, which is a list of trucks, clearing agent and the two official customs documents known as T812 and T810. The T812 form is the road manifest for custom purposes. A legal form with details of the transit cargo, which is entry number, date of arrival, date of entry passed port of destiny, port of entry among other important information. This information was then used to determine the port of exit. Once the custom officer concludes the memo, it was signed by the releasing officer in triplicate. The officer's duty was then to follow the trucks behind them and monitor until all the

trucks are accounted for at the port of exit. Where, the escorting officer would present the signed copy of memo to the receiving officer, who would then acknowledge the receipts of the trucks. To enhance the accountability systems for electronic cargo tracking, the Kenya Revenue Authority (KRA) spearheaded the introduction of the electronic cargo tracking. These devices offer unique benefits to traders and the Revenue Authority alike by recording real time transaction data, giving alerts and monitoring of trucks along the transit route.

ICT has made it possible to track cargo and fleet for Logistic and transport firms. This has had a lasting impact on the security of both the cargo and fleet. In Kenya, the requirement by all truckers to install the Electronic Cargo Tracking System (ECTS) was initially met with opposition.(Wilson, 2015) However, truckers have slowly embraced the ECTS, which seeks to replace the security bond while monitoring cargo in transit and providing real time information on location, security and condition of cargo and assets. KRA's expectations on the ECTS are among others, ability to secure cargo under KRA's control, raise an alert in an event of violation. Ability to monitor cargo along supply chain, give cargo status, give geographical location and any pertinent cargo information, record cargo events from source to destination. In this study, the interest will be to link the technology of acceptance model, where factors like political has had an effect on the adoption of ICT security systems. With the advent of EAC union there has been a push by the government to adopt ECTS.

### **2.3.2 Tax clearance and performance of C&BC department of KRA.**

Traders look for more choices, better service, higher quality, and faster delivery. The relationship with traders has turned a strategic issue for today's companies(Wilson, 2015). The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. In clearance of goods in Kenya, An IDF must be applied for and obtained from the Kenya Revenue Authority for any Commercial Importation. The Importer is responsible for applying for the IDF but may use an agent to consult or input this into the ORBUS system. Once the IDF is passed, the importer might proceed to arrange inspection of the cargo(Derudder, 2012). The documents required in clearance of goods are as follows, IDF, bill of lading, commercial invoice, and certificate of conformity. Prior to actual vessel arrival date in Mombasa, the shipping line lodges its online manifest with customs (into SimbaTradex system) and the port authorities (port KWATOS system). Against the uploaded

manifest, a customs entry is prepared on the Simba Tradex online system by the importers clearing agent. Parallel to this, once the manifest is uploaded by the shipping line, the original Bill of Lading duly endorsed by the consignee is submitted to the shipping line for issuance and release of a delivery order. This is done after settlement of the local shipping line charges which is also uploaded online. Uploaded entries are passed after either payment of duties or confirmation of exemption by means of the exemption letter code in the customs system. In the simba system, the entries are categorized according to the sensitivity of the cargo. The channels are green, yellow and red. The green channel indicates low risk; yellow channel indicates moderate risk while red channel indicates high risk. High risk goods are subjected to scanning and sometimes 100% verification. After verification of the cargo, a pick up order is generated via the Kwatos website KPA, on line, for all consignments cleared within the port of Mombasa. The process from lodging of IDF to the release of the cargo has been on routine taken at least seven days. The introduction of new systems is expected to expedite the clearance process to at least three days.

In C&BCD, the effect of introduction of the new systems has had a good share of resistance. The research intends to find out whether the clearance time have had changes as a result of the introduction of the new automation systems. If there are significant changes, then the researcher will want to establish the factors that have contributed to the changes whether positive or negative. This will bring out the issues to be resolved or the strategies to be put into practice for adoption by KRA.

### **2.3.3 Tax administration and performance of C&BC department of KRA.**

ICT makes it possible to know the state of the system in real time and therefore to manage and change on-line paths, vehicle flows, orders and deliveries(Agbesi, 2013) With regard to the specific impact of ICT on transport industry, Crowley (1998) stated that ICT influence transport in at least three different ways, the increased information content of many products has influenced the nature of the goods being transported, the use of ICT has improved supply chain integration and has redefined the role of freight transport, ICT has provided many new management and control tools for transport companies sector, the traditional resistance of transport operators to change, the small size of transport firms which have insufficient resources

to finance investments in ICT, the lack of user-friendly ICT, the use of proprietary standards by the most important players in the transport industry, which aim is to protect information as far as possible without giving rise to processes of sharing with suppliers and customers, which prevents real supply chain integration.

#### **2.3.4 Revenue collection and performance of C&BC department of KRA**

(Sagas, 2015) did an assessment of the impact of electronic tax register on revenue collection by Kenya Revenue Authority western region, Kenya. Findings from their study indicated that 75% of the respondents were of the opinion that ETR machines have helped to curb cases of tax evasion 86% of the respondents were of the opinion that ETRs have helped increase revenue collection due to their efficient nature. (Wang'ombe, 2009) did a study on the revenue productivity and some administrative factors of the Kenyan tax system for the period 2001–2008. The result of this study came up with buoyancy estimates of the total tax system as 1.26 while elasticity was 1.27. The study thus concluded that the tax system in general was both elastic and buoyant implying that tax reforms had greatly improved productivity. Discretionary tax measures had a very small effect on tax productivity implying improved efficiency.

Over the years KRA has been surpassing targets as set by the Ministry of Finance. The only exception is in 2008 which was largely because of the effects of post-election violence. In 2010, revenue collections translated into 9% of the previous year's collection. This meeting of targets can be attributed to various revenue enhancement measures that have been put in place such as internal controls, internal and client audits, border patrols, authorization and segregation of duties. However there is still room for improvement by KRA in performing its mandate as a revenue collector. There are some areas where manual accounting is practiced and there is an urgent need to computerize the areas if revenue leakages are to be minimized

