EFFECTS OF COORDINATED BORDER MANAGEMENT TECHNIQUES ON TRADE FACILITATION AT THE PORT OF MOMBASA

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

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DECLARATION

I hereby declare that the project is from my own work and has never been submitted by any other person for the any award in any University or institution.

…… ……

Signature Date

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HDB335-C016-7450/2016

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

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DEDICATION

This research is dedicated to Njeri Karanga for her inspiration and support.

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LIST OF ACRONYMS/ABBREVIATIONS

AEOs:	Authorized Economic Operators
ASEAN:	Association of Southeast Asian Nations
BCD:	Border Control Department
BCO:	Border Control Officer
CBM:	Coordinated Border Management
EAC:	East African Community
GDP:	Gross Domestic Product
K9:	Canine Unit
KRA:	Kenya Revenue Authority
OSBP:	One Stop Border Post
OSCE:	Organization for Security and Cooperation in Europe
RBV:	Resource Based View
RKC:	Revised Kyoto Convention
TRA:	Tanzania Revenue Authority
UNCTAD:	United Nation Conference on Trade and Development
WCO:	World Customs Organization
WTO:	World Trade Organization

DEFINITIONS OF TERMS

Coordinated Border Management: the manner in which there exists a joint controlled approach by control agencies in enhancing improved efficiencies in the management of trade and travel flows, while observing compliance and regulatory requirements (WCO, 2011)

Joint Patrols: are border-patrolling teams, which consist of two or more border officials from neighboring States and consequently coming from different State border service (World Bank, 2012)

One Stop Border Post: facilities and related procedures and policies that ensure people, goods and vehicles stop in one facility for regulatory controls (NEPAD, 2017)

Revenue: the income of a government or organization that arises from taxation, excise duties, customs or any other sources (Orodho, 2017).

Revised Kyoto Convention: key trade facilitation instrument. Developed by the WCO to facilitate trade by simplification and harmonization of Customs procedures and practices (United Nations, 2018)

Single Window: a facility that enables parties in trade matters to make entries on standardized information with a single-entry point in regulatory requirements (European Union, 2012)

ABSTRACT

Countries are striving to ensure trade facilitation as well as ensuring safety and security of goods and people during trade and travel flows. Global trade is vulnerable to manipulation by traders. EAC block has experienced non-tariff barriers which has greatly affected trade. Adoption of CBM techniques is vital to facilitate trade. The general objective of the study is to determine the effect of coordinated border management techniques on trade facilitation at the Port of Mombasa. The specific objectives are three; to establish the effect of single window system on trade facilitation, to determine the effect of joint patrols on trade facilitation and to evaluate the effect of joint risk management initiatives on trade facilitation at the port of Mombasa. The theories underpinning this study are three; resource-based view theory, communication theory and institutional theory. A study sample of 229 was drawn from a target population of 534. Descriptive research design was used where questionnaires were administered to the respondents with relevant information for the study. The study employed descriptive statistical methods for data summary using Statistical Package for Social Sciences (SPSS version 25) and get a description of the response to questions. The methods are use of frequency tables, weighted means, standard deviation and summarized percentages. The results showed that there was a weak positive significant correlation between single window system and trade facilitation ($r = 0.093$, $P<0.05$). Regression analysis conducted proved that there was a positively significant effect of single window system on trade facilitation. The study concludes that an increase in adoption of single window system by one unit would lead to increase in trade facilitation by 0.117 units. The findings indicated that there was a weak positive significant correlation between joint patrols and trade facilitation ($r=0.171$, $P<0.05$). Regression analysis was also conducted and the results showed a positively significant effect of joint patrols on trade facilitation. The study concludes that an increase in joint patrols by one unit would lead to increase in trade facilitation by 0.072 units. The findings indicated that there was a weak positive significant correlation ($r = 0.158$, $P<0.05$). Regression analysis was also conducted and the results proved that there was positively significant effect of joint risk management initiatives on trade facilitation. The study concludes that an increase in joint risk management initiatives by one unit would lead to increase in trade facilitation by 0.152 units. The study recommends that the port of Mombasa needs to adjust to globally accepted procedures in exchange assistance during trade in order to stay relevant and that different partners should vigorously keep pushing for exchange assistance improvement if they are to gain from trade facilitation especially adoption of CBM techniques.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Awareness of the art of coordinated border management is on the increase. Countries that initially paid little interest to the management and understanding of coordinated border management (CBM) now pay attention. Coordinated border management has become the focal point of many trade initiatives, for economic growth (Revised Kyoto Convention, 2006). This can be attributed to increased regulatory pressure on security control measures, globalization of trade, as well as to the beneficial value that can be regained from targeted resources across the world (European Union, 2012).

In this global market, countries are striving to ensure trade facilitation as well as ensuring safety and security and generation of revenues. Global trade is vulnerable to manipulation by traders. The customs department, to generate these revenues and promote international trade, has taken steps to minimize this vulnerability, including; use of advance electronic cargo information about shipments; using systems that detect and minimize risk to address threats to cargo security; use of equipment that does not intrude to the cargo, advocating for joint coordination of control agencies and establishing alliances with the private sector parties through Authorized Economic Operator (AEO) programs. Putting these measures to action is very vital so that there exists an increase on how secure the international trade is and generally revenue generation (United Nations, 2018).

The new approach for better management of borders is more than just customs clearance. Traders would want their goods cleared in time and with promptness. There are several developments, none in particular related to customs i.e. increased competition for foreign investment, increased awareness of costs related to outdated border formalities, respect for integrity and governance, expectation of prompter predictable import/export processes, multiplication of international policy and procedures, proliferation of regional trading agreements, increased awareness of customs and other agencies role on national security. Data from World Bank's Logistics Performance Indicators (Jean-Francois Arvis & Ben

Shepherd, 2012) suggest that traders are much pleased with customs clearance and admissibility than other agencies that are involved in such controls.

There is a strong emphasis in Africa on the need to promote trade facilitation to invest sustainably in poverty reduction (NEPAD, 2017), despite ambitious targets (an average increase in the tax/GDP ratio of 4 percentage points), results have been rather disappointing for possibly two main reasons: instability and insecurity have spread all over Africa, impeding tax collection; and a top-down approach of customs modernization reform programs that do not take into account the need for such initiatives, and therefore may lead to limited results. Trade taxes continue to account for between 30 and 50 per cent of total state revenue in Africa, making the role of customs critical for security, revenue collection and trade facilitation (Brenda Chaflin, 2008); usually the focus is on a top-down approach to customs reform, considering a fragile environment an opportunity to start with a blank page for setting up a new institution.

Customs officers operating at borders, as a part of the state, are invisible (Chaflin, 2012), either a reflection is policy-oriented – conducted at state-level, linking instability and state-building through the relations between taxation, revenue collection and security (and sometimes the role of foreign aid in this context) to enhance trade facilitation; or more sociological, aiming to describe the reality of governance at the border, to showcase 'hybrid' governance from the end-user perspective in case studies of specific insecure borderlands.

These sections therefore need to embrace the activities of coordinated border management (Doyle, 2011). CBM includes activities like customer segmentation, intelligence-driven risk management, information sharing, technology (Single windows) and decision making. The Revised Kyoto Convention has guiding principles on the inspection of goods emphasizing participation of inspection with other government authorities that are competent. Particularly the Safe Framework of Standards that outlines the various prerequisites to the inspection and clearance of goods and travelers (WCO, 2007)

Some initiatives that are in the coordinated border management include the formation of joint patrols, joint risk-based initiatives between these agencies that embrace modern and advance electronic data transmission, and undertake in the inspections together or on each other's behalf through shared recognition arrangements (Kieck, 2010).

