

**FACTORS AFFECTING REGIONAL ELECTRONIC CARGO TRACKING  
SYSTEM PERFORMANCE AT THE PORT OF MOMBASA.**

**KEMBOI EMMANUEL KIPROTICH**

**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF  
ECONOMICS, ACCOUNTING AND FINANCE, SCHOOL OF BUSINESS IN  
PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF POST  
GRADUATE DIPLOMA IN CUSTOMS ADMINISTRATION OF THE JOMO  
KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY.**

**NOVEMBER 2019**

### **DECLARATION**

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

.....

Signature

**NAME: KEMBOI EMMANUEL KIPROTICH**

**HDB335-C016-1785/2018**

.....

Date

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

.....

Signature

**SUPERVISOR: MR. GILBERT BIWOT**

**LECTURER KENYA SCHOOL OF REVENUE ADMINISTRATION**

.....

Date

## **DEDICATION**

I dedicate this Study to my parents for the great support and faith they have had on me which played a role in bringing this study to a success. I also dedicate this research study to my class members for their contribution through brainstorming of ideas.

### **ACKNOWLEDGMENT**

I would like to thank my family members and my supervisor Mr. Gilbert Biwot for encouraging and supporting me throughout the entire period of research. The interest they showed motivated me to do my best and achieve what I might not have been able to do on my own.

I would also like to thank the staff of the Kenya School of Revenue Administration and Kenya Revenue Authority for providing the necessary resources and information to undertake this research proposal.

May God bless you all abundantly.

## TABLE OF CONTENTS

|                                             |            |
|---------------------------------------------|------------|
| <b>DECLARATION.....</b>                     | <b>ii</b>  |
| <b>DEDICATION.....</b>                      | <b>iii</b> |
| <b>ACKNOWLEDGMENT.....</b>                  | <b>iv</b>  |
| <b>LIST OF TABLES .....</b>                 | <b>ix</b>  |
| <b>LIST OF FIGURES .....</b>                | <b>x</b>   |
| <b>LIST OF ACRONYMS/ ABBREVIATIONS.....</b> | <b>xi</b>  |
| <b>DEFINITION OF TERMS.....</b>             | <b>xii</b> |
| <b>CHAPTER ONE.....</b>                     | <b>1</b>   |
| <b>INTRODUCTION.....</b>                    | <b>1</b>   |
| 1.1 Background of the Study .....           | 1          |
| 1.2 Statement of the Problem .....          | 4          |
| 1.3 Objectives .....                        | 5          |
| 1.3.1 General Objective .....               | 5          |
| 1.3.2 Specific Objectives .....             | 5          |
| 1.4 Research Questions.....                 | 5          |
| 1.5 Significance of the Study.....          | 5          |
| 1.6 Scope of the Study .....                | 6          |
| 1.7 Limitations .....                       | 6          |
| <b>CHAPTER TWO.....</b>                     | <b>7</b>   |
| <b>LITERATURE REVIEW.....</b>               | <b>7</b>   |
| 2.1 Introduction .....                      | 7          |
| 2.2 Theoretical Review.....                 | 7          |
| 2.2.1 Resource Based Theory .....           | 7          |
| 2.2.2 Human Resource Based Theory.....      | 8          |
| 2.2.3 Hype Cycle Theory .....               | 9          |
| 2.3 Conceptual Framework.....               | 9          |
| 2.4 Review of Variables .....               | 10         |
| 2.4.1 Operational Infrastructure .....      | 10         |
| 2.4.2 Staffing.....                         | 11         |
| 2.4.3 Information Sharing .....             | 12         |

|                                           |           |
|-------------------------------------------|-----------|
| 2.4.4 Performance of RECTS Team .....     | 13        |
| 2.5 Empirical Review .....                | 13        |
| 2.6 Critique of Existing Literature ..... | 14        |
| 2.7 Research Gaps .....                   | 15        |
| 2.8 Summary.....                          | 15        |
| <b>CHAPTER THREE .....</b>                | <b>17</b> |
| <b>RESEARCH METHODOLOGY.....</b>          | <b>17</b> |
| 3.1 Introduction .....                    | 17        |
| 3.2 Research Design .....                 | 17        |
| 3.4 Sampling Frame.....                   | 17        |
| 3.5 Sample and Sampling Technique .....   | 18        |
| 3.6 Data Collection Instruments .....     | 19        |
| 3.7 Data Collection Procedures .....      | 19        |
| 3.8 Pilot Testing.....                    | 20        |
| 3.8.1 Validity .....                      | 20        |
| 3.8.2 Reliability.....                    | 20        |
| <b>CHAPTER FOUR.....</b>                  | <b>22</b> |
| <b>RESEARCH FINDINGS .....</b>            | <b>22</b> |
| 4.1 Introduction .....                    | 22        |
| 4.3 Pilot Results.....                    | 22        |
| 4.3.1 Reliability Analysis.....           | 22        |
| 4.3.2 Validity Analysis .....             | 23        |
| 4.4 Demographic Analysis .....            | 23        |
| 4.4.1 Years of Service .....              | 24        |
| 4.4.2 Level of Education.....             | 24        |
| 4.4.3 Level of Service .....              | 25        |
| 4.5 Descriptive Analysis.....             | 25        |
| 4.5.1 Operational Infrastructure .....    | 26        |
| 4.5.2 Staffing.....                       | 27        |
| 4.5.3 Information Sharing .....           | 28        |
| 4.5.4 RECTS Performance.....              | 29        |

|                                                      |           |
|------------------------------------------------------|-----------|
| 4.6 Correlation Analysis .....                       | 30        |
| 4.6.1 Karl Pearson's Correlation.....                | 30        |
| 4.7 Regression Analysis .....                        | 31        |
| 4.7.1 Coefficient of Determination( $R^2$ ).....     | 31        |
| 4.7.2 Analysis of Variance (ANOVA).....              | 32        |
| <b>CHAPTER FIVE.....</b>                             | <b>35</b> |
| <b>SUMMARY, RECOMENDATIONS AND CONCLUSIONS .....</b> | <b>35</b> |
| 5.1 Introduction .....                               | 35        |
| 5.2 Summary and Findings .....                       | 35        |
| 5.2.1 Operational Infrastructure .....               | 35        |
| 5.5.2 Staffing .....                                 | 35        |
| 5.2.3 Information Sharing.....                       | 36        |
| 5.3 Conclusion .....                                 | 36        |
| 5.4 Recommendation .....                             | 37        |
| 5.5 Areas of Further Study .....                     | 38        |

## **LIST OF APPENDICES**

|                                                |    |
|------------------------------------------------|----|
| <b>APPENDIX I:</b> Letter of introduction..... | 9  |
| <b>APPENDIX II:</b> The questionnaire.....     | 40 |
| <b>APPENDIX III:</b> Budget.....               | 45 |
| <b>APPENDIX IV:</b> The Work plan.....         | 46 |

## LIST OF TABLES

|                                                                         |           |
|-------------------------------------------------------------------------|-----------|
| <b>Table 3.1:</b> Population .....                                      | <b>18</b> |
| <b>Table 3.2:</b> Samplesize.....                                       | <b>19</b> |
| <b>Table 4.1:</b> Response Rate .....                                   | <b>22</b> |
| <b>Table 4.2:</b> Reliability results .....                             | <b>23</b> |
| <b>Table 4.3:</b> Validity results .....                                | <b>23</b> |
| <b>Table 4.4:</b> Yearso of Service in Customs .....                    | <b>24</b> |
| <b>Table 4.5:</b> Level of Education .....                              | <b>24</b> |
| <b>Table 4.6:</b> Level ofService .....                                 | <b>25</b> |
| <b>Table 4.6:</b> Descriptive Statistics Operation Infrastructure ..... | <b>26</b> |
| <b>Table 4.7:</b> Descriptive Statistics Staffing .....                 | <b>27</b> |
| <b>Table 4.8:</b> Descriptive Statistics Information Sharing .....      | <b>27</b> |
| <b>Table 4.7:</b> Descriptive Statistics RECTS Performance .....        | <b>28</b> |
| <b>Table 4.8:</b> Karl Pearson Correlation.....                         | <b>29</b> |
| <b>Table 4.7:</b> Coefficient of determination( $R^2$ ).....            | <b>31</b> |
| <b>Table 4.9:</b> ANOVA .....                                           | <b>32</b> |
| <b>Table 4.10:</b> Overall model summary .....                          | <b>32</b> |
| <b>Table 4.11:</b> Regression Coefficients .....                        | <b>33</b> |

## LIST OF FIGURES

|                                                |    |
|------------------------------------------------|----|
| <b>Figure 2.1:</b> Conceptual Framework; ..... | 10 |
|------------------------------------------------|----|

## **LIST OF ACRONYMS/ ABBREVIATIONS**

|              |                                         |
|--------------|-----------------------------------------|
| <b>KRA</b>   | Kenya Revenue Authority.                |
| <b>ATF</b>   | Agreement on trade Facilitation         |
| <b>WTO</b>   | World Trade Organization                |
| <b>WCO</b>   | World Customs Organization              |
| <b>GPS</b>   | Global Positioning System               |
| <b>RECTS</b> | Regional Electronic Cargo System        |
| <b>RFID</b>  | Radio Frequency Identification          |
| <b>ECTS</b>  | Electronic Cargo Tracking Systems       |
| <b>RRU</b>   | Rapid Response Unit                     |
| <b>NTCTS</b> | New Computerized Transit System         |
| <b>CMS</b>   | Customs Management Systems              |
| <b>CMC</b>   | Centralized Monitoring Center           |
| <b>HR</b>    | Human Resource                          |
| <b>EIM</b>   | Enterprise Information Management       |
| <b>SPSS</b>  | Statistical Package for Social Sciences |

## DEFINITION OF TERMS

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operational Infrastructure</b> | This are tools and equipments required for a specific task to be carried out effectively (Lannon, 2017).                                                                                                                                                                                                                                                                                                   |
| <b>Staffing</b>                   | Is the process of hiring eligible candidates in a company or organization for specific functions (Bathia, 2013).                                                                                                                                                                                                                                                                                           |
| <b>Information sharing</b>        | It is a process whereby information is shared by the relevant entities who are granted rights to access and utilize it for the right purposes (Savolainen, 2017)                                                                                                                                                                                                                                           |
| <b>RECTS Performance</b>          | It is an initiative of KRA in partnership with Ugandan and Rwanda's revenue authorities to enable tracking of transit cargo from the port of Mombasa to its final destination through an online platform. RECTS performance is measured by its ability to efficiently manage movement of transit cargo through s nation's economy with a goal of ensuring that customs functions are achieved (KRA, 2018). |