#### **2.4 Summary of Research gaps**

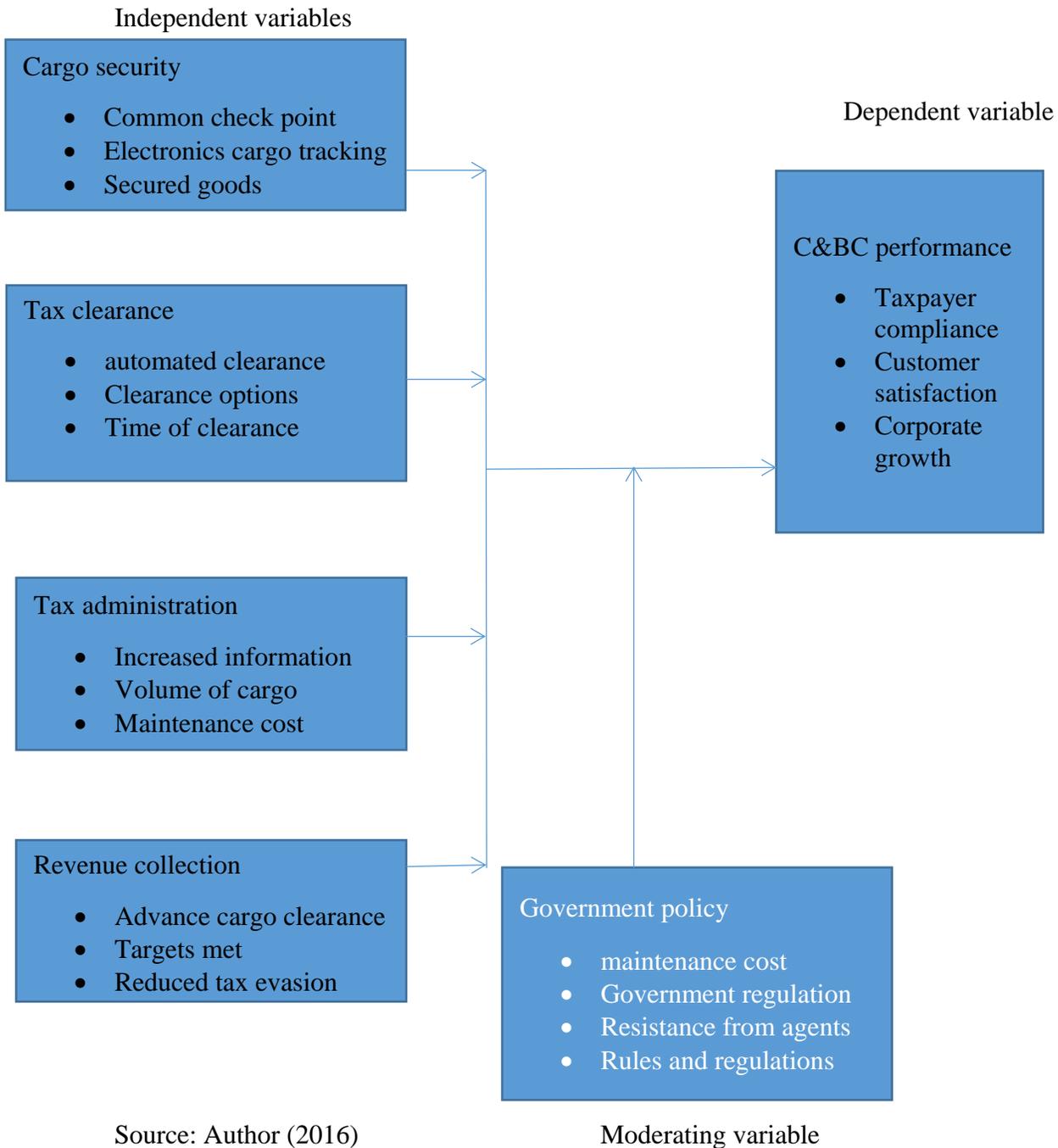
It is noted that new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using (Bagozzi, 2007). Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strivings to learn to use the technology evolve (Ongaki, 2013). Thus, actual usage may not be a direct or

immediate consequence of such attitudes and intentions.” (Bagozzi, 2007)Research on usage and implementation of ICT has been carried out by some scholars namely; (Timothy & Waema, 2014)studied ‘implementation of financial management system in local authorities.(Kariuki, 2013)carried a study,on automation in Tax Administrations, which focused in domestic department of KRA. (Brian, 2013)Conducted a study on the effects of internal controls in Kenya revenue authority In regard to both general and specific literature, not many studies have assessed the use of ICT in customs department in Kenya. Many arguments for ICT planning prove ICT project implementation is a complex exercise and more research is needed to identify challenges, good practice and solutions for successful implementation. The study seeks to extend previous research by incorporating constructs in the widely use of ICT systems and investigating the impact of internal and external factors its usage.

## **2.5 Conceptual Framework**

Performance of Kenya Revenue Authority depends on several factors. In this research, KRA performance is hypothesized to be related to computerized system, Intervention functions that is ability to immobilize a truck in an event of a violation, tamperproof features where it detects any cargo tampering and pass alert to control room in real time, one stop border post where all agencies sit under one roof and the consignments are stopped only once for checks. Cargo security which gives ability to secure cargo under KRA’s control and to monitor cargo along the supply chain which gives cargo status, gives geographical location.

## Conceptual framework



Source: Author (2016)

**Figure 2.3:** Conceptual framework.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter describes how the methodology under which the study will be conducted on. It covers research design, target population, sampling procedures. Data collection procedures, data analysis and presentation as well as ethical issues considered while undertaking the research.

### **3.2 Research design**

Research design has been outlined by different researchers and the definitions appear to move towards the same heading. Lavrakas (2008) characterize research outline as the general arrangement for getting answers to the inquiries being concentrated on and for taking care of a portion of the challenges experienced amid the research process. It is accordingly the arrangement of conditions for gathering and analysis of data in a way that expects to consolidate significance to the research reason with economy in procedure

This study used descriptive survey design because it provides the best answers when “how” or “why” questions are raised in a study. Description is the precise measurement and reporting of the characteristics of the phenomena under investigation. The purpose of descriptive research is to describe phenomena or situations and events. Being the most preferred method, it enables the investigator achieve his objectives even with little control over events surrounding the research problem (Nzuki, 2014). According to (Cooper and Schindler, 2013), a descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people, or events. This study chose descriptive as its design because it seeks to explain the use of computerization and its impact to the performance of C&BCD of Kenya Revenue Authority. (Muthama, 2013)notes, that the choice of the descriptive survey research design is made based on the fact that in the study, the research is interested on the state of affairs already existing in the field and no variable would be manipulated.

### **3.3 Target population**

The research targeted 120 KRA staff working in the stations of significance to this study, specifically those working at the border points of Malaba, those working at Kilindini port of

Mombasa, and those working at Times tower DPC sections, enforcement sections and the control room.

**Table 3.1:** Target population

Categories of population units	Malaba	Kilindini	Timestower	Total
Station managers	2	8	6	16
Technical staff	18	15	13	46
Support staff	15	17	26	58
Total	35	40	45	120

Source: KRA (2016)

### 3.4 Sampling Design

A sample design is a definite plan for gaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample (R. Kothari, 2004). This study will utilize both stratified sampling and simple random sampling. The employees will be stratified into three strata of station managers, technical staff and support staff. Within each stratum, simple random sampling will be used to identify individual employee respondents.

The target population will be 801. The sample will be stratified on the basis of grades and the sample size comprising of 120 respondents selected randomly. The target sample will be 15% of the population/employees and since this is a descriptive study, according to Gay (1981) 10% of the accessible population is considered as adequate sample for descriptive studies.

#### 3.4.1 Sampling size

Sampling is a systematic selection of representative cases from the larger population. The purpose of sampling is to get accurate empirical data at a fraction of the cost examining all possible cases (Ongaki, 2013). The sample chosen should represent staff working in various stations in the C&BC department in KRA. The target population will be 120. The sample will be stratified on the basis of grades and the sample size comprising of 120 respondents selected

randomly (Table3.2)the researcher will apply correlational design to assess the degree of relationship that exists between the variables.

**Table 3.2:** Sample size

Categories of population units	sample size	Percentage sample
Station managers	16	15%
Technical staff	46	25%
Support staff	58	29%
Total	120	

Source: Primary data (2016)

### **3.5 Data collection instrument**

The main source of data was primary data. Primary data is described by Louis et al. (2007) as those items that are original to the problem under study. The method used to collect this data from the subjects was through questionnaires. A questionnaire is a pre-formulated written set of questions to which the respondents record the answers usually within rather carefully outlined options. A likert scale questionnaire was used. Likert scale is an interval scale that specifically uses five anchors of strongly disagree, disagree, neutral, agree and strongly agree. A Likert scale measures attitudes and behaviors using answer choices that range from one extreme to another (Zikmund, , 2010).It was administered to station managers, technical staff, and support staff of KRA from stations of significance to this study. In addition the research also targeted staff of clearing firms and drivers. Secondary data was collected from the KRA library records, official website and other reports maintained by KRA. The study collected data necessary for completion of the study.