There are various departments of Customs that operate at the Port of Mombasa. These include the sheds, warehouse, petroleum management unit, scanning unit, container terminal alongside other departments. According to Kenya Revenue Authority (2017) the Authority has put in order various CBM techniques to help manage coordination of activities by these departments. In 2009, CBM was introduced in Kenya to help minimize duplication of documents, less clearance time, cost benefit analysis and efficiency in trade facilitation. However, this has not been the case since the ultimate goal for coordination of these activities has not been totally realized.

There has been an increase in demand for a joint management of border by different departments. The departments have developed the concept of CBM that involves the cooperation of all these activities for improvement in effectiveness and efficiency of control procedures especially in clearance and admissibility of goods and travelers. In essence, this practice has become a focal point for trade facilitation in numerous countries (Polner, 2011).

The concept of CBM has their antecedents in the RKC and the Safe Framework. The RKC touches upon CBM techniques and the necessary coordination with other control agencies. The standards relating to Single Window are also stipulated. Techniques like joint management of risk would benefit from the implementation of CBM as it would assist in areas like examination results as intelligence and sharing information. This implementation would promote prompter risk management intelligence and enable a strong cooperation of the agencies. CBM approach, if implemented with the standards and the guiding principles in RKC, provides a basis for the coordination of these mechanisms (WCO, 2011).

According to the World Bank Logistics Performance Index (PLI) (2017), which measures trade logistics efficiency of various countries, Kenya is ranked 62nd out of 155 countries. The World Bank Doing Business Report (2013), exporting and importing a standard container of goods cost USD 2,250 and USD 2,350, the sum which are less than the average found in the region of USD 2,108 and USD 2,793. It takes 26 days each to export and import a container, which are less than the averages in the region of 31 days and 38 days respectively. However, further improvements are needed in customs, infrastructure, logistics competence and tracking and tracing.

1.2 Statement of the Problem

CBM can result in and if well managed to more effective service delivery, wider sharing of information, cost-savings through economies of scale, reduced infrastructure improvement costs, less duplication, prompter management of risk, less transport costs, less waiting times for clearance and admissibility and strengthened cooperation among all border stakeholders. This is attributed to the incorporation of Single window systems, Joint patrols and Joint risk management programs or Customs Modernization Reform Programs (WCO, 2007).

EAC, has experienced frequent recurrences of non-tariff barriers in the last decade. It has brought about the uncertainties of security procedures – especially on trade, and consequently on revenue generation (Brenda Chaflin, 2008; Raballand, 2017) hence this necessitates for the implementation of these customs modernization reform programs to help in realizing the set targets by the Authority. In Kenya, there has been conceptualization and operationalization of various multiagency specially to curb the problem of revenue collection and trade facilitation. There exist multiple entries in declaration of items by the importers and exporters. The values declared at the other border agencies always have differed vastly with the ones declared at the Customs hence the varied difference in revenue collection. Initially, the border agencies carried out these activities independently and this brought about incompetence especially as the technical know-how was not widely shared among them (KEPSA, 2010); the unique resources shared were not readily available hence not leading to effective revenue collection hence hindering trade facilitation. There was an ad hoc need for coordinating these agencies especially with the increased need for generation of revenues and facilitation of trade.

There exists various literature on security, customs, revenue, trade facilitation and the general approach to this management. Some of these studies include: Unlocking trade opportunities through OSBP (Kieck, 2010), Cross-Border Trade, Insecurity & the role of Customs (Raballand, 2017), The future of Border Management (Doyle, 2011); however, little literature is available for specific CBM techniques, observations made in the field in

these regions are even scarcer. The research intended to study the effect of adopting coordinated border management techniques in organization to provide response to the following: What are the effects of Coordinated Border Management techniques at the Port of Mombasa? What benefits do they incur when implementing coordinated border management techniques?

1.3 Objective of the Study

1.3.1 General objective

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

1.3.2 The specific objectives

i) To establish the effect of single window system on trade facilitation at the Port of Mombasa
ii) To determine the effect of joint patrols on trade facilitation at the Port of Mombasa
iii) To evaluate the effect of joint risk management initiatives on trade facilitation at the port of Mombasa

1.4 Research questions

i) How does single window system have effect on trade facilitation at the port of Mombasa?
ii) What effect do joint patrols have on trade facilitation at the Port of Mombasa?
iii) How do joint risk management initiatives have effect on trade facilitation at the port of Mombasa?

1.5 Justification

The study is of benefit to government to set up educational institutions and workshops to provide technical know-how on coordinated border management techniques as the concept is still not widely known and subsequently implemented by most institutions. There are a few schools/institutions that offer training on coordinated border management as this still

is a new concept for most institutions; Kenya School of Revenue Administration being a major training institution on this.

The study is of help KRA to determine the extent to which coordinated border management techniques affect trade facilitation and the areas of improvement in the implementation of the various coordinated border management modern reform programs at the Port of Mombasa, Customs and Border Control Department. The findings advance the Customs and Border Control department carrying out Customs procedures and practices and coordinating the activities of different national border agencies in connection with import, export, or transit transactions. This include a reduction in administration and enforcement costs through: process reengineering to streamline and harmonize procedures, empowering staff across agencies for shared responsibilities, coordinated risk management through information sharing for shared-decision on high risk cargo and sharing of non-intrusive inspection tools and inspection bays (check points and scanning unit).

The findings are also beneficial to other partner government agencies to investigate further about the effects of coordinated border management of their organizations other than Customs and Border Control Department. Coordinated border management is as a result of integrating the activities of the border agencies, hence, giving a room for comparison on the implementation of these modern reforms in border management.

The study findings are key benefit to the trading community at large. The ideal benefits enjoyed by the traders are: reduced costs of compliance through streamlined and simplification of clearance procedures and improved ways of dealing with costs associated with outdated clearance procedures, a positive shift in efficiency on inspections and sanitary and phytosanitary goods, improvement in the quality of services provided by the border agencies (inspection, verification and release) and expedited cross border movements through harmonization of physical inspections and enhanced improvement in the flow management.

The study is be a basis of information to other researchers who will want to carry out their research on coordinated border management techniques since there exist a few literatures

on the specific coordinated border management techniques; most researchers have generally dwelt on coordinated border management but not on the specific CBM techniques. It also is a source of information to studies they will carry out as well as increasing knowledge through discovery.

1.6 Scope of the study.

The study covered the port of Mombasa, Customs and Border Control Department to determine the effect that coordinated border techniques has on trade facilitation. It narrowed to Mombasa Port since it is the largest and busiest gateway hub to EAC trade facilitation.

1.7 Limitations of the study

The researcher encountered financial constraints especially in printing the questionnaires. Again, documentation costs were incurred in drafting periods of the research especially on revision with the supervisor.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter provides a review to the literature on the topic of study, the conceptual framework, a critique of the available literature relating to the study, summary of the reviewed literature and the research gaps.

2.2 Theoretical Review

The theories underpinning the study are the resource-based view theory (Pandza, 2008) which shows how unique organizational resources employed by these control agencies can lead to competitiveness; the theory is appropriate for the study because of the competitive nature of trade facilitations by other countries in applying these CBM techniques in other words, organizational resources employed by these control agencies.

