EFFECT OF SINGLE WINDOW SYSTEM PROCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT

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

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DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university for academic credit.

Signed: …… Date: …….

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Reg. No: HDB-335-C016-5028/2016

Supervisor Approval:

This research project has been submitted to Jomo Kenyatta University under my noble supervision.

Signed: …….. **Date: …….**

Prof. Beatrice Warue

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I am thankful to Almighty God for giving me the health and strength to pursue and complete theses research project. The guidance and direction from my supervisor Prof. Beatrice Warue was indeed invaluable. Thank you for your patience and understanding. To all the respondents who participated in this study without whose contribution this study would have been incomplete. Specifically, to various government agencies for granting me the opportunity to carry out the study.

DEDICATION

This project is dedicated to my wife Lydia Olumbe, whose continuous encouragement gave me reason to achieve my goal. To my Mum Mary Wairimu, whose support and encouragement is beyond words.

ABSTRACT

A Single Window Concept is a one-stop facility that allows exchange of information between all parties involved in trade across borders. It is aimed at reducing the complexity, time and costs of clearing goods at the ports. The Concept has been implemented in Kenya but not without its challenges, which affected its implementation. This include slow uptake by stakeholders and also it has taken long to fully implement the project. The general objective of the study is to identify the Effect of Single Window System on cargo clearance efficiency in Kenya: A case for Mombasa port specifically; to determine whether shipping procedures affect cargo clearance procedures at the port of Mombasa; To establish whether Pre-clearance permits procedures affect cargo clearance procedures at the port of Mombasa; To find out the effect Customs goods declaration procedures on cargo clearance procedures at the port of Mombasa. The research used a descriptive research design. The focus of the study was both Government agencies such KenTrade, KRA, KWS and KEBS and private sector represented by KIFWA members (Clearing Agents) and Cargo handlers based in Mombasa port. The census comprised employees from selected group totaling to a population of 119. The study used stratified random sampling that will group the population into two mutually exclusive categorizes i.e. government and private sector. An online questionnaire was administered, where a total of 96 out 119 responded to the questionnaire representing 80.7% response rate. Data was then analyzed using descriptive statistics mean, percentages and standard deviation for Likert scale statements and inferential statistics correlation, Analysis of variance, coefficient of determination and multiple regression. SPSS and Microsoft Excel were used to analyze data which developed smart tables and pie charts. The findings showed that, there has been improvements in Ship Manifest procedures, Pre-clearance permit procedures and Customs goods declaration which has improved efficiency in the Cargo clearance at the port of Mombasa. Overall the analyses showed that implementation of Single Window system has positive effect on cargo clearance efficiency at the port of Mombasa. However there is need for the government to streamline the cargo clearance at the Port of Mombasa allowing advance lodgments of manifest; automate some of the manual procedures such a CFS nominations; Address conflicting/duplication roles of some regulatory agencies managing the Pre-clearance procedures; Change laws which requires input of manual operation such stamping of clearance documents & allow electronic cargo authentication of documents; Improve port infrastructure such internet, road way which will improve flow of trucks.

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ABBREVIATIONS

CIU	Cabinet Implementation Unit
CSC INDEX	American IT Consulting Firm
COMESA:	Common Market for Easter and Southern Africa
EAC:	East Africa Community
ESCWA:	United Nations Economic and Social Commission for West Asia
EXIMs:	Exporter and Importers
GDP:	Gross Domestic Product
GST:	General Systems Theory
ICT:	Information Communication and Technology
JIT:	Just in Time
KEBS:	Kenya Bureau of Standards
KENTRADE:	Kenya Trade Network Agency
KIFWA:	Kenya International Freight and Warehousing Association
KRA:	Kenya Revenue Authority
SCEA:	Shippers Council of Eastern Africa
SWC:	Single Window Concept
TFA	Trade Facilitation Agreements
UNCTAD:	United Nation Conference on Trade and Development
UNECE:	United Nation Centre for Electronic business
WCO:	World Customs Organisation
WTO:	World Trade Organization

DEFINITION OF TERMS

Asycuda ++	Automated System for Customs Data (*ASYCUDA*) is a computerized system designed by the United Nations Conference on Trade and Development (UNCTAD) to administer a country's customs (UNCTAD, 2011).
Cross border trade	Defined as buying and selling of goods and services between businesses in various countries, with the seller being in one country and the buyer in the other country (Kantox, 2009).
E-Citizen	Defined as Digital payments platform that enables Kenyan citizens, residents and visitors access and pay for government services online (Republic of Kenya, 2015)
E-commerce	Defined as is the trading or facilitation of trading in products or services using computer networks, such as the Internet or online social networks (Mireles, 2018)
Globalization	Defined as a process of interaction and integration among the people, companies, and governments of different nations, a process driven by international trade and investment and aided by information technology (Levin Institute, 2016).
Harmonization	Defined as adjustment of differences and inconsistencies among different measurements, methods, procedures, schedules, specifications, or systems to make them uniform or mutually compatible (Dijkman, 2012).
Liberalization	Defined as a relaxation of government restrictions, usually in such areas of social, political and economic policy (Guardado, 2016)
Manifest	This is a document listing the cargo, passengers, and crew of a ship, aircraft, or vehicle, for the use of customs and other officials (EACCMA, 2004)
One Stop Shop	Defined as business or office where multiple services are offered; i.e., customers can get all they need in just "one stop" (Wimmer, 2002).
Trade facilitation	These are activities that looks at how procedures and controls governing the movement of goods across national borders can be improved to reduce associated cost burdens and maximize efficiency while safeguarding legitimate regulatory objectives (WTO, 2011)

Traders	Merchants involved in cross border trader i.e. Importation and Exportation of goods (Titeca, 2009).
Kenya Vision 2030	Defined as national long-term development policy that aims to transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment (Kenya Vision 2030).

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

According to WTO (2016), globalization and liberalization of world economies and trade across borders has improved greatly. More potential is being discovered in term of exchange of ideas, production of goods and services which is necessary for every day-to-day running of a businesses. Stakeholders involved in cross border trade, have incurred costs associated with tariffs & time due to inefficiencies in the cargo clearance process, the legal system or cultural aspect of the people at large. Additionally, cross border trade is becoming more complex with the multiplicity of state agencies involved in cross border trade, Immigration, policing and standards.

According to the World Bank, in Africa 25% of delays cargo clearance, are caused by poor infrastructure while 75% are caused by poor trade facilitation policies, conflicting mandates and lack of skilled manpower. These delays and bureaucracy make African cost of doing business to be on average, three times more expensive than those of South America and five times more expensive than Asian: these impacts negatively on the competitiveness of African goods on the international markets.

Major leaps have been made in the Information and Communications Technology (ICT) filed that has redefined by making it easier and faster for cross border trade. Through e-commerce, there has been increase in demand for trade between countries across the globe. This has led to development of means to enhance the entire supply chain process for both import and export of goods/services (WTO, 2016). The electronic Single Window System (SWC) which is aimed to transform cross border trade by improving the cargo clearance processes, implementation of Huduma Centers that are aimed to transform public service delivery by providing citizens access to various public services and information from One Stop Shop citizen service centers and through integrated technology platforms and implementation of e-Citizen which is a digital payments platform that enables Kenyan citizens , residents, visitors access and pay for government services online (Mugendi, 2014).