### **3.6 Data collection procedure**

Data collection is the precise, systematic gathering of information relevant to the research sub-problems, using methods such as interviews, participant observations, focus group discussion,

narratives and case histories (Burns and Grove 2003). In order to ensure that data collected includes all facts, the research used survey questionnaire for data collection. The survey questionnaire comprised various parts which focused on personal background information and questions on the attitude of the respondents on various aspects of customs processes. Sub-titles were provided to ensure that there was no confusion. The research used questionnaire because this conveniently covered a large number of respondents. The questionnaires were hand given to staff. The sequence of the questions was random in nature to preclude any guessing of the underlying factors being sought. Questions were articulated in such a way that they contained multiple-choices of which the respondents were required to tick choices from the options provided.

### **3.6.1 Piloting test**

Prior to using your questionnaire to collect data it should be pilot tested. Piloting is testing of the questionnaires by trying them in the field this will enhance validity and reliability of the instruments. The purpose of the pilot test is to refine the questionnaire so that respondents will have no problems in answering the questions and there will be no problems in recording the data. (Saunders, Lewis, & Thornhill, 2009). A pilot study was conducted and responses from selected respondents in the pilot study were collected. The comments of the respondents who participated in the pilot study and modifications in the wording of questions were incorporated in the final instrument revisions. Questionnaires with incomplete or incorrect responses were excluded from the sample and response rate were then computed.

### **3.7 Validity of instrument**

According to (Borg et al 1989) validity is the degree to which a test measures what it purports to measure. All assessment of validity is subjective opinions based on the judgment of the researcher (Wiersma 1995). (Creswell, 2009) suggests that, to use an existing instrument, describe the established validity and reliability of scores obtained from past use of the instrument. Validity will take two main forms; content validity and construct validity. Content validity includes any validity strategies that focus on the content of the test. To demonstrate content validity, testers investigate the degree to which a test is a representative sample of the content of whatever objectives or specifications the test was originally designed to measure. To

investigate the degree of match, test developers often enlist well-trained colleagues to make judgments about the degree to which the test items matched the test objectives or specifications.

### 3.7.1 Reliability of instrument

(Gay, 1992) asserts that, reliability is the degree to which a test consistently measures what it measures. Reliability is the consistency of measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. A measure is considered reliable if a person's score on the same test given twice is similar. The pilot study was done to enhance reliability. Reliability is also considered as the level of internal consistency or stability of a measuring instrument. ten questionnaires were piloted by issuing them to respondents who were included in the final study sample(Kairu, 2014). The questionnaires werethen coded and responses input into SPSS which was used to generate the reliability coefficient. The researcher used the most common internal consistency measure known as Cronbach's Alpha ( $\alpha$ ) which was generated by SPSS. The instrument is considered to be reliable to the extent that its measurements are free from nonsystematic (random) error.

Table 3. 3Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.516	.784	29

Source: Primary data (2016)

### 3.8 Data analysis and Presentation

Data Analysis is the processing of data to make meaningful information (Sounders, Lewis and Thornbill, 2009). Data analysis was done systematically starting with tabulation of results for the different variables in the data set. This process gave a comprehensive picture of what the data looked like and assisted in identifying patterns. This was done by way of constructing frequency and percent distributions. Secondary data was collected, coded and entered into SPSS for analysis. This particular package was chosen because of its user-friendliness. Data was presented

in figures and tables, summary statistics of the mean, and standard deviation. In addition, the correlation matrix of the independent variables was created. Inferential statistics used included correlation, regression. The result of the regression of the model was then be developed and tables used to show the regression results for the C&BC department performance

A multiple linear regression model was used to test the significance of the influence of the independent variables on the dependent variable. The multiple linear regression model is as below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y = Customs performance

X<sub>1</sub> = Cargo security

X<sub>2</sub> = Tax clearance

X<sub>3</sub> = Tax administration

X<sub>4</sub> = Revenue collection

### **3.9 Ethical considerations**

According to Blaxter *et al.* (2010), often, ethical concerns result from conflicts of interest between the researcher and the researched. Occasionally, researcher may be enthusiastic about the research idea, and be keen to collect detailed confidential data hence may be tempted to consider unethical research practice in order to obtain some of the data. The researcher guarantee that the respondents were not constrained in any way into participating in this study, that is, participation was totally voluntary. All the targeted respondents were fully informed about the details of the research and agreed to participate. Meaning, they gave their Informed Consent. The researcher ensured that participation in this study did not hurt the participants. This was achieved by ensuring confidentiality. Also to be adhered to was the principle of anonymity where respondents remained anonymous throughout the study in that it was impossible to link findings to specific respondents. The research did not include any activities that are illegal. The research upheld professionalism while undertaking research.

## **CHAPTER FOUR:**

### **RESEARCH FINDINGS, DISCUSSION AND INTERPRETATIONS.**

#### **4.1 Introduction:**

This chapter presents the research findings, the discussions on the findings and the interpretations of the data collected in the study. The data is presented in tables and charts. The data has been analyzed using descriptive statistics to generate frequencies of responses and inferential statistics to determine the relationship of the variables under study.

#### **4.2 Sample characteristics**

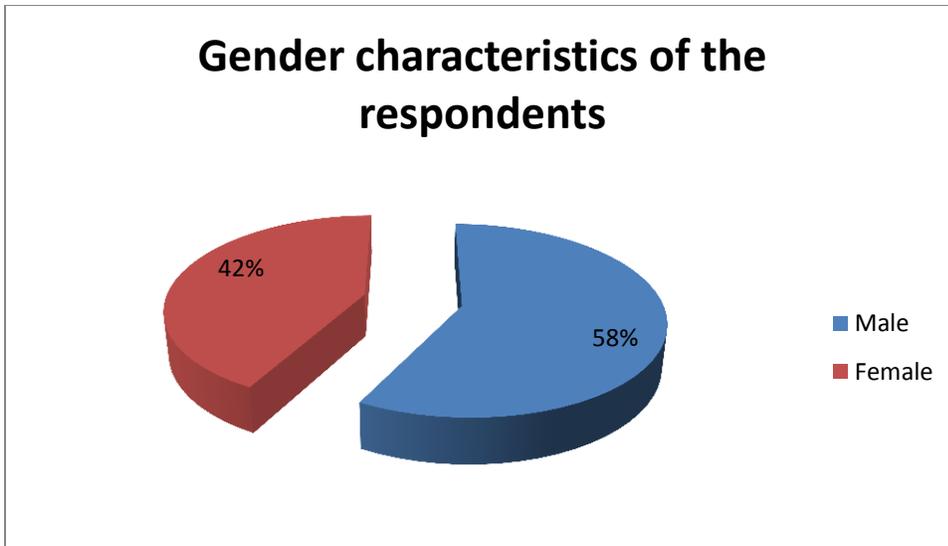
This section consists of information that defines basic characteristics such as gender, work experience, highest academic qualification of the respondents and their designation in KRA.

##### **4.2.1 Analysis of Response rate and descriptive statistics**

The target sample was 120 employees in Kenya Revenue Authority; however, the completed questionnaires were 64 which convert to 53% response rate. According to Mugenda and Mugenda (2003) 50% response rate is adequate for analysis in descriptive study.

##### **4.2.2 Gender characteristics of the Respondents**

The researcher sought to find out the gender of the respondents. The findings from the table 4.1 clearly indicate that the majority of the respondents were male at 57.8% whereas the female respondents were 42.2%. This indicates that most employees of Kenya Revenue Authority working in Customs department are male. This can be contributed to the fact that most stations of customs department are located in the borders of the country under most extreme conditions, for most female.