Communication theory (Davidson D. , 2006); (Rungtusanatham, 2008) that explains how the existence of effective communication between intra agencies themselves, inter agencies and multi-agencies is needed to enhance the effectiveness of CBM; the relevance of this theory to this study helps to dig into the relationship that exists between the agencies. In the study, communicating effectively is a key factor for the efficiency. This is measured by determining the relationship with the Customs.

The institutional theory (DiMaggio & Powell, 2006) that explains the undertaking of unanimous joint risk-based initiatives by the border control agencies in expediting the clearance and admissibility processes since there will exist a homogeneity in their various policies and procedures in accordance with the statutory mandates laid out.

2.2.1 Resource Based View Theory

Resources are fundamental drivers of firm performance. Resources refer to assets, capabilities, organizational processes firm attributes, knowledge and information controlled by an entity that enable the firm to conceive of and implement strategies (for example, border management programs) that will ensure improvement of the firm's efficiency and effectiveness (Conner, 2009).

An organization enjoys a competitive advantage when it implements a unique strategy that creates value and is not simultaneously practiced by any viable competitor. The advantage is realised if the competitive nature does resist erosion by competitor behavior (Bharadwaj, 2005). The RBV explains competitive advantage using reasons within the firm for extensive performance. The RBV argue that being in possession of fundamental resources and ensuring their development and utilization embraces how this advantage is achieved.

2.2.2 Communication Theory

With the needs of the Customs as a body that chiefly engineer coordinated border management, relevant studies as by Davidson (2006) as cited in (Quinn & Hargie, 2004) confirm the relevance and the need for skills to communicate organization functions. Those studies by (Johansson & Heide, 2008) provide information on improving communication skills. Studies by (Hahn, 2008) and (Golen, 2008) opine that there exist barriers to communication and ways to curb them. The studies opined that diligent communication and relationships that exist between organizational managers and staff chiefly contribute to productivity improvement and viability and offer zero tolerance on quality at the behest of cost reduction (Clampitt & Downs, 2009). Davidson (2011) aligns that all agencies can benefit from being in possession of current knowledge and those who are good communicators ought to work diligently on the assessment, improvement and application skills.

For the study, the existence of effective communication between intra agencies themselves, inter agencies and multi-agencies is needed to enhance the effectiveness of CBM. Effective communication between relevant sections of the department is important in Coordinated Border Management practices. However, some factors contribute to the weakness such as receiver's in communication process and environment leads to lack of trust among senders. Hahn (2008) to eliminate these threats, it is important for improvement of all agency's collaboration with others.

2.2.3 Institutional Theory

Different business practices are implemented or adopted by organizations since when they practice this, their legitimacy is increased (DiMaggio & Powell, 2006). When organizations emerge as a field, rational players tend to be similar in operations. Forces that do exist inside the firm and its environment encourage convergent business practices (Zsidisin & Ellram, 2007).

There are three forces to this theory: Coercive force is experienced because of formal and informal anxieties pressed on organizations by others which they are dependent up on and the expectations from the overall society (DiMaggio & Powell, 2006). Coercive pressures often lead to implementation of practices especially by CBM agencies; however, theorists show this does not guarantee efficiencies. Mimetic pressure happens because there always exist uncertainty that will encourage imitation. Selznick (2006) as cited in (Zsidisin & Ellram, 2007) opine that mimesis is pegged on anxiety and not in the rational efforts.

Lastly, normative forces which often come from professionalism enhanced to relate the conditions and methodology of work to realize effective legitimacy for their occupation (Gopal et al., 2009). When most employees exhibit similar backgrounds and experiences in handling their work, they create homogeneity over time (DiMaggio & Powell, 2006).

This theory is relevant to the study especially in undertaking unanimous joint risk-based initiatives by the border control agencies in expediting the clearance and admissibility processes since there will exist a homogeneity in their various policies and procedures in accordance with the statutory mandates laid out. Every decision made by one entity has to ensure consideration to the alignment of policies and procedures of the other control bodies.

2.3 Conceptual Framework

The conceptual framework shows the connection between the dependent variable; trade facilitation and independent variables; single window, joint patrols and joint risk management initiatives.

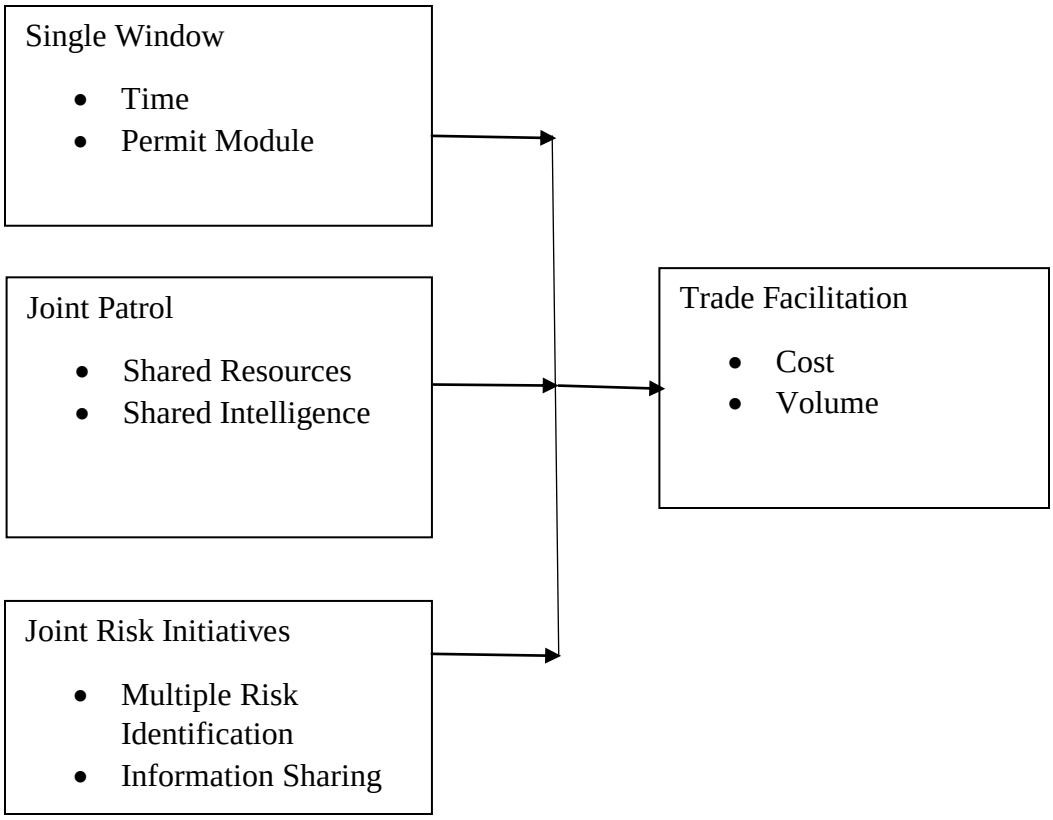

Figure 2. 1: Conceptual Framework

2.4 Review of Variables

The independent variables include the main activities or factors that are involved in the CBM. We expect any changes on the independent variable to also have a net effect on the dependent variable. The concept is best illustrated using a research paradigm explicitly depicting the variables. The main activities or pillars that comprise the Coordinated Border Management Techniques include: Single Window Systems, Joint Patrols and Joint Risk Initiatives.