According to UNCTAD (2000), delays in the clearance of goods can affect the trade across the borders in different ways, these include; increase the losses for some agricultural products, such as fresh vegetables, dairy products, and cut flowers. The same is true for technology intensive products, e.g. pharmaceutical products whose market-life tends to be short. Furthermore, these delays, in particular payment delays by importers or through a bank operation of negotiating Bills of Exchange, increase the capital costs and time based insurance costs of exporters. Delay costs are probably the easiest cost component to identify and support. For example, if a container arriving in a given port is delayed for thirty days, it is relatively easy to establish the costs to the trader in terms of interest on capital, demurrage and port charges. It is also relatively easy to establish a rough norm against which the total delay time can be judged in order to estimate to what extent it would have been avoidable (ICF, 2014). Parallel estimates can be made of losses to the port because occupation of quay space frustrated the reception and handling of other vessels and cargo. The advantage of such analyses is that remedial action cannot only be justified but also focused and tested by regular subsequent soundings. Direct and indirect costs mentioned in this section, enterprises often lose business opportunities. A company operating a just in time, low inventory production network across countries, a delay in one country may cause stagnation in the entire global production chain, with potentially enormous lost business. Another example can be seen when a cash poor company foresees payment delays and high capital costs may drive it to give up a trade contract. In addition, to importers and exporters of goods, suppliers of trade related services, such as express airfreight operators, may also lose business opportunities if their clients foresee critical delays due to the procedural requirements for the delivery of their services.

WTO Symposium on Trade facilitation in 1998, transparency and procedural irregularities attracted the participants' attention. Lack of transparency in relevant regulations and formalities increases the effective cost of producing the necessary trade and procedural information; it can also cause duplicative efforts and errors, thus increasing compliance costs and acting as a deterrent to further international sales contracts. Similar effects may arise from lack of uniformity in interpreting regulations and contractual terms and references. Lack of uniformity may exist in all levels of official procedures, including document verification, inspection and dispute settlement. The causes may vary from personal misinterpretation, communication gaps (perhaps related to geographical remoteness), poor competencies or incentives, to corruption.

Kenya Revenue Authority (2011), undertook a study to determine the time it takes to clear goods taking into account the duration between arrival of the importing ship, aircraft or vehicle and the removal of goods carried on board. According to the findings of the study, the cause of delays in clearance included: -Delays in the Submission of Inbound Manifest by Shipping Lines, Occasional system breakdowns that cause delay in processing of entries by Customs, unreliable power supply and problem of network connectivity, delays in the arrival of original copies of invoices, packing lists and bills of lading as contributing delays, delays in Submission of Payment Information was also cited as a cause of delay.

It is in the view of the above that the international organizations, that is, the World Trade Organization (WTO) and United Nations Center for Trade Facilitation for Electronic Business UNECE (2012) developed guidelines within which countries can use to improve trade efficiency. The Single Window concept, looks at reduction of costs and uncertainty of transporting goods across borders, including the documentation needed. A wider definition is that it is an improvement of the environment in which transactions occur. Many countries have gone a step further by integrating the various government agencies involved in regulating trade across border through implementation of SWC.

1.1.1 Concept of Single Window System

The SWS in a theoretical perspective, is a facility that allows on-line lodgment of trade related information through a single electronic portal. The information is then disseminated to the various government and private institutions for processing and regulatory aspect. In international trade the Merchants involved in the trade to access all import or export related regulatory service through the system. The system can be a physical structure i.e. building or an electronic system, which basically provides a single point of entry and processing of data related to cross border trade. The system usually managed by a Single Agency through the various models such Hybrid, Stand alone or integrated system. (Abeywickrama & Wickramarachchi, 2015).

The system replaces paper-based transactions and reduces physical movement and interaction between the merchants and government officers, hence reducing inefficiencies in the process. The system has in-built business rules for each individual process, to enable compliance with regulatory agencies and other parties involved in cross border trade. (ESCWA, 2011). A Single agency is entrusted with the management of system and basically oversees the implementation of the change

from paper based business processes to electronics-based processes. This is one of the most challenging aspect of implementation of the systems and poses serious issues to do with change management. (ESCWA, 2011).

ESCWA (2011), defines SWC as an open system integrated with the trading community such as banks who enable the trading community able to make online payments for their transaction using the Payment gateway in the Single Window system. Electronic receipts can be integrated directly from the banks into the system accounting module. It also provides a platform where Shipping Line, Airlines companies and their appointed agents to provide the manifest data on an electronic format, which is distributed to the various government agencies by the system. It is also provides a messaging function, which updates/alerts the government agencies at various release points to release the cargo. This improves clearance time and overall the cost of doing business in the country. The system also has a Risk Management nodule which the various government agencies can use to manage the various risks aspect which are represented in the cross border trade. Setting up of the Single window is a very expensive affair as has been a case for Kenya and many other countries which have implemented the concept. Implementation of the Single Window Concept is a very expensive affair and requires investment in both financial and human resources to enable successful implementation of the concept.

1.1.2 National perspective of Single Window system

The development of the Kenyan National Single Window started in 2007 as more of a Mombasa port community based project (Kabuga 2013). The system was initially targeting port handling, Customs and Partner government agencies procedures. The project was funded by the World Bank and Kenya Port Authority and Kenya spear headed its implementation. The government saw the potential in-terms of impact in cross border trade, and decided to expand tit to cover the airports and all other borders within the country, the system manages all transport modes including air, rail, road and sea.

In 2011, the government formed Kenya Trade Network Agency (KENTRADE) to manage implementation of the SWC in the country. The agency main objective was to facilitate international trade through implementation and operationalization the SWC in Kenya. This geared

towards reducing delays and lowering cost of doing business in the country by reducing cargo dwell time from 14 days to three days at the port, I week to one day at the airport and 2 days to a maximum of one hour at the border. The government had identified processes that were inefficient and were contributing towards delays in cargo clearance thus contributing to congestion at the port and airports in the country. One of the in efficiencies identified was in the management of document processes used in cargo clearance. The processes are mostly manual and some cases semi-automated, which led to delays in cargo clearance, increased cost of doing business and corruption, reduced the country's competitiveness compared to its peers in the region (Kabuga, 2013).

The project started in 2007 with development of a project charter, which clearly defined the objectives and strategies for the implementation of the SWC in Kenya. One of the strategy was to re-engineer some procedures that were contributing to inefficiencies in cargo clearance. The next strategy was to how manage various stakeholders involved in cross border trade. The stakeholders included government regulatory agencies and the players from the private sector such the Customs brokers, and cargo handlers with the port and airport. The stakeholders were engaged through structured forums such workshops and change agent networks. This was to ensure all stakeholders involved in cross border were engaged right from the start of the project with an aim of promoting ownership and reduce incidences of resistance to change.

The end product of the stakeholder's engagements was production of business process reengineering report which was used to development the system requirement specifications which were used to develop the system. The system was launched on 31st October 2013 and was implemented in phases; In Phases 1 which include Pre and Post Clearance Documentation Modules and Phase 2 which Clearance Permits Module for both exports and imports. The project has achieved a lot of milestones, which has seen completion of Implementation of 20 Modules which integrates 30 government agencies involved in cross border trade.