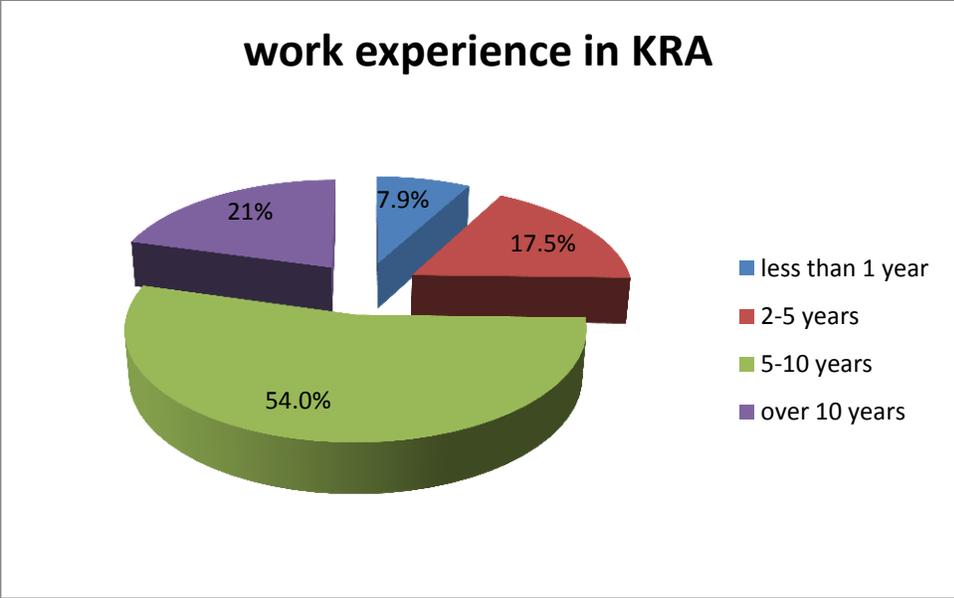
**Figure 4.1:** Gender characteristics of the respondents

Source: Primary data (2016)

#### **4.2.3 Respondents Work Experience**

The research sought to find out the work experience of the respondents. This is very important in the study because adoption of technology is an individual's choice to become a user of a product or a service.(Gitau& Nzuki, 2014). Work experience to an organization establishes the respondents' degree of familiarity with their organization's operations in terms of their work procedures (Kamande, 2014). The findings imply that majority of respondents had more than 5 years' experience and this may have a further implication on their ability to understand issues in customs. Results in table4.2indicatethat 7.8% of respondents had worked in KRA for less than 1 year. 17.2% had worked for between 2 to 5 years. Results further revealed that 53.1% had worked in KRA for between 5-10 years. Twenty percent (20.3%) of respondents had worked in KRA for over 10 years. These results are very important, since it further explains the target

#### **Years of work experience**



**Figure 4. 2** Work experience in KRA

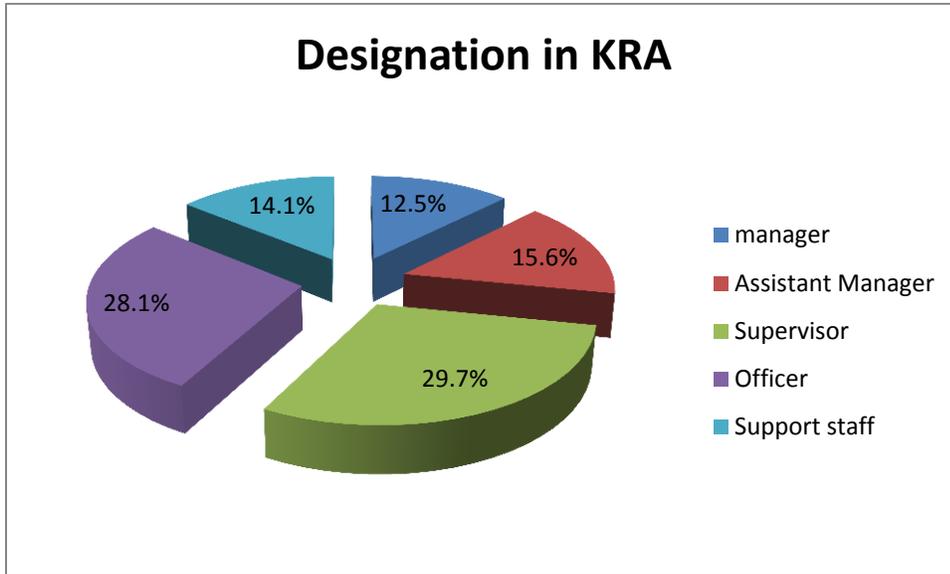
Source: Primary data (2016)

**4.2.4 Designation in KRA**

Staffs at KRA are categorized into various job grades depending on their qualifications and skills. The grades are important because they indicate the kind of duties a staff does. Higher grades do more of policy making(Awita, 2010). These grades include commissioner general, commissioners, deputy commissioners and chief managers. The middle level management and lower management are involved in daily operations hence they are in good position to give reliable information on the new systems. The researcher was interested to find out the work positions for the respondents. Results presented in Figure 4.3 show the position of the respondents in KRA. From the table we find out that supervisors constituted 29.7% of the sample. Further, 28.1% were officers with another 12.5% as managers, 15.6% as assistant managers. Support staff was 14.1% of the sample. Therefore majority responses were received

from the supervisory and middle management officials of KRA. This indicates that most KRA customs staffs are middle level management.

Source: primary data (2016)

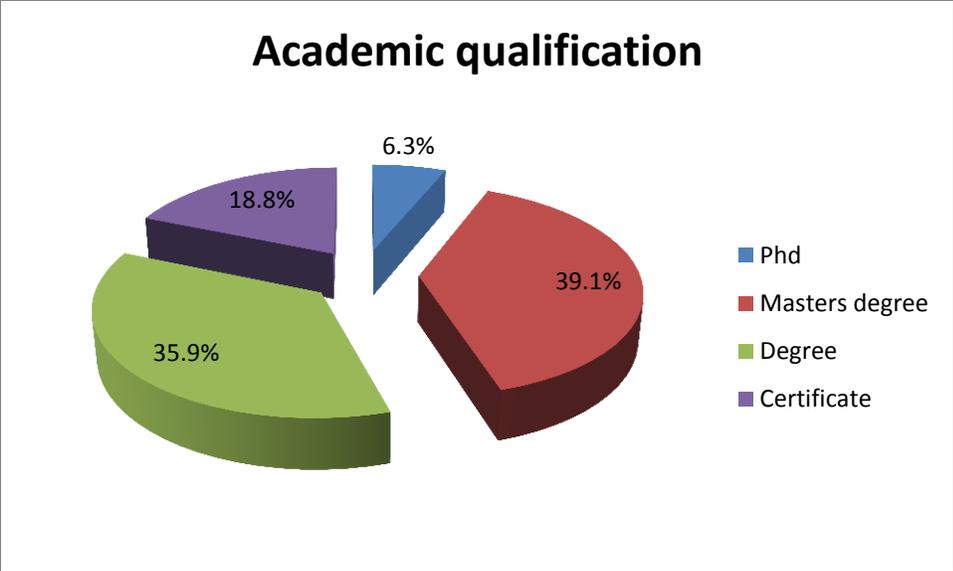


**Figure 4.3** Designation held in KRA

Source: primary data (2016)

#### 4.2.5 Level of Education

The level of education for the respondents is important since the objective of the research was to find out how computerization of systems has affected the revenue performance. Level of education directly affects the use of technology (Mburugu & Gekara, 2016). The researcher was interested to find out the level of highest academic qualification for the respondents. Results in Figure 4.4 indicated that 35.9% of respondents have university degrees while those with master's degrees constituted 39.1% of the respondents. Results further revealed that 17.2% have attained college level certification. The highest academic qualification was Phd level with 6.3%. The findings imply that there is high number of professionals in KRA given the high qualification of the majority of the respondents.