## **ABSTRACT**

Advancement in trade across the globe has necessitated mechanism to be put in place to regulate, promote and ensure secure supply chain. Accession to WTO, which facilitates fair trade, requires trading nations to conform to the required laws and regulations facilitating free flow of transit commodities. The application of modern technologies in the sector like RFID and GPS are essential for monitoring movement of transit goods and revenue collection. In East African region before the introduction of digital monitoring system is attributed to diminishing transit and cargo management which have resulted in a decline of paperwork administration which is quiet. As such, the KRA has frequently reported smuggling of goods to the local market, diversion of goods meant for transit, theft on goods on transit among other cases. As a result, more questions have been raised to challenge the effectiveness of the KRA measures aimed to counter illegal activities at the Mombasa Port. The research main objective is to determine the factors affecting Regional Electronic Cargo Tracking System performance at the port of Mombasa. It sought to give answer to the following questions; what is the effect of operational infrastructure, staffing and information sharing on the performance of Electronic Cargo Tracking System team at the port of Mombasa. To further look on these factors, resource-based theory, human resource theory and the hype cycle theory was reviewed. The study adopted a descriptive design which requires the exploration of qualitative and quantitative data. Descriptive research design was considered appropriate for this study with the intention of investigating various challenges RECTS team faces in the port. The target population constituted 54 respondents and a sample size of 48 was arrived at using Slovin's formula. Primary data was collected using close-ended questionnaires regarding the topic purposely to gather the primary data. Data analysis was done using the SPSS version 25.0. and a linear regression model to show the correlation between the independent and dependent variables of the study. Out of the targeted 48 respondents, 41 fully responded to the issued questionnaires translating to 85.4% response rate. Karl Pearson analysis indicated that operational infrastructure strongly with a positive correlation affects RECTS team performance at the Port of Mombasa by 75.3% Staffing being the second influence RECTS team performance by 64.1% and lastly, Information Sharing indicated to be having a moderate correlation relationship with RECTS team performance at the port of Mombasa being supported 46.5% effect on RECTS team performance at the port of Mombasa. Regression model findings statistically indicates that operational infrastructure by 19.3%, Staffing at 17.7% and information sharing by 39.3% affected the dependent variable. The study concludes by opining that increasing RECTS operational infrastructure so as to improve regional tracking and monitoring cargo which will result in increase of the number of transit cargo being monitored by RECTS, and thus increasing compliance of the sector players resulting to increase in revenue collected and on the other hand being in a position to curb most of the malpractices relating to transit Cargo while enhancing faster clearance.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

In the contemporary world, globalization has influenced companies to pursue international trade deeply rooted in trade unions, partnership and merger. The strategy is useful in ensuring that there is free flow of trade which averts boundary barriers. With this advancement in trade across the globe, mechanism has to be put in place to regulate, promote and ensure secure supply chain. Transportation of goods internationally often requires crossing the territory of one or more third countries. In this case, transit goods that are imported in conformity the required regulations are guaranteed fair taxation. According to Roth (2017), the key players in the sector must conform to transit standards to avert illegal activities, tax evasion, and movement of counterfeit products in the local markets.

In conformity with the WTO standards, the trading nations must enforce stringent measures to ensure that the trade agreements are valued by the importers to promote movement of commodities across borders. As such, many countries are adopting GPS and RFID technologies with the aim of monitoring the transit in conformity with the emerging global targeted at protecting businesses, economy (from dumping) and loss of revenue by customs (United Nations office on Drugs and Crime, 2010). Regulatory procedure for transit as per Kyoto Annex E, recommends that customs should allow goods to be transported under custom transit in their territory and termination of transit operations once goods are presented at the exit office of a custom territory or the office of final destination. The developing nations focus on protecting their national interests like creating an enabling environment which attracts foreign investment and ensuring that there is flow of trade commodities within their borders. Nonetheless, many countries today are implementing trade policies to enforce integrity in the supply chain processes. Such policies benefit the cargo owners that are focused on timely delivery of products for their clients.

According to WCO news (2019), Serbia has a geographical advantage, a central point and transit route linking the Central, Southern, and Eastern Europe. The country has implemented their policies in conformity with the transit procedures and has realized colossal economic gains. For instance, its national policies have curbed fraud and movement of illegal goods

that present litigious damages for the transit clients or operators. This custom procedure is electronic which replaces the cumbersome paper work system has eliminated fraud and illegal activities within the Serbian borders. Aside, the automated transit system allows for accurate real-time messages of tracking of goods.

The NTCTS gateway integrated to the Customs Management Systems (CMS) to facilitate information sharing. This development has automated the process of importation and exportation. Its implementation has delivered numerous results compounded with faster and safer transit operations in the Serbian territory. The effectiveness and contributions of cargo monitoring and tracking can be seen in Asian countries like China and Viet Nam. In these nations, the adoption of satellite positioning systems on transit goods have curbed illegal custom practices. As such, many countries in Asian region have introduced the idea of tracking and securing the tracking goods using electronic seals. According to Morley, & Parker, (2014), the strategy of tracking transit goods in China and Thailand using GPS and RFID have minimized losses, fraud and illegal activities. The idea of tracking transit goods was conceptualized by Jordan Customs in 1997 having investigated issues affecting trade in some regions. However, absence of proper information technology infrastructure in Jordan delayed the implementation process (Alfitiani, 2010).

In East African region before the introduction of the real-time electronic cargo monitoring system, transit operation had an impact on the existing system where processes like transit checking, escorts, and recording were conducted manually. In 2013, the Ugandan customs under the Ugandan revenue authority, decided to implement the electronic monitoring system to track goods in transit goods with a view of ensuring the trustworthiness of the shipments, an achievement which many regional countries embraced. In 2014, the authority in charge of managing the Northern corridor issued a directive to the entire partner States to harmonize the e-monitoring of transit to enable seamless flow of cargo. The customs administrations of Kenya and Rwanda agreed to adopt the Uganda electronic cargo monitoring system which led to the launch of a regional system called the Regional Electronic Cargo Tracking System (RECTS) (WCO, 2019).

In the past, KRA entities escorted the shipments from the port to its destination where it was handed to neighboring authorities. They then introduced the usage of seals in the containers

to protect transit goods from being compromised. The strategy never bore fruits as transporters and customs would collude and have access to goods on transit. Despite realizing that the idea is not working, seals are still being applied to protect the goods on transit in Kenya today (Michira, 2017). The ECTS system was introduced specifically to track the movements of the imported goods within the region. The tracking process is necessitated by the applications of GPRS and RFID systems. These systems are utilized because of tracking capabilities and features such as geo-fence, and real-time monitoring which safeguards the cargo from the port to the destination. In Kenya, there are mandatory laws and regulations which have been introduced for the truck owners which require them to install tracking devices. According to Gonpert et al., (2015), the trucks transporting the goods on transit must be fitted with electronic seals, and tracking devices. This measure helps interested parties to monitor trucks plying designated routes. As a result, it has become easier to identify those violating the regulations like tax evaders and illegal traffickers.

The transit business is compounded with numerous risks of colossal consequences. As a result, the government has introduced regulations requiring the importers and transporters to submit bond from a reputable insurance company, as a security measure for imported commodities, in this case, if the imports do not meet the required standards, or is not delivered to the owner, the insurance bond will cover such losses. Nonetheless, the introduction of bond is a security mechanism intended to secure shipments under custom control from the port to its destination. It is imperative for the concerned entities to monitor goods transported across borders for compliance purposes. However, the bonds scheme varies across the East-African countries in terms of value which is highly dependent on the nature of the imported products. For instance, the Ugandan authorities recognize bonds which are issued by an insurance company, which must be submitted to the custom officers when transporting transit goods. Therefore, the SCT is useful in monitoring imports and estimating the required taxes collected at the port. (Barra, 2010).

The Port of Mombasa is a critical regional port that serves Kenya and other East African countries. Being the largest port in East Africa, forty percent of its cargo are transit commodities. The ECTS system was introduced to facilitate faster seamless flow of these cargo out of the port of Mombasa (Szyliowicz et al., 2016). Building an economic and

regional hub is an idea which was conceptualized as part of Kenya's 2030 vision. The future goals are realistic, but its implementation will depend on the will of the subsequent regime and is inevitable. The port of Mombasa prides its existence to its proximity to the nearest deep and natural harbor Port Rietz and, Kilindini. Due to its expansiveness, the government has been able to channel significant funds toward to expand the port. Today, the port has oil terminals, water berths, bay berths and numerous container yards. It is on this premise that this study intends to provide answers for the question what are the factors affecting the Regional Electronic Cargo System at the port of Mombasa.

### **1.2 Statement of the Problem**

Performance of RECTS is measured by a faster, safer and smooth flow of transit goods from the port of entry through cargo targeting, harming, tracking and monitoring as it is being moved along the transit routes. This is necessary so as not to make the port a conduit of diversion of goods destined to other countries to the Kenyan economy and evasion of payment of tax. If RECTS is well utilized, it will help in achieving one of Kenya's key 2030 vision, which is an economic strategy that aims to achieve an average of 10 percent economic growth rate by preventing loss of revenue through reduced flow of legitimate trade. This therefore directly affects customs performance that is judged by the amount of revenue it collects on behalf of the government.

KRA has frequently reported smuggling of goods to the local market, diversion of goods meant for transit, theft on goods on transit dumping among other cases. According to Olingo (2017), numerous cases are reported in the harbor every year, which involves breaches of data and robbery. According to the WCO (2019), despite the introduction of ECT gadgets in tracking of goods transit and operation along the northern transit corridor route, trade operations have faced various challenges which include, unnecessary delays, high cost of doing business, transit diversion, high administrative monitoring costs, and poor (or non-) information sharing between the partner states.

This raises a lot of queries on the measures laid down by KRA RECTS team at the port of Mombasa to deal with them and be able to intersect these illegal activities and meet its objectives as a department. This study therefore focused on examining the factors affecting regional electronic cargo tracking system performance at the port of Mombasa which are;

operational infrastructure, staffing, and information sharing so as to inform us well as aid to mitigate some of the challenges facing the performance of RECTS at the port of Mombasa.

### **1.3 Objectives**

The objectives of the research are appraised based on the credibility and applicability of the solutions.

#### **1.3.1 General Objective**

The primary objective of this study is to examine the factors affecting the Regional Electronic Cargo Tracking System performance at the port of Mombasa.