2.4.1 Single Window System

A single window can be defined as a facility that is intelligent and is suited to enable parties concerned in trade matters of transactions and transportation and logistics to make entries on standardized information and documents with a single-entry point in regulatory compliance to all import, export and transit requirements (Dowd, 2012). Electronic information allows for exclusive data elements to be submitted only once and this supports information sharing on legal basis which ensures privacy and security in the event of exchange of information. There are reduced costs of operations during customs clearance procedures. Of significant importance is that there exist reduced timelines for the clearance policies by the control agencies and ultimate importers and exporters (IOM, 2018). The governmental authorities are controlled by the system, where appropriate i.e. receive payment of duties, waivers, warehousing and other charges.

Ramesh (2013) points out serious issues faced by Single Window Systems for trade facilitation. A few decades ago, countries have undertaken explicit and sequential efforts to enhance facilitation of trade efficiently by adopting these systems. In Africa, four (4) countries implement this system; Kenya being one of them. In those countries that the systems have successfully been implemented, they have largely contributed to the improvement of processing of import, transit consignments and export by these countries and have drastically reduced outdated trade transaction and compliance costs associated (Amin & Hoppe, 2015).

Zarnowiecki (2011) examined that the process clearance and admissibility of imports and exports by customs and other agencies are one of the problems hindering achieving a global supply chain due to the procedures involved. Often, they are criticized for undermining the capability of countries that are developing to compete on global markets. The Bank and other development institutions offer attention to the support in implementation of reform and modernization in Single window systems of border clearance processes. Because of this, border management inefficiencies have been greatly reduced to have a heavy effect on the competitiveness of these countries that are developing (Arvis, Dural, Shepherd, & Untoktham, 2012).

2.4.2 Joint Patrols

The lack of adequate scanners and sniffer dogs (K9) at the Kenyan borders is hindering the war against smuggling. According to the Kenya Revenue Authority (2015), this has resulted in Mombasa Port being named among the most notorious for attracting unscrupulous traders who bring in contraband goods. Chaflin (2012) assert that monitoring the porous border to the Port has proved a major challenge in the fight to stop influx of unaccustomed goods from other countries i.e. Tanzania.

Temisan (2015) in his study reiterates that there is need for proper border management by the various control agencies. Proper coordination between control agencies at the border has a positive effect on security the borders. Little or lack of coordinated activities of the control agencies constitute a security problem at the border. Each group has its operations carried out so independently, with the notion of being in possession of an articulate security plan and cover in their areas of operations.

Chan (2018) states that effective joint patrol depends on cooperation and coordination between relevant security agencies. In this case, such cooperation should not be lacking in terms of arrangement. For instance, the joint patrol arrangement between the enforcement and surveillance should not be been split, joint controls should enable the sharing of these resources like aircrafts, OSBPs by the agencies as this ensures the ultimate national protection which is in the interest of Customs.

Jeandesboz (2016), there is hence calls for a centralized command and control for security arrangement at the border. This would however require an appropriate policy which would empower an institution to play a leading role regarding security patrols at these borders. The study showed that centralization of these activities and resources greatly eliminates the time that is consumed in the clearance of goods and people. Again, having this centralized ensures that there exists optimum utilization of the resources by the agencies which ultimately results to efficiency and cost effectiveness (Barney, 2011).

2.4.3 Joint Risk Management Initiatives

According to World Customs Organization (WCO) risk management is the systematic application and implementation of policies, procedures and practices which provide Customs authority with the relevant information to address movements or consignments which are viable to presenting a risk (WCO, 2011).

Customs administration are faced with increased number of imports, exports and trade transactions. Several challenges tend to be barriers to this especially in facilitation of the movement of both passengers and cargo while employing these mechanisms to detect and bar customs fraud and other offences (UNCTAD, 2011).

Yasui (2009) determined that instead of encouraging multiplying agencies to determine compliance, an organization focuses primarily on the threats that may be an impediment to business operations hence, implements the necessary controls and processes required for protection against the threats to be poised, this is in other words referred as multiple identification of risk. The measure proposes increased Customs revenues, a better allocation and utilization of human resources, and improvement in terms of compliance with laws and statutory regulations.

Operations on specific groups of people, vehicles or cargoes that are highly targeted can take place in the border zone, at the BCP or inland. A fully detailed plan should include leadership, timing, responsibilities, duration, risk profiles, available equipment, objectives and relevant contact numbers. Members ought to be well briefed before carrying out any operation and the results evaluated sequentially and systematically and used for risk analysis and future operations. Besides Customs and border police, other agencies may be invited to participate; other stakeholders need to be informed of all proceedings by these agencies (European Union, 2012).

Data from UN (2018) examined that increased international trade and the operations experienced in the supply chain are subject to vulnerability to misuse by traders including misdeclarations which heavily effect on the amount of revenue collected and consequently on trade. To reduce this, there are measures that ought to be taken like ensuring receiving

of electronic cargo information about inbound, outbound and transit operations in advance; using an applicable management of risk approach to curb this; using equipment that do not intrude to goods and passengers; encouraging coordination among customs administrations and forming alliances with the private sector for secure practices in the chain, by embracing Authorized Economic Operator (AEO) programs.

2.4.4 Trade Facilitation

Trade facilitation refers to the avoidance of unnecessary trade restrictions. This is achieved by applying modern techniques, standards and technologies, while at the same time improving the quality of controls in an internationally harmonized manner (Kenya Association of Manufacturers, 2017). Trade facilitation is one of the key factors to economic development, social well-being and poverty reduction among citizens of countries. Therefore, this is one of the main areas of focus of countries to realize benefits from elimination of outdated clearance policies and procedures in relation to reduction in cost of doing business and increase in volume of shipment and cargo clearance.

2.5 Empirical Review

Ndunda (2012) carried out a research to establish the processes and existing policies that the One stop Border post was rooted on and the various challenges that may have been faced during implementation. The research was a case study for the Busia Border post. The data in the study was collected through primary and secondary sources and was analyzed through content analysis. The primary data will be obtained through personal interviews with the help of an open-ended interview guide. A response rate of 100% was achieved. The study had limitations on the basis of restrictions due to office codes of the KRA officers and other government agencies which led to less information being obtained. The results of the study concluded that the OSBP in Busia was faced with several difficulties that hindered its successful implementation. The study recommended higher involvement of stakeholders in the implementation process.

Sudi (2017) conducted a study on the effects of One Stop Border Post on Trade Facilitation at the LungaLunga Border Post. He used a descriptive research design in conducting the

research. The research concluded that the adoption of the OSBP at Lungalunga has had a great impact on the facilitation of trade at the border post. One of the major concerns is the fact that the infrastructure has not yet been integrated. Customs and other government officials from the bordering countries still are still using separate buildings. Commuters and traders have to alight in their country and walk for some distance before. Being cleared in the country of destination. This leads to a lot of time being wasted as the traders/ commuter's waste valuable time walking across the border into Tanzania for clearance. There was also a major issue on the collaborative team approach at the border post in risk management. There appears to be a disconnect at times from the customs officers when it comes to risk management and this again boils down to the issue of infrastructure where the customs officers and other officers are not easily accessible to each other and therefore find it difficult to adopt a collaborative approach to mitigate risk.