**Figure 4.4:**Academic qualification for the respondents.

Source: Primary data (2016)

**4.3 Computerized systems and performance of customs**

This section presents the descriptive results where the factors affecting the performance in KRA are measured. The respondents were asked to state to what extent they agreed that the new system that had been introduced by customs and border control department had impacted positively on customs performance.

**4.3.1 Cargo security and Customs performance**

The introduction of security systems to replace the old customs escort of goods was meant to increase the efficiency of service delivery and therefore improve the performance of customs department. The researcher developed questionnaires to find out if the system had positively contributed to the performance of the customs department.

Global positioning system has enabled the tracking of cargo from the port of Mombasa to the point of destination through the supply chain. This has created assurance of security to both the customs department and the investors(Mohd, 2009). Results from table 4.5 showed that on the decrease in cases of lost cargo, more than half of the respondents agreed that the cases had reduced. 1.6% strongly disagreed, 7.8% disagreed, 12.5% were undecided, 53.1% agreed and 25% strongly agreed. The findings show that the automated security system has enhanced the performance of customs department in delivering its mandate as shown on the table below.

Table 4. 1: Decrease in cases of lost cargo

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Strongly disagree	1	1.6	1.6	1.6
Disagree	5	7.8	7.8	9.4
Valid Undecided	8	12.5	12.5	21.9
Agree	34	53.1	53.1	75.0
Strongly agree	16	25.0	25.0	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The use of computerized system indicates efficiency, and reliability as witnessed from the results(Osodo, 2014).Results from table 4.6 showed that on the number of cargo intercepted, 4.7% disagreed, 17.2% were undecided, 60.9% agreed and 17.2% strongly agreed. This indicates the reliability of the system on intercepting cargo on time which could have been stolen. Previously the security of cargo was through police and customs escort. These caused a lot of delays and costly for the traders.

Table 4. 2: Number of cargo intercepted

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	3	4.7	4.7	4.7
Undecided	11	17.2	17.2	21.9
Valid Agree	39	60.9	60.9	82.8
Strongly agree	11	17.2	17.2	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The researcher wanted to find out if the flow of information had improved and if it was directly as a result of the new computerized systems. This is important because among the benefits of

adoption of ICT is efficiency, effectiveness and growth(Navyashree& Bhat, 2015). The respondents were asked on whether there was a quick flow of information,results from table 4.7 showed that 3.1% disagreed, 4.7% were undecided, 76.6% agreed and 15.6% strongly agreed. This indicates the secured system is a real time system hence the investor confidence has increased.

Table 4. 3: Real time information on cargo

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	2	3.1	3.1	3.1
Undecided	3	4.7	4.7	7.8
Agree	49	76.6	76.6	84.4
Strongly agree	10	15.6	15.6	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The study sought whether the computerized systems had improved the level of compliance among traders. This is mainly because compliance level affects the performance of revenue(Ngotho& Kerongo, 2014). The respondents were asked to respond on whether the new security system had caused the handling of cases to be streamlined, results from table 4.8 showed that 7.8% disagreed, 20.3% were undecided, 53.1% agreed, and 18.8% strongly agreed. The results indicate that more traders are willing to do business in a secured system where they can be able to track their cargo and give accurate timelines on the delivery.

Table 4. 4: Handling of cases has been streamlined

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	5	7.8	7.8	7.8
Undecided	13	20.3	20.3	28.1
Agree	34	53.1	53.1	81.3
Strongly agree	12	18.8	18.8	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The researcher wanted to find out whether the new systems were user friendly. This is important because the adoption of ICT is dependent on many factors including perceived ease of use(Gitau& Nzuki, 2014). The respondents were asked to respond whether it was easy to track cargo, results from table 4.9 showed that 3.1% disagreed, 21.9% were undecided, 59.4% agreed while 15.6 of the respondents strongly agreed. These results indicate that more than half of the respondents believe in the current automated security systems.

Table 4. 5: Easy to track cargo

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	2	3.1	3.1	3.1
Undecided	14	21.9	21.9	25.0
Agree	38	59.4	59.4	84.4
Strongly agree	10	15.6	15.6	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

### 4.3.2 Tax Clearance time and Customs performance

One of the factors affecting traders as indicated earlier is faster delivery; when new technology is presented a number of factors influence their decision (Ataro, Muturi, & Wandera, 2016). The researcher wanted to find out whether the new systems had contributed to decrease in the time of clearance of cargo. Results from table 4.10 showed that 14.1% disagreed, 7.8% were undecided, 34.4% agreed and 43.8% strongly agreed. Indeed, the introduction of the new systems has improved the clearance of cargo by decreasing the time it used take to clear cargo.

Table 4. 6: Decrease in time of clearance of cargo

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	9	14.1	14.1	14.1
Undecided	5	7.8	7.8	21.9
Agree	22	34.4	34.4	56.3
Strongly agree	28	43.8	43.8	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

Benefits of ICT on tax administration are many. ICT plays a big role in modernizing administrative processes which in return it causes significant reduction in tax queues (Jurgen seelmann, 2011). On the reduction of tax queues as a result of increased time of clearance, results from table 4.11 showed that 7.8% of the respondents disagreed, 20.3% were undecided, 64.1% agree and 7.8% strongly agreed. These results strongly indicate that most clients are satisfied on the time it takes to clear cargo as a result of introduction of the new systems.

Table 4. 7:Tax queues have reduced

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	5	7.8	7.8	7.8
Undecided	13	20.3	20.3	28.1
Agree	41	64.1	64.1	92.2
Strongly agree	5	7.8	7.8	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

Tax policies and information are very key to revenue performance. The use of computerized systems contributes a lot in making information easily available and any changes thereof(Nuluva, 2015).The respondents were asked on whether information on new tax policies and updates was available on time on the clearance process, results from table 4.12 showed that 1.6% disagreed, 15.6% were undecided, 65.6% agreed while 15.6% strongly agreed that they could easily predict the clearance time for a particular cargo. This implies that the systems are predictable and therefore reliable for making decisions.

Table 4. 8: Information on taxes and updates is available on time

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Disagree	1	1.6	1.6	1.6
Undecided	10	15.6	15.9	17.5
Agree	42	65.6	66.7	84.1
Strongly agree	10	15.6	15.9	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

Pre-arrival clearance of cargo is a program where the traders are allowed to lodge documents ahead of goods arriving in the country as long as they have certificate of conformity from the country of origin. Customs can process electronically and give advice ahead of goods arriving(Wco, 2011). This program is intended to quicken the clearance process. On the increase in volume of trade as a result of Pre-arrival clearance of cargo by the new customs systems, results from table 4.13 showed that 3.1% strongly disagreed, 14.1% were disagreed, 17.2% were undecided, 54.7% agreed and 9.4% strongly agreed. The cumulative percent of those who disagreed and undecided was 34.9% implying although most respondents believe new systems have contributed to increase in volume of trade, a considerable number doubt that.

Table 4. 9: Increase in volume of trade because of Pre-arrival clearance of goods

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	3.1	3.2	3.2
Disagree	9	14.1	14.3	17.5
Valid Undecided	11	17.2	17.5	34.9
Agree	35	54.7	55.6	90.5
Strongly agree	6	9.4	9.5	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

Research on computerization of tax procedures in other departments indicates that many taxpayers are willing to comply(Kipkemoi, 2015).On the increase in expectations of clients interacting with customs systems, results from table 4.14 showed that 15.6% of the respondents disagreed that the new systems were going to raise their expectations, 18.8% were undecided, 56.3% agree while 6.3% strongly agreed. These results confirm that the expectations of most respondents are high as a result of the new systems introduced operations of customs.