#### **1.3.2 Specific Objectives**

The specific objectives of the study are:

- i. To determine the effects of the operational infrastructure on the performance of Electronic Cargo Tracking System at the port of Mombasa
- ii. To examine the effect of staffing on the performance of Electronic Cargo Tracking System at the port of Mombasa.
- iii. To evaluate the effect of information sharing on the performance of Electronic Cargo Tracking System at the port of Mombasa.

### **1.4 Research Questions**

- i. What is the effect of operational infrastructure on the performance of regional electronic cargo tracking system at the port of Mombasa?
- ii. How does staffing affect performance of regional electronic cargo tracking system at the port of Mombasa?
- iii. What is the effect of information sharing on the performance of regional electronic cargo tracking system at the port of Mombasa?

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

The findings of this study are of significance to Kenya revenue authority, other government agencies, traders (importers and exporters) and other academicians. To the authority and other government agencies it will be an instant source of information that will help them to tackle the challenges faced in trade majorly by transit cargo and help in formulation of strategies to boost trade with other states. To traders it will help them in making timely and informed decisions pertaining trade. To the academicians it will provide a big support to the

current literature in the field of trade facilitation. The study will also act as a stimulus for further research to other scholars to define and extend the present study both in Kenya and Internationally.

Customs administrations will also benefit from this study on grounds that this study will highlight and analyze the various malpractices by unscrupulous traders operating within the jurisdiction of Customs and border control department and how those malpractices affects the performance of customs at the port of Mombasa. They will, therefore, use the knowledge acquired to improve their custom performance. For KRA and its stakeholders, this research presents an opportunity to evaluate performance with the view to improving services and products offered and also achieving set targets.

### **1.6 Scope of the Study**

The study confined itself to study the factors affecting the performance of Electronic Cargo Tracking System performance at the port of Mombasa. It was essentially limited to how RECTS team performance has been affected by selected factors. This study was conducted at KRA at Port of Kilindini, Mombasa. The study was done in a duration of four months which was enough time to collect, analyze and present the findings.

### **1.7 Limitations**

The researcher with the intention of bringing this study to a success, was faced with some obstacles that had some effect to both time and cost of doing the project. Accessing some respondents was a challenge because of the strict security and control measures put in place as a requirement of accessing the Port which was the core area where data had to be collected. Availability of some respondents also posed a challenge because of the nature of work the respondents do which resulted to non-respondents of some respondents. Despite these mentioned challenges, the researcher managed to collect accurate and reliable data using well-structured questionnaires.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter reviews theories relating to the factors, explaining how they affect the performance of customs RECTS team at the port of Mombasa. The theories to be reviewed are; resource-based theory, human resource theory and the hype cycle theory. These theories used draws an attention to the variables of the study. Conceptual framework with variables and its operationalizing elements is highlighted. Various studies on empirical review section related to the current research are reviewed to draw knowledge on transit which has some relations to this study. The summary pin points out the actual findings from the literature to point out the existing research gap on factors affecting the customs RECTS team.

#### **2.2 Theoretical Review**

##### **2.2.1 Resource Based Theory**

Resource based theory is an essential theory of strategic management and it states that a company's performance largely relies on the resources and capabilities it possesses which in turn becomes a source of competitive advantage (Alvarez and Busenitz, 2001). Scholars have related different influence of this theory and elucidated it as the lead strategic and organizational practice used by the managers to alter their resource basis in order to generate new value-creating strategies.

According to Gunasekaran, Subramanian, & Papadopoulos (2017), resources are referred to as the criteria building blocks of strategy which identify both what a firm wants to do and what it can do. An organization can establish strategic mechanisms that could leverage on its resources for building on competitive edge. Lai, & Cheng (2016), noted that organizational strategies contribute in a significant way in establishing how organizational resources are utilized and distributed when it comes to the facilitation of organizational business operations. An organization as a business entity has a likelihood of achieving operational success through ensuring optimization of organizational resources by effective application and use.

Drnevich and Kriauciunas (2011), noted that all organizational resources play a vital role towards the overall effectiveness and efficiency of an organization.

Resource based theory is relevant to this study as helps in evaluating the effect of operational infrastructure and clearly explain its relationship to performance of (RECTS) team at the port of Mombasa. It further seeks to find out if the said resources when well utilized, it plays the role in the realization of the desired results.

### **2.2.2 Human Resource Based Theory**

Theories based on human resource of strategy contends that human assets can be a source of sustainable advantage because of understandable knowledge and social complexity that are hard to imitate (Noe et.al., 2017). Human resource practices can provide a source of sustainable competitive advantage which influences the competitive advantage of a firm. The HR function consistently faces challenge in giving its grounds in organizations (Behson et.al., 2018). In times of plenty, firms easily justify expenditure on training staffing, reward, and employee involvement system. Theoretical perspectives presented resource-based view as one of the perspectives that provided rationale for how a firm's human resource could provide a potential source of sustainable competitive advantage

The HR activities are thought to lead to the development of skilled work force and the one that engages in functional behavior for the firm, thus forming a source of competitive advantage. This results in higher operating performances, which results in higher operating performance which translates into increased productivity and consequently results in higher market value highly productive workforce is likely to have attributes that makes it a particularly valuable strategic asset.

Theorist focus on the need to develop a pool of human capital that has either higher levels of skills or achieving a better alignment between the skills represented in the firm and those required by its strategic intent. The stock of human capital can and does change overtime, and must be monitored for its match with the strategic needs of the firm (Koch & McGrath, 2016).

This theory plays an essential role in examining the effect of staffing on (RECTS) team performance and access whether the human capital in the team is adequate, whether they

have the right training and skills for the team to achieve its strategic mandate of protecting the society while facilitating conduct of legitimate trade among other functions.

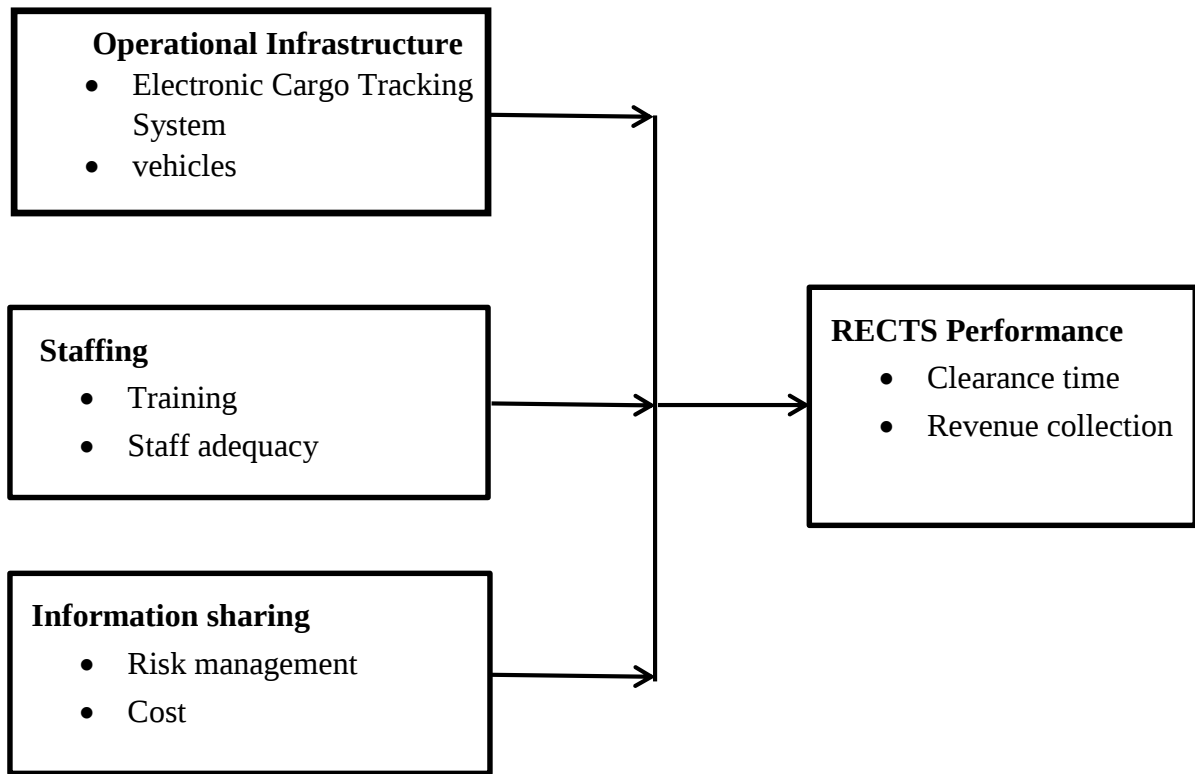
### **2.2.3 Hype Cycle Theory**

Gartner hype cycle theory is very important as it defines and builds on information that a company has this information is then processed to realize better and more efficient business outcome (Redick, 2019). Being able to prioritize the enterprise information within the company that and employ the information to realize optimum organizational outcomes and achieve the organizational goals is basic and more importantly prime goal for Enterprise Information Management (EIM) strategic management of a company has often looked to ensure that the company is always following predefined that are being pursued often given specific time frame (Wang, 2017). When looking at Enterprise information as a strategic asset, it may be important to classify different types of data as strategically relevant for short-term, midterm and long-term strategic goals

The use of information in these ways is very critical in the hype cycle for EIM. Analytics governance is an example of such concepts it can be defined as the use and the integration of predictive models and algorithms investment decision for business analytics, assignment and assurance of organizational accountability, risks and decision rights among other functions. Hype cycle has concepts that are aimed at improving data management and use of information to affirm to improve how the company realizes its goals and how eventually will turn out (Efimenko & Khoroshevsky, 2017). For this reason, this theory will be very convenient for this study as it will help in looking at how information gained by this department of customs is utilized in realization of its objectives.

### **2.3 Conceptual Framework**

Conceptual Framework is an approach explained in Graphical or story types of the main points of the study in a research (Díaz et.al., 2015). This conceptual framework aided in revealing the link that exist between the variables in the study. The Independent variables are factors affecting performance of RECTS team and the dependent variable of the study was RECTS team Performance. The relationship is shown in the figure that follows;



**Independent Variable**

**Dependent Variable**

**Fig 2.4 Conceptual framework**

## **2.4 Review of Variables**

### **2.4.1 Operational Infrastructure**

Well management and utilization of resources by an organization helps it to achieve its goals (Steiss, 2019). The ECTS technology used by RECTS helps to track goods once they are loaded at a custom area and loaded on trucks up to the point where they are unloaded since it uses GPS and GPRS technology. This helps the team to fully be able to locate the real time and position and be able to tell the state of the cargo being transported. It also helps in faster clearance of cargo as it crosses the customs border points (Miler, 2015). Through this ability, the customs officers are able to control dumping in the country of transit hence facilitate revenue collection, and faster clearance time. The electronic seals provide information which are crucial in making decision regarding the movement of cargo on transit. Data captured by

the seals are stored in computers for a specified period of time so as to be able to have a full report of the history of how the system has been utilized.