Zarnowiecki (2011) examined that the process clearance and admissibility of imports and exports by customs and other agencies are one of the problems hindering achieving a global supply chain due to the procedures involved. Often, they are criticized for undermining the capability of countries that are developing to compete on global markets. The Bank and other development institutions offer a great deal of attention to the support in implementation of reform and modernization in Single window systems of border clearance processes. Because of this, border management inefficiencies have been greatly reduced to have a heavy effect on the competitiveness of these countries that are developing.

Sugget (2005), an Australian customs officer, describes his experience as a customs expert participating in state-building in East Timor in 1999. The academic literature agrees on the way state and non-state actors participate in this hybrid or negotiated governance of cross-border trade, as the main economic resource and the most easily taxable in the context of insecure areas. The interest in this hybridity in times of conflict has been driven recently by the influence of Tilly on academics, regarding the formation of the state through war, gaining prominence on the Weberian model.

Aniszewski (2009) reviewed literature on joint patrols. The author distinguishes between descriptive and developmental work, i.e. corporation between these agencies to achieve their ultimate goals and objectives; revenue collection. The author concludes that the work intends: to describe technique; to improve generation of revenues; to motivate joint initiatives; to learn from traditional approach; to improve the wholistic and coordinated approach. WCO (2007) put forward a review of case studies on CBM; covering aspects e.g. network design of single window, joint patrols and information technology.

2.6 Critique of existing literature

Terzi & Cavalieri (2006) show how a locomotive tool aids on coordinated making of decisions. This is able to mimic the entire cycle of life and to examine impacts of environment on various joint operations within a production network. The middle and upper management receive support from the tool hence assisting on long term decision-making. However, (Terzi & Cavalieri, 2006) has weaknesses in the sense that developing the tool may involve use of a lot of both financial and human resources. This is because activities such as capacity building of parties involved and even training and alignment of resources (border posts) must be implemented.

UN Economic & Social Council (2015) gives the marketing and economics perspective on coordinated border approaches. Regulatory and economic laws, policies and procedures are considered as context variables as the level of information sharing will be studied. Furthermore, the authors present a model to predict the purchase of degree of sharing the resources. This literature however has weakness. First, the sharing of information depends mostly according to the preferences of the officers involved on the ground (WCO, 2007). Secondly, there are various non-tariff barriers in the regulatory and economic impediments that influence of a certain market place e.g. differences in the opening hours of operations by the various control agencies

Aniszewski (2009) analyzed the effects of joint patrols on revenue collection. Viable attention goes to coordination approaches between the single window and joint risk operations. The conclusions were assessed with available data from the world Bank on customs controls. To meet the set regulatory requirements, there are extra difficulties

involved in the clearance process, including the need for joint risk initiatives, single window, joint patrols and to track each aspect of the process.

Amin & Hoppe (2015) review concepts in the context of seeking greater efficiency in revenue collection. Thus, a classification of the joint control systems is given: intra agency corporation, inter agency corporation and international corporation. Skadden, Arps, Slate, Flom, & Meagher (2018) review the literature on border controls to identify existing gaps and unanimously propose way for future investigation. In doing so, the authors identify drivers and inhibitants (such as stakeholder commitment, attack from public, and vertical integration) regarding Coordinated approach. The authors differentiate internal and external forces, i.e. factors in the organization and the environment the task is to be carried out.

Titeca & Flynn (2014) present a review of the literature on legitimacy, hybrid governance and legal procedures in influencing the often-experienced Informal Cross-Border Trade in Panyimur, Northwest Uganda. They come up with categories with detailed framework. The authors look upon information sharing from the point of as of equal importance in the incorporation of coordinated border management techniques. Both the regulations and the pressure caused by government and customers are mentioned. However, the solutions to these problems that are caused by the government and consumers are not extensively highlighted and discussed in depth.

For example, in Asia CBM is actively discussed among different stakeholders in order to reduce the transportation costs of goods. Specifically, in Central Asia, The Almaty Program of Action took significant initiatives for addressing particular needs of landlocked countries. Mostly, it emphasized the improvement of border posts and the establishment of new joint border posts between countries. However, transitional costs of CBM implementation can be high at the beginning, but in the long-run period the benefits of CBM would offset the implementation costs. On these grounds, researches about CBM have shown positive correlation of its implementation and border management efficiency on every level of cooperation (Aniszewski, 2009); (Polner, 2011)

2.7 Research Gaps

In Kenya, CBM techniques were introduced to ensure that there exists international trade facilitation while maintaining a balance with the security and trade flow policies. Many researchers have generally dwelt on CBM as a whole but have paid little attention to the specific CBM techniques and what effect they have generally on trade facilitation.

Sudi (2017) conducted a study on the effects of One Stop Border Post on Trade Facilitation at the LungaLunga Border Post. The researcher used a descriptive research design in conducting the research. The research concluded that the adoption of the OSBP at Lungalunga has had a great impact on the facilitation of trade at the border post. In this study OSBP is a CBM technique that is used to show how trade facilitation is achieved, the study, however does not propose the effect OSBP has specifically on trade facilitation.

There exists various literature on security, customs, revenue and the general approach to this management; however, little literature is available for specific CBM techniques, observations made in the field in these regions are even scarcer. Based on the above content, the research intended to study the effect of adopting coordinated border management techniques in organization to provide response to the following: What are the effects of Coordinated Border Management techniques at the Port of Mombasa? What benefits do they incur when implementing coordinated border management techniques? This clearly indicates that there is still need to carry out huge research in the field of coordinated border management techniques considered by both governmental and non-governmental organizations.

2.8 Summary

This study needs to be researched to gain ideas for the organizations to better adopt the coordinated border techniques. This research helped to fill the gaps left by many organizations by showing the role of single window, joint patrol and joint risk initiatives. Many researchers have dealt with the issue of coordinated approach as a whole but not dwelling independently on the variables. Therefore, this study aimed to fill the gaps and disseminate information.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

Different types of data and information collected were used during analysis. In collecting this data, the researcher aimed to obtain whether CBM is of importance to the organization, various CBM techniques the organization adopts and the benefits that come up in implementing Coordinated Border Management. The main topics drawn in the study methodology include: research design, population, sampling frame and techniques, data gathering and the instruments and data analysis.

3.2 Research Design

The main research design adopted was a descriptive survey. Descriptive survey as described by Kothari (2004) is a method which embraces observation and description the behaviour of a subject without influencing how it operates. Mugenda & Mugenda (2003) state that survey is a strategy that is used to collect relevant information from a certain group by use of interviews, questionnaires and other methods. The design was appropriate for study because it offers efficiency in collecting information from population (Kothari, 2004).

3.3 Population

Population is defined as the entirety of cases of people, organization or institution with certain characteristics that are common and that are relevant to the purpose of the study (Ouma, 2013) as cited in (Mugenda & Mugenda, 2003). The target population for the study was all the Customs officers working at the Port of Mombasa as at December 31, 2018. As per the human resources-Southern region records, there were 534 Customs officers working at the Port of Mombasa. This category was involved since the researcher believed that they had the necessary information to carry out this study.

Table 3. 1: Target Population

Section	Frequency	Percentage
Enforcement	96	18
Sheds	122	23
Container Terminal	116	22
Petroleum Management Unit	76	14
Customs Warehouse	124	23
Total	**534**	**100**

3.4 Sampling Frame

Jessen & Salant (2011) a sample frame is the source or device from within which a sample is to be drawn. The sample consisted of respondents from the study area. These respondents were from enforcement, the sheds, from container terminal, from petroleum management unit, plus warehouse.