1.2 Statement of the Problem

Cargo clearance procedures are one of the major bottlenecks in product supply chains in Kenya. The delays at border crossings and ports caused by lengthy, complex procedures and excessive paperwork have created a negative impact on trade and increased cost of doing business in the country. Other challenges include conflicting legal mandates from various government agencies

and use of semi-automated procedures. These challenges have led to in-efficient processes which have caused delays in cargo clearance thus affecting port operations and overall cost of doing business in the country. The challenges experienced have also affected trade across borders in Kenya with key stakeholders raising concerns due to frequent disruption of their business, as a result of delays in cargo clearance at various ports. The delays have increased the cost of clearing cargo and at the long increased the prices of imported goods into the country. It is in this background, that the government implemented the Single Window system with an aim of addressing the efficiencies in cargo clearance process. The study therefore seeks investigate the effect of Single Window System on cargo clearance efficiency in Kenya, paying attention to the port of Mombasa.

1.3 Objectives of the study

1.3.1 General objectives

The general objective was to determine the effect of Single Window System Procedures on Cargo clearance efficiency in Kenya in particular Mombasa port.

1.3.2 Specific objectives

The specific objectives of this study was to;

i) To determine if Ship manifest procedures affect cargo clearance efficiency at the port of Mombasa.
ii) To establish the effect Pre-clearance permits procedures on cargo clearance efficiency at the port of Mombasa
iii) To find out the effect Customs goods declaration procedures on cargo clearance efficiency at the port of Mombasa.

1.4 Research questions

To achieve the above objectives, the study was to endeavor seek to answer the following questions.

i) How does Ship manifest procedures affect cargo clearance efficiency at the port of Mombasa?

ii) How does Pre-Clearance permits procedures affect cargo clearance efficiency at the port of Mombasa?

iii) What is the effect of Customs goods declaration procedures on cargo clearance efficiency at the port of Mombasa?

1.5 Significance of the study

There are several benefits that will result from this research. The government technocrats or policy makers will borrow much from the research, and in need improve on future implementation of similar concepts in the country. Government agencies involved in cross border trade will benefit from the study by improving on their roles in cargo clearance at the various release points. Researchers and scholars in the related field, the study findings may also serve as a provoking resource that can inspire and raise other researchers' curiosity to conduct large-scale studies in this area. Forecasts can also be made on future advances, which can aid in research of the same to enhance the system and raise it to greater heights, such as realizing an EAC Single Window system.

1.6 Scope of the research

The scope of the study was restricted to Mombasa port, due to easier accessibility of target population and also because cargo clearance procedure are similar to other areas such the port and the borders. The This research was also confined to selected government agencies involved in cross border trade i.e. KRA, KEBs, KIFWA Secretariat being the representative of Clearing & Forwarding Agents and Cargo handlers at Mombasa Port, who are users of the Single Window system.

1.7 limitations of the research

The study was to research on the effect of SWS procedures on cargo clearance efficiency but not recommend any solutions to address the. That aspect will be left for policy makers or scholars in their future studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review is an account of what has been published on a topic by accredited scholars and researchers. It is a critical evaluation of existing research that relates to the topic (Smyth, 2004).This chapter gives the conceptual framework, empirical review and theoretical review of the study. It presents a thorough assessment of previous and recent studies revolving around the concept of Single Window pointing at the research gap necessitating need for this study

2.2 Theoretical review framework

This study borrows heavily from existing research that is increasing day by day. It is influenced by the following theories which have been put across by various scholars with regard to implementation of Single window concept in various countries.

2.2.1 System theory

It's important for an organization to continually scan the environment it is operating in (Cao and McHugh, 2005). The purpose of environmental scan is to understand the market dynamics such as competition, technological advancements and others (Byeon, 2005). The application of system theory is very important in an organisation that is applying technology to change the way it operates. The theory mainly concentrates on control mechanism applied for the change and feedback received within the organization. It aims at control of negative feedback by creating an equilibrium and brings the needed stability when implementing the change (Byeon, 2005). The theory enables the business to remain in-tandem with changing environment.

The theory defines an organization as set of a relationship comprising of various actors/stakeholders each having their own role and which have an influence with it performance. These actors while playing their individual role are under set of defined rules, which determine how they interact with the organization (Mason, 2007).

In modern business organizations, there is need to continually evolve in order to cope with the change within the environment. (White, 2000). The change brings about a more cohesive relations

which enables an organization to relate with the others within the same environment. This is clearly seen nowadays, where both the private and public sector have to work or in somehow depend on each other for their own success. (White, 2000). The need to inter-relate is to deal with a more unpredictable or turbulent environment. This achieved by complementing each other synergies to create a strong partnership to enable them overcome the changes in the political, economic and as well as technological (White, 2000).

System theory tends to bring understanding to the business environment complexities, by enabling the management in responding more effectively to the business disruptors. This is achieved through bringing understanding of the business processes and how they aid in managing the uncertainties and their implications. The theory also addresses the aspect of open and closed systems. The theory tries distinguish between the two by bringing an understanding on how they are. In open system, the theory informs that and change in the business environment will affect the internal systems within an organization. If the organization does not respond effectives to the changes, then it will affect its overall performance (Shafritz et al, 2005; Wang, 2004). Closed system on the other hand, are not significantly affected by changes with external environment and are more resilient to when the changes occur.

2.2.2 Change management theory

This literature review explores five dominant critical success factors: the need to understand the reason for change, identification of the stakeholders and have their support, clear and practical change implementation plan, and appropriate structures that motivate employees. These critical success factors are the basis to analyze how organizations need to conduct and steer change management plans in order to succeed in order to implement the SWC.

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 critical success factors for effective change management with the implementation of SWC.

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 a positive vision of where change will take the group; the opportunities, that change will bring and the hopeful future that is being created. 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. Kamau (2014) suggests that leadership should estimate how much communication of the vision is needed and not limit it to one congregational meeting or a couple of emails as leaders must be seen 'walking the talk' which is another form of communication if people are going to perceive the efforts as important. 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.

Change talk typically begins with some people noticing vulnerability or a loop hole in the organization as the threat of losing ground in some way sparks some people into action and they in turn react by communicating a sense of urgency in the need to seal the loop hole to others. In congregations it is mostly loss of membership, financial struggles or turnover in key volunteers and leaders (Kamau, 2014). Kamau (2014) notes that over half the companies he has observed over the years have never been able to create enough urgency to prompt action, they fail miserably at this. He further notes that without motivation, people will not help to make a change and the effort goes nowhere. Most executives underestimate how hard it can be to drive people out of their comfort zones.

Every person who is involved in the implementation of the programme, and everyone impacted by the implementation must have the same understanding of what the change is and why it is being done: leave no room for interpretation. Use the same language and frame of reference as the target

population that is those who will be impacted by the implementation. It is important therefore to identify who the target population is: top management, teams, business functions, customers, suppliers and partner organizations (Squidoo, 2012).

Kotter (1995) posited resistance to change is an obstacle in an organization's structure that prevents change. Hultman (1995) argued that resistance consists of two dimensions: active resistance would include such behaviors as being critical, selective use of facts, sabotaging, and starting rumors and passive resistance which is displayed by such behavior as public support but failure to implement the change, procrastinating, and withholding information or support.

