Effects of Coordinated Border Management Techniques on Trade Facilitation in Kenya

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Abstract

The study aimed at determining the effects of coordinated border management techniques on trade facilitation in Kenya. The specific objectives were to: determine the effects of "One Stop" border post on trade facilitation in Kenya at the Port of Mombasa; establish the effects of Joint Patrols on trade facilitation at the Port of Mombasa; and to determine the effects of joint risk management initiatives on trade facilitation at the Port of Mombasa. The study was anchored on three relevant theories: Technological change theory, Change management theory and Theory of constraints. The study adopted a descriptive research design and targeted 500 officers from various departments including officers from the Kenya Revenue Authority (KRA), Port Health, Kenya Ports Authority, among others at the Mombasa Port. An open-ended questionnaire with containing both structured and semi-structured questions was used to collect primary data. A pilot study was carried out on 11 KRA customs officers that did not form part of target population to test the reliability and validity of the research instrument. The study used Cronbach's alpha (α) coefficient to test reliability, while face and content validity were used for checking for validity of the research instrument. The primary data collected was analyzed with the use of Statistical Package for the Social Sciences (SSPSS) version 28. Data analysis was conducted using descriptive statistics and inferential statistics by use of moderated multiple regression analysis. The questionnaire was conceived using the type of Likert scale. For a sample target of 150 participants, a stratified sampling method was used and out of 150 questionnaires issued, 120 (80.00%) were dully filled translating to a response rate of 80 percent. Data was coded and entered into SPSS from which correlation analysis was used to evaluate the collected information. Both quantitative analysis and regression analysis were used as a data analysis technique. The information gathered have been executed through different models to obviously highlight the factors that determine the impacts of coordinated border management on trade facilitation. The investigator also used a multivariate regression analysis to determine the relationship between the independent variables and the variable dependent. The study revealed that Joint patrols, Joint Risk Management techniques and One Stop Border Post had significant influence on trade facilitation in Kenya. The results indicated that One Stop Border Post has reduced the clearance time of the cargos hence reducing the cost of doing business in Kenya. The study concluded that Joint patrols, Joint Risk Management techniques and One Stop Border Post influence facilitation of trade in Kenya. The One Stop Border Post had more impact on trade facilitation then followed by Joint Risk Management. The study recommends that Customs administration should adopt the One Stop Border Post to enhance their productivity and profitability. The study established that the adoption of various systems on customs departments had a major effect on traders because custom systems reduce the

average lodging time and clearance time of goods. From these findings, there was quick movement of products as a result of the implementation of various customs systems. Thus, the implementation of various border techniques has a major impact on facilitating trade in Kenya.

Keywords: Border Management Techniques, OSBP, Trade facilitation

1. Introduction

The Coordinated Border Management is an approach by border control interventions for international, regional and domestic regulatory bodies to control flow of goods, services, people and animals crossing the borders. It seeks to find greater efficiency over matters that involve trade flows and travel flows while striking a balance with regard to compliance requirements (Aniszewski, 2009). According to the World Customs Organization (WCO), border management gives status to the principle of the harmonization of procedures, programs and delivery results, while eliminating perceptions that favor a single solution. One good example is through the use and the application of the One Single Border Post (OSBP) system. Border management involves many agencies in, immigration, trade, customs, security, transport and health. Through a strong political will, financial sustainability, technical inputs, and an active involvement of border agencies that maximizes the use of international instruments, eases border management (Bin, 2009). In addition, the adoption of the Integrated Border Management (IBM) through its objectives, have helped in adding up all functions of the agencies concerned through their single authority.

There are a number of conditions to be met for IBM to be successful. Firstly, inter-agency collaboration and coordination should exist under a single authority which allows for the receiving of regular training that enables it to be accountable in controlling the relevant agencies. Secondly, the respective country has a duty to operate under a single window environment with respect to its declarations in trade and regulatory control. Thirdly, there have to be a constant response of information and intelligence from all the concerned agencies (Kieck, 2003). Furthermore, a well-organized and a well secured border management is important in conducting cross-border trade in a smooth and in an economical way. This can be enhanced through the application of joint patrols and the use of risk management to enhance port efficiency. According to WCO (2005), the

Shared agency enforcement units have been established, which included officers from the three main agencies forming part of the PCB agreement. This initiative provided a dependable and regular channel for information exchange, efficiency of border management and for targeting organized crime. Landlocked countries are always far away from the seaports hence their traded goods need to cross a number of land borders before reaching their destination. According to (Kieck, 2003), the border control management in these countries have significant roles to play especially in cross-border trade across their neighboring countries, and within their regional blocs.

According to (Faye et al., 2007), several landlocked developing countries face many problems in terms of their border management. For example, inefficient trade and customs procedures, unpredictable rules and regulations, extreme physical inspections, insufficient infrastructures and facilities, and lack of collaboration among border agencies within a country and between neighboring countries; make cross-border trade inflated and time consuming, thus hindering competition in trade.

1.1.1 Global perspective

Internationally, countries strive to ensure that trade is facilitated while their interests are met. The collection of revenues, protection of the society and safeguarding security of the trade supply chain, strive for increased trade facilitation to promote investment and reduce poverty levels (WCO, 2003). Trade between countries has been vital driver of economic growth and creation of wealth. Customs administration serves as a key element in the effectiveness of international trade because it processes every single consignment to guarantee compliance with national regulatory requirements and international multilateral trading rules. Customs administration has put consideration ways to reduce this weakness, by use of Authorized Economic Operator (AEO) programs.

Many mechanisms have been put in place with an aim of promoting legitimate trade across the borders. These mechanisms include; provisions of the World Trade

Organizations (WTO) Agreements and WCO treaties on trade facilitation. Specific reference should be made to Revised Kyoto Convention that provides both legal framework and arrangement of agreed standards to increase customs operations with a view towards harmonizing and standardizing customs procedures and policies worldwide (World Bank 2005). This is the main objective of the convention. The WCO's SAFE framework of standards similarly aims at facilitation of legitimate trade by introduction of the concepts of Customs-to-Customs and Customs-to-Business partnerships (WCO, 2007).

According to (Naim (2005), terrorism has been recognized and global criminal activities are transforming the international system and that the borders generate profit opportunities for smuggling networks and weaken nations states by limiting their ability to curb the attacks that's hurt the economy. Countries have started to review existing policies and procedures on the basis of international conventions (such as the WCO's Revised Kyoto Convention) and international best practice to ensure that procedures are simplified and incorporate modern techniques including the extensive use of risk management and information technology (Kieck, 2003). Coordination of borders has led to the establishment of one stop border post (OSBP). According to (Kieck, 2003), the establishment of one stop border posts provides states with the opportunity to reduce the costs of doing business and improve enforcement at shared borders. Moving successfully from conceptualization to implementation requires that these initiatives be properly planned and the emphasis placed on the involvement and buy in of stakeholders. It also needs to be recognized that the shift from two stops to one stop arrangements has a significant impact on officers of both states. Investments in change management and retraining are essential to ensure that the participating states reap the envisaged benefits. Finally, developments in the WCO and elsewhere on issues such as the mutual recognition of AEOs and other Customs-to-Customs arrangements provide states with the opportunity in moving beyond the traditional one stop arrangement (United Nations, 2018)

1.1.2 Regional perspective

Reforms have been partly driven by development aid conditions and preferential trade agreements with efforts to comply with the World Trade Organization (WTO) regulations. A number of African countries working together with international bodies have applied these reforms hence increased trade volumes and thus increasing revenue collection. Customs reforms and initiatives in Africa have been greatly relied on as a strategy of improving trade along the Kenyan borders. There has been strong emphasis in African countries to promote and enhance facilitation of trade hence investing more to reduce poverty levels (New Partnership for Africa's Development (NEPAD, 2017). There

has been insecurity and instability along the borders hence making countries not meeting their target revenues.

The revenue administration structures for most of the developing countries have failed to meet the set revenue objectives and have also not been as productive as desired. This has called for the need to reform the revenue structures for most of the developing countries. This has been done with the aim of achieving economic efficiency, revenue adequacy, simplification of customs procedures and equity and fairness among the traders. Some policy advice has been directed towards such countries in the process of redesigning their tax policies through various reforms (Blinder, 2008). This has led to introduction of new customs reforms, more efficient administrative tools to block the loopholes that lead to tax evasion as well as the call to widen tax bases and cut on exemptions. South Africa for example, through the reform and modernization strategies has recorded a significant benefit in clearing time of the cargo by the customs administration. Also, there has been an increasing transparency within the customs administration staff and also with other trading countries (Wondemagegne , 2014). Locally, countries have faced a number of challenges that called for enhancement of professionalism in revenue administration.