There are a variety of tools used by RECTS to enable them deliver on their mandate. Use of its rapid response team unit who work hand in hand with police officers who a times erect roadblocks, to facilitate random road checks. In so doing they are able to detect offences and a times detaining those who have breached customs laws. RECTS seals movement are tracked from a Centralized Monitoring Center (CMC) at Times towers KRA headquarters for the case of Kenya and any alerts signals are communicated to RRU team on the ground for effective management and enforcement of transit regulations. In Kenya, there are five RRU positioned well comprising of Police Officers and Customs Officers along the transit route from Mombasa to Malaba border with each unit mandated to cover a given distance between intervals of one station to the other (Bifwoli, 2016). They are well placed so that they can immediately and in good time attend to signals raised by the ECTS gadgets which may be as a result of breakages, tampers, long overstay beyond the allowable time limits in one place and in some rare cases detachment of the E-seal cables caused by road terrain (Kabiru et.al., 2016). As soon as the signal is received the RRU team on the ground depending on the position the cargo is, are given the information so that they can deal with it. To ensure timely response they use vehicles allocated to them by the authority.

#### **2.4.2 Staffing**

RECTS customs adequacy, competence, education and skills in monitoring of transit goods plays a vital role on movement of goods from the port of entry along the gazette transit routes in Kenya (Kabiru et.al., 2016). RECTS team knowledge on legislation, customs clearance procedures of goods that are required to be followed is necessary for the team. The knowledge of compounding different offences, subsequent penalties to be raised for different offences by transporters, having a knowledge on the right procedures' transporters use to obtain permit to move goods out of the port premise is essential in realization of revenue and faster movement of legitimate trade (Moir & Vandy, 2017).

The competency and skills required for this activity should therefore be quite explicit to enable the Customs officers perform their duties efficiently (Gancheva, 2016). Training thus is essential for staffs in order to continually develop their knowledge in their area of work

and be kept up to date regarding the changing trends in trades supply chain practices. Therefore, it is the role of the management to ensure that trained adequate staffs are availed to perform the required tasks. For smooth running of work, the number of staffs who are mandated to deliver services in a 24hrs basis should be enough to avoid straining and enhance efficient performance taking into consideration the distance coverage by the team. This notwithstanding, the advancement in technology which means that continuous staff development programs have to be in place to ensure that the staff are well equipped with modern techniques and equipment to facilitate their work

#### **2.4.3 Information Sharing**

Sharing of information involves exchange of messages between two or more parties about a given situation (Van Engelenburg et al., 2017). Use of international standards, regulations and policies as stipulated by WCO data guide lines ensures harmony between state agencies reporting requirements as information as a resource is exchanged among relevant government bodies, customs being among will result in greater facilitation for trade (WCO, 2014).

It is important that Customs offices share information for effective transit systems. If transit declaration lodged is shared among involved customs offices dealing with the transit goods, then the need to lodge another document in the country of discharge will be eliminated and in turn result to a reduction in expenses incurred by traders as they conduct their businesses. Facilitation of smooth business while managing of risk will be enhanced as a result of cooperation and exchange of information as goods are being moved from one country to the other and done in a way trades would be impressed to conduct legitimate trade. Erceg (2013) opined that there is a direct relationship between sharing information to a stream lined transit operations, which entails transit formalities. The mechanisms put in ensuring that there is a positive effect of the information sharing in facilitation of trade, would be fully achieved if business community is safe and the government support is felt so as to balance between enforcement of the law and facilitation of trade. RECTS team largely rely on information given to them by transporters, informers, traffic police along the transit routes and other vendors who play the role of tracking cargo as they are being moved along the transit routes.

#### **2.4.4 Performance of RECTS Team**

Customs performance is judged on the following indicators, trade facilitation, collection of revenue, protection of society, collection of trade statistics among others. RECTS being a unit of customs plays a major role in this (Adomaviciute, 2018). Facilitation of trade focusses on controls that governs how goods are moved along the transit routes with an aim of reducing the expenditure cost and facilitating faster clearance of cargo while utilizing trade regulations. The main and primary objective of trade facilitation is to help make cross border trade faster, and cheaper and more predictable, whilst ensuring its safety and security (Turnes & Ernst, 2015). Protection of the society from illegal entry is to be kept at stake. Use of different operational infrastructures has facilitated this by ensuring no goods declared for transit is diverted to the local markets since all harmed goods are monitored under a 24hrs surveillance with any signaled alert from the ECT system are Responded to. These alerts are communicated to the RRU team stationed at different points along the transit routes to respond to this discrepancy in a good time in turn safeguarding the interest of traders, and the society at large.

The ability of various trade stakeholders to share information using various modes in the supply chain including transporters, other private vendors who deal in cargo tracking, has really helped KRA to perform and deliver on its mandate as an authority (Rezaei, van Roekel & Tavasszy, 2018). Apart from customs focusing on enforcement, there are great potential gains to the trade as a result of complying to customs. This results in a more transparent and efficient service delivery of employee mandates (Gantz, 2016). In the long run security levels in government trade controls will be higher evident by the predictability level and increase speed of trade operations with a resultant reduction in business cost and thus encouraging a healthy completion in trade internationally. At the long run customs would have performed well and being able to achieve its objectives (Stewart, 2019).

#### **2.5 Empirical Review**

Different studies have been conducted regarding mechanisms put in place to monitor cargo and organizational performance. Mugambi, (2017) through his study sought to investigate the effect of ECT system on trade between Kenya and Uganda. In His study he used an

exploratory research design and he fully stressed on enquiry with the aim coming up with a clear conclusion from a causal relationship of the data. He concluded that the system used by the two countries by revenue authorities has helped in reducing cases of cargo being diverted to the local economy and an evident faster clearance with an ease of collection of revenue. Through the study he recommended that the ECTS being used by the two countries should be well manage to ensure seamless flow of trade and managing transit effectively.

Kabiru (2016) tried to establish how of ECTS affected performance at KRA and on transporters operating along the Easten African northern corridor transit route. He used exploratory research design a qualitative data collection method by the help of use questionnaires. He found out that the system had a benefit to both the governments revenue authorities and also to the traders.

Kiplangat (2019) did a study to find out the factors that directly affects customs transit monitoring. The study adopted descriptive design in his study and focused on the CFS and other customs officers working in all departments of the port. After running the findings of data he concluded Rapid Response Units and Information Sharing to be affecting the cargo Monitoring at Mombasa port. He recommended standardization of the E-seal Transmission intervals by all Multiple Vendor Providers. Close monitoring of the Electronic Cargo Transit Monitoring Vendor providers to keep at par with the current trend and technological advancement in close monitoring of the cargo, to improve on transmission intervals of the e-seals.

## **2.6 Critique of Existing Literature**

Freeman (2010) reached a conclusion that in order for organization to achieve its goals was required of them to maintain a good relationship with its stakeholders which will help in establishing a strong business. This will result in making great profits apart from business growth.

Polycap (2014) contends that improvement in cargo security and reduction in clearance time of cargo has an important effect in the performance of customs. There a lot of challenges that are still evident in the cases of stolen cargo as the system mechanisms to intercept cargo stolen which is efficient is being engaged by the authority to ensure tax leakages are reduced.

Sakhasia (2017) argues that optimization of logistical procedures in handling of containers enhanced the ability to ascertain the liability in case of theft or damage, merit to end to end container monitoring. The system works efficiently as a result of participation of both the employees with the transporters.

## **2.7 Research Gaps**

Many scholars have been interested in studying about the electronic cargo tracking system. It can be seen that they have highlighted factors contributing to fraud on transit goods. They have also acknowledged the electronic lodgment system has improved documentation process resulting in applying for clearance of goods even before they arrive at the port. There is very little literature on factors affecting the performance of RECTS officers who play a very big in ensuring that the implemented system achieves its goals apart from other functions. Mugambi (2017), did a study with n aim of finding out how trade was affected between Kenya and Uganda as a result of use of ECTS with a focus on the trade level effect as a result of the same. Kabiru (2016), studied the effect of ECTS on the performance of KRA and on transporters operating along the Eastern African northern corridor transit route. Through the study he sought to find out the degree of operationalization of the ECTS by the cargo movers and by KRA, to establish the factors that affect the implementation of ECTS and the resulting operational performance at KRA. Kiplangat (2019), sought to study the factors affecting transit customs performance at the port of Mombasa

It is clear that no research has been undertaken to establish factors affecting Regional Electronic Cargo Tracking System team performance at the port of Mombasa thereby, this study aimed to fill the existing gaps from preceding research studies. Best measures and practices worldwide in facilitation transit trade was another driving reason to undertake the study.

## **2.8 Summary**

Throughout the review of literature, use of enforcement tools, personnel training and knowledge are a key part of effective performance of the RECTS team. The study has adopted resource-based theory, human resource-based theory and the hype cycle theory to explain the relationship between the variables under study. A rich literature on the variables

including operational Tools, staffing, information sharing and how it is likely to affect the performance of RECTS as a unit of custom enforcement at the port of Mombasa.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents a detailed plan of how the research strategy was conducted. It also provides a broad view of research design, location, variables, target population, sampling techniques, sampling size, sources of data, methods of data collection and instruments, data analysis, data presentation and interpretation of findings.

#### **3.2 Research Design**

According to Lambert, & Lambert (2012), descriptive research design is used to clarify actual state of affairs as it occurs. This research design focuses on answering questions which are concerned on the current status of the study which provide answers to questions of who, what, when and how. This study opted for a descriptive research design because it sought to give an elaborate explanation on the factors influencing the performance of the RECTS at the port of Mombasa. It was also the most elaborate because it is quantitative and can be inferred statistically making it conclusive.

#### **3.3 Population.**

The population is that set of individuals who possess observable characteristics which the researcher is studying (Denzin, 2017). This particular study focussed on a target population of customs and border control staff who work directly with RECTS at customs Mombasa. This population was chosen because it was cost effective, readily available for collection of data and devoid of any bias because they work with RECTS. The population of this study constituted 54 Customs and Border control officers working directly with RECTS as per KRA HR records as at 30<sup>th</sup> September 2019.

#### **3.4 Sampling Frame**

All individuals a research aims to study represented in a list of categories of the job they are entitled to is a Sampling Frame (Rahi, 2017). In this study, the sampling frame is a list of individuals at the port of Mombasa and its environs who work directly with RECTS. The sample of the target population is given in the table that follows having been drawn from

KRA HR records for customs and border control southern Region. This population included supervisors, officers and support staffs who were systematically drawn as they are enough to provide reliable, substantive and significant information for this study.