Table 4. 10: Increase in expectations as timelines in clearance are always met

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	10	15.6	15.9	15.9
Undecided	12	18.8	19.0	34.9
Agree	36	56.3	57.1	92.1
Valid Strongly agree	4	6.3	6.3	98.4
44.00	1	1.6	1.6	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

### 4.3.3 Tax administration and Customs performance

The impact of ICT on tax administration has majorly been on the increase of information content which has made it possible for dispute resolutions. A computerized system is deemed to be a transparent system and hence the level of dispute resolution is expected to reduce (Wamathu, 2014). The researcher sought to find out whether the new system was user friendly. Results from table 4.15 showed that, 1.6% disagreed, 9.4% were undecided, 56.3% agreed and 32.8% strongly agreed. These responses indicate that it's easier now to get information on tax issues which previously were not easily available.

Table 4. 11: The systems are user friendly

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	1	1.6	1.6	1.6
Undecided	6	9.4	9.4	10.9
Agree	36	56.3	56.3	67.2
Strongly agree	21	32.8	32.8	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The new KRA initiatives including taxpayer education on the new systems and the current theme of facilitation of our taxpayers through trust had a positive impact on the level of disputes (Awita, 2010). On the impact of the new systems on dispute resolutions, results from table 4.16 showed that 14.1% Disagreed, 14.1% were undecided, 64.1% agreed while 7.8% strongly agreed. The results indicate that most respondents believe the new systems have made it possible resolve dispute and therefore make tax administration easier.

Table 4. 12: Faster resolution of matters

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	9	14.1	14.1	14.1
Undecided	9	14.1	14.1	28.1
Agree	41	64.1	64.1	92.2
Strongly agree	5	7.8	7.8	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

There has been demand by taxpayers for KRA to make tax payment easy, friendly and traceable. A lot of demand has been placed on seamless communication with taxpayers (Kiplagat, 2014). On the increase in communications, results from table 4.17 showed that 3.1% strongly disagreed,

7.8% disagreed, 10.9% were undecided, 71.9% agreed and 6.3% strongly agreed. Most respondents believe that new systems have introduced easier communications which have led to increased communications. Increased communications will most of the time make tax administration easier.

Table 4. 13: Easy communication and interaction

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	3.1	3.1	3.1
Disagree	5	7.8	7.8	10.9
Valid Undecided	7	10.9	10.9	21.9
Agree	46	71.9	71.9	93.8
Strongly agree	4	6.3	6.3	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The use of computerized Customs systems is expected to facilitate trade through the normalization of forms and documents, data standardization, simplification and computerization of Customs clearance procedures to accelerate the clearance of goods(UNCTAD, 2011).

On the increase in volume of cargo as a result of decrease in bureaucratic policies, results from table 4.18 showed that 14.1% disagreed, 26.6% were not sure, 45.3% agreed, 12.5% strongly agreed. The results indicate that still most respondents agreed that good tax administration has an influence on the volume of cargo.

Table 4. 14: Increase in volume of cargo as a result of decrease in bureaucratic policies

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	9	14.1	14.3	14.3
Undecided	17	26.6	27.0	41.3
Agree	29	45.3	46.0	87.3
Strongly agree	8	12.5	12.7	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

A modern computerized custom administration is expected to bring substantial cost savings in trade and transport logistics(UNCTAD, 2011). The respondents were asked their opinions on whether they felt the clients were satisfied because of the reduction of cost of maintenance introduced by the new systems. Results from table 4.19 showed that 10.9% disagreed, 21.9% were undecided, 60.9% agreed and 4.7% strongly agreed. The results indicates that many respondents believe that new computerized systems play a big role in customer satisfaction as it makes it easier for tax administration.

Table 4. 15: Cost of maintaining the system is low

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	7	10.9	11.1	11.1
Undecided	14	21.9	22.2	33.3
Agree	39	60.9	61.9	95.2
Strongly agree	3	4.7	4.8	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

#### 4.3.4 Revenue Collection and Customs performance

Most studies taken on the impact of ICT on revenue collection has resulted in more believe that ICT has a positive impact on the revenue collection(KAM, 2012). In this research, the researcher sought to find out whether the respondents believe the increase in revenue collection was a result of the introduction of computerized systems in KRA. On that question, Results from table 4.20 showed that 12.5% were undecided, 51.6% agreed and 35.9% strongly agreed. The results indicate clearly that most respondents believe the computerization of the systems in customs have greatly impacted on the revenue collection.

Table 4. 16: Increase in revenue collection

	Frequency	Percent	Valid Percent	Cumulative Percent
Undecided	8	12.5	12.5	12.5
Agree	33	51.6	51.6	64.1
Strongly agree	23	35.9	35.9	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

Computerization of systems improves the accountability and transparency of revenue collection(Grace, 2015). On whether it was easy to account for the taxes as a result of the computerization of the customs systems resulting to increase in revenue collection, results from table 4.21 showed that 4.7% disagreed, 26.6% were undecided, 64.1% agreed and 4.7% strongly agreed. The results indicate that most respondents agree that computerized systems have made tax compliance increase which has impacted on the revenue collection.

Table 4. 17: Easy to account for taxes

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	3	4.7	4.7	4.7
Undecided	17	26.6	26.6	31.3
Agree	41	64.1	64.1	95.3
Strongly agree	3	4.7	4.7	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

Customs department has been under pressure to meet its revenue targets each year. Some of the challenges it has faced over time is tax leakage. This was mainly due to its manual systems of which accountability was low(Brian, 2013). The introduction of computerized on the operations of customs was meant among many other things to curb tax leakage. Tax leakage occurs in customs mainly through partial verification of imported goods, mis-declaration of goods, undervaluation of goods and many other ways. The researcher was interested to know whether the computerized systems had impact on tax leakage. Results from table 4.22 showed that 12.5% disagreed, 32.8% were undecided while 48.4% agreed and 4.7% strongly agreed. This indicates 46% still don't believe that the computerized systems have done much to reduce tax leakage. This has been occasioned with a number of factors, where wrong values on the systems' database which interferes with future enhancements on tax under declaration.

Table 4. 18: Tax leakage has reduced

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Valid Disagree	8	12.5	12.7	12.7
Undecided	21	32.8	33.3	46.0
Agree	31	48.4	49.2	95.2
Strongly agree	3	4.7	4.8	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

One of the challenges Customs department has faced overtime is soaring expenses of tax collection(Omulindi, 2016). On the introduction of computerized systems, the researcher sought to find out whether there was significant change on the tax expenses as a result of the new system. Results from table 4.23 showed that 12.5% disagreed, 29.7% were undecided, 56.3%. This indicates that most respondents believe that the computerized systems have contributed on the reduction of tax expenses.

Table 4. 19: Tax expenses has reduced

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Valid Disagree	8	12.5	12.7	12.7
Undecided	19	29.7	30.2	42.9
Agree	36	56.3	57.1	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

There has been unnecessary documentation that presented a burden to the trade community in terms of cost, effort and time. This has been indicated in the world bank's ease of doing business reports(Wangora, 2015). Therefore, results from table 4.24 showed that 17.2% disagreed, 54.7% were undecided and 26.6% agreed on the efficiency of the system in collection of taxes. The results indicate that most respondents believe the system still has a lot of room for improvement to make it more efficient. The respondents believe that the system can be better than it is.

Table 4. 20: The system is efficient in production of revenue records.