Kirkpatrick (2001) provided a number of change related outcomes in which people welcome change, including examples such as salary increases, promotions, and increased autonomy in one's job, better working conditions, greater sense of achievement among others. Most successful organizational adaptation is increasingly reliant on generating employee support and enthusiasm for proposed a change rather than merely overcoming resistance. Thus the first step in the process of implementing a change initiative is that of creating readiness for change reduce resistance to change Piderit (2000), who adds that among the reasons for resisting change are dislike of change, discomfort with uncertainty, perceived negative interests, attachment to culture, perceived breach of psychological contract, lack of conviction that change is needed, lack of clarity as to what is expected, belief that the timing is wrong and belief that the specific change being proposed is inappropriate.

Hermann (2011) states that change management implementation can only be effective if stakeholders in the organization start living out new ways and making changes in their area of involvement, allocate budget money to new initiatives, carve more time on corporate agendas to talk about it, change the way the organization is organized to put people where the efforts need to be, free up key people from existing responsibilities so they can concentrate on the new effort; in short, remove any obstacles there may be to getting on with the change but you cannot get rid of all obstacles, but the biggest ones need to be dealt with. 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 (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 Business Process Re-engineering theory

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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 (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).

2.3 Empirical review

An empirical review in research methodology where the writer reviews the information and theories currently available concerning the topic and the historical background of the topic. The point is to do two things. First, it is to demonstrate thorough understanding of the field/topic in which he/she is conducting research. Second, it is to show that the problem being studied has not be done before or has not been done before in the way proposed by the writer (Meier eta al. 2008).

2.3.1 The Single Window System

UNECE (2012), defines a Single Window System as a single entry point for traders to submit information to governments so as to fulfill import- or export-related regulatory requirements. It is a platform whereby importers and exporters are able to lodge trade-related documentation to various government agencies for approvals. Its main objective is to simplify border regulatory requirements to all stakeholders involved in cross border trade. It allows online and applications and approvals of export and import document by the various government agencies. The system also goes a step further and connects to the private sector through institutions such as banks and insurance companies, thus ensuring that the trader gets a cyclical process, as is in manual submission of the same documents Studies have shown that trade is an economic mover, especially exports, which bring in foreign income to exporting countries. Therefore, it is only logical for a country to want to increase its trade and make its trading activities and processes more efficient and effective.

According to the World Customs Organization (WCO) survey 2011, this computerized system has been a huge advantage for the trading community. It has speeded up the processing of trade information, has enabled risk management especially for concerned Government agencies, has enhanced compliance in the private sector and provides better service to businesses due to efficiencies.

A study conducted by - Tosevska and Trpcevska, (2011), established that after implementation of Single Window system in Macedonia, stakeholders both from government and private sector were able to reap benefits which simple search mechanisms; straightforward procedures for obtaining a licenses; resource savings (time, costs and human resources); improved communication; and contact with and resolution of problems by CARM the responsible agency for its functioning

(Kostovski 2011). Increased compliance level was also identified with an increase in number of licenses issued in 2010 in comparison to 2009 showed an increase with 52,081 license issued in 2010, compared with 28,632 in 2009. The results of the research indicated that the Single Window System had helped to facilitate trade by speeding up the process of obtaining licenses, providing savings in terms of time, human resources and costs, and generally, in facilitating the activities of economic operators.

2.3.1 Shipping Procedures

Shipping procedure according to UIA (2000) are often slow, cumbersome, and expensive. This has led to increasing the cost of doing business and also access to world markets. By impeding the smooth flow of trade and efficient operation of the means of transport UIA (2000) noted that unwieldy procedures and excessive paperwork contribute to the congestion of ports, warehouses and stacking areas. It is not unusual for customs or other formalities to require the unnecessary unloading and reloading of goods, thus increasing the risks of pilferage or damage attendant upon the goods being held without proper storage. The role of forwarding agencies that have representatives in the main overseas markets is underdeveloped, even though they could facilitate the speedy movement of goods; at the same time the capabilities of strictly local firms are limited. The effective result is a hidden inflationary tax which is eventually borne by the final consumer of the goods (UIA, 2000).

Costly and complicated procedures are also a serious obstacle to the expansion of trade, sometimes discouraging those capable of export from engaging in external trade at all. In the case of land-locked countries in particular, delays and added costs caused by unsuitable procedures contribute to their products lack of competitiveness in world markets. An integrative approach that takes into consideration all the administrative and commercial aspects of the matter within the framework of a facilitation programme aimed at minimizing formalities, simplifying and streamlining procedures, and harmonizing and standardizing documents, is absent (UIA, 2000).

2.3.3 Customs goods declaration procedures

Before a declaration is lodged, the inward manifest of the vessel carrying the cargo must be submitted to the customs. This allows validation of the importer's declaration regarding the cargo against the report of the shipping line. But in spite of an existing agreement between Customs and

shipping lines about the latter's submission of manifest ahead of arrival of vessels, many shipping lines submit their manifest after the arrival of vessels. Consequently, importers cannot lodge until the manifest has been submitted to Customs. However, customs regulations allow lodgment of declarations seven days prior to arrival of a vessel provided that a manifest has been submitted.

Customs procedures are only one aspect of improving the overall efficiency of the cargo clearance process. A WCO study of cargo clearance times at Indonesian ports found that the customs clearance process for certain shipment took an average of 6.4 minutes, compared to 159 hours and 23 minutes for other activities involved in cargo clearance (including problems with incomplete documents; red tape involved in releasing goods from warehouses; payment hold-ups and deliberate delays in delivery, even after the release of goods by customs official (APEC 2000).

Another study by the Japan Customs and Tariff Bureau shows that the biggest reduction in total elapsed time from cargo arrival to release between 1991 and 1998 was in the plane-to-warehouse and time-in-warehouse stages of the process (Mikuriya, 2001).

In either case, procedural delays produce time sensitive costs. Such costs can be multiplied if there is an error in documents. Procedural delays in border controls impede road haulage and cause stagnation of goods in the warehouse, which, in turn, raise the transportation fees and the inventory charges.

A study by cargo 2000, an interest group of IATA airlines, reviewed the delays on air cargo shipments between Europe, the US and the Far East. It has found that 42 percent of the shipments are moved door-to-door in 72 hours or less, but the average was up to 4 to 5 days. The cause of delays was estimated to be the 40 different steps involved between forwarder and airline chains, while integrated carriers took merely 11 steps.

The introduction of a modern data processing system into the customs clearance process will therefore bring about faster clearance of cargo, improve revenue control and will provide up-to-date accurate information on trade in goods (UNCTAD 2003). A number of countries have reduced clearance time dramatically with automation of processing system. For example as stated above, the Japanese customs reduced the customs clearance time significantly from 50.3 hours to 30.8 hours for air cargo and from 142.1 hours to 81.1 hours for sea cargo; (and the time elapsing between the import declaration to the permission was reduced from 2.3 hours to 0.7 hours for air

cargo and from 26.1 hours to 5.6 hours for sea cargo between 1991 to 1998: that means the time required to file the import declaration after the arrival of the cargo was reduced (Mikuriya, 2001).