**Table 3.1 Target population**

| Category      | Population | Percentage |
|---------------|------------|------------|
| Supervisor    | 5          | 9.26       |
| Officers      | 31         | 57.41      |
| Support staff | 18         | 33.33      |
| <b>Total</b>  | <b>54</b>  | <b>100</b> |

Source: Kenya Revenue Authority, Human Resource Southern Region (2019)

### 3.5 Sample and Sampling Technique

Sampling is the process and technique of selecting a representative of a population for the purpose of determining the characters that are similar or identical. The study used a stratified sampling in which RECTS team employees were in strata. (Mugenda and Mugenda, 2012), opines that a sample population of 30% is an adequate representation of a population. Therefore, a sample size of 48 respondents which is 89% of the population was selected using systematic random sampling as shown in table 3.2. The study used Slovin's formulae to arrive at the sample as indicated below.

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

$$n = \frac{N}{1 + N(e)^2} = \frac{54}{1 + 54(0.05)^2} = 48$$

Where;

**n** = sample size

**N** = the population size

**e** = the level of precision.

**Table 3.2 Sample size**

| <b>Category</b> | <b>Population</b> | <b>Sample</b> |
|-----------------|-------------------|---------------|
| Supervisors     | 5                 | 4             |
| Officers        | 31                | 28            |
| Support staff   | 18                | 16            |
| <b>Total</b>    | <b>54</b>         | <b>48</b>     |

### **3.6 Data Collection Instruments**

The data collection instruments that the researcher used for this study was questionnaires. The researcher opted to use questionnaires because was easier for the researcher to collect required data over a short period of time. The structured questions collect quantitative data Kasim (2010). This method was adopted for the entire population or sample sectors. The researcher sought for permission from the college to carry out the research study. He further sought for permission from the organization authorities to carry out the study in the organization. The respondents were notified and their permission sought for the intention of the study carried out. The researcher dropped the questionnaires and went for it after the agreed time.

### **3.7 Data Collection Procedures**

The researcher sought for approval from the college then also sought assistance for data collection from the respondents before administering questionnaires to them to ensure that ethical acceptability and understanding of the questionnaire by respondents. The respondents were assured of the confidentiality of information they provided and that under no any circumstances will they be exposed to any form of risk or discomfort by participating in this study.

### **3.8 Pilot Testing**

A pilot study is a small-scale preliminary study done with the purpose of conducting feasibility. The purpose is to ensure that everyone in the sample not only understood the questionnaire, but also the objectives of the research. The questionnaire was constructed on the principle of precision, clarity, and completeness, to enable acquisition of valid and reliable information, however, the researcher pre-tested the questionnaires in advance. The researcher used an agreed population with the supervisor for pilot testing on grounds that the remaining 10% of the population which is acceptable for piloting according to Mugenda & Mugenda (2008) was not sufficient to conduct pilot testing for this study. The research instrument was carefully structured to ensure their validity and reliability in the attainment of the study objectives.

#### **3.8.1 Validity**

In accordance to Mugenda & Mugenda (2008) legitimacy is the seriousness and precision of derivations, which have been set up on research results. They are the outcomes got in the wake of breaking down information that speak to the considered factors. The degree at which theory and evidence support the test interpretation scores that are entailed by the use of test is the validity. The substance related system estimates how much the inquiries things mirror the particular regions secured under the investigation. The exploration instrument was approved regarding substance and face legitimacy. The researcher used the KMO and Bartlett's test to check for validity of the contents in the collection instrument.

#### **3.8.2 Reliability**

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

### 3.9 Data Analysis

Data collected for this study was analyzed through a quantitative and qualitative approach and the resulting findings represented using tables and described means being recorded. Questionnaires statistics were computed using version 25 of the Statistical Package for Social Sciences.

The study adopted a linear regression equation to explain the relationship between the independent and dependent variables.

The adopted linear regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where; Y =Performance of the RECTS team

$\beta_0$  = Constant and is the level of Y which  $\beta_1$ s are 0

$\beta_1$  = Coefficient of operational infrastructure

$\beta_2$  = Coefficient of staffing

$\beta_3$  = Coefficient of information sharing.

$\beta_1$ ,  $\beta_2$  and  $\beta_3$  are the changes in Y due to the unit change in  $X_1$ ,  $X_2$  and  $X_3$  respectively where

$X_1$ =operational infrastructure,  $X_2$ =staffing,  $X_3$ = information sharing

$\epsilon$  represents error term of other factors affecting performance of the RECTS team not included in the study.

## CHAPTER FOUR

### RESEARCH FINDINGS

#### 4.1 Introduction

The chapter highlighted the results and findings of the study obtained from the collected data. The findings include demographic analysis, pilot results, correlation, descriptive and regression analysis results. Descriptive and inferential statistics have been used to study the respondent's data with use of figures and table for ease of interpretation.

#### 4.2 Response Rate

For the purpose of this study, researcher distributed 48 questioners to the target population of the study and received 41 fully filled, this represented 85.4 % rate which was good and adequate for the study. A response rate of 70% and over is adequate and excellent for analysis and reporting (Mugenda and Mugenda, 2012).

**Table 4.1 Questionnaire Response Rate**

| <b>Respondents</b> | <b>Response</b> | <b>Percentage %</b> |
|--------------------|-----------------|---------------------|
| Respondents        | 41              | 85.4                |
| Non-respondents    | 7               | 14.6                |
| <b>Total</b>       | <b>48</b>       | <b>100</b>          |

#### 4.3 Pilot Results

##### 4.3.1 Reliability Analysis

To determine the reliability of the questioners the researcher engaged the supervisor so as to determine the questionnaire content validity and changes were amended as advised.

**Table 4:1 Reliability**

| Scale                             | Cronbach's Alpha | Items Tested | Comments |
|-----------------------------------|------------------|--------------|----------|
| <b>Operational Infrastructure</b> | 0. 824           | 4            | Accepted |
| <b>Staffing</b>                   | 0. 793           | 4            | Accepted |
| <b>Information Sharing</b>        | 0. 788           | 4            | Accepted |
| <b>RECTS Performance</b>          | 0.802            | 4            | Accepted |

In the pilot results table, Operational Infrastructure was measured to have an index of 0.824, Staffing had 0.793, Information Sharing had 0.788 and RECTS Performance had 0.802. All these four scales indicated that the instrument was reliable as it met the prescribed threshold of 0.7 as per Mugenda&Mugenda, (2012).

#### **4.3.2 Validity Analysis**

The study used KMO and Bartlett's test to check for the validity of the validity of the collection instrument. From the analysis, the KMO sampling adequacy was 0.747. according to Neuman(2014), higher values which are closer to 1.0 indicates that a factor analysis is useful with your data. This meant that the data was helpful in factor analysis. Bartlett's test for sphericity with a than  $p < 0.05$  and 0.000 significance indicated that the factor analysis was helpful.

**Table 4.3 KMO and Bartlett's Test**

| KMO and Bartlett's Test                           |                    |        |
|---------------------------------------------------|--------------------|--------|
| Kaiser-Meyer- Olkin measure of Sampling Adequacy. |                    | .747   |
| Bartlett's Test of Sphericity                     | Approx. Chi-Square | 63.617 |
|                                                   | Df                 | 6      |
|                                                   | Sig.               | 0.000  |

#### **4.4 Demographic Analysis**

The researcher sought to determine how demographic features as years of service, level of education and level of service affected RECTS Performance.

#### 4.4.1 Years of Service

Number of years one has worked with Customs is an important feature as it tells more of the respondent's experience. This feature is essential in determining of the weight of the respondent response.

**Table 4.4 Years of Service at customs**

| <b>Years of Service at customs</b> | <b>Frequency</b> | <b>Percentage %</b> |
|------------------------------------|------------------|---------------------|
| 10years and below                  | 24               | 58.5%               |
| 11-21 Years                        | 17               | 41.5%               |
| above 21 years                     | 0                | 0.0%                |
| <b>Total</b>                       | <b>41</b>        | <b>100.0%</b>       |

Table 4.3 above indicated that, 58.5% of the respondents have worked with customs for 10 years and the remaining 41.5% have worked for over 10 years. This indicates that most of the respondents are familiar with customs field.

#### 4.4.2 Level of Education

The researcher sought to determine the level of education from Diploma, Degree, Postgraduate Diploma and Masters being the Highest level of education to aid in evaluating the competence level of the respondents.

**Table 4:5 Level of Education**

| <b>Level of Education</b> | <b>Frequency</b> | <b>Percentage %</b> |
|---------------------------|------------------|---------------------|
| Diploma                   | 9                | 22.0%               |
| Degree                    | 28               | 68.3%               |
| Postgraduate Diploma      | 1                | 2.4%                |
| Master's Degree           | 3                | 7.3%                |
| Other (Certificate/ PhD)  | 0                | 0.0%                |
| <b>Total</b>              | <b>41</b>        | <b>100.0%</b>       |

From table 4.4, the findings show that Diploma Holders were 9 which represents 22% of the respondents, Degree holders were 28 being the majority represented 68.3% of the respondents, Postgraduate Diploma holder was 1 which represented 2.2% of the respondents, Masters Holders were 3 which represented 7.3% of the population. From the issued questionnaires none of the respondents stated that they had a certificate nor a PhD. Thus from the finding, it is evident that personnel working with RECTS are well trained

#### **4.4.3 Level of Service**

This study sought to show the level of service of the respondents as it was very important since it has some effect on the decision making of the institution.

**Table 4.5 Level of Service**

| <b>Level of service</b> | <b>Frequency</b> | <b>Percentage %</b> |
|-------------------------|------------------|---------------------|
| Supervisor              | 2                | 4.9%                |
| Officer                 | 24               | 58.5%               |
| Support staff           | 15               | 36.6%               |
| <b>Total</b>            | <b>41</b>        | <b>100.0%</b>       |

From the table 4.5 showing the level of service of the respondents 4.9% were Supervisors, Officers were 58.5% and 36.6% were support staffs.

#### **4.5 Descriptive Analysis**

Respondents were closely engaged to give their opinions on factors that affects the performance of RECTS team at the port of Mombasa. They were issued with a closed ended questionnaire with (1-5) likert scale and later the results were summarized using SPSS IBM Version 25 to give the extent which respondents agree with the questionnaire's statements.