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	11	17.2	17.5	17.5
Undecided	35	54.7	55.6	73.0
Agree	17	26.6	27.0	100.0
Total	63	98.4	100.0	
Missing	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

#### 4.3.5 Customs performance and computerized systems

The success of customs department in revenue collection largely depends on the ability to match the dynamics of the current technology(UNCTAD, 2011).The researcher was interested to find out whether the introduction of the new system had impacted on the revenue collection, and as a result improved the performance of Customs department. Results from table 4.25 showed that, 1.6% of the respondents disagreed, 10.9% were undecided, 31.3% agreed and 54.7% strongly agreed.

Table 4.21 Increase in Customs performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	1.6	1.6	1.6
	Undecided	7	10.9	11.1	12.7
	Agree	20	31.3	31.7	44.4
	Strongly agree	35	54.7	55.6	100.0
	Total	63	98.4	100.0	
Missing	999.00	1	1.6		
Total		64	100.0		

The importance of a customer in any entity cannot underestimated. Research undertaken indicates that KRA has fairly had a not so good customer care until the introduction of the new computerized systems(Mutema, 2013). The respondents were asked to state whether they thought the customer was satisfied, in this case the taxpayer. Results from table 4.26 showed that 7.8% disagreed with the statement, 12.5% were undecided, 70.3% of the respondents agreed while 1.6% of the respondents strongly agreed. The results indicate that most respondents believe needs of the customers are being met with the introduction of the new system.

Table 4. 22: Customers are always satisfied

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	7.8	7.9	7.9
	Undecided	8	12.5	12.7	20.6
	Agree	45	70.3	71.4	92.1
	Strongly agree	4	6.3	6.3	98.4
	44.00	1	1.6	1.6	100.0

Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

Research indicates that computerized systems in customs have without any doubt improved to a great extent the revenue collected by the department (Maisiba & Atambo, 2016). The respondents were asked to state whether they agreed the revenue targets were met as a result of introduction of the new system. Results from table 4.27 showed that that 23.4% disagreed, 3.1% were undecided, 70.3% agreed while 3.1% strongly agreed that targets were being met as a result of the introduction of the new system.

Table 4. 23: Revenue targets are always met

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	15	23.4	23.4	23.4
Undecided	2	3.1	3.1	26.6
Agree	45	70.3	70.3	96.9
Strongly agree	2	3.1	3.1	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

One clear advantage of computerized systems according to many studies is the maintenance of integrity of database. This result in efficiency of the system as opposed to the previous manual systems (Mirichii, 2013). The respondents were asked to state whether they consented that more taxpayers had been recruited as a result of the new system. Results from table 4.28 showed that 9.4% disagreed, 18.8% were unsure, 57.8% agreed and 14.1% strongly agreed. This indicates that most employees believe the new system has contributed to the corporate growth of taxes.

Table 4. 24: Increase in corporate growth as a result of taxpayer recruitment

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	6	9.4	9.4	9.4
Undecided	12	18.8	18.8	28.1
Agree	37	57.8	57.8	85.9
Strongly agree	9	14.1	14.1	100.0
Total	64	100.0	100.0	

Source: Primary data (2016)

The Kenyan economy is mostly informal, and thus to get statistical data necessary to bring every income earner within the bracket of tax is elusive. Finding an ideal income tax system for Kenya is thus timely (Mirichii, 2013). The respondents were asked to respond whether the tax compliance rate had increased as a result of the introduction of the new system. Results from table 4.29 showed that 10.9% disagreed, 4.7% were undecided, 65.6% agreed while 17.2% strongly agreed. This indicates that most respondents believe the new system has contributed to increase in the rate of tax compliance.

Table 4. 25: Increase in rate of tax compliance

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	7	10.9	11.1	11.1
Undecided	3	4.7	4.8	15.9
Agree	42	65.6	66.7	82.5
Strongly agree	11	17.2	17.5	100.0
Total	63	98.4	100.0	
Missing 999.00	1	1.6		
Total	64	100.0		

Source: Primary data (2016)

#### 4.3.6 Regression Analysis

A correlation coefficient, denoted by R, enables one to quantify the strength of the linear relationship between ranked or numerical variables. This coefficient takes the values between -1 and +1 (Saunders, Lewis, & Thornhill, 2009). Multiple regression was used to test the relationship between the dependent variable and the independent variables. The dependent variable was the customs and border control performance while the independent variables were cargo security, tax clearance, tax administration and revenue collection. Using multiple regressions as a statistical tool used in analysis on SPSS application, various variables were examined on their effect on the performance of Customs department.

Table 4.26: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.601 <sup>a</sup>	.361	.316	.79828	.361	8.049	4	57	.000

a. Predictors: (Constant), revenue collection, Cargo security, Clearance time, tax administration

Source: Primary data (2016)

From the table 4.30 regression model of performance of customs and border control department explained 31.6% measured by adjusted  $R^2$ . The independent variables accounted for 31.6% of the variance in performance of customs and border control.

Table 4.27: Anova table

**ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.516	4	5.129	8.049	.000 <sup>b</sup>
	Residual	36.323	57	.637		
	Total	56.839	61			

Source: Primary data (2016)

a. Dependent Variable: Customs performance has improved

b. Predictors: (Constant), revenue collection, Cargo security, Clearance time, tax administration

In an ANOVA, the **F-ratio** is the statistic used to test the hypothesis that the effects are real: in other words, that the means are significantly different from one another. Before the details of the hypothesis test may be presented, the sampling distribution of the **F-ratio** must be discussed (Saunders et al., 2009).

The table 4.31 shows the F-ratio of 8.049 which was not significant at 5% level (sig=0.000). Since the regression is less than the residual, it explained less on the performance of the customs and border control department,

The independent variables were not significant at 5% level meaning that performance of customs was not influenced by them. Cargo security had a positive insignificance on the performance

Table 4. 28: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	2.037	.693		2.940	.005	.650	3.425
Cargo security	.302	.121	.288	2.491	.016	.059	.545
Clearance time	.494	.118	.486	4.187	.000	.258	.730
Tax administration	-.133	.131	-.123	-1.015	.314	-.394	.129
Revenue collection	-.145	.137	-.118	-1.061	.293	-.419	.129

Source: Primary data (2016)

a. Dependent Variable: Customs performance has improved

Notice that none of the B coefficients are 0, meaning that each of the three independent variables have some relationship to the performance of customs and border control department, when the effects of the others are controlled. There was a positive impact on cargo security, clearance time on the performance of customs. Furthermore, for cargo security, clearance time, tax administration the t statistic is significant ( $p < .05$ ), except for tax administration and revenue collection so that you cannot generalize the patterns you see in the data to the population from which the sample was drawn. The data from revenue collection and tax administration is not significant at t-statistic, hence cannot be used to explain the performance of customs and border

control. There are far more other factors that affect performance other than computerization of revenue collection and tax administration processes in customs department.

The multiple regression model indicated below

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y = Customs performance

X<sub>1</sub> = Cargo security

X<sub>2</sub> = Tax clearance

X<sub>3</sub> = Tax administration

X<sub>4</sub> = Revenue collection

$$Y = 2.037 + 0.302X_1 + 0.494X_2 - 0.133X_3 - 0.145X_4 + e$$

From the above established equation, it was established that holding cargo security, tax clearance time, tax administration and revenue collection constant the customs performance would be at 2.037. A unit increase in cargo security would increase the performance by 0.302 factors, a unit increase in tax clearance time would increase customs performance by 0.494 factors, a unit increase in tax administration would decrease the performance by 0.133 factors. A unit increase in revenue collection would decrease the performance by 0.145 factors. The two last variables are quite unlikely hence there are many other factors that contribute to the performance of customs department, one being the management of human resource. Customs department is on its way to computerize its systems, although the constant interference by human in its operations makes fully computerization of the systems only part of a contributing factor.