Philippine customs reduced the time for cargo release from the customs custody from 6-8 days to 4-6 hours for "green channel" shipments and 48 hours for other shipments by introducing an EDI system based on UNCTAD's ASYCUDA++ (Maniego, 1999). Chinese Taipei used to spend 10 to 15 hours for customs clearance of air cargo. Thanks to the use of EDI and pre-arrival screening, actual clearance after the arrival of airplanes takes merely two to four hours.

In yet another study Muyenjwa D.D. (2004) shows that the use of technology gives the customs better targets and productivity. Accordingly, express carriers electronically transmit details of manifest to the New Zealand customs which saves time and paperwork by replacing the old manual manifest system.

There is no doubt, therefore, that the use of Information Communication Technology can improve the control and risk assessment of a customs administration and at the same time allow for a reduction in release time (KRA 2004).

2.3.4 Cargo clearance efficiency

A study conducted by KenTex Cargo (2014) noted that, clearing a consignment at the port of Mombasa can be a daunting experience, confusing, costly and sometimes, seemingly impossible to most. All goods imported or exported into and outside Kenya undergo various tasks through Kenyan customs and Kenya Port Authority (KRA). The procedures include manifest submission and approval, goods declaration, pre-shipment declarations, clearance process which entails sometime verification of goods through scanning or physical verification. These procedures are often marred with issues such as delays, corruption and also loss of goods.

Cargo clearance at the port was identified as a trade facilitation constraint leading to increased cost of doing business in the country (Mombasa port charter, 2014). The constraints identified include; The lack of alignment among Port Community members in discharging their mandates in trade facilitation; Insufficient capacity and ineffective operational models at both the Port terminal and hinterland transport channels; Poor Ship to Shore Interface, Low yard productivity and limitations in Cargo off take capacity; Time-consuming Customs Service Department clearance procedures and interventions by other statutory bodies; Insecurity and time-consuming non-tariff barriers

along the Corridor; Corruption and unethical practices by different parties in the logistics supply chain. This is evidenced by deliberate obstruction of free trade and profiteering by a number of the players, both public and private; The frequent changes in leadership of the Kenya Ports Authority (KPA) due to political considerations; Stakeholders have also observed a lack of sectorial representation of maritime transport sector professionals on the board of KPA as a consequence, consistency in strategic direction has suffered, and investments in port equipment and infrastructure to handle growth in traffic lag far behind demand; and Lack of alignment of enabling legislation to facilitate trade (Mombasa port charter, 2014).

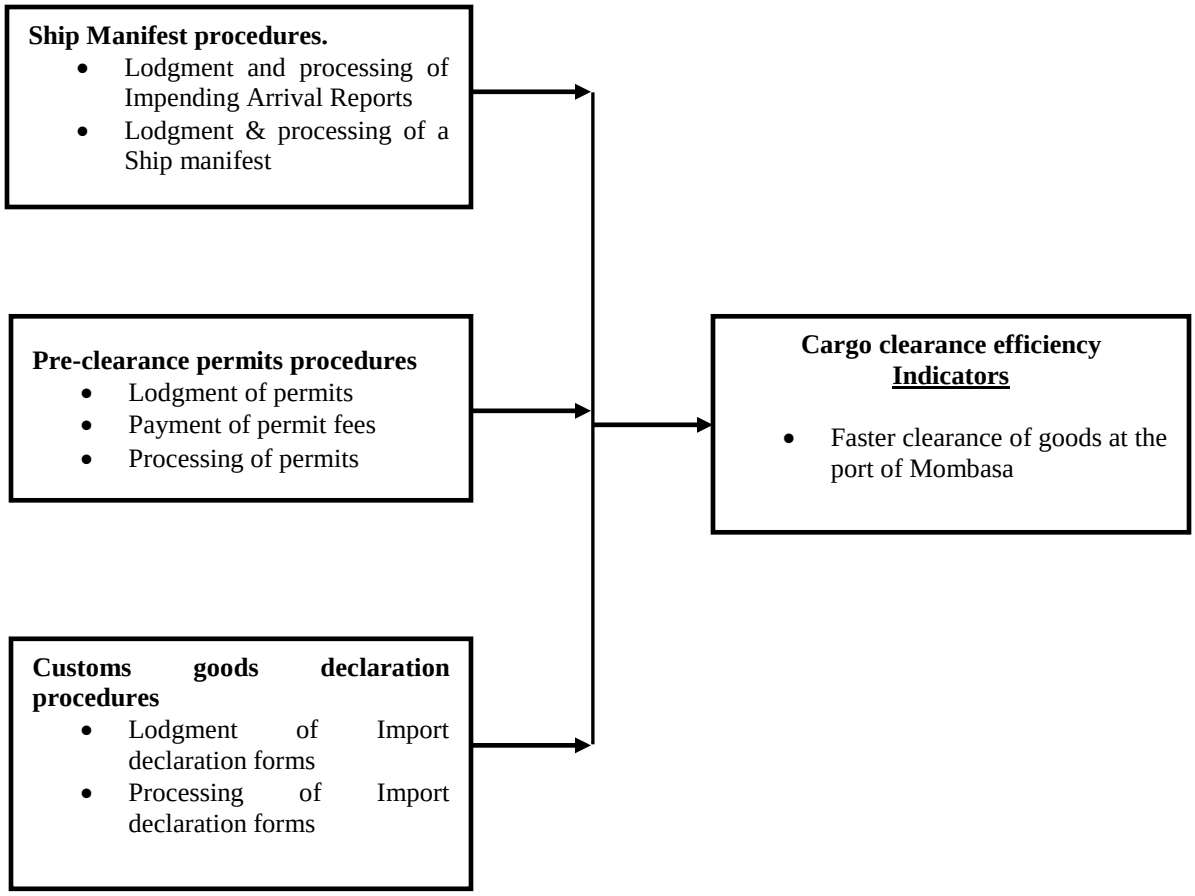
2.4 Conceptual Framework

A conceptual framework is structured from a set of broad ideas and theories that help researchers to properly identify the problem they are looking at, frame their questions and find suitable literature (Smyth, 2004). It is the researcher's own position on the problem and it give direction to the study. In this study, the conceptual framework helped in examining the relationship between the independent and dependent variables. It is a diagrammatic representation of the relationship between and dependent variables as shown in fig 1 below.

The Cargo clearance efficiency is the dependent variable of this study. The independent variable will be Ship manifest procedures, Pre-Clearance permit procedures & Customs good declaration procedures. Which will determine if the implementation of Single Window System in Kenya is a success or failure.

As shown in the figure below, the independent variable directly affect the of the dependent value. The indicators highlighted in each procedure, outlines the critical success factors in the implementation of the dependent variable.

Figure 2.1 Conceptual framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter discusses the research design that was used by the researcher, the population was specified and the sampling methods used to get the sample size for data collection was outlined and reasons for the choice of methodologies used stated. The methods for the data collection applied were stated and the research procedures clearly explaining how the data collection tools will be used to collect data will be spelt out. After the data collection the data analysis methods will be applied to get answers to our research problem, these analysis methods will be discussed in this chapter.