### 4.5.1 Operational Infrastructure

**Table 4.7 Descriptive Analysis on Operational Infrastructure**

|                                                                                                                                                                                                                             | N  | Mean | Std. Deviation |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------|----------------|
| Has use of ECTS in monitoring of transit cargo help in faster clearance of transit cargo                                                                                                                                    | 41 | 4.05 | 0.583          |
| The authority needs to purchase more of the ECTS seals so as to improve the performance of the RECTS team                                                                                                                   | 41 | 4.00 | 0.770          |
| Has the use of the authority vehicles by the Rapid Response Team who are strategically positioned, provide real time intervention to facilitate seamless flow of transit trade.                                             | 41 | 3.87 | 1.092          |
| Vehicles used by RECTS team to respond to discrepancies on our roads plays a role in responding to cases related to transits and thus should be fitted with sirens so as to enable faster movement in case of traffic jams. | 41 | 3.89 | 1.076          |
| Valid N (listwise)                                                                                                                                                                                                          | 41 |      |                |

From the analysis, results showed that majority of the respondents were in agreement with the statement that use of ECTS in Monitoring of transit cargo help in faster clearance of transit cargo with a mean of 4.05 and a standard deviation of 0.583. They also agreed that the authority needs to purchase more of the ECTS seals so as to improve the performance of the RECTS team having a mean of 4.00 and a standard deviation of 0.770. Use of authority vehicles by the Rapid Response Team who are strategically positioned, provide real time intervention to facilitate seamless flow of transit trade had a mean of 3.87 with a standard deviation of 1.092. On the statement that vehicles used by RECTS team to respond to discrepancies on our roads plays a role in responding to cases related to transits and thus should be fitted with sirens so as to enable faster movement in case of traffic jams the respondents posted an agreement with it giving a mean of 3.89 and a standard deviation of 1.076. This findings are supported by Lai, & Cheng (2016), who argued that organizational

strategies contribute in a significant way in establishing how organizational resources are utilized and distributed when it comes to the facilitation of organizational business operations. An organization as a business entity has a likelihood of achieving operational success through ensuring optimization of organizational resources by effective application and use.

#### 4.5.2 Staffing

**Table 4.8 Descriptive Analysis of Staffing**

|                                                                                                                                          | N  | Mean | Std.<br>Deviation |
|------------------------------------------------------------------------------------------------------------------------------------------|----|------|-------------------|
| Customs officers working with the RECTS are well trained.                                                                                | 41 | 4.03 | 0.618             |
| There is regular on job training for the officers working with RECTS to update on the changes and changing trends on transit monitoring. | 41 | 2.93 | 1.445             |
| There is adequate number of officers working with RECTS at the port of Mombasa enough to offer services at a 24 hours basis.             | 41 | 3.15 | 1.057             |
| Most of RECTS officers find monitoring of cargo easier as result of the use of the Electronic Cargo Tracking Systems.                    | 41 | 4.07 | 0.439             |
| Valid N (listwise)                                                                                                                       | 41 |      |                   |

With an intent to examine the effect of staffing on the performance of Electronic Cargo Tracking System team at the port of Mombasa the study sought views from the respondents on the extend they were in agreement with various aspects of staffing and the results were as follows. For the statement that customs officers working with RECTS are well trained the respondents were in agreement with it and it had a mean of 4.03 and a standard deviation of 0.618 The respondents had a disagreement on the statement that there is regular on job training for the officers working with RECTS to update on the changes and changing trends on transit monitoring having 2.93 as the mean and 1.445 standard deviation. The findings show some moderate findings on the argument that there is adequate number of officers

working with RECTS at the port of Mombasa enough to offer services at a 24 hours' basis resulting with 3.15 mean and 1.057 standard deviation. The respondents were in 4.07 mean 0.439 agreement with the fact that most of RECTS officers find monitoring of cargo easier as result of the use of the Electronic Cargo Tracking Systems. (Behson et.al., 2018) support this findings that human resource practices provide a source of sustainable competitive advantage which influences the competitive advantage of a firm.

### 4.5.3 Information Sharing

**Table 4.9 Descriptive Analysis on Information Sharing**

|                                                                                                                                                             | N  | Mean | Std.<br>Deviation |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------|-------------------|
| Improved standards on risk management on transit cargo and RECTS performance are attributed to information sharing by transit sector players.               | 41 | 3.74 | 1.017             |
| Customs RECTS team at port has achieved its objective of protecting the society through outsourcing and utilizing of information from other sector players. | 41 | 3.41 | 1.102             |
| There is a reduction in cargo diversion, and delays as a result of sharing information                                                                      | 41 | 3.85 | 0.933             |
| Trade and transport cost to traders is reduced as a result of sharing information.                                                                          | 41 | 3.82 | 0.970             |
| Valid N (listwise)                                                                                                                                          | 41 |      |                   |

Generally, there was a neutrality in agreement to the effect of information sharing on the performance of regional electronic cargo tracking system team at the port of Mombasa. Improved standards on risk management on transit cargo and RECTS performance are attributed to information sharing by transit sector players having a mean of 3.74 and 1.017 standard deviation. Customs RECTS team at port has achieved its objective of protecting the society through outsourcing and utilizing of information from other sector players realized a

mean of 3.41 and 1.102 standard deviation. There was a moderate agreement that there is a reduction in cargo diversion, and delays as a result of sharing information posting 3.85 mean and 0.933 standard deviation. Also Trade and transport cost to traders is reduced as a result of sharing information was moderately agreed on giving a mean of 3.82 with 0.970 standard deviation. This findings are supported by Gartner hype cycle theory as it defines and builds on information that a company has this information is then processed to realize better and more efficient business outcome (Redick, 2019).

#### 4.5.4 RECTS Performance

**Table 4.10 Descriptive Analysis on RECTS Performance**

|                                                                                                           | N  | Mean | Std.<br>Deviation |
|-----------------------------------------------------------------------------------------------------------|----|------|-------------------|
| Faster clearance of transit is attributed to the adoption of ECTS and other tools by the RECTS.           | 41 | 4.09 | 0.124             |
| Faster delivery of Cargo is attributed to close monitoring of transit cargo by RECTS team.                | 41 | 4.11 | 0.081             |
| KRA has been able to meet its revenue targets as a result of RECTS enforcement mechanisms being enforced. | 41 | 3.87 | 0.896             |
| Faster response to E-seals alerts has played role in gapping revenue losses                               | 41 | 3.96 | 0.815             |
| Valid N (listwise)                                                                                        | 41 |      |                   |

There was a good agreement with all the statements pertaining RECTS performance at the port of Mombasa. Faster clearance of transit is attributed to the adoption of ECTS and other tools by the RECTS gave a mean of 4.09 and 0.124 standard deviation. Faster delivery of Cargo is attributed to close monitoring of transit cargo by RECTS team had a great agreement of 4.11 mean with a standard deviation of 0.081. Respondents agreed that KRA has been able to meet its revenue targets as a result of RECTS enforcement mechanisms being enforced, this gave a mean of 3.87 and 0.896 standard deviation. Lastly the respondents

agreed that faster response to E-seals alerts has played role in gapping revenue losses with the statement giving 3.96 mean and 0.815 standard deviation. This findings are supported by resource based theory as it states that a company's performance largely relies on the resources and capabilities it possesses which in turn becomes a source of competitive advantage (Alvarez and Busenitz, 2001).

#### **4.6 Correlation Analysis**

Correlation analysis was done to give a relationship that exist between the dependent and independent variables of the study which included use of using karl Pearson's correlation.

##### **4.6.1 Karl Pearson's Correlation**

The study utilized Pearson Correlation to show the connection of the dependent and independent variables. The results indicated that operational infrastructure strongly with a positive correlation to RECTS team performance at the Port of Mombasa with correlation coefficient of  $r = 0.753$  at a significance of  $p = 0.000$ . staffing indicates that it has a strong positive influence on RECTS team performance at a coefficient of  $r = 0.641$  at  $p = 0.000$ . Significance. Information Sharing indicated to be having a moderate correlation relationship with RECTS team performance at the port of Mombasa being supported by  $r = 0.465$  correlation coefficient at a significance of  $p = 0.003$ . Thus, from the findings of this model it statistically provides grounds on which significant predictions on the factors affecting RECTS team at the port of Mombasa can be drawn.

**Table 4.11 Karl Pearson's Correlation**

|                                |                     | Correlations                   |          |                        |                       |
|--------------------------------|---------------------|--------------------------------|----------|------------------------|-----------------------|
|                                |                     | Operational_I<br>nfrastructure | Staffing | Information<br>sharing | RECTS_Perfo<br>rmance |
| Operational_Infr<br>astructure | Pearson Correlation | 1                              |          |                        |                       |
|                                | Sig. (2-tailed)     |                                |          |                        |                       |
|                                | N                   | 41                             |          |                        |                       |
| Staffing                       | Pearson Correlation | .402**                         | 1        |                        |                       |
|                                | Sig. (2-tailed)     | .000                           |          |                        |                       |
|                                | N                   | 41                             | 41       |                        |                       |
| Information_<br>sharing        | Pearson Correlation | .478**                         | .454**   | 1                      |                       |
|                                | Sig. (2-tailed)     | .009                           | .003     |                        |                       |
|                                | N                   | 41                             | 41       | 41                     |                       |
| RECTS_Perform<br>ance          | Pearson Correlation | .753**                         | .641**   | .465**                 | 1                     |
|                                | Sig. (2-tailed)     | .000                           | .000     | .002                   |                       |
|                                | N                   | 41                             | 41       | 41                     | 41                    |

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

## 4.7 Regression Analysis

To further explain the existing relationship between the autonomous variable and the needy variable, the variables were regressed using a multiple regression analysis so as to test the factors affecting RECTS team performance at the port of Mombasa.

### 4.7.1 Coefficient of Determination( $R^2$ )

The coefficient of determination (r square) gives an attribution of variation of independent variable to the extent of interaction with the dependent variable. Therefore, from the  $R^2$

results, RECTS team performance is affected by the studied variables; operational infrastructure, staffing and information sharing by 63.5% as indicated by the table below. The obtained model explained 63.5% variation of RECTS team performance at the port of Mombasa being attributed to the variables of the study which are operational infrastructure, staffing and information sharing. The remaining variation of 36.5% is explained by other variables not included in this study. The adjusted R square gives information on the suitability of the model to the studied population in general. The adjusted R square of this model is 60.5 indicating a high predictability of dependent variable. R indicates a high correlation of the study where the value of 79.7% is believed to be the highest correlation.