The study found out that customs performance is affected by many factors, on computerization of cargo security it was found out that the performance will improve. This is encouraged to curb any tax leakages as a result of loss of cargo during clearance process. Studies on the same have recommended equipping the department with appropriate tools in order to carry its mandate satisfactorily (Ngotho & Kerongo, 2014)

## **CHAPTER FIVE:**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter outlines the introduction of the research, summary of key data findings, conclusion drawn from the findings highlighted and recommendations. The conclusions and recommendations drawn are in quest of answering the research question or achieving the research objective. The researcher's objective as stated earlier on was to evaluate the use of computerized system and the performance of C&BC department of KRA. The variables were carefully selected to fit to the objective. This chapter gives details of the findings.

#### **5.2 Summary of Findings**

This study was designed to evaluate the effectiveness of the use of computerized systems on the performance of customs and border control department. The primary data was collected from 64 employees working for customs department within Kenya revenue authority using stratified random sampling technique. The main instrument of primary data collection was questionnaire. The analysis of the data was made using the SPSS version 19, and tables and graphs on each of the variables produced representing the results and findings of the study. Data was analyzed using descriptive and inferential statistics.

The study indicates that in cargo security, the streamlining of cases handled in relation to customs with a mean of 4.07 was the variable that contributed most to the believe by many respondents that indeed cargo security had improved, summary on means and variances of revenue collection indicates that most respondents believe the computerized systems has made payment of taxes to be faster which had the highest mean of 4.2344. Summary on means and variance of customs performance indicated that most respondents believed that it is easy to pay taxes with the new computerized systems which had a mean of 4.5079; summary on means and variances of clearance time indicates that most respondents believe that timelines in clearance of cargo as always met which had the highest mean of 4.2344. The study revealed that computerized systems have contributed positively to the performance of customs department.

### **5.3 Conclusions**

Based on the key findings the most effective variable on cargo security was the handling cases being streamlined which had the highest mean, followed by easy to track cargo, then decrease in cases of lost cargo, real time information on cargo was fourth. Increase in number of cargo intercepted had the lowest mean of 3.76 56. This indicates the challenges the cargo security system still faces. As more respondents believe it's easier to track cargo and that cases of stolen cargo have been streamlined, many don't think that the systems mechanism to intercept cargo stolen is efficient which still makes it defeat the purpose of improving positively the performance of customs and control department.

It is evident that the improvement in cargo security and reduction in clearance time of cargo had a positive significant impact on the performance of the customs department. The study therefore concludes that the computerization of tax administration and revenue collection have had little significance on the performance of customs as a department. There may be reasons for still tax leakages as much as there have been computerization of the systems. These may be reforms and ethical aspects that must be engaged by the authority to ensure that tax leakages are reduced.

Computerized systems play an important role in tax administration modernization. The current system of paying taxes, if implemented well has a number of benefits. When used by most taxpayers, reduces operational costs for administering tax and increases tax compliance. It may also offer for a decrease of corruption, which is more likely to happen with in-person payments at tax offices.

### **5.4 Recommendations**

Based on research findings, the study recommends the need for Kenya Revenue Authority to recheck the need to enhance reforms and enhance systems validations and integrity so as to enhance customs performance. Systems enhancement based on risks management will be a key game changer in this era of digitization. This is because some reforms do not affect entirely the performance of customs department. Some systems can be manipulated to bring out less than optimal performance based on ethics of individuals. Summary on means and variances of clearance time indicates that most respondents believe that timelines in clearance of cargo as always met which had the highest mean, followed by increase in volume of trade because of pre-arrival clearance of goods, then the reduction of tax queues, followed by decrease in time of

clearance of cargo. Most respondents still believe that information on taxes and updates is not available on time.

### **5.1 Suggestions for Further research**

The research could not clearly explain why there was a negative correlation between computerization of systems and the performance of customs. A lot of study should be undertaken to find out the main causes why the computerization of customs department has not been fully utilized to the optimal performance of the department.

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## **APPENDIX 1: INTRODUCTION LETTER**

18<sup>th</sup> July, 2016

Lubeka Polycap Mwati

P.O.BOX 52171 - 00200 ,

Nairobi

polycaplubeka@gmail.com ,

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Dear Respondent,

### **RE : Filling of questionnaire**

I am currently a student of Kenyatta University under School of Business Undertaking a Master in Business Administration specializing in Management Information system. As partial requirement to complete the above mentioned program, I am currently undertaking a research as mentioned above.

Your institution and subsequently technical experts have been targeted for this study as the most favourable data source. It is my humble request to have you participation in this study.

The problem the study is attempting to look into is how effective the computerized systems is on the performance of customs and border control department of Kenya revenue authority of Kenya.

As highlighted in the study, the research intends to strictly uphold research ethical issues to ensure that participating in this study doesn't result to any negative implications.

Yours sincerely,

Lubeka Polycap Mwati.

## APPENDIX 2: QUESTIONNAIRE

### Part 1 : General Profile of respondents

1. Gender
  - a. Male
  - b. Female
2. Experience
  - a. Less than 1 year
  - b. 2-5 years
  - c. 5-10 years
  - d. Over 10 years
3. Designation.....
  - a. manager
  - b. assistant manager
  - c. Supervisor
  - d. Officer
  - e. Support staff
4. Your highest academic qualification
  - a. Phd
  - b. Masters degree
  - c. Degree
  - d. Certificate

Part b: Customs Performance

Security cargo.

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For each of the following questions about the new system introduced by the customs and border control department tick the one that best represents your opinion on the matter.

---

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Q1	Increase security of goods	1	2	3	4	5
Q2	Handling of cases has been streamlined	1	2	3	4	5
Q3	Real time Information is available	1	2	3	4	5
Q4	Increased in volume of cargo	1	2	3	4	5
Q5	Tracking cargo is easy	1	2	3	4	5

---

Tax clearance time.

---

For each of the following questions about the new system introduced by the customs and border control department tick the one that best represents your opinion on the matter.

---

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Q1	Time of clearance has decreased	1	2	3	4	5
Q2	Tax queues have reduced	1	2	3	4	5
Q3	Information on tax update is available	1	2	3	4	5
Q4	Increased in volume of cargo as a result of Pre-clearance of goods	1	2	3	4	5
Q5	Great expectations as timelines in clearance are met always	1	2	3	4	5

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Tax administration

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For each of the following questions about the new system introduced by the customs and border control department tick the one that best represents your opinion on the matter.

---

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Q1	The system is user friendly	1	2	3	4	5
Q2	Resolution of matters is faster	1	2	3	4	5
Q3	Increase in communication	1	2	3	4	5
Q4	Increased in volume of cargo as a result of decrease in bureaucratic policies	1	2	3	4	5
Q5	Cost of system maintenance is low	1	2	3	4	5

---

## Revenue collection

For each of the following questions about the new system introduced by the customs and border control department tick the one that best represents your opinion on the matter.

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Q1	Increase in revenue collected	1	2	3	4	5
Q2	Tax compliance increased	1	2	3	4	5
Q3	Tax leakage reduced	1	2	3	4	5
Q4	Tax expenses reduced	1	2	3	4	5
Q5	System is efficient	1	2	3	4	5

## Customs Performance

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For each of the following questions about the new system introduced by the customs and border control department tick the one that best represents your opinion on the matter.

---

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Q1	Increase in revenue collection	1	2	3	4	5
Q2	It's easy to pay taxes	1	2	3	4	5
Q3	Revenue targets are met always	1	2	3	4	5
Q4	Corporate growth has been witnessed	1	2	3	4	5
Q5	Tax compliance rate has increased	1	2	3	4	5

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