3.1 Research Design

Refers to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data. This study adopted a descriptive research design. A descriptive research design was the best for this study as it describes characteristics associated with the subject population, and in particular factors that make them behave the way they do. According to Coopers and Schindler (2003), descriptive design discovers and measures the cause and effect of relationships between variables. Mugenda and Mugenda (2003) state that a descriptive research determines and reports the way things are and attempt to describe possible behavior, attitude, values and characteristics of such things. The study will use a descriptive design because it enables the researcher collect large quantity of in-depth information about the population being studied. The study is designed in a cross-sectional survey in an attempt to obtain information from respondents regarding implementation of Single Window system in Kenya. A sampling design is appropriate as the data required for analysis need to be collected from selected population. The descriptive design was selected in this study because it will allow the researcher to gather numerical and descriptive data to assess the relationship between the variables. This made it possible for the researcher to produce statistical information on the effect of Implementation of Single Window system in Kenya specifically targeting the Mombasa port.

3.2 Target Population

The population is a complete set of individuals, cases or objects with some common observable characteristics (Mugenda & Mugenda, 2003). The total population of the study were KenTrade employees who are the actual implementers of the system in Kenya, KIFWA based in Nairobi representing the Clearing & Forwarding Agents, Association of Kenya Importers & Exporters, and Kenya Shipping Agents Association (KSAA). Partner government agencies namely Kenya Revenue Authority, Kenya Bureau of Standards and Kenya Wild life services and National Treasury whose cargo clearance processes are being managed using the Single Window system.

Table 3.1 - Target population

Category	**Number of employees**	**Target population**	**%**
KenTrade	78	24	30.7
Association of Kenya Importers & Exporters	50	36	72
KIFWA secretariat members	50	30	60
KEBS PVOC department	15	5	33.33
KWS permits management department	5	2	40
Ground handling Agents	4	4	100
KRA Customs Projects office	30	15	50
National Treasury (Economic Affairs Office)	5	3	60
Total	**237**	**119**	**50.21**

3.4 Census

A census of the whole sample population was taken because the subjects were manageable, therefore the 119 subjects formed the total target respondents.

3.5 Research Instruments

The study administered an online questionnaire as the only data collection instrument due to its advantages in comparison with other data collection methods. The questionnaire was structured in 6 sections; sections A will be respondents identifying variables, section B was identifying the individual and company profile, section C,D,E and F, will have five sub sections asking questions employing . The questionnaire will use the Likert scale to rank cases from a range of 1 – 5 i.e. 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

3.6 Data collection Procedure

The study used an online questionnaire and key informant guides to collect primary data. A questionnaire with topics covering all aspects of the research will be the main tool for collecting quantitative data. The questionnaires was administered online and the respondents invited to respond by use of emails, telephone, WhatsApp or phone calls. A link to questionnaire was sent directly to respondents or through research assistants. The research assistants assisted in distributing the online link to the respondents within their organisation. The respondents then filled the online form and submitted back for analyses.

The questionnaire used the Likert scale to rank cases from a range of 1 – 5. 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. The questionnaire used a drop and pick strategy, so as to give the respondent ample time to respond to the questions. The tool will be designed to capture the objectives of the study adequately.

3.7 Data processing and analysis

The collected data was then edited and entered into a computerized system to enable carrying out of descriptive statistical analysis of the data. The data was coded, presented in a thematic manner and classified on the basis of common characteristics and attributes. Thereafter, the raw data was be assembled and tabulated in form of statistical tables to allow for further analysis as well as a factor in detection of errors and omissions. Consequently, the data was analyzed using descriptive statistics and in particular, using the mean as a measure of central tendency. The data was then be tabulated and the most appropriate tables chosen to present the findings. Tables were used to enable

reading of specific values and to facilitate ease of data presentation. Statistical Package for Social Sciences (SPSS) software and Microsoft Excel were used to analyze data and derive statistical tables and charts.

Since the research is both quantitative and qualitative in nature, both descriptive and inferential statistics will be employed. Frequency tables were produced using the Statistical Package for Social Sciences (SPSS) package. The study used inferential statistics and specifically multiple regression model to determine the relationship of each of the variables with implementation of SWC Strategy in Kenya.

The regression model to be used is as follows:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + ẹ$$

Where:

Y = Cargo clearance efficiency

β_0 = Constant Term

β_1= Beta coefficients

X_1= Shipping and Manifest procedures

X_2= Pre-clearance permits procedures

X_3= Customs good declaration procedures

ẹ= error term (residual term that includes the net effect of other factors not in the model and measurement errors in the dependent and independent variables).

CHAPTER FOUR
RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the analysis of data collected through the online questionnaire. This chapter is organized as follows. The first section presents the results of demographic analysis. The second section presents the descriptive results on the "Effects of Single Window System Procedures on Cargo Clearance Efficiency in Kenya: A Case for Mombasa Port". The last section is the discussion of findings.

4.2 Research findings

4.2.1 Response Rate

Out of the census population of 119 Stakeholders identified for the study, 96 responded representing 80.6% response rate. The study gathered information from employees in the various categories as defined by the target population.

4.2.2 Demographic

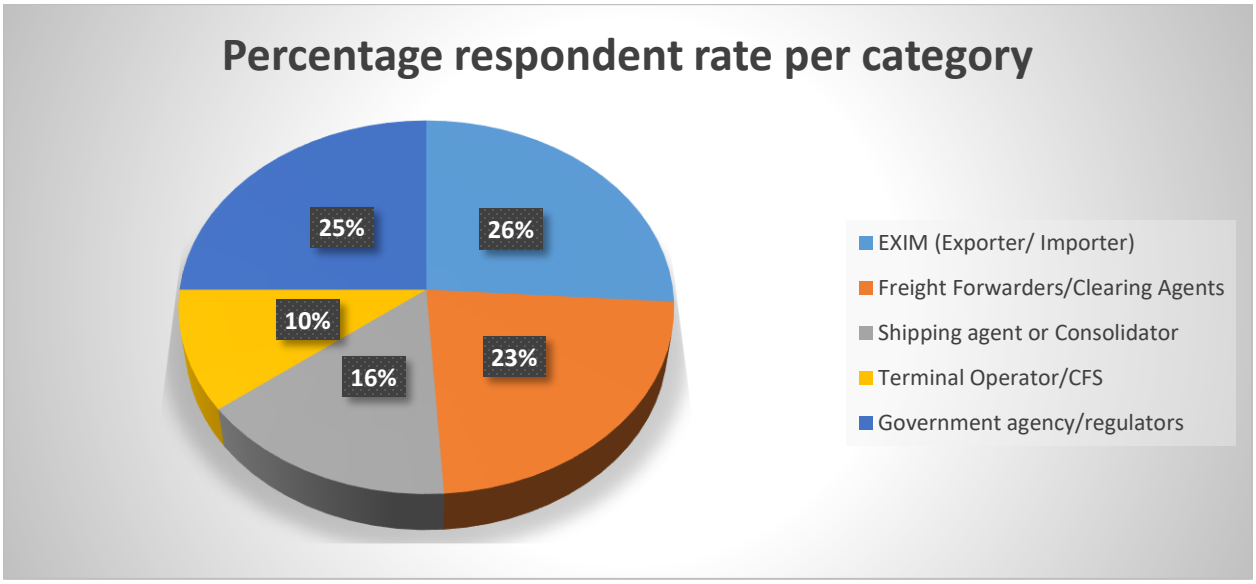
The respondents were asked to state the nature of their business and duration of their business operations.