**Table 4.12 Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .797 <sup>a</sup> | .635     | .605              | .68740                     |

a. Predictors: (Constant), Information\_sharing, Operational\_Infrastructure, Staffing

#### 4.7.2 Analysis of Variance (ANOVA)

**Table 4.13 ANOVA**

| Model        | Sum of Squares | df | Mean Square | F      | Sig.              |
|--------------|----------------|----|-------------|--------|-------------------|
| 1 Regression | 30.419         | 3  | 10.140      | 21.459 | .000 <sup>b</sup> |
| Residual     | 17.483         | 37 | .473        |        |                   |
| Total        | 47.902         | 40 |             |        |                   |

a. Dependent Variable: RECTS\_Performance

b. Predictors: (Constant), Information\_sharing, Operational\_Infrastructure, Staffing

To test means variations, so as to ascertain the significance of the generated regression model, ANOVA was adopted. The model gave a 0.000significance level, this indicates that the resulting models of the study was statistically fit to predict the factors affecting RECTS team Performance at the port of Mombasa. The model was significant at  $F=21.49$  with a  $p<.05$ . Confidence level being at 95% indicates a high reliability on the analysis results of the study.

#### 4.7.3 Regression Coefficient

**Table4.14 Multiple Regression**

| Model                      | Coefficients <sup>a</sup>     |            | Standardized Coefficients | t     | Sig. |
|----------------------------|-------------------------------|------------|---------------------------|-------|------|
|                            | Unstandardized Coefficients B | Std. Error |                           |       |      |
| (Constant)                 | 4.019                         | 1.781      |                           | 2.257 | .000 |
| Operational_Infrastructure | .193                          | .075       | .332                      | 2.561 | .000 |
| Staffing                   | .177                          | .066       | .349                      | 2.668 | .003 |
| Information_sharing        | .393                          | .103       | .387                      | 3.799 | .001 |

##### a. Dependent Variable: RECTS\_Performance

Multiple regression analysis Table 4.13 above indicates RECTS performance results as the reliant variable and Operational infrastructure, Staffing and Information Sharing being independent variables.

The adopted linear regression mode by the study was:

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

Where; Y =Performance of the RECTS team

$\beta_0$  = Constant and is the level of Y which  $\beta_{1s}$  are 0

$\beta_1$  = Coefficient of operational infrastructure

$\beta_2$  = Coefficient of staffing

$\beta_3$  = Coefficient of information sharing.

$\beta_1$ ,  $\beta_2$  and  $\beta_3$  are the changes in Y due to the unit change in  $X_1$ ,  $X_2$  and  $X_3$  respectively where

$X_1$  = operational infrastructure,  $X_2$  = staffing,  $X_3$  = information sharing

$\epsilon$  represents error term of other factors affecting performance of the RECTS team not included in the study.

$$Y = 4.019 + .193X_1 + .177X_2 + .393X_3 + \epsilon$$

The resulting multiple Regression above indicates Y-intercept as 4.019, this is to imply that when all factors are zero, RECTS performance will be 4.019. This is to mean that there is RECTS performance at the port of Mombasa even without the factors under the study.

From the model, operational infrastructure had 0.193, this indicates that a unit increase in operational infrastructure influence RECTS performance at the port of Mombasa by 0.193.

Staffing had 0.177, this is to demonstrate that an increase by a unit of staffing when all factors are held constant will lead to 0.177 improvement on RECTS performance at the port of Mombasa.

From the coefficient table, information sharing had 0.393; this is to therefore mean a unit increase in information Sharing will result in an increase of 0.393 improvement on RECTS Performance.

## **CHAPTER FIVE**

### **SUMMARY, RECOMENDATIONS AND CONCLUSIONS**

#### **5.1 Introduction**

This chapter presents summary and conclusions drawn from the study findings and recommends areas for further studies.

#### **5.2 Summary and Findings**

This study sought to examine the factors affecting the Regional Electronic Cargo Tracking System team performance at the port of Mombasa. To aid in this, the researcher concentrated on studying operational infrastructure, staffing and information sharing as the factors affecting RECTS performance at the port of Mombasa. Evident from all the obtained models of the study were all statistically significant to predict the relationship that exist between the dependent and the independent variables.

##### **5.2.1 Operational Infrastructure**

What is the effect of operational infrastructure on the performance of regional electronic cargo tracking system team at the port of Mombasa?

Operational Infrastructure proved to be strongly affecting RECTS performance at the port of Mombasa. The researcher using Karl Pearson correlation analysis found out that operational infrastructure to a great extent affects RECTS performance as indicated by a strong positive correlation of 0.753 between RECTS performance and operational infrastructure.

Using the linear regression obtained from the obtained model, operational infrastructure has 0.193, this indicates that a unit increase operational infrastructure leads to a further RECTS performance at the port of Mombasa by 0.193. This therefore implies that operational infrastructure influences RECTS performance by 19% at a significance level of 0.000. This is to indicate a strong relationship between the operational infrastructure and RECTS performance.

##### **5.5.2 Staffing**

How does staffing affect performance of regional electronic cargo tracking system team at the port of Mombasa?

To a significantly great extent RECTS staffing was found to be affecting RECTS performance team at the port of Mombasa. Findings based on the correlation analysis indicated that staffing has a strong influence on RECTS performance being supported by a coefficient correlation of  $r = 0.641$ . Thus, from the findings training of staffs and staff adequacy strongly affects RECTS performance in relation to faster clearance and revenue at the port of Mombasa.

The researcher found out the same results from regression analysis results whereby staff training and adequacy were found to have an influence on RECTS performance at the port of Mombasa by 17.7%. This indicates a moderate effect on the needy variable, thereby in the event staff training and adequacy is increased it would result in an increase in RECTS team performance at the port of Mombasa.

### **5.2.3 Information Sharing**

What is the effect of information sharing on the performance of regional electronic cargo tracking system team at the port of Mombasa?

The study established that information sharing moderately affects RECTS performance. This was supported a coefficient correlation of  $r = 0.465$  which infers a moderate positive correlation to RECTS performance.

Regression analysis further supported the findings of the correlation analysis that information sharing has a positive moderate influence on RECTS performance at the port of by 39.3 % when all other factors are constant.

### **5.3 Conclusion**

The research study has been a subject to guidance by a general objective to examine the factors affecting the Regional Electronic Cargo Tracking System team performance at the port of Mombasa. To conduct this study, the researcher identified operation infrastructure, staffing and information sharing to be the factors affecting RECTS performance at the port of Mombasa.

To determine the effects of the operational infrastructure on the performance of Electronic Cargo Tracking System team at the port of Mombasa being the first specific objective, lead to the study identifying it to have a strong positive significance to RECTS performance. Thus therefore increasing RECTS operational infrastructure through increase utilization and increasing the number of RECTS seals increases the performance of RECTS team at the port of Mombasa

The second objective of this study was; to examine the effect of staffing on the performance of Electronic Cargo Tracking System team at the port of Mombasa. The study through various analysis established that staffing a positive influence on RECTS performance at the port of Mombasa.

Finally, the third objective of the study was; to evaluate the effect of information sharing on the performance of Electronic Cargo Tracking System team at the port of Mombasa. Information sharing was established to have a significant influence on RECTS team performance at the port of Mombasa.

#### **5.4 Recommendation**

Guided by the research, the following are the recommendations;

- i. The study recommends increasing the number of electronic cargo seals used by RECTS so as to increase the number of transit cargo being monitored by RECTS, and thus increasing compliance of the sector players resulting to increase in revenue collected and on the other hand being in a position to curb most of the malpractices relating to transit Cargo.
- ii. Apart from increasing the number of electronic seals used by RECTS, the authority should also make it compulsory for all transit cargo to be harmed using the said seals so as to facilitate faster clearance at border entry points and also ensure accurate revenue is collected since there is minimal cases of dumping reported as a result of using RECTS seal. Only the exemptible cargo not to be harmed will remain to be ones transported by Authorized Economic Movers, wide load cargo and cargo transported as loose cargo.

- iii. Frequent and regular training including increasing the number of RECTS officers at the port of Mombasa will improve the performance of RECTS team at port of Mombasa.
- iv. Transit sector players should increase information sharing to improve regional tracking and monitoring cargo while in transit and to enable this, the authority should come up with a platform or a hot line for reporting any cases even as simple as sending a text messages to facilitate tracking and monitoring of both transit and local cargo.

### **5.5 Areas of Further Study**

With the study on factors affecting RECTS team performance at the port of Mombasa coming to a successful completion, the regression analysis model obtained indicated that 63.5% variation of RECTS team performance at the port of Mombasa was attributed to the selected variables of this study which include, Operational Infrastructure, Staffing and Information Sharing. The remaining variation of 36.5% is explained by other variables not included in this study. The researcher therefore, recommends on further research study on the topic so as to unveil 36.5% variation in RECTS performance at the port of Mombasa and other related areas of the study.

## REFERENCES

- Adomavičiūtė, D. (2018). University's role and influence for professional development in public administration area. *Journal of the Knowledge Economy*, 9(2), 703-719.
- Alfitiani, A. A. (2010). Jordan's electronic transit monitoring and facilitation system. *World Customs Journal*, 4(2), 79-88.
- Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of management*, 27(6), 755-775.
- Behson, S. J., Whiting, V. R., de Janasz, S. C., Cohen, D., & Stark, G. (2018). Integrated and multi-concept HR activities. In *Teaching Human Resource Management*. Edward Elgar Publishing.
- Bifwoli, T. W. (2016). Single customs territory implementation; its effect on revenue collection and trade facilitation: case of Kenya (Doctoral dissertation, Strathmore University).
- Bourlakis, M., Vlachos, I. P., Zeimpekis, V., & Wiley, J. (Eds.). (2011). *Intelligent agrifood chains and networks*. Chichester, GB: Wiley-Blackwell.
- Denzin, N. K. (2017). *The research act: A theoretical introduction to sociological methods*. Routledge.
- Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., ... & Bartuska, A. (2015). The IPBES Conceptual Framework—connecting nature and people. *Current Opinion in Environmental Sustainability*, 14, 1-16.
- Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic management journal*, 32(3), 254-279.
- Drucker, P. F. (2007). *Management challenges for the 21<sup>st</sup> century*. Routledge.
- Efimenko, I. V., & Khoroshevsky, V. F. (2017). Peaks, Slopes, Canyons and Plateaus: Identifying Technology Trends Throughout the Life Cycle. *International Journal of Innovation and Technology Management*, 14(02), 1740012.
- Gancheva, Z. (2016). Opportunities for improving the process of training of customs officers. *Економічний вестник Донбасса*, (4 (46)).
- Gantz, D. A. (2016). The TPP and RCEP: Mega-Trade Agreements for the Pacific Rim. *Ariz. J. Int'l & Comp. L.*, 33, 57.