3.5 Sample & Sampling Technique

There is no better result that is obtained through counting or considering the entire study population, a representative sample size of 229 respondents was selected to save both time and money.

According to Mugenda & Mugenda (2003) at least 10% of the target population is important for the study. The research used a sample size of 43% respondents because it was large enough for the study to obtain reliable information.

S = **N**/ (1+ **N * e**^{2}) where

S = Sample size required

N = Size of population

e = error margin (alpha)

S = 534/ (1+534*0.05^2)

S = 229

Table 3. 2: Sample Size

Section	Population	Proportion	Sample
Enforcement	96	15	34
Sheds	122	27	62
Container Terminal	116	23	53
Petroleum Management Unit	76	13	30
Customs Warehouse	124	22	50
Total	**534**	**100**	**229**

The researcher employed cluster sampling technique during data collection from the respondents. Cluster sampling technique was used because it allowed the researcher to select a sample with knowledge about the study variables and experience since this a

technique used when the population is mutually homogenous yet internally, there exist heterogenous groups in the statistical population; these included the staff from enforcement department that accounted for 15%, officers from the sheds that account for 27%, container terminal representing 23%, petroleum management unit 13% and those from customs warehouses to represent 20% were chosen since they deal directly with most CBM techniques.

3.6 Data Collection Instruments

The researcher used questionnaires to collect data from the population. Questionnaire is the instrument for collecting the primary data (Cohen, 2013). According to Galton (2012) by questionnaires, we can learn much about opinions and attitudes as well as intentions and expectations. Questionnaires reduce bias since the researchers' own ideas would not affect the response since it will not be a face to face study. Structured questionnaire was used in the study and a rating of a 5 Likert-scale employed.

3.7 Data Collection Procedure

After obtaining approval of the research from the department of customs studies in the Kenya school of revenue administration, the researcher came up with a data collection schedule and visited the sections of the customs department to get consent to administer the instruments. This enabled the researcher to familiarize with the respondents. They were collected immediately once they were 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).

3.8 Pilot Testing

According to Kothari (2004) a pilot study is a small-scale reconnaissance study carried out to evaluate cost parameters, feasibility, adverse effects, timelines and improvement on the study design before carrying out the entire research. The respondents in the pilot test included 10 percent of units used in data collection. The sample size of 10 respondents was

used for the study hence 10 questionnaires administered. Those included in the pilot test were not included in the main study.

3.8.1 Validity

Validity is when a research project is legally and technically feasible and as well justifiable. To ensure validity, the researcher used KMO-Bartlett test. As well, a reconnaissance study was carried out by the researcher. The researcher sought opinions of experts in the field of study especially the study's supervisor and lecturers. This facilitated the necessary revision and modification of the research instrument thereby enhancing validity.

3.8.2 Reliability

Kothari (2004) states that reliability is the extent to which a tool of assessment produces stable and predictable results. The researcher adopted Cronbach's alpha (α) for appraisal of the instruments of study and the approval to ensure accuracy and reliability. Reliability coefficient of 0.7 shows high data reliability (Mugenda, 2003). The coefficient in reliability of Cronbach's alpha ranges from 0 to 1. Reliability coefficient of 0 indicates no internal reliability while 1 implies perfect internal reliability.

3.9 Data Analysis and Presentation

The study employed descriptive statistical methods for data summary and get a description of the response to questions. The methods were use of frequency Tables, weighted means, standard deviation and summarized percentages. These methods of analysis were considered appropriate because figures were the main methods of data presentation. The data collected was subjected to data editing, data entry and data coding, tasks/activities especially if the causes of errors were known and what should be used to replace it. Data was coded prior to entry using numerical so that all responses obtained will be grouped into categories. Data for demographics obtained was analyzed and the results shown in terms of frequency and percentages calculated.

For objectives one, two and three, 5 Likert weighted mean scale was calculated as well as the standard deviation of the figures. Furthermore, a comparison of the means was calculated where the mean of means was obtained to identify the significance of the difference.

The relationship between independent and dependent variables was expressed through the linear regression model as shown below:

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

Where **Y** = Trade Facilitation

$\boldsymbol{\beta_0}$ = Constant and is the level of trade facilitation without CBM techniques

$\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$ and $\boldsymbol{\beta_3}$ Coefficient explaining variables $\mathbf{X_1}$, $\mathbf{X_2}$ and $\mathbf{X_3}$ respectively

$\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$ and $\boldsymbol{\beta_3}$ are the changes in **Y** due to the change in **X**

$\mathbf{X_1}$ = The effect of Single Window on Trade Facilitation

$\mathbf{X_2}$ = The effect of Joint Patrols on Trade Facilitation

$\mathbf{X_3}$ = The effect of Joint Risk Initiatives on Trade Facilitation

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.

CHAPTER FOUR
RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter gives an analysis and interpretation of data collected. This chapter shows the response rate, background information of respondents and both descriptive and inferential statistical results respectively. The related discussions in respect to the findings are also presented.

4.2 Response Rate

A total of 229 questionnaires were administered on the sampled respondents. Out of this, 165 were successfully filled and collected from the respondents. This converts to72 % response rate which is sufficient and satisfactory for analysis. According to Nulty (2008) the response rate was acceptable as it had surpassed the 70% response rate threshold.

Table 4. 1: Response Rate

Category	Frequency	Percentage
Response	165	72
Non-Response	64	28
Total	**229**	**100**

4.3 Pilot Results

4.3.1 Reliability of the pre-tested research instrument

Cronbach alpha, is a measure of internal consistency, was used to examine the internal reliability of the questionnaire. The higher the mark, the more dependable the generated data is. (Nunnaly 2008) has indicated 0.7 to be an acceptable reliability thus it was considered adequate for this study. Based on the feedback from the pilot test, the questionnaire was modified and a final one developed.

Tables 4.2 below shows that all the scales were significant, having an alpha above the prescribed threshold of 0.7. Single window systems had the highest reliability (α=0.788) followed by joint patrols (α=0.759), joint risk management initiatives (α=0.701), while

trade facilitation lower at (α=0.701). The study therefore found that the data was reliable thus could be used for further investigation.

Table 4. 2: **Reliability Coefficients**

Scale	Cronbach Alpha	Number of Items
Single Window Systems	0.788	5
Joint Risk Management Initiatives	0.716	5
Joint Patrols	0.759	5
Trade Facilitation	0.701	2

4.4 Demographic Information of the Respondents

The study examined the background information of respondents in respect to job title, number of employees, education level, length of service/work experience of Customs officers at Mombasa Port.

4.4.1 Job Title

The study sought to establish the job title of the respondents. It was revealed that all the respondents were Customs officers from different sections i.e. sheds, warehouse, petroleum management unit, container terminal and enforcement.

4.4.2 Number of Employees

The study sought to determine the number of employees by the organization. It was determined that over 500 employees were employed by the organization.

4.4.3 Education Level

The study sought to determine the education level of the employees. Education level was categorized into high school level, diploma level, undergraduate and postgraduate level. It was revealed that majority (45%) of the employees had attained undergraduate level. Diploma holder represented 42% of the respondents, while 10% were postgraduate holders. Further it was established that 3% of the respondents had high school certificate. The findings implied that the Mombasa Port adopted revenue collectors from recognized

institution of higher learning which put emphasis on academic qualification of the workforce. The Authority has invested in training the collectors who rely on their work experience to collect revenue and facilitate trade.