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In regards to this, Kenya Revenue Authority has introduced an ongoing change strategy in running of its activities. This has led to introduction of the Revenue Administration Reform and Modernization Program (RARMP). The program began in 2004 with the intention of changing KRA into a modern, client focused and fully consolidated organization. The revenue administrations of the East African Community (EAC) through the reforms have made consultations with the taxpayer as a crucial measure of its achievement in compliance. There are also annual events on trade held by Kenya, Tanzania and Rwanda referred to as the Taxpayers Day which entails discussing the importance of tax compliance as well as recognizing companies that have been compliant. The meetings are held monthly in Uganda. Another form of reform adopted by the East African countries is the use of Information Technology (IT) in customs operations among the states. For instance, Kenya adopted the Simba 2005 system in its operations. The system differs from ASYCUDA which is the most widely used IT System in Africa. Kenya also phased out the pre-shipment inspection of cargo for purposes of customs in 2005 while Tanzania subcontracted the destination inspection to be done by a pre-shipment company.

1.1.3 Local perspective

In Kenya, several departments work under Customs administration at the port. These departments include; transit

sheds, petroleum management units, scanning units, container terminals, customs and bonded warehouses among others. The Revenue authority in Kenya (KRA) has put various CBM methods in order so as to enable the management and coordination of the above departments (Kenya Revenue Authority, 2017). CBM was introduced in Kenya in the year 2009 with an aim of minimizing duplication of clearance documents, less clearance time, cost benefit analysis and effectiveness in trade facilitation. Nevertheless, this has not been kept under implementation since the main objective for coordination of accomplishment has not been fully realized.

The call for the joint border management by several departments in customs has been on rise. Most of these departments have developed the use of CBM that involves collaborations of all these activities that improve the efficiency and effectiveness of control procedures and policies mainly in clearance of goods and travelers. According to (Polner, 2011a), many countries have implemented CBM which has become a focal in trade facilitation. The coordination of the borders has its background in Revised Kyoto Convention and the SAFE Framework of standards. The RKC enhances CBM techniques and ensures necessity of its coordination with all the control agencies within countries. The joint Risk Management technique benefits more in the implementation of CBM since it helps in the examination of the outcomes as a result of information sharing and intelligence.

The implementation of the CBM would be of benefit in risk management, intelligence and enables a stronger cooperation of the agencies involved. The CBM approach provides a basis for coordination of different mechanisms when it is implemented according to the RKC principles and standards (WCO, 2011). Logistics efficiencies of various countries as measured by World Bank's Logistics Performance Iindex (LPLI) 2017), Kenya was ranked in the 62nd position out of 155 countries in Africa. According to World Bank Report (2013), the importation and exportation of cardo costed between USD 2,250 and USD 2,350 which is less than the USD 2,180 and USD 2,793 regionally. There is need for further improvement in Customs in terms of infrastructure, logistics competence, tracking and tracing of the cargos.

1.2 Statement of the Problem

Previously borders experienced a lot of challenges including loss of revenue through smuggling, illegal entry and exit of arms imposing security threats in the country among others. With the implementation of the CBM, there has been efficient service delivery, the information sharing is wide, there is cost-saving through economies of scale, there is prompt management of risks, the waiting time for goods clearance reduced significantly, there is reduction in transportation costs and less duplication of paperwork. According to WCO (2007), customs modernization programs have been implemented hence attributing to the incorporation

of One Stop Border Post, Joint Patrols and Joint Risk Management.

Implementing a strategy is tougher and more time-consuming than crafting the strategy and thus some organizations have been seen to either fail or stop at the strategy formulation stage, (Wheelen and Hunger and Hunger, (2008). Organizations seeking success at strategy implementation stage must thus have a supportive culture, an effective structure as well as proper budgets and information systems. Scanning external environments thoroughly, carefully allocating resources and committed employees are important inputs of this stage. The Star (2013) observes that the crucial missing link in the implementation of the CBM is the lack of investments in IBM (integrated Border Management systems) by most of the agencies that are expected to utilize the services under the one stop border operations.

The Busia border is a major transit point for the EAC partner states on the west of Kenya. The border has however been notorious with clearance delays. These delays have been blamed on various factors with the major factor being poor infrastructure. The Customs yard on the Kenyan side of the border is in a dilapidated state and has not expanded over time to accommodate the ever increasing volumes of cargo being handled there. Moreover, they lack cargo verification sheds which hinders timely verification of cargo by the various concerned agencies such as customs, standards' bureau, health and security agents. Most offices in use are semi-permanent and in some instances one agency could have several offices located at different points, for instance, Kenyan

Customs has three offices located at different locations at the border point. Several studies have been done locally and in the EAC on strategic behavior, strategy implementation and related topics. In a study on the strategic responses adopted by the Kenya Revenue Authority's Customs Services department to changes in the external environment, Makundi (2012) observed that the department had implemented OSBP as part of its Customs Reforms and Modernization (CRM) Project aimed at transforming and modernizing Customs administration in accordance with internationally accepted conventional standards and best practice. A study was conducted by Ogalo (2010) on issues for EAC regional integration and economic growth. TMEA (2010) carried out a case study on Chirundu OSBP while Kieck (2010) conducted a study on unlocking trade opportunities through one stop border post. On strategy implementation, Aosa (1992) looked at strategy implementation within large, private manufacturing companies in Kenya.

Adongo (2008) conducted a study on the challenges to strategy implementation in health and focused on NGOS in Nairobi. So far, no study has been carried out on the implementation of the CBM technique at the borders despite the challenges brought about by inherent inefficiencies,

nontariff trade barriers and delays that often lead to strikes and are blamed for corruption at the border. This study therefore sought to identify practices which have been employed in implementing the OSBP strategy in Busia and challenges thereof.

The researcher hence concluded the need to answer the question; what practices have been employed in implementing the OSBP strategy at the Busia border post? And what are the challenges?

1.3 Research Objectives

1.3.1 General Objective

The key objective of the study was to determine the effects of coordinated border management techniques on trade facilitation at the Mombasa port.

1.3.2 Specific Objectives

i.   To examine the effects of One Stop Border Post on trade facilitation at the Port of Mombasa

ii.   To establish the effects of Joint Patrols on Trade Facilitation at the Port of Mombasa

iii.   To determine the effects of Joint Risk Management initiatives on Trade Facilitation at the Port of Mombasa

1.4 Research questions

i) How does One Stop Border Post affect trade facilitation at the Port of Mombasa?

ii) What effect do Joint Patrols on Trade Facilitation at the Port of Mombasa?

iii) How do Joint Risk Management initiatives on Trade Facilitation at the Port of Mombasa?

1.5 Scope of the study

The study covered the Port of Mombasa where it determined the effect that coordinated border management techniques on trade facilitation. It narrowed down to Mombasa Port since it is the largest and busiest gateway hub to EAC trade facilitation.

1.5 Justification of the Study/Significance of the Study

1.5.1 Traders

The traders both small and big will benefit more when customs systems are applied on trade as result of goods being delivered much faster to their customers or consumers which will make them to be more competitive in the market and less expensive (Arvis, et al. 2018). In addition, consumers will gain because they will not pay the costs of lengthy border delays that might be included in the cost of goods. For instance, if a transit truck waits at the border for not less than a week, eventually the customer is paying for its being off the road and it's unproductive during that time.

According to (Brett et al., 2018), with small reductions in the transactions cost of trade, such as long boundary processes, result in considerably enhanced trade. This is true for both rich and poor nations, but developing nations would demonstrate greater comparative trade gains due to the comparative inefficiency of their present schemes and because

agri-food and tiny and medium-sized enterprise (SME) trade, which is most significantly impacted by inefficient processes, are essential to these countries' economies. According to (Brett et al., 2018) demonstrate how trade facilitation policies impact distinct economic industries and distinct kinds of traders to decrease transaction costs. Research by the OECD demonstrates that developing countries benefited from trade facilitation by two-thirds of total global welfare benefits. However, OECD countries alone had to undertake trade facilitation, developing nations will lose out.

1.5.2 Customs Administration

The benefits of facilitating trade are reducing business-government transaction expenses

(Meltzer, 2013). However, customs administrations face increasing quantities of trade clearance, tracking and, at the same moment, they are compelled to add fresh control legislation, for instance in the region of safety. Concepts of trade facilitation assist customs administrations fulfill their responsibilities by using the easier procedure or scheme to facilitate the necessary process. Moreover, where companies compete in terms of expenses; any decrease in the transaction costs associated with trade would produce a benefit. Thus, transaction costs threaten business competitiveness and inhibit Customs' best use of limited control resources. Trade facilitation also enhances continuous rises in amounts of trade and complexity that alter the global trading community's operating environment considerably.

As a consequence, it also enhanced the effectiveness of border activities through transparency in their activities and consistency; this enables customs departments to devote minimal attention to "low risk associated" passengers and shipments, enabling customs funds to be redeployed on intensified. In addition, it also improves border management efficiency, thereby reducing trade costs for business.

1.5.3 Researchers

This research work will also increase scholars' stock of information for future reference as well as research. The researchers will be able to use it to equip theories relating to this topic and may also derive areas that requires further research.