4.2.2.1 Nature of their business

Table 4.1 - Nature of business

Nature of business	No. of respondents n=96	% of total respondents
EXIM (Exporter/ Importer) Association.	25	26.04
Freight Forwarders/Clearing Agents	22	22.91
Shipping agent or Consolidator	15	15.63
Terminal Operator/CFS	10	10.42
Government agency/regulators	24	25

Figure 4.1 - Percentage respondent rate per category



The study found that 23% of the respondents were Freights forwarders/Clearing Agents, 26% were EXIM (Exporter/Importers), 25% were government agency/regulators, 16% were Shipping agents or Consolidators and 10% were Terminal Operator/CFS. The composition of respondents in terms of their activities confirms that these were respondents with the correct information on the activities in the Cargo clearance business.

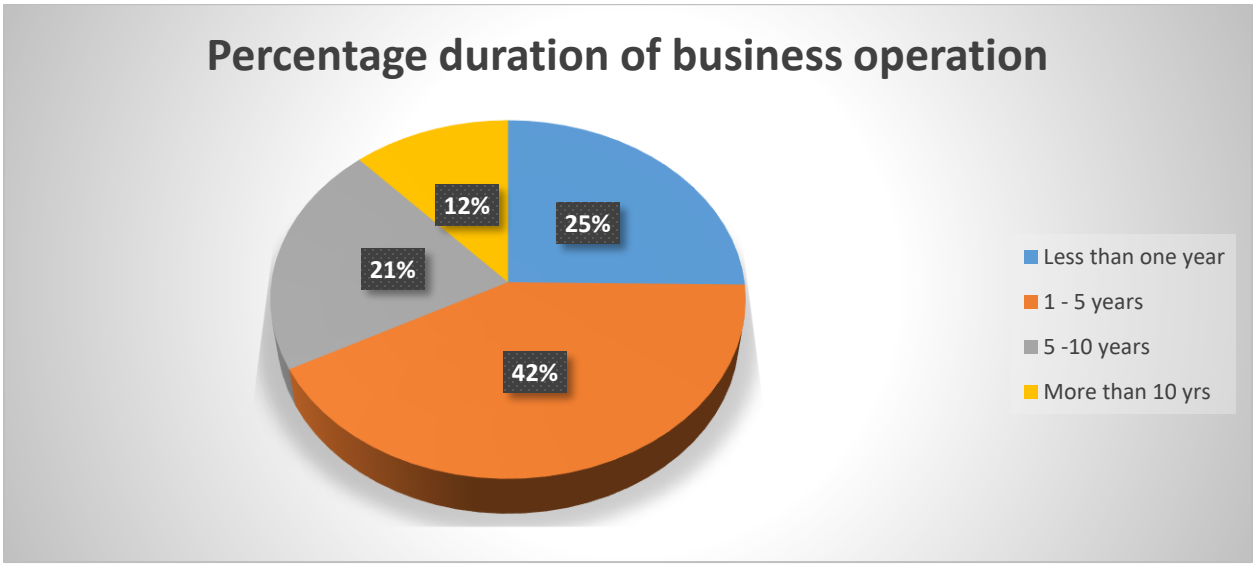
4.2.2.2 Duration of business operations

The respondents were asked to state the how long they have been in operations. The results are shown in table 4.2 below;

Table 4.2 - Duration of business operation

Duration of business operation	No. of respondents n=96	Percentage respondents %
Less than one year	30	31.25
1 - 5 years	50	52.8
5 -10 years	25	26.04
More than 10 yrs.	14	14.58

Figure 4.2 - Percentage duration of business operation



The study found that 21% of the respondents had operated for 5 – 10 years, 12% of the respondents had operated for more than 10 years, 42% of the respondents had operated for 1 – 5 years and 25% of the respondents had operated for less than one year years. The composition of respondents in terms of their duration of operation confirms that these were respondents with the correct information on the activities in the Cargo clearance business.

4.2.3 Data Presentation

The survey items were measured using a five point Likert scale with a rating of 1 to 5 where 1 meant strongly disagree, 2 meant disagree, 3 Neutral, 4 Agree and 5 was strongly agree. The key interpretation are as follows; A mean score of ≤ 1.5 (≤ 30%) was interpreted as strongly disagree; A mean score of 1.5 to ≤2.5 (30% - ≤50%) implied that the respondents disagreed; A mean score of 2.5 to <3.5 (50% - <70%) was interpreted that the respondent was indifferent or average; A mean score of 3.5 <4.5 (70% - <90%) was interpreted as respondents agreed; A mean score of ≥4.5 (≥90%) was interpreted as strongly agree; A standard deviation of ≤1 was interpreted as respondents having a consensus in the rating of the statement while a standard deviation greater than 1 meant the respondent differed in the perception about the statement.

4.2.4 Descriptive statistics analysis results

4.2.4.1 Ship Manifest Procedures

The stakeholders are known to be satisfied with Cargo clearance efficiency when the Shipping and manifest procedures are efficient. The survey therefore sought to find their views about performance of the procedure with the implementation Single Window system in Kenya.

The combined stakeholders are shown on table below;

Table 4.3 – Ship Manifest Procedures rating

Descriptive Statistics				
Variable Measured	**Mean**	**Std. Deviation**	**% Score**	**Interpretation**
The time taken to lodge a ship manifest has reduced significantly.	3.71	.893	52	Agree
The process of submitting of shipping documents e.g. Impeding Arrival Reports IARs has improved	3.89	.916	59	Agree
The time taken to lodge a Consolidation & process manifest has improved significantly	3.50	.649	57	Agree
The time taken to process a ship manifest & amendments has reduced significantly	3.43	.778	57	Agree
Overall index score	**3.61**	**0.809**	**56.25**	**Agree**

Table 4.3 above provides the analysis of the efficiency of Ship Manifest procedures in relation to implementation of Single Window System in Kenya. The analysis was done considering all the 7 categories of stakeholders together. Most respondents agreed that the time taken to lodge a ship manifest has improved significantly (M = 3.71), the process of submitting of shipping documents e.g. Impeding Arrival Reports IARs has improved (M = 3.89), The time taken to lodge a Consolidation & process manifest has improved significantly (3.50) and The time taken to process a ship manifest & amendments has reduced significantly (3.43).

4.2.4.2 Pre-clearance Permits Procedures

The stakeholders are known to be satisfied with Cargo clearance efficiency when the Pre-clearance Permits Procedures are efficient. The survey therefore sought to find their views about performance of the procedure with the implementation Single Window system in Kenya.

The combined stakeholders are shown on table below;

Table 4.4 - Pre-clearance Permits Procedures

Variable Measured	Mean	Std. Deviation	% Score	Interpretation
Payment of permits by Exporters & Importers has been made easier and faster.	3.79	.541	73	Agree
Generation of performance reports is faster and efficient	4.25	.598	67	Agree
Time taken to lodge permits has reduced significantly	4.0833	.49559	78	Agree
Time taken to process permits has reduced significantly	4.46	.845	65	Agree
Overall index score	**4.145**	**0.619**	**70.75**	**Agree**

Table 4.4 above provides the analysis of the efficiency Pre-clearance permits procedures in relation to implementation of Single Window System in Kenya. The analysis was done considering all the 7 categories of stakeholders together. Most respondents agreed that Payment of permits by Exporters & Importers has been made easier and faster. (M = 3.79), Generation of performance reports is faster and efficient (M = 4.25), the Time taken to lodge permits has reduced significantly (4.0833 and Time taken to process permits has reduced significantly (4.46).

4.2.4.3 Customs Goods Declaration Procedures

The stakeholders are known to be satisfied with Cargo clearance efficiency when the Customs Goods Declaration Procedures are efficient. The survey therefore sought to find their views about performance of the procedure with the implementation Single Window system in Kenya.

The combined stakeholders are shown on table below;

Table 4.5 - Customs Goods Declaration Procedures

Descriptive Statistics				
Variable Measured	**Mean**	**Std. Deviation**	**% Score**	**Interpretation**
Lodgment and processing of Imports declaration form has improved significantly.	3.33	.879	52	Agree
Lodging and processing of Customs declaration has been made easier and transparent.	3.72	.736	63	Agree
Compliance with Customs procedures has improved significantly.	3.59	.734	56	Agree

There is greater coordination of verification process between Customs and PGAs.	3.34	.662	52	Neutral
Time taken to declare goods to Customs has reduced significantly	2.74	.920	58	Disagree
Overall index score	**3.344**	**0.7862**	**56.2**	**Agree**

Table 4.5 provides the analysis of the efficiency in Customs goods declaration procedure in relation to implementation of Single Window System in Kenya. The analysis was done considering all the 7 categories of stakeholders together. Most respondents agreed lodgment and processing of Imports declaration form has improved significantly. (M = 3.33), Lodging and processing of Customs declaration has been made easier and transparent. (M = 3.72. The respondents also agreed that compliance with Customs procedures has improved significantly. (M=3.59). The respondents however were neutral that there is greater coordination of verification process between Customs and PGAs. (M=3.34). The respondents Time taken to declare goods to Customs has reduced significantly (M=2.74).

4.2.4.4 Cargo Clearance Efficiency

The stakeholders are known to be satisfied when Cargo clearance procedures are efficient. The survey therefore sought to find their views about performance of the procedures at the port of Mombasa with the implementation Single Window system in Kenya.

The combined stakeholders are shown on table 4.6 below;

Table 4.6 - Cargo Clearance Efficiency

	Descriptive Statistics			
Variable Measured	**Mean**	**Std. Deviation**	**% Score**	**Interpretation**
The cargo dwell time at the port of Mombasa has reduced significantly	3.10	.946	50	Agree
Cargo clearance time at the port of Mombasa has improved significantly	3.09	.697	57	Neutral
Compliance with regulatory requirements has improved significantly	3.43	.791	60	Agree
There is increase revenue collection by regulatory agencies at the port of Mombasa	3.36	.896	53	Agree

There is faster lodgment & processing of regulatory documents by Traders	3.33	.867	51	Agree
Overall index score	**3.262**	**0.8394**	**54.2**	**Agree**

Table 4.6 provides the analysis of the efficiency in Cargo Clearance Efficiency in relation to implementation of Single Window System in Kenya. The analysis was done considering all the 7 categories of stakeholders together. The respondents agreed that cargo dwell time at the port Mombasa has reduced significantly (M=3.10). The respondent were neutral that Cargo clearance time at the port of Mombasa has improved significantly (M=3.09). However the respondents agreed that, Compliance with regulatory requirements has improved significantly (3.43) and also there is increase revenue collection by regulatory agencies at the port of Mombasa (M=3.33). There is faster lodgment & processing of regulatory documents by Traders (M=3.53)

4.2.5 Inferential statistics analysis results

4.2.5.1 Correlation

The study used Pearson correlation to measure the degree of association between the variables under consideration. The Pearson correlation coefficient range from -1 (negative correlation) to 1 (positive correlation). Pearson coefficient of <0.3 indicate a weak correlation, >0.3<0.5 indicate a moderate correlation and >0.5 indicate strong correlation.

Table 4.7 - Pearson Correlations summary

		MEAN for Ship Manifest Procedures	MEAN for Pre-clearance Permits Procedures	MEAN for Customs Goods Declaration Procedures	MEAN for Cargo Clearance Efficiency
MEAN for Ship Manifest Procedures	Pearson Correlation	1	.914**	.941**	.952**
	Sig. (1-tailed)		.000	.000	.000
	N	96	96	96	96
MEAN for Pre-clearance Permits Procedures	Pearson Correlation	.914**	1	.890**	.861**
	Sig. (1-tailed)	.000		.000	.000
	N	96	96	96	96

MEAN for Customs Goods Declaration Procedures	Pearson Correlation	.941**	.890**	1	.950**
	Sig. (1-tailed)	.000	.000		.000
	N	96	96	96	96
MEAN for Cargo Clearance Efficiency	Pearson Correlation	.952**	.861**	.950**	1
	Sig. (1-tailed)	.000	.000	.000	
	N	96	96	96	96

**. Correlation is significant at the 0.01 level (1-tailed).

The analysis above show that Ship manifest procedures has the strongest (Pearson correlation coefficient = .952; P values 0.000) influence on Cargo clearance efficiency. In addition, Pre-clearance permit procedures and Customs goods declaration procedures are positively correlated to Cargo clearance efficiency (Pearson correlation coefficient = .861 & .950). The correlation implies that the independent variables have an effect of Cargo clearance efficiency as shown by their strong and positive relationship with the independent variable.

4.2.5.2 Multiple regression model

The Regression model is used here to show hoe the mean of dependent variable changes with the changing conditions. Regression analysis was carried out focusing means for Ship manifest procedures, Pre-clearance permit procedures, Customs goods declaration procedures and Cargo clearance efficiency. To test the relationship the independent variables have on Cargo clearance efficiency, the study used the following multiple regression analysis.

Table 4.8 – Multiple regression model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.967[a]	.935	.932	.205

a. Predictors: (Constant), MEAN for Customs Goods Declaration Procedures, MEAN for Pre-clearance Permits Procedures, MEAN for Ship Manifest Procedures

The 3 independent variables that were studied explain 93.5% of the Cargo clearance efficiency as represented by the R^2. This means that others factors not under this study contribute to 6.5% of cargo clearance efficiency at the port of Mombasa and need to be considered an effort to improve

cargo clearance efficiency. The Multiple Correlation Coefficient, R=0.967 indicates a good level of prediction.

4.2.5.3 R^2 summary

R^2 =0.935 is the proportion of variation accounted for by the regression model above and beyond the mean model. From above, it shows that our independent variables explain 93.5.5% of the variability of our dependent variable.

4.2.5.4 Analysis of Variance ANOVA

The ANOVA Analysis involved analyzing the total mean scores (overall index score) for each variable using SPSSS means score analysis as shown on table 4.9

The table below shows the output of the ANOVA analysis. It shows whether there is a statistically significant difference between our group means. The results of the analysis on table 4.9 showed that, significance value is 0.00 (i.e., p = .00), which is below 0.05. And, therefore, there is a statistically significant difference in between the groups in each category.

Table 4.9 - Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.239	3	18.413	438.442	.000[b]
	Residual	3.864	93	.042		
	Total	59.102	96			

a. Dependent Variable: MEAN for Cargo Clearance Efficiency

b. Predictors: (Constant), MEAN for Customs Goods Declaration