Table 4.3 Education Level

Academic qualification	Frequency	Percent
High school	5	3
Diploma	69	42
Undergraduate	74	45
Post graduate	17	10
Total	**165**	**100.0**

4.4.4 Length of Service

The study sought to establish the length of service to the current position. The study revealed that majority (43%) of the employees had served for a period of less than 5 years. Employees with 5-10 years' experience were (32%). Employees with above 15 years had (25%). The findings show that over 57% of revenue collectors had experience of over 5years. Further, the findings imply that 43% of revenue collectors with experience of less than 5years, are relatively young people that were employed in the recent past and in the wake of Authority not meeting set targets.

Table 4.4 Length of Service

Experience	Frequency	Percent
1 - 5 years	71	43
5-10 years	52	32
Above 15 years	42	25
Total	**165**	**100.0**

4.5 Descriptive Statistics

This part illustrates descriptive findings and discussions relative to the research objectives. The findings are presented in measures of central tendencies (means) and measures of variation or dispersion (standard deviations).

4.5.1 Single Window Systems

It was vital to establish the effect that single window systems implemented by the customs officers has on trade facilitation.

Table 4. 5 Descriptive Statistics Analysis of Single Window System

	N	Min	Max	Mean	Std Dev
Has enabled quicker release of trade documents	165	1	5	4.5812	1.2196
Has enabled quicker release of goods	165	1	5	4.4721	0.8491
Has enhanced less duplication of work	165	1	5	4.3012	1.4192
Has enabled online enquiries and downloading of TradeNet permit	165	1	5	4.3622	1.2134
Improved interconnectivity for information exchange	165	1	5	4.1741	1.2031

The findings revealed that the respondents agreed (Mean =4.5812: std = 1.2196) that single window system enabled quicker release of trade documents. The respondents agreed (Mean =4.4721; std = 0.8491) that single window system enabled quicker release of goods. The findings revealed that the respondents agreed (Mean = 4.3012; std = 1.4192) that single window system enhanced less duplication of work. Further the respondents agreed (Mean = 4.1741; std = 1.2031) that single window system enabled online enquiries and downloading of TradNet permit. The respondents agreed (Mean = 2.13490; std = 1.902467) that single window system improved interconnectivity for information exchange.

The findings implied that adoption of single window system greatly improved trade facilitation due to the modules which it is structured. The findings agree with Baurer (2008) who noted that incorporation of single window system is ideal in the facilitation of international trade.

4.5.2 Joint Patrols

It was important for the study to determine the effect that joint patrols have on trade facilitation. The findings are as depicted in table 4.6 below.

Table 4. 6: Descriptive Statistics Analysis of Joint Patrols

	N	Min	Max	Mean	Std Dev
Has improved definition of responsibilities by the department	165	1	5	4.3980	0.9591
Improved shared resources by the sections of the department	165	1	5	4.1730	0.9720
Patrol interventions are closely integrated with broader policing arrangements & the work of external agencies	165	1	5	4.6071	1.0409
Improved organization of policing resources and managing policing personnel	165	1	5	4.0807	0.9120
Has led to visible, accessible and responsiveness to policing	165	1	5	4.5906	1.9820

It was important for the study to determine the effect of joint patrols on effective trade facilitation at the Port of Mombasa. The findings are as depicted in table 4.6. The study findings revealed that the respondents agreed (mean = 4.3980: std dev = 0.9591) that there was improved definition of responsibilities by the department. They were also in agreement that (mean =4.1730: std dev = 0.9720) there was improved shared resources by the sections of the department. The respondents also agreed (Mean =4.6071; std=1.0409) that patrol interventions are closely integrated with broader policing arrangements & the work of external agencies.

The respondents did agree (mean =4.0807: std dev =0.9120) that there was improved organization of policing resources and managing policing personnel. Further the respondents agreed that (mean = 4.5906std dev =1.9820) that joint patrols have led to visible, accessible and responsiveness to policing. Joint patrols had a profound influence on trade facilitation. This study agrees with Temisan (2015) in his study reiterates that there is need for proper border management by the various control agencies through joint patrols.

4.5.3 Joint Risk Management Initiatives

This study sought to assess the influence and effectiveness of joint risk management initiatives on trade facilitation at the Port of Mombasa. The results are presented in Table 4.7.

Table 4. 7: Descriptive Statistics on Joint Risk Management Initiatives

	N	Min	Max	Mean	Std Dev
Enhanced a common approach to risk	165	1	5	4.2023	0.9669
Has used risk to address grey areas	165	1	5	4.4203	1.2267
Has led to sharing of information by the sections of the department	165	1	5	4.6302	0.9109
Has enabled easier multiple identification of risk	165	1	5	4.6121	1.0887
Analyzed evolution of threats likely to affect trade facilitation	165	1	5	4.3512	1.3371

The findings on Table 4.7 show that respondents agreed that (mean = 4.2023: std dev = 0.9669) that there was enhanced common approach to risk, (mean =4.4203: std dev =1.2267) that risk was used to address grey areas, (mean = 4.6302: std dev =0.9109) that has led to sharing of information by the sections of the department, (mean = 4.6121: 1.0887) that has enabled easier multiple identification of risk, (mean = : 4.3512 std dev =1.3371) that has analyzed evolution of threats likely to affect trade facilitation. The

findings agree with Yasui (2009) determined that instead of encouraging multiplying agencies to determine compliance, an organization focuses primarily on the threats that may be an impediment to business operations hence, implements the necessary controls and processes required for protection against the threats to be poised, this is in other words referred as multiple identification of risk.

4.6 Correlation Analysis

The researcher used inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance. Additionally, the effect of the independent variables to the dependent variables was also established in through correlation analysis and a multiple linear regression.

4.6.1 Linear correlation

Table 4.8: Bivariate Linear Correlation among all Variables

		Single window system	Joint patrols	Joint risk management initiatives	Trade facilitation
Single window system	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	169			
Joint patrols	Pearson Correlation	.177**	1		
	Sig. (2-tailed)	.003			
	N	169	169		
Joint risk management initiatives	Pearson Correlation	.440**	.261**	1	
	Sig. (2-tailed)	.000	.000		
	N	169	169	169	
Trade facilitation	Pearson Correlation	.093	.171**	.158**	1
	Sig. (2-tailed)	.025	.005	.009	

	N	169	169	169	169

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

Correlation results in table 4.8 shows that there was a weak positive significant correlation between single window system and trade facilitation (r=0.093, P=0.025). Correlation results also indicate a weak positive and significant correlation (r=0.171, P=0.005) between joint patrols and trade facilitation at the port of Mombasa. Finally, the correlation results showed that there is a weak positive significant correlation (r=0.158, P=0.009) between joint risk management initiatives and trade facilitation at the port of Mombasa.

4.7 Multiple Linear Regression

The study conducted a multiple linear regression analysis in order to investigate the effects of coordinated border management techniques on trade facilitation at the port of Mombasa. In this model, coefficients of determination explain the extent to which changes in dependent variable can be explained by the changes in the independent variables or percentage of variation in dependent variable that is explained by all three independent variables.

4.7.1 Analysis of Variance

The researcher used ANOVA to partition the variability among all the values into one component that is due to variability among group means (due to the treatment) and another component that is due to residual variation. The table below summarizes the outcome.