- Gompert, J. M., Ashmore, C., DURIE, W. E., & Reid, C. S. (2015). *U.S. Patent No. 8,930,040*. Washington, DC: U.S. Patent and Trademark Office.
- Gunasekaran, A., Subramanian, N., & Papadopoulos, T. (2017). Information technology for competitive advantage within logistics and supply chains: A review. *Transportation Research Part E: Logistics and Transportation Review*, 99, 14-33.
- Higgins, P. A., & Straub, A. J. (2006). Understanding the error of our ways: Mapping the concepts of validity and reliability. *Nursing outlook*, 54(1), 23-29.
- Kabiru, V. N., Gachuhi, E. K., Gitau, J. K., Chepkemoi, B. C., Muathe, H. M., Muthuyia, A. K., & Juma, T. N. (2016). Electronic cargo tracking system and operational performance at Kenya revenue authority and on transporters. Unpublished MBA Project, University of Nairobi.
- Lai, K. H., & Cheng, T. E. (2016). *Just-in-time logistics*. Routledge.
- Lambert, V. A., & Lambert, C. E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255-256.
- Miler, R. K. (2015). Electronic container tracking system as a cost-effective tool in intermodal and maritime transport management. *Economic Alternatives*, 1(1), 40-52.
- Moir, W. M., & Vandy, S. C. (2017). *U.S. Patent No. 9,600,797*. Washington, DC: U.S. Patent and Trademark Office.
- Morley, D., & Parker, C. S. (2014). *Understanding Computers: Today and Tomorrow, Introductory*. New York: Nelson Education.
- Mugenda, O. & Mugenda A. (2003). *Research methods: quantitative and qualitative approaches*.
- Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2017). *Human resource management: Gaining a competitive advantage*. New York, NY: McGraw-Hill Education.
- Ogula, P. A. (2005). *Research methods*. Nelson Education
- Olingo, A. (2017). Regional cargo transporters find reprieve in e-tracking. *The East African*. Retrieved from <https://www.theeastafrican.co.ke/business/Cargo-transporters-reprieve-in-e-tracking/2560-4131128-6jxkmcz/index.html>
- Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, 6(2), 1-5.

- Redick, T. S. (2019). The Hype Cycle of Working Memory Training. *Current Directions in Psychological Science*, 0963721419848668.
- Rezaei, J., van Roekel, W. S., & Tavasszy, L. (2018). Measuring the relative importance of the logistics performance index indicators using Best Worst Method. *Transport Policy*, 68, 158-169.
- Roth, M. P. (2017). *Global organized crime: A 21st century approach*. New York: Taylor & Francis.
- Steiss, A. W. (2019). *Strategic management for public and nonprofit organizations*. Routledge.
- Stewart, I. J. (2019). Strategic Trade Controls and Illicit Procurement Networks. In *Nuclear Safeguards, Security, and Nonproliferation* (pp. 389-410). Butterworth-Heinemann.
- Szyliowicz, J. S., Zamparini, L., Reniers, G. L., & Rhoades, D. L. (Eds.). (2016). *Multimodal transport security: frameworks and policy applications in freight and passenger transport*. Edward Elgar Publishing.
- Turnes, P. B., & Ernst, R. (2015). A framework for transparency in international trade. *Investigaciones Europeas de Dirección y Economía de la Empresa*, 21(1), 1-8.
- United Nations Office on Drugs, & Crime. (2010). *The Globalization of Crime [electronic Resource]: A Transnational Organized Crime Threat Assessment*. United Nations Publications.
- Van Engelenburg, S., Janssen, M., Klievink, B., & Tan, Y. H. (2017, September). Comparing a shipping information pipeline with a thick flow and a thin flow. In *International Conference on Electronic Government* (pp. 228-239). Springer, Cham.
- Wang, H. (2017, April). The Impact of Information Environment on Enterprise Internal Control. In *2017 International Conference on Innovations in Economic Management and Social Science (IEMSS 2017)*. Atlantis Press.
- WCO. (2019). *SMART Borders - WCO - World Customs Organization*. Retrieved from [https://mag.wcoomd.org/uploads/2019/02/WCONews88\\_UK.pdf](https://mag.wcoomd.org/uploads/2019/02/WCONews88_UK.pdf)

## **APPENDICES**

### **APPENDIX I: LETTER OF INTRODUCTION**

## **APPENDIX II: QUESTIONNAIRE**

Dear Respondent,

My name is Kemboi Emmanuel Kiprotich, I am student at the Kenya School of Revenue Administration taking up a Post Graduate Diploma in Customs Administration. My topic of research is 'Factors affecting Regional Electronic Cargo Tracking System performance at the port of Mombasa.' The research is purely academic and your responses will be treated confidentially. Thank you for your input.

Please read the Instructions

- i) Do not write your name
- ii) The success of this study depends on your honesty and truthfulness
- iii) Tick in appropriate box unless instructed otherwise
- iv) Please give candid opinion on questions otherwise asked
- v) Your responses will be treated with confidentiality
- vi) The questionnaire will only be used for academic purposes

### **SECTION A: PERSONAL INFORMATION**

Please tick where applicable in the appropriate space or write in the space provided

1 Years of Service at Customs      10 and below { } 11 to 21 years { }  
22 and Above { }

2 Level of Education      Diploma { } Bachelor's Degree { }  
Post Graduate { }

3 Level of Service      Supervisor { } Officer { }  
Support staff { }

## **SECTION B: OPERATIONAL INFRASTRUCTURE OF THE RECTS TEAM**

4. The effect of operational tools on the performance of regional electronic cargo tracking system at the port of Mombasa.

State your level of agreement or disagreement with the following statements

(5= Strongly Agree, 4=Agree, 3= Not Sure, 2=Disagree, 1=Strongly Disagree)

|    | <b>Statement</b>                                                                                                                                                                                                       | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|
| 4a | Has use of ECTS in monitoring of transit cargo help in faster clearance of transit cargo                                                                                                                               |          |          |          |          |          |
| 4b | The authority needs to purchase more of the ECTS seals so as to improve the performance of the RECTS.                                                                                                                  |          |          |          |          |          |
| 4c | Has the use of the authority vehicles by the Rapid Response Team who are strategically positioned, provide real time intervention to facilitate seamless flow of transit trade.                                        |          |          |          |          |          |
| 4d | Vehicles used by RECTS to respond to discrepancies on our roads plays a role in responding to cases related to transits and thus should be fitted with sirens so as to enable faster movement in case of traffic jams. |          |          |          |          |          |

### SECTION C: STAFFING

5 Effect of staffing on the performance of regional electronic cargo tracking system at the port of Mombasa.

State your level of agreement or disagreement to the following statements

(5= Strongly Agree, 4=Agree, 3= Not Sure, 2=Disagree, 1=Strongly Disagree)

|    | Statement                                                                                                                                | 1 | 2 | 3 | 4 | 5 |
|----|------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 5a | Customs officers working with the RECTS are well trained.                                                                                |   |   |   |   |   |
| 5b | There is regular on job training for the officers working with RECTS to update on the changes and changing trends on transit monitoring. |   |   |   |   |   |
| 5c | There is adequate number of officers working with RECTS at the port of Mombasa enough to offer services at a 24 hours basis.             |   |   |   |   |   |
| 5d | Most of RECTS officers find monitoring of cargo easier as result of the use of the Electronic Cargo Tracking Systems.                    |   |   |   |   |   |

## SECTION D: INFORMATION SHARING

6. Effect of information sharing on the performance of regional electronic cargo tracking system at the port of Mombasa.

State your level of agreement or disagreement to the statements

(5= Strongly Agree, 4=Agree, 3= Not Sure, 2=Disagree, 1=Strongly Disagree)

|    | Statement                                                                                                                                                   | 1 | 2 | 3 | 4 | 5 |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 5a | Improved standards on risk management on transit cargo and RECTS performance are attributed to information sharing by transit sector players.               |   |   |   |   |   |
| 5b | Customs RECTS team at port has achieved its objective of protecting the society through outsourcing and utilizing of information from other sector players. |   |   |   |   |   |
| 5c | There is a reduction in cargo diversion, and delays as a result of sharing information                                                                      |   |   |   |   |   |
| 5d | Trade and transport cost to traders is reduced as a result of sharing information.                                                                          |   |   |   |   |   |

## SECTION E: RECTS TEAM PERFORMANCE

State your level of agreement or disagreement to the statements

(5= Strongly Agree, 4=Agree, 3= Not Sure, 2=Disagree, 1=Strongly Disagree)

|    | Statement                                                                                                 | 1 | 2 | 3 | 4 | 5 |
|----|-----------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 7a | Faster clearance of transit is attributed to the adoption of ECTS and other tools by the RECTS.           |   |   |   |   |   |
| 7b | Faster delivery of Cargo is attributed to close monitoring of transit cargo by RECTS.                     |   |   |   |   |   |
| 7c | KRA has been able to meet its revenue targets as a result of RECTS enforcement mechanisms being enforced. |   |   |   |   |   |
| 7d | Faster response to E-seals alerts has played role in gapping revenue losses.                              |   |   |   |   |   |

**END.**

**THANK YOU.**

### APPENDIX III: BUDGET SCHEDULE

| ACTIVITY                                                                                   | COST               |
|--------------------------------------------------------------------------------------------|--------------------|
| Designing questionnaire/ data collection tools photocopy and Pre-testing of questionnaires | Kshs. 9,000        |
| Binding Presentation of the proposal                                                       | Kshs 5,000         |
| Internet charges                                                                           | Kshs 6,000         |
| Travelling expenses                                                                        | Kshs 10,000        |
| Data entry, analysis and compilation                                                       | Kshs 12,000        |
| Finalization and Submission final research                                                 | Kshs 11,000        |
| miscellaneous                                                                              | Kshs 4,000         |
| <b>TOTAL</b>                                                                               | <b>Kshs 57,000</b> |

#### APPENDIX IV: WORK PLAN

| ACTIVITY                                                 | AUGUST<br>2019 | SEPTEMBER<br>2019 | OCTOBER<br>2019 | NOVEMBER<br>2019 |
|----------------------------------------------------------|----------------|-------------------|-----------------|------------------|
| PROBLEM<br>IDENTIFICATION<br>AND<br>LITERATURE<br>REVIEW |                |                   |                 |                  |
| WRITING OF THE<br>DRAFT<br>PROPOSAL                      |                |                   |                 |                  |
| DATA<br>COLLECTION                                       |                |                   |                 |                  |
| DATA ANALYSIS                                            |                |                   |                 |                  |
| TYPING,<br>BINDING AND<br>SUBMITTING OF<br>THE PROJECT   |                |                   |                 |                  |