1.6 Limitation of the study

The researcher will focus at the Mombasa port which is the largest port in East Africa hence not covering the entire ports. Furthermore, the researcher experienced varied limitations in relation to this study. First, the issue of corvid 19 has seriously affected the usual way of interaction. Therefore, physical meeting of the participants towards distribution of questionnaires was definitely affected. However, the researcher had put in place adequate measure and tried to convince the participants of non-disclosure of their identity. Another limitation was obtaining data from other similar studies as the area of study was limited research, the areas

were unique and seemed to have not been vastly researched in the past.

2. Literature Review

Literature review refers to evaluation of the existing literature based on one's subject or the topic being studied, by reviewing literature relevance to the study topic. Literature review is important in the research in that it creates a sense of rapport reader so that they can trust one's study. This section will provide a review of some of the current literature on research on customs system impacts on trade facilitation by critically examining their aims. It also covers main sections such as conceptual framework, theoretical literature and empirical literature, research gaps, study-related criticism of current literature and summary.

2.2 Theoretical Review

This shows a considerate way of looking at various theories, models that are appropriate to the topic under study and help to make a prediction about a given situation (Carnwell & Daly, 2015). The theories supporting this study are; Technological change theory, Change management theory and Theory of constraints.

2.2.1 Theory of Constraints

This theory was first applicable to business systems, Blackstone (Blackstone, (2013). This theory mainly focused on the limitations that joint patrols experiences. According to (Blackstone, 2010), assumes that performance of an organization cannot improve due to a specific problem or inefficiencies. The constraint can however be established by looking at the effect it causes to an organization. The operation performance will improve once the main constraint within the organization is established and removed. A constraint is described as anything that prohibits a system from attaining an output that is greater than its objective. It is observed that a system is a set of interconnected components that share a common objective. This theory applied to business systems for the first time (Blackstone, 2010).

Based on this theory, KRA ensures that it establishes internal process that will support the introduction of the Single Window system. The developments have to be repeated severally until the system is fully owned by the employees and is producing results. There are various challenges that may stem from using the system at the initial stages and there is need to deal with them as they emerge, and the learning curve lessons recorded for future reference. The goal of this theory in business is to eliminate the constraints so as to maximize the owners" or stockholders" wealth. According to (Alwadain et al., 2016), constraints are like individuals or departments that are unable to maintain up with the modifications. If this department cannot add more value it will not be able to maximize on the returns. Nevertheless, policy constraints are a management decision or business culture that limits the system. Therefore, there is need for the management to meet

regularly with their team members for them to be able to receive feedback and use the feedback to make improvements to the policy and over internal processes. A dedicated setup team within an organization is essential in driving the whole organization towards the geared results.

2.2.2 Change management theory

Over the years, research has been conducted by many scholars among them John Kotter, McKinsey and Lewin who have indicated that for change to be effectively managed in an organization several factors need to be considered. These factors have been labelled as the acute in the success for effective change management with the implementation of CBM. Understanding the need for change is basically elaborating the reason why change is needed and making it understood by all so they know why they are required to change. There is need to bring all the parties on board on the need for change by showing them the urgency of the change. The Change Manager should develop an optimistic vision on how the change being implemented will take the group; the opportunities that will be brought up by the changes and the future hope being shaped. However, more than that, the leader must develop a plan for getting to the destination you have talked about (Khaffaf, 2012).

According to Christopher (2008) change management research indicates that if a proposed change cannot be aligned with the core vision, mission or organizational goals then the collective commitment of organization members to the change may be difficult. It is therefore clear that a clear vision at the beginning is paramount for the employees to be guided in the right direction of change. Having a vision is one thing but communicating it to the target audience is another completely different issue. Communicating the change message/vision is important at all levels of the organization. According to Kamau (2014), leadership should be estimated on how the communication of the vision is needed hence not limiting to one congregational meeting. Nelson (2003) concurs by saying that the internal communication within the organization is a crucial factor contributing to project success and failure for leaders to communicate effectively will cost the organization as failure to integrate employee vision and that of an organization to a large extent affects overall performance of the organization as stakeholders do not share a common goal in achieving strategic plans.

CIU (2012) indicates that implementation is the challenge that comes at the end of all new and old methods for improving organizations as strategic planning, architecture development, change management, new information systems technologies, business process re-engineering and total quality management are some of the concepts that are being advocated to improve radically, organization performance but advocates of each concept, however, struggle when questioned about successful implementation. Declaring victory too soon is another crucial failure factor as all accomplishments might get undone if

efforts cease midway in addition to not anchoring changes in the corporate culture amalgam of share history, explicit values, and norms and believes, and common attitudes and behaviors (P. Kamau, 2014). In fact, it is impossible to implement change and expect the entire culture and organization to change, but managers should at least strive to change those values and norms of the culture relating to the change objectives (Higgins & McAllaster, 2004).

2.2.3 Technological Change Theory

Technological change theory mainly focuses on the adoption of One Stop Border post by custom administration. According to (Tidd, Bessant, & Pavitt, 2005), technological change has also been demonstrated in the previous days with the' Linear Model of Innovation,' which has now been mainly discarded to be substituted by a model of technological change involving innovation at all phases of research, production, dissemination, and use. Generally speaking, technological change modeling often implies the innovation process. This continuous improvement process is often modeled as a curve that shows downward expenses over time (Mondragon, Mondragon & Coronado, 2017). Concerning custom systems management, there has been a progressive change in technological that has been adopted to improve custom management and facilitate trade. The custom system has also registered a progressive change in technology over years.

In 2005, Kenya Revenue Authority in the department of customs implemented Simba 2005 with technical assistance from the Government of Senegalese. The system was part of the proposed modernization and reforms programs aimed at streamlining various operations departments of customs. The department that deals mostly with exporters and importers of goods and services being the highest revenue earner among customs departments (Mbui, 2016). The system was introduced to help promote efficiency in clearing and forwarding imported and exported goods by providing electronic submissions for the required import or export and to allow easy lodging traders information of clearance within the system. After formally introducing the Electronic Single Window System, Kenya made notable progress in 2014 (Djanitey, 2018). This was intended to create it much easier, quicker and easy to document cargo clearance across its boundaries. The Single Window System is a technological change that Kenya has implemented to support international trade in Kenya by decreasing delays and reducing expenses connected with border clearance while retaining the necessary controls and collection of levies, charges, duties and taxes on imports or exports where applicable. In order to encourage trade facilitation, all these customized schemes have been implemented. In this way, international trade processes, in particular import and export processes, transit conditions and processes implemented by customs and other organizations, are simplified, harmonized and automated.

2.3 Conceptual Framework

This provides a set of wide principles and concepts drawn from appropriate research areas and used to structure a later lecture (Kasumu, 2013). The figure below will guide the research and show how the factors in this research interrelate. The main factors mentioned in this conceptual framework are consistent with the theories built for this research to explain, predict, and master phenomena such as interactions, occurrences, actions, and so on.

Figure 1.1 Conceptual Framework

2.4 Review of Variables

This is a way of gaining knowledge by means of direct and indirect observation. Empiricism values of this kind are more than other kinds also can be measured qualitatively or quantitatively. Quantifying the evidence or making sense of it in qualitative form, a researcher can answer empirical questions, which should be clearly defined and answerable with the evidence collected.

2.4.1 Joint Patrols

The Kenyan borders has had various forms of smuggling goods in and out of the country. Lots of traders were using "Panya" routes to cross with their goods hence evading payment of taxes to the Customs Authority. This has resulted to loss of revenue by the customs authority hence not meeting its targets in the financial years (KRA, 2018). Lack of adequate scanners and sniffer dogs (K9) has been the main cause to smuggling. Most of the ports have been notorious for this activities with Port of Mombasa being the being named as notorious in attracting contraband, prohibited and restricted goods (KRA, 2015). In the study conducted by Chaflin (2012), there is need to monitor porous ports to enhance the fight against influx of unaccustomed goods into the country. According the studies conducted by Temisan (2015), proper border management by different control agencies should be adopted so as to enhance proper coordination between the control agencies at the borders hence improved security.

Effective joint patrols have for a long time depended on the cooperation and coordination between the control and security agencies within the partner state (Chan, 2018). There is need for coordinated activities by the control agencies at the borders. Joint patrols between enforcement and surveillance should work jointly to enhance security at the borders. Joint controls ensure sharing of resources for instance aircrafts, OSBPs by the agencies involved in trade to ensure that there is an ultimate protection within the partner state. According to Jeandesboz (2016), there is need for centralized controls and commands for security managements at the border. This will enable customs and other agencies involved in trade to coordinate and improve revenue collection at the borders. Furthermore, the country's security will be enhanced where enforcement measures will be implemented and enforced by customs and other agencies.by centralization of the border activities, it greatly eliminates the time wasted in the clearance processes and ensures that there is maximum use of these

resources by the agencies hence leading to efficiency and effectiveness at the borders (Barney, 2011).

2.4.2 Joint Risk Management

Risk management is defined as the systematic application of procedures and practices which gives customs relevant information to address movements or anything that possess a risk (WCO, 2011). Customs administration has faced a number of challenges in its operations as a result of import, export and trade transactions increase. Some of the challenges have been experienced in facilitation of passengers, cargos detecting these frauds using these mechanisms (UNCTAD, 2011). According to Yasui (2009), the focus of an organization is mainly on the threats that are involved in the operations of businesses and therefore there is need to implement necessary controls to the threat and ensure protection against the risk identified. Therefore, multiple agencies are encouraged to use risk compliant techniques. This measures will increase revenue collection, improvement in compliance with the laid down policies and statutory regulations and a better allocation of resources.

There is need for a comprehensive plan which includes; leadership, risk profiles, availability of equipment, and objectives of the member organization. There is need for training of the stakeholders before performing any operation and hence the outcomes should be evaluated systematically and used for analysis of risks in future. There is also need for other stakeholders involved in cross border trade apart from customs and border police need to be briefed of the proceedings (European Union, 2012). Joint risk management by customs and other agencies is of great importance since it has enabled faster clearance of goods. Also the use of Authorized Economic Operators has been implemented which has developed good working relationships with traders and customs hence leading to increased revenues.

2.4.3 One Stop Border Post

According to the Kieck (2010) many countries having realized the benefits of less restriction to cross border trade are pushing for less restrictive borders and have adopted a strategy known as the One Stop Border Post (OSBP) as a mechanism to improve the movement of goods and services across shared international borders. Where implemented, this strategy has been found to have both economic and customs law enforcement benefits. However, to succeed its implementation required the support of all border management stakeholders. The OSBP strategy has therefore been adopted in the East Africa common market which was created through the establishment of the East

African Community (EAC) in a treaty entered into by six Eastern Africa countries of Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. Wafula (2012) noted that the EAC Common Market protocol wishes to establish a single customs union or territory to facilitate free movement of goods in the East African region.

This need to facilitate free trade motivated the adoption of the OSBP model in some major border points within the EAC. One of these critical border points is the Busia border post which is located at the international border between Kenya and Uganda. Busia serves as one of the main transit points for goods heading to the landlocked countries of Uganda, South Sudan, Rwanda and the Democratic Republic of Congo (DRC) from the Kenyan port of Mombasa. This then is one of the busiest cross border points in the region. It is characterized by heavy human and vehicle traffic consisting of petroleum tankers, small scale cross border traders and containerized cargo trucks carrying either transit, export or import containers (Compete USAID, 2010).

2.4.4 Trade Facilitation

Several studies have shown that a better climate for trade facilitation rises quantities of imports and exports. Gani, (2017), evaluated the relationship between export and import time, logistics facilities and international trade and discovered that time delays resulted in reduced amounts of trade and reduced the likelihood of companies entering export markets for time-sensitive products. Various systems aimed at reforming Customs processes have been implemented to improve trade. These reduce the time taken to clear goods as they would have already been verified by the time they arrive. Through these systems implemented by Kenya Revenue authority has enabled clearing and forwarding firms and importers to participate in trade due to reduction of transaction cost of goods (Martin, & Kinoti, 2017). The congestion which was being witnessed at the ports has significantly reduced. This has been enhanced through automation of customs systems.

Kenya's commitment to WTO principles is a key component of its financial policies. It offers all its trading partners with Most Favored Nation (MFN) treatment. Furthermore, Kenya is a member of EAC, IGAD, ACP/EU COMESA, EAC and OAU pursuing preferential trade agreements as a way of increasing trade flows. Some sections of the legislation have been altered by the country to conform to WTO treaties, including anti-dumping, countervailing and intellectual property. The 2002 development plan discussed the trade policy implementation, the ongoing decrease and eventual elimination of tariffs, and the government role in controlling and regulating growth in the private industry (Nyugha, 2019). Customs department in Kenya depends on the tariff as recognized and considered the significance of trade facilitation as primary trade policy tool. The study will analyze Trade Facilitation Systems in Kenya as an important element of its trade policy, particularly with important progress in the multiple trade treaties. Kenya is implementing all trade facilitation treaties of the WTO. These treaties include; the Agreement on Customs Assessment Rule of origin, Pre-Shipment Inspection, Procedures for Import Licensing, Trade and phytosanitary measures and Technical

Barriers for Sanitary (Singh, 2017). Consequently, as a member of World Customs Organization (WCO) and is involved in various negotiations for accession to internationally applicable customs contracts including the convention and harmonized System, which forms the foundation for the classification of tariff on products traded on the global market. WCO membership helps develop best practices around the world through training custom officers, benchmarking, and networking with other global trade members and organizations, including; International chamber of commerce, UNCTAD and WTO (Singh, 2017).

Kenya has embarked on a reform and modernization project of the Customs Services Department (CRM). The main aim of this project is to transform customs into modern customs administration systems which are in line with best practices and standards accepted worldwide as outlined in WCO Revised Kyoto and WTO agreements. Trade facilitation continues to a major challenge in Kenya despite the signing of the multiple multilateral trade contracts. The current inadequacy of a legal and regulatory structure, institutional, human ability, bad ports, road facilities, rail and trade documentation process inefficiency continue to affect the company community through delays in item motion and clearance at multiple entry and departure points (Chege, 2018). This led in elevated transaction costs connected with the entire technique, which decreases Kenyan products competitiveness on the global market. Because Traded Facilitation deals primarily with the motion of products from loading to offloading points, it is similarly involved and may lose track on certain products terms. Second, import or export clearance times may differ depending on the products being delivered and related variables that may cause delays, either this may or may not decrease transaction costs.

2.5 Empirical Review

This is a way of gaining knowledge by means of direct and indirect observation. Empiricism values of this kind are more than other kinds also can be measured qualitatively or quantitatively. Quantifying the evidence or making sense of it in qualitative form, a researcher can answer empirical questions, which should be clearly defined and answerable with the evidence collected.

2.5.1 Joint Patrols

The Kenyan borders has had various forms of smuggling goods in and out of the country. Lots of traders were using "Panya" routes to cross with their goods hence evading payment of taxes to the Customs Authority. This has resulted to loss of revenue by the customs authority hence not meeting its targets in the financial years (KRA, 2018). Lack of adequate scanners and sniffer dogs (K9) has been the main cause to smuggling. Most of the ports have been notorious for this activities with Port of Mombasa being the being named as notorious in attracting contraband, prohibited and restricted goods (KRA, 2015). In the study conducted by Chaflin (2012),

there is need to monitor porous ports to enhance the fight against influx of unaccustomed goods into the country. According the studies conducted by Temisan (2015), proper border management by different control agencies should be adopted so as to enhance proper coordination between the control agencies at the borders hence improved security.

Effective joint patrols have for a long time depended on the cooperation and coordination between the control and security agencies within the partner state (Chan, 2018). There is need for coordinated activities by the control agencies at the borders. Joint patrols between enforcement and surveillance should work jointly to enhance security at the borders. Joint controls ensure sharing of resources for instance aircrafts, OSBPs by the agencies involved in trade to ensure that there is an ultimate protection within the partner state. According to Jeandesboz (2016), there is need for centralized controls and commands for security managements at the border. This will enable customs and other agencies involved in trade to coordinate and improve revenue collection at the borders. Furthermore, the country's security will be enhanced where enforcement measures will be implemented and enforced by customs and other agencies.by centralization of the border activities, it greatly eliminates the time wasted in the clearance processes and ensures that there is maximum use of these resources by the agencies hence leading to efficiency and effectiveness at the borders (Barney, 2011).

2.5.2 Joint Risk Management

Risk management is defined as the systematic application of procedures and practices which gives customs relevant information to address movements or anything that possess a risk (WCO, 2011). Customs administration has faced a number of challenges in its operations as a result of import, export and trade transactions increase. Some of the challenges have been experienced in facilitation of passengers, cargos detecting these frauds using these mechanisms (UNCTAD, 2011). According to Yasui (2009), the focus of an organization is mainly on the threats that are involved in the operations of businesses and therefore there is need to implement necessary controls to the threat and ensure protection against the risk identified. Therefore, multiple agencies are encouraged to use risk compliant techniques. This measures will increase revenue collection, improvement in compliance with the laid down policies and statutory regulations and a better allocation of resources.

There is need for a comprehensive plan which includes; leadership, risk profiles, availability of equipment, and objectives of the member organization. There is need for training of the stakeholders before performing any operation and hence the outcomes should be evaluated systematically and used for analysis of risks in future. There is also need for other stakeholders involved in cross border trade apart from customs and border police need to be briefed of the proceedings (European Union, 2012). Joint risk management

by customs and other agencies is of great importance since it has enabled faster clearance of goods. Also the use of Authorized Economic Operators has been implemented which has developed good working relationships with traders and customs hence leading to increased revenues.

2.5.3 One Stop Border Post

One Stop Border Post has been facing various challenges during its implementation (Ndunda, 2012). According to the Kieck (2010) many countries having realized the benefits of less restriction to cross border trade are pushing for less restrictive borders and have adopted a strategy known as the One Stop Border Post (OSBP) as a mechanism to improve the movement of goods and services across shared international borders. Where implemented, this strategy has been found to have both economic and customs law enforcement benefits. However, to succeed its implementation required the support of all border management stakeholders. The OSBP strategy has therefore been adopted in the East Africa common market which was created through the establishment of the East African Community (EAC) in a treaty entered into by six Eastern Africa countries of Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. Wafula (2012) noted that the EAC Common Market protocol wishes to establish a single customs union or territory to facilitate free movement of goods in the East African region.

This need to facilitate free trade motivated the adoption of the OSBP model in some major border points within the EAC. One of these critical border points is the Busia border post which is located at the international border between Kenya and Uganda. Busia serves as one of the main transit points for goods heading to the landlocked countries of Uganda, South Sudan, Rwanda and the Democratic Republic of Congo (DRC) from the Kenyan port of Mombasa. This then is one of the busiest cross border points in the region. It is characterized by heavy human and vehicle traffic consisting of petroleum tankers, small scale cross border traders and containerized cargo trucks carrying either transit, export or import containers (Compete USAID, 2010).

2.5.4 Trade Facilitation

Several studies have shown that a better climate for trade facilitation rises quantities of imports and exports. Gani, (2017), evaluated the relationship between export and import time, logistics facilities and international trade and discovered that time delays resulted in reduced amounts of trade and reduced the likelihood of companies entering export markets for time-sensitive products. Various systems aimed at reforming Customs processes have been implemented to improve trade. These reduce the time taken to clear goods as they would have already been verified by the time they arrive. Through these systems implemented by Kenya Revenue authority has enabled clearing and forwarding firms and importers to participate in trade due to reduction of transaction cost of goods (Martin, & Kinoti, 2017). The congestion which

was being witnessed at the ports has significantly reduced. This has been enhanced through automation of customs systems.

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loading to offloading points, it is similarly involved and may lose track on certain products terms. Second, import or export clearance times may differ depending on the products being delivered and related variables that may cause delays, either this may or may not decrease transaction costs.

2.6 Critique of existing literature

According to the study carried out by Terzi & Cavalieri (2006), tools in locomotives aids in the coordination of borders during decision making process. In this research, there are various weaknesses where by in the development of these tools requires heavy financial investments and human personnel. This is due to activities such as capacity building and intensive training required in the alignment of the border resources. There is need of sharing information among the officers involved (WCO, 2007).

There are various economic impediments that have influenced certain market places due to existence of non-tariff barriers, this is due to difference in the operation hours by various control agencies at the border. In the research conducted by (Aniszewski, 2009), on the analysis of joint patrols on collection of revenue, there is need for more attention on the coordination approaches between the single window system and joint risk operators. There is the need for joint risk initiatives, joint patrols and the One Stop Border Post since there have been difficulties experienced in the clearance processes. A review in concepts of seeking a greater efficiency in collection of revenues (Amin & Hoppe, 2015), hence classification of joint controls given in terms of intra and inter agency corporation and the international corporation.

The review presented by (Titeca & Flynn, 2014) the literature on legitimacy, hybrid governance and legal procedures that there is influence that is often-experienced in Informal Cross-Border Trade, for instance Northwest Uganda. According to the author, information sharing between the border agencies is important in coordination of the border techniques. The solution to the challenges and pressure caused by governments and traders were not discussed extensively. For example, CBM in Asia actively deliberated on reduced transportation costs among the stakeholders. Therefore, CBM have had various challenges such as smuggling of good to evade payment of duties, crossing of prohibited and restricted goods along the borders which poises a high risk to the country. This research will deliberate on this challenge by finding an everlasting solution to customs and border control agencies.

2.7 Research Gaps

Coordinated Border Management techniques were introduced in Kenya to facilitate international trade hence striking a balance security and trade flow procedures and policies. Many researches have been done most of them dwelt on the Coordinated Border Management as whole paying much attention on specific technique and its effect on trade facilitation. According to research conducted by (Sudi, 2017),

on the effects of OSBP on facilitation of trade at Lunga lunga border, this is a technique that is used to show the achievement of trade facilitation and hence it does not propose the effects of OSBP on facilitation of trade. The literatures conducted on matters of security, customs and revenue performance on CBM, the literatures made on these regions are few. The research studied on the effects of adoption of the coordinated border management techniques to provide solutions to CBM techniques to EAC ports with a case study being port of Mombasa. It has led to decreased compliance costs through streamlined and simplified procedures, increased efficiency in inspection and release of phytosanitary goods and Improved quality of services rendered by border agencies.

2.8 Summary

The research will be of greatly better the adoption of coordinated border techniques. These research will help in filling up the gaps that was left by many organizations showing the role of the joint patrols, joint risk management and the One Stop Border Post techniques.

3. Reseach methodology

Research methodology is the systematic theoretical analysis process of the various methods applied in the field of study for collecting information and data to help in making decision. It covered the sampling technique and research design. Additionally, the researcher also explained the strategies used to select participants, methods applied in during the data collection process, analysis and presentation.

3.2 Research Design

This is a plan that answers the question to the problem by providing a solution (Cooper & Schindler, 2010). The descriptive research design was adopted in this research. According to Jolley (2012), descriptive survey design comprises observation studies, correlation research, developmental designs, and survey research. Descriptive survey as described by Kothari (2004) is a method which embraces observation and description of the behavior of a subject without influencing how it operates.

3.3 Target Population

A population is defined as a group of objects or individuals that have the same form of characteristics (Mugenda & Mugenda, 2003). The target population for the study comprised officers from Customs, Kenya Bureau of Standards, port health and immigration.

3.4 Sampling Frame

A sampling frame comprises of a list of people from which the researcher uses to obtain information about the study (Maxwell, 2012). The sampling frame defines a set of elements from which a researcher can select a sample of the target population. Because a researcher rarely has direct access to the entire population of interest in social science research, a researcher must rely upon a sampling frame to represent all of the elements of the population of interest. The

sample consisted of respondents from enforcement, the sheds, from container terminal, from petroleum management unit, plus warehouse.

3.5 Sample and Sampling Technique

Sample size refers to the number of participants or observations included in a study (Gentles, 2015). Sample size is usually represented by n' symbol. Sample size within a population ought to be identified because it helps a researcher in identifying the precision of the estimates and give the researcher power of the study to draw conclusions (Tang, 2018). The study used a stratified random sampling in order to determine the sample size. Stratified sampling suited this study because it provided a great precision and guard against unrepresentative sample (Kim, 2010). The target population of the study was divided into uniform strata where each stratum was evaluated independently.

Therefore, the sample used in this study is as shown in the table below;

Table 3.1 Sample Size

The findings, as illustrated in table 3.1 indicate a sample size of 150 participated in the study from a target population of 500.

3.6 Research Instruments

Research instruments are the specific tools used in collection of data that is used in a research study (Frels, 2013). To achieve the research objectives both primary and secondary data were used to answer the research questions. Primary data are the items initial to the issue being studied. Structured questionnaires were used to obtain information from the topics. The questionnaire serves four fundamental aims: to gather the relevant information, to make information comparable and analytical, to minimize bias in formulating and answering questions, and to make questions engaging and diverse. The structured questionnaire used Likert scale. Likert scale is an interval scale that specifically utilizes five anchors, with strong disagreement, neutrality, strong agreement disagreement and agreement.

The questionnaire was divided into three sections. In Section I the respondents will provide general information about the business operations in terms of period of active operation, the industry of operation, profitability, and nature of management. Section II will draw the effects of systems automation on revenue performance of customs department. Finally, Section III will prompt for probable solutions to the identified challenges.

3.7 Data collection Procedure

Approval of the research was obtained from the department of customs studies in the Kenya school of revenue administration, the researcher then came up with a data collection schedule and visited the sections of the customs department and clearing and forwarding firms to get consent to administer the instruments. This enabled the researcher to familiarize with the respondents. The questionnaires were collected immediately once they are duly filled. Respondents who were not able to give immediate responses were given a timeline within which to have the questionnaires filled and follow up made (Mugenda & Mugenda, 2003).

The questionnaire was divided into three sections. The first portion of the questionnaire contained multiple population demographic issues, i.e. age bracket for participants, period of work in that department, academic skills to assess the background of multiple participants (Kothari, 2014). The second part of the questionnaire was organized to test the respondents' knowledge with respect to trade facilitation on the different scheme used at the border station. Third section had questions proving the anticipated advantages that the customer had before implementing multiple techniques, the difficulties encountered and the future expectations regarding the Kothari trade and logistics link (2014). None of the issues use the sort of ranking on the Likert scale, but rather offer the respondent a decision to disagree or agree on some constructs while commenting on the response selection. Furthermore, there will be open-ended questions that will give the respondent chance to explain their opinions and experiences.

3.8 Pilot Testing

A pilot test is a survey done before the actual survey is done (Kombo & Tromp, 2009). A pilot study assists in the determination of the reliability of the research questionnaire and ensures its validity (Cooper & Schilder, 2011). Mugenda & Mugenda (2003), cited that a relatively small sample of 5% of respondents is enough for a pilot study. The importance of the pilot study lies in improving the effectiveness and efficiency of research. The Questionnaire was piloted to help identify any possible weaknesses and adjustments that are required to be made to make the test reliable, appropriate and comprehensible.

3.8.1 Validity

Validity of data collection instruments was done to ensure that the tools are up to the standard level and can collect the data as required. It is mandatory that the data collection instruments be validated before a research is done (Shuttle, 2009). During validation process, the data collection instruments were reviewed for clarity check, suitability and the language as well as the expression that they portray. Content validity was done on the data collection instruments. Content validity helps to insure the quality of the data collection tools and that of the data collected from the study.

3.8.2 Reliability

Reliability refers to a measure of the degree to which research instruments yield consistent results (Mugenda & Mugenda, 2005). The data collection instruments must yield consistent results for them to be reliable enough to conduct the study. Internal consistency reliability was done. Internal consistency was used to measure how well the items on a test measure the same construct or idea. High degree of internal consistency is recommended because it helps in ensuring that

the same construct has yielded into more and similar scores. 5% of the respondents was conducted using Cronbach's alpha (α) to measure the reliability of the research instrument.

3.9 Data Analysis and Presentation

This study utilized descriptive statistics for data analysis. Standard deviation, mean, frequency and percentage were the descriptive statistical tools employed in analysis. Descriptive statistics is useful for describing data the way it is and presenting data in a summarized way for more meaningful insights and interpretations of the data. Inferential statistical analysis, Pearson Product Moment correlation and multiple regression, was also conducted. The purpose of inferential analysis is to examine associations and relationships between study variables. Regression analysis is used to explain the effect of the independent variables on the dependent variable. Correlation analysis measures the direction and strength of association between variables (Sreevidya & Sunitha, 2011).

The relationship between independent and dependent variables were conveyed through the linear regression model shown below:

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

Where Y = Trade Facilitation

β_0 = Constant and is the level of trade facilitation without CBM techniques

β_1, β_2 and β_3 Coefficient explaining variables X_1, X_2 and X_3 respectively

β_1, β_2 and β_3 are the changes in Y due to the change in X

X_1 = One Stop Border Post

X_2 = Joint Patrols

X_3 = Joint Risk Initiatives

ε = is the error term which include other factors which affect customs trade facilitation such as corruption, lack of proper infrastructure which were not included in the study

The data collected will then be documented and analyzed using essential statistical measures like measures of central tendency, standard deviations, totals and percentages along with regression analysis. The mean, for example will be used to measure the general response to a question by the respondents. The standard deviation will be applied in instances of measuring variability regarding responses to questionnaire. The percentages will measure the shares of respondent in each category.

3.10 Diagnostic Tests

These are tests carried out to determine the effect of the research design challenges leading to diagnostic accuracy (Lijmer et al., 1999). Two diagnostic tests, normality and multicollinearity tests were carried out before doing the analysis of data so as to validate the findings. The normality used Shapiro-Wilk test to check for normality while VIF was done to test for multicollinearity

3.10.1 Normality Test

This test is usually carried out using the Shapiro-Wilk test where it finds the degree of normality by sensing the presence of skewness and kurtosis. For instance, data is assumed to be normally distributed if the P-value is greater than 0.05 normality usually assumes that the normality of the distributed mean is normal.

3.10.2 Linearity Test

This test is of importance in the regression analysis and correlation analysis. Linearity implies the level to which a change in depended variable varies with a change in the independent variable. In this research the linearity was tested using the Pearson correlation of analysis.

3.10.3 Multicollinearity Test

This is a situation where a huge correlation occurs between the autonomous variables. This situation happens in case of a multiple linear regression model hence existence of a high correlation of predictor variables leads to unrealistic regression coefficients. As a result, strange results occurs when there is an attempt to determine how the individual variables have a significant effect on the dependent variable (Creswell, 2014). There is always decreased reliability hence confusing and misleading results as a result of multicollinearity. In this study, the test was conducted to determine whether there was existence of high correlation.

4. Research findings and discussion

This chapter explores on the interpretation and presentation of the results obtained from the field. Descriptive and Inferential statistics have been used in this study.

4.2 Response Rate

The study targeted 150 officers at the enforcement department, officers from Customs, KEBS, port health and immigration. Out of 150 questionnaires distributed to respondents, 30 questionnaires were either partially filled or not returned while 120 were filled and returned making a response rate of 80.00%, which was satisfactory enough to complete this study. According to Mugenda & Mugenda (2008), a response rate of 50% is adequate for analysis and reporting, 60% is good while that of 70% and above is excellent. This is summarized below:

Table 3.2: Response Rate

4.2.1 Reliability Results

The Cronbach test results of the research instrument are shown in table 4.2

Table 4.2: Reliability Statistics

Form the analysis Cronbach's Alpha was greater than 0.7 (α>.7) for all the variables. This was an indication that the research instrument was reliable.

4.3 Demographic Information

The section is based on the respondent who participated in the study, gender of the respondents with regards to age distribution and academic qualifications. Consequently, it presents the duration which one have stayed in Customs, KEBS, port health and immigration. The table and figures

below illustrate the gender distribution of various respondents, academic qualifications, age distribution and duration of existence in the department.

4.3.1 Gender Respondents'

The respondents were requested to indicate their gender. From table 4.3, findings based on the respondents' gender, showed that majority which was (63.33%) of respondents were male and the rest (36.67%) were female. This can be analyzed that in various departments at the ports majority of persons are male since the responses are dominated by male. The findings were in agreement with that of Tozay (2012) which indicated that in his study; most of the participants were male counterparts.

Table 4.3: Respondents Gender Table

4.3.2 Age of the Respondents

Findings in Table 4.4, indicate that based on distribution with regards to ages, a higher percentage of the respondents (42.50%) were aged between 30 – 39 years, 26.67% between 40 – 49 years, 20.00% were aged between 18 – 29 years and 10.83% were above the age of 50years. Based on this information, majority of employees in these departments are young people who are able to adopt and learn to use the coordinated border management techniques. Hence this information helped us to know or to determine how efficient these employees on management of the borders and were able to use the border management techniques without much constrains to delay trade processes.

Table 4.4: Respondents Age

4.3.3 Respondents' Years of Service

Respondents were asked to indicate the number of years they the officers have been working in at the enforcement department, officers from the sheds, container terminal, petroleum management unit and those from customs warehouses. From the findings as indicated in Table 4.5, majority of the respondents 37 (30.83%) indicated that they had been in service at the enforcement department, the custom sheds, container terminal, petroleum management unit and customs warehouses between 4 – 7 years, followed by 30 (25.00%) who had been in service for 12 years and above, 28 (23.33%) had been in service between 8 – 11 years while only 25 (20.84%) respondents had been in service for 0 – 3 years. This indicated that the information on Effects of coordinated border management techniques on trade facilitation was collected from respondents who had been in the enforcement department, the transit sheds, container terminal, petroleum management unit and customs warehouses for some time and had experience on the Effects of coordinated border management techniques on trade facilitation in Kenya. Findings of the study concurred with research conducted by Ondiek, (2008) which established that most of the responses from Kenya revenue authority on the challenges in the implementation of the customs' reforms and modernization were given by the officers.

Table 4.5: Respondents' Years of Service

4.3.4 Academic Qualifications

The study also sought to determine the respondents' academic qualifications. From the findings in Table 4.6, indicates that majority of the respondents, 49 (40.83%) had bachelor's degree, 13 (10.83%) had diploma, 38 (31.68%) had postgraduate diplomas, 16 (13.33%) had masters degrees and the remaining 3 (3.33%) had Doctorate. This can be analyzed that majority of the respondent had Bachelor's degree qualifications in the enforcement department, the transit sheds, container terminal, petroleum management unit and customs warehouses signifying that they had knowledge based on the training on border management techniques used in that department thus enable them to boost the process of clearance of cargo for traders. The findings concurred with Babbie (2013) who indicated that educated respondents were in a position of understanding what they were required to answer in a given area of study.

Table 4.6: Table of Academic Qualification

4.4 Descriptive Statistics

The study sought to establish the Effects of coordinated border management techniques on trade facilitation. The respondents were asked to rate how they feel about the different variables related to coordinated border management techniques in a 5 point Likert scale. The range was from Strongly Agree (1), to strongly disagree (5) with 1 representing strongly Agree, 2 representing Agree, 3 representing Uncertain, 4 as Disagree and 5 as strongly disagree.

4.4.1 One Stop Border Post

The respondents were asked to respond to specific statements formulated based on the input variable on coordinated border management. The results of the descriptive statistics on coordinated border management are shown in *Table 4.7*

Table 4.7 Descriptive Statistics-One Stop Border Post

The findings, as illustrated in table 4.7 indicate a mean of 3.114 with a standard deviation of 1.368. This implies that majority of the respondents agreed with the

statements that suggest the Effects of one stop border post on coordinated border management on trade facilitation.

4.4.2 Joint Patrols

The second objective of the study was to establish the influence of joint patrols on coordinated border management at the ports. The respondents were requested to respond to specific statements formulated based on the variable Joint patrols. The results of the descriptive statistics on joint patrols are shown in Table 4.8.

Table 9.8 Descriptive Statistics-Joint Patrols

The findings, as illustrated in table 4.8 indicate a mean of 3.076 with a standard deviation of

1.292. This implies that majority of the respondents agreed with the statements that suggest the influence of joint patrols on border management.

4.4.3 Joint Risk Initiatives

The third objective of the study was to find out the effects of joint risk initiatives on coordinated border management on trade facilitation. The respondents were requested to respond to specific statements formulated based on joint risk initiatives. The results of the descriptive statistics on joint risk initiatives are as shown in Table 4.9.

Table 4.9 Descriptive Statistics- Joint Risk Initiatives.

The findings, as illustrated in table 4.9 indicate a mean of 3.084 with a standard deviation of1.358. This implies that majority of the respondents agreed with the statements that suggest

the influence of joint risk initiatives on coordinated border management on trade facilitation.

4.4.4 Trade Facilitation

The fourth objective of the study was to explore on the effects of trade facilitation on coordinated border management. The respondents were asked to respond to specific statements formulated based on trade facilitation. The results of the descriptive statistics on Enforcement are shown in Table 4.10

Table 11.10 Descriptive Statistics- Trade Facilitation

The findings, as illustrated in table 4.6 indicate a mean of 3.13 with a standard deviation of 1.34. This implies that majority of the respondents agreed with the statements that suggest the influence of coordinated border management on trade facilitation.

4.5 Inferential Statistics.

4.5.1 Correlation Analysis.

Table 4.11 presents the Pearson correlations for the relationships between the independent variables and the dependent variable.

Table 12.11 Correlation Analysis

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

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.11 presents the Pearson correlations between the independent variables One Stop Border Post, Joint Patrols, Joint Risk Initiatives, and dependent variable Trade Facilitation. From the findings, a positive and statistically significant correlation is observed between each pair of the independent variables and between the independent and the dependent variables. The strongest positive and significant correlation to Trade facilitation was established between Joint Patrols (r =0.708, p=0.000) followed by One Stop Border Post (r =0.345, p=0.000), and Joint Risk Initiatives ((r =0.322, p=0.000). The finding indicates a statistically significant linear dependence of Trade facilitation on all the three independent variables. This implies that a unit worth of increase in any of the three independent variables will have an effect on Trade Facilitation based on the strength of the correlation coefficient.

4.6 Regression Analysis

Multiple regression analysis was carried out to determine the link between the independent variables and the dependent variable.

Table 4.12 Model Summary

a. Predictors: (Constant), One Stop Border Post, Joint Patrols, Joint Risk Initiatives,

From the results in Table 4.12, R squared was 0.765 that was adjusted to 0.757. This was an indication that One Stop Border Post, Joint Patrols, Joint Risk Initiatives, explained 75.7 % of all changes on Coordinated Border Management on trade facilitation. This implies that the remaining 24.3 % of the change was caused by other factors.

Table 4.13 Analysis of Variance (ANOVA)

From the ANOVA statistics in table 4.13, the, F-Calculated value (F-value=93.486, p=0.000) was noted to be higher than F-Critical value implying the model was statistically significant.

Table 4.14 Coefficients

The findings on Table 4.14 reveal that that One stop border post and trade facilitation are positively and significantly related ($\beta 1$=0.164, p=0.000). This implies that an increase in 1 unit of one stop border post will lead to an increase in trade facilitation by 0.164 units holding all other factor constant. The findings also revealed that Joint Patrols and Trade facilitation are positively and significantly related ($\beta 2$ =0.762, p=0.000). This implies that an increase in 1 unit of Joint Patrol will lead to an increase in Trade facilitation by 0.762 units holding all other factor constant. The findings further revealed that Joint Risk Initiatives and Trade Facilitation are positively and significantly related ($\beta 2$=0.237, p=0.000). This implies that an increase in 1 unit of Joint Risk initiative will lead to an increase in Trade facilitation by 0.237 units holding all other factor constant.

The Model specification is as follows:

$Y = \beta 0 + \beta 1 x 1 + \beta 2 x 2 + \beta 3 x 3 + \varepsilon$, where

$Y = -0.816 + 0.164 X 1 + 0.762 X 2 + 0.237 X 3 + \varepsilon$

Y= Trade Facilitation

$\beta 0$= constant term

$\beta 1$= One Stop Border Post

$\beta 2$= Joint Patrols

$\beta 3$= Joint Risk Initiatives

ε = error term

4.7 Discussion of the findings

This section presents a per objective discussion of the findings and collaborates them to other studies.

4.7.1 One Stop Border Post and Trade facilitation

The study established that One Stop Border Post had a positive and statistically important influence on the border management in Kenya with B=0.164 and Sig = 0.000 which is less than the threshold level of 0.05. This means that a unit

increase in the use of One Stop Border Post would result in a statistically significant increase in border management.

4.7.2 Joint Patrols and Trade facilitation

The study established that Joint Patrols have a positive and statistically significant effect on the border management in Kenya with B=0.762 and Sig= 0.000 which is less than the threshold level of 0.05. This therefore means a unit rise in Joint Patrols would have an effect in a statistically substantial increase in border management.

4.7.3 Joint Risk Initiatives and Trade facilitation

The study established that Joint Risk Initiatives has a positive and statistically significant effect on the border management in Kenya with B=0.237 and Sig = 0.000 which is less than the threshold level of 0.05. The means that a unit increases in the use of Joint Risk Initiatives would result in a statistically significant increase border management.

5. Summary, conclusions and recommendations

This study presents the summary of the findings, conclusions and recommendations. The findings are presented in the order of the objectives which zeroed on the effect of One Stop Border Post, joint patrols and joint risk management initiatives being the predictors of the effectiveness of trade facilitation.

5.2 Summary of the Findings

The study found that One Stop Border Post, joint patrols and joint risk management initiatives greatly have profound effect on facilitation of trade. It was also discovered that the reforms were embraced especially in the wake of Authority not meeting targets.

5.2.1 One Stop Border Post

From the findings in the preceding chapter, we can conclude that One Stop Border Post enabled quicker release of trade documents, enabled quicker release of goods and enhanced less duplication of work. Furthermore, the research established that One Stop Border Post enabled online enquiries and downloading of TradeNet permit, improved interconnectivity for information exchange.

5.2.1 Joint patrols

It was important for the study to also determine the effect of joint patrols on effective trade facilitation at the Port of Mombasa. The research revealed that there was improved definition of responsibilities by the department, there was improved shared resources by the sections of the department and that patrol interventions were closely integrated with broader policing arrangements & the work of external agencies. Further, there was improved organization of policing resources and that joint patrols led to visible, accessible and responsiveness to policing.

5.2.3 Joint risk management initiatives

Finally, this research aimed at measuring the effectiveness of joint risk management initiatives and it was indicated that

there was enhanced common approach to risk, it enabled easier multiple identification of risk that has analyzed evolution of threats likely to affect trade facilitation and that there was sharing of information by the various sections of the department.

5.3 Conclusions

The study was guided by main objective of determining effects of coordinated border management on trade facilitation. The study was further guided by three specific objectives; first was to establish the effect of one stop border post on trade facilitation at port of Mombasa. The second was to determine the effect of joint patrols on trade facilitation at the port of Mombasa. The other objective was to evaluate the effect of joint risk management initiatives on trade facilitation at the port of Mombasa. The objectives had positive influence on trade facilitation at the Port of Mombasa. It was established that One Stop Border Post has enabled quicker release of trade documents and that it enabled quicker release of goods. Further, One Stop Border Post enhanced less duplication of work. It also enabled online enquiries and downloading of TradeNet permit, improved interconnectivity for information exchange.

Joint patrols had a significant effect on trade facilitation. The study found out that there was improved definition of responsibilities by the department, there was improved shared resources by the sections of the department. Furthermore, there existed integration in patrol interventions and improved organization policies.

Further, joint risk management initiatives had a positive influence. There was enhanced common approach to risk, risk was used to address grey areas. There was shared information by the sections of the departments and also enabled easier multiple identification of risk. Trade facilitation enabled reduced cost of doing business and ensured improved volume of cargo clearance.

5.4 Recommendations

The globalization of trade is making it fundamental for all the nations to direct their universal exchange as indicated by globally concurred standards and norms. Trading that depends on old fashioned methodology nevertheless brings about greater expenses, longer lead times and lower revenue collection. The port of Mombasa needs to adjust to globally accepted procedures in exchange assistance in trade matters in order to stay relevant. Interest of different partners in both open and private segments in the phases of exchange help improve security of the store network and advances safe and aggressive exchange. In trade, exchange assistance changes ought to in this way improve the consistency and unwavering quality of shipments and not simply concentrate on lessening normal expenses and deferrals.

In Kenya the test of exchange assistance which reaches from port blockage, poor street, and rail foundation to deficient usage of assistance norms and best practices are

major of worries to producers, exporters and merchants. Enhancing exchange assistance is an absolute necessity for Kenya in the event that she needs to take an interest in the worldwide market aggressively. I therefore recommend the Customs administration to adopt risk management initiatives and joint patrols so as to facilitate trade and enhance border management.

5.5 Suggested Areas for Further Research

A similar study on effects of coordinated border management techniques on trade facilitation should be undertaken in other custom borders such as Malaba, Busia, Namanga, among others that are involved in export-import business. Other organizations, especially the Private Sector should carry out a research on the topic since they are the major beneficiaries in enhancing national and global trade. Additionally, a comparative study needs to be conducted between the Kenyan and other international ports on the applicability of CBM techniques

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Dependent variable

Joint Patrol
• Shared intelligence
• Shared resources

Joint Risk management
• Information sharing
• Multiple Risk identification

One Stop Border Post
• Time of clearance
• Documentation

Trade facilitation
• Volume
• Cost
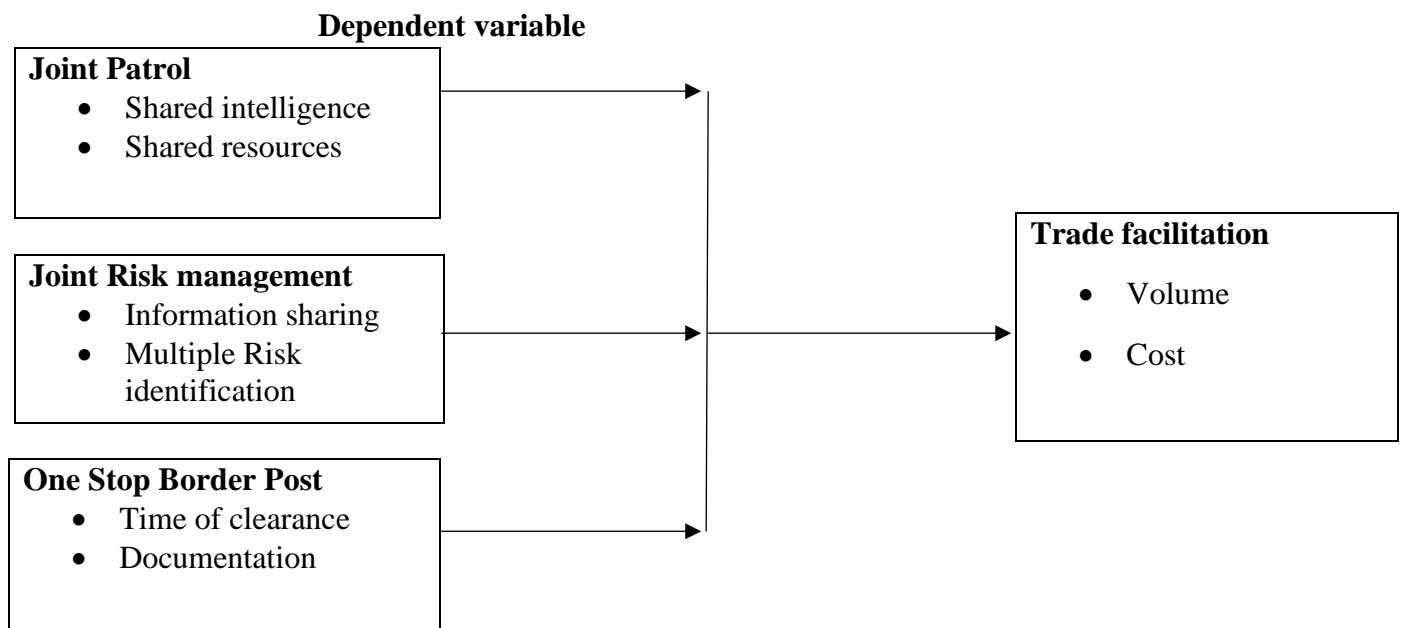
Figure 1.1 Conceptual Framework

Table 1.1 Sample Size

Section	Population	Sample
Customs officers	150	45
Immigration	100	30
KEBS	150	45
Port health	100	30
Total	**500**	**150**

Table 2.1: Response Rate

Response	Frequency	Percentage
Returned	120	80.00%
Unreturned	30	20.00%
Total	**150**	**100%**

Table 3.2: Reliability Statistics

Cronbach's Alpha	N of Items
.757	24

Table 4.3: Respondents Gender Table

Gender	Frequency	Percentage
Male	76	63.33%
Female	44	36.67%
Total	**120**	**100.00%**

Table 5.4: Respondents Age

Age in Years	Frequency	Percentage

18 – 29	24	20.00%
30 – 39	51	42.50%
40 – 49	32	26.67%
Above 50 Years	13	10.83%
Total	**120**	**100.00%**

Table 6.5: Respondents' Years of Service

Years	Frequency	Percentages
0-3	25	20.84%
4-7	37	30.83%
8-11	28	23.33%
Above 12 Years	30	25.00%
Total	**120**	**100.00%**

Table 7.6: Table of Academic Qualification

Academic qualification	Frequency	Percentage
Diploma	13	10.83%
Degree	49	40.83%
Post graduate Diploma	38	31.68%
Masters	16	13.33%
Doctorate	4	3.33%
Total	**120**	**100.00%**

Table 8.8 Descriptive Statistics-Joint Patrols

TECHNIQUE	N	Minimum	Maximum	Mean	Std. Deviation

	N	Minimum	Maximum	Mean	Std. Deviation
Has improved definition of responsibilities by the department	120	1	5	3.33	1.279
Improved shared resources by the sections of the department	120	1	5	2.98	1.243
Has led to visible, accessible and responsiveness to policing	120	1	5	2.94	1.204
Data sharing among the customs administration offices and the relevant stakeholders has fully been implemented.	120	1	5	3.15	1.442
Customs officers should have organized workshops to equip them wholly with changing customs roles	120	1	5	2.98	1.296
Total				**3.076**	**1.292**

Table 4.9 Descriptive Statistics- Joint Risk Initiatives

TECHNIQUE	N	Minimum	Maximum	Mean	Std. Deviation
Patrol interventions are closely integrated with broader policing arrangements & the work of external agencies	120	1	5	3.02	1.390
Transparent assessment of transactions leads to increased compliance by the traders.	120	1	5	2.97	1.229
Analyzed evolution of threats likely to affect trade facilitation	120	1	5	3.20	1.464
Sharing information by the border agencies and the stakeholders has reduced	120	1	5	3.15	1.313

	N	Minimum	Maximum	Mean	Std. Deviation
customs revenue loss and non-compliance					
Transparency and monitoring of targeted entries has reduced noncompliance by traders and thus reduced revenue loss	120	1	5	3.08	1.394
Mean				**3.084**	**1.358**

Table 9.10 Descriptive Statistics- Trade Facilitation

TECHNIQUE	N	Minimum	Maximum	Mean	Std. Deviation
Has enabled reduced cost of doing business	120	1	5	3.25	1.386
Effective border patrols by the customs border officers has minimized cases of customs revenue loss	120	1	5	3.02	1.390
Has increased volume of cargo clearance	120	1	5	2.97	1.229
There is reduced cargo diversion increases the volume of trade	120	1	5	3.28	1.355
Mean				**3.13**	**1.34**

Table 10.7 Descriptive Statistics-One Stop Border Post

TECHNIQUE	N	Minimum	Maximum	Mean	Std. Deviation
Has enabled quicker release of trade documents	120	1	5	3.15	1.313
Has enabled quicker release of goods	120	1	5	3.16	1.467
Has enhanced less duplication of work	120	1	5	3.04	1.286
Enabled online enquiries and downloading TradeNet permit	120	1	5	3.15	1.364
Improved interconnectivity for information exchange	120	1	5	3.07	1.413
Total				**3.114**	**1.368**

Table 11.11 Correlation Analysis

		Trade Facilitation	One Stop Border Post	Joint Patrols	Joint risk Initiatives
Trade Facilitation	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	120			
One Stop Border Post	Pearson Correlation	.345**	1		
	Sig. (2-tailed)	.000			
	N	120	120		
Joint Patrols	Pearson Correlation	.708**	.019	1	

	Sig. (2-tailed)	.000	.000		
	N	120	120	120	
Joint risk Initiatives	Pearson Correlation	.322**	.452**	-.145	1
	Sig. (2-tailed)	.000	.000	.000	
	N	120	120	120	120

Table 4.12 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.875	.765	.757	.32619

Table 12.13 Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.788	4	9.947	93.486	.000b
	Residual	12.236	115	.106		
	Total	52.024	119			

a. Dependent Variable: Customs Revenue
b. Predictors: (Constant), One Stop Border Post, Joint Patrols, Joint Risk Initiatives,

Table 4.14 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Std. Error	Beta	t	Sig.

1	(Constant)	-.816	.222		-3.673	.000
	One Stop Border Post	.177	.055	.164	3.217	.000
	Joint patrols	.612	.037	.762	16.584	.000
	Joint Risk Initiative	.197	.047	.237	4.227	.000

Dependent Variable: Trade facilitation