Table 4. 9: ANOVA test on variances.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	327.653	3	109.218	99.65	.003[b]
	Residual	146.897	161	1.096		
	Total	474.560	164			

a. Dependent Variable: Trade facilitation

b. Predictors: (Constant), Single window system, Joint patrols, Joint risk management initiatives

From Table 4.9, Analysis of Variance (ANOVA) was done to establish the fitness of the model used. The ANOVA table shows that the F-ratio (F=99.65, p=.003) was statistically significant. This means that the model used was a good fit.

The above therefore imply that we accept the three alternative hypotheses that single window system, joint patrols and joint risk management initiatives have a profound effect on trade facilitation at the port of Mombasa.

4.7.2 Coefficient of Determinant

The results for the model summary are presented in table 4.10

Table 4.10: Coefficient of Determinant

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725[a]	.526	.509	1.401

a. Predictors: (Constant), Single window system, Joint patrols, Joint risk management initiatives

According to regression results in table 4.10, the regression equation between effects of CBM techniques on trade facilitation had a moderate regression. In the model summary, the R^2 is 0.526. This implies that the three variables studied explain 52.6% of variance in trade facilitation at the port of Mombasa. This means that, the other factors not considered in the study contribute 47.4% of variance in the dependent variable.

4.7.3 Multiple Regression Coefficients

The raw and standardized regression coefficients of the predictors together with their t statistics are as shown in table 4.11.

Table 4.11: Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	5.305	.716		7.406	.000
	Single window system	.117	.047	.019	2.489	.008
	Joint patrols	.072	.033	.138	2.225	.027
	Joint risk management initiatives	.152	.061	.114	2.492	.044

a. Dependent Variable: Trade facilitation

The estimates of the regression weights, t-statistics and the p-values for the relationship between effects of CBM techniques on trade facilitation at the port of Mombasa are presented in table 4.11.

$Y=5.305 + 0.117X_1 + 0.072X_2 + 0.152X_3$ clearly shows a significant positive relationship between the predictor variables and trade facilitation. The estimated coefficients show the contribution of each independent variable to the change in the dependent variable. According to the regression equation established, holding all independent factors a constant then trade facilitation will be average (5.305). This constant is significant in the model as it has p=.000 which is less than the 5% level of significance taken for this study.

4.8 Discussion of Research Findings

Regression analysis further formed a basis for answering research questions adopted in this study. This was done by considering the p values corresponding to each variable of interest in the Table 4.11. The first objective of the study sought to investigate the effect of single window system on trade facilitation at the port of Mombasa. This was established by determining Pearson correlations of refined data. The results showed that there was a weak positive significant correlation between single window system and trade facilitation ($r = 0.093$, $P<0.05$). Regression analysis conducted proved that there was a positively significant effect of single window system on trade facilitation as indicated by the values $\beta_1 = 0.117$, $t = 2.489$, $p<0.05$. The study concludes that an increase in adoption of single window system by one unit would lead to increase in trade facilitation by 0.117 units.

The second objective was to establish the effect of joint patrols on implementation of trade facilitation at the port of Mombasa. Pearson correlation was conducted and the findings indicated that there was a weak significant correlation between joint patrols and trade facilitation ($r=0.171$, $P<0.05$). Regression analysis was also conducted and the results showed a positively significant effect of joint patrols on trade facilitation as indicated by the values $\beta_2 = 0.072$, $t = 2.225$, $p<0.05$. The study concludes that an increase in joint patrols by one unit would lead to increase in trade facilitation by 0.072 units.

The study sought to establish the effect of joint risk management initiatives on trade facilitation at the port of Mombasa. Pearson correlation was conducted and the findings indicated that there was a weak positive significant correlation ($r = 0.158$, $P<0.05$). Regression analysis was also conducted and the results proved that there was positively significant effect of joint risk management initiatives on trade facilitation as indicated by the values $\beta_3 = 0.152$, $t = 2.492$, $p<0.05$. The study concludes that an increase in joint risk management initiatives by one unit would lead to increase in trade facilitation by 0.152 units.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

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 single window system, 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 single window system, 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 Single window system

From the findings in the preceding chapter, we can conclude that single window systems enabled quicker release of trade documents, enabled quicker release of goods and enhanced less duplication of work. Furthermore, the research established that single window system 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 determine the influence single window system has on trade facilitation at the Port of Mombasa. The second was to evaluate the effect of joint patrols on trade facilitation; Mombasa Port. 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 single window system has enabled quicker release of trade documents and that it enabled quicker release of goods. Further, single window system enhanced less duplication of work. There was 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. KAM and different partners should vigorously keep pushing for exchange assistance improvement if the individuals are to gain from the exchange advancement.

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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APPENDICES

Appendix I: Letter of Introduction

Owiso Brian Seko,

P.O. Box 87242-80100,

Mombasa.

To whom it may concern,

RE: Introduction Letter

I am **Owiso Brian Seko**, a student at the Kenya School of revenue Authority. I am studying for a Post Graduate Diploma in customs Administration. I am carrying out a Research on the effects of Coordinated Border Management techniques on trade facilitation at the port of Mombasa. Your feedback is very important as your inputs will be used for academic purposes only. I greatly appreciate if you could take a few minutes to provide me with information. Your response will be kept confidential and it will not be divulged to any person or institution outside this corporation.

Thank you in advance

Sincerely,

Owiso Brian Seko.
0723917649

Appendix II: Questionnaire

SECTION A:

GENERAL INFORMATION

Organization ……...

Job Title……

How long have you been working for the organization? (please tick one)

Less than 1 year [ ]

1-5 years [ ]

6-10 years [ ]

11-15 years [ ]

More than 15 years [ ]

Number of employees in the organization?

……..

What is your highest level of education? (please tick one)

High School Certificate [ ]

Diploma [ ]

Under Graduate [ ]

Post Graduate [ ]

SECTION B:

SINGLE WINDOW SYSTEM

Indicate the extent to which your organization has implemented the following coordinated border management technique on trade facilitation

1] No [2] little [3] Moderate [4] Large [5] Very large

TECHNIQUE	1	2	3	4	5
SINGLE WINDOW					
Has enabled quicker release of trade documents					
Has enabled quicker release of goods					
Has enhanced less duplication of work					
Enabled online enquiries and downloading TradeNet permit					
Improved interconnectivity for information exchange					

SECTION C:

JOINT PATROLS

TECHNIQUE	1	2	3	4	5
JOINT PATROLS					
Has improved definition of responsibilities by the department					
Improved shared resources by the sections of the department					
Has led to visible, accessible and responsiveness to policing					

Patrol interventions are closely integrated with broader policing arrangements & the work of external agencies					
Improved organization of policing resources and managing policing personnel					

To what extent has the following coordinated border management technique implemented by the department had on trade facilitation?

[1] No [2] Little [3] Moderate [4] large [5] Very large

SECTION D: JOINT RISK INITIATIVES

To what effect has the following CBM technique implemented by the department had on trade facilitation?

[1] No [2] Little [3] Moderate [4] large [5] Very large

TECHNIQUE	1	2	3	4	5
JOINT RISK INITIATIVES					
Enhanced a common approach to risk					
Has used risk to address grey areas					
Has enabled easier multiple identification of risk					
Analyzed evolution of threats likely to affect trade facilitation					
Has used risk to address grey areas					

SECTION E:

TRADE FACILITATION

To what effect has the trade facilitation enabled the following?

TRADE FACILITATION	1	2	3	4	5
Has enabled reduced cost of doing business					
Has increased volume of cargo clearance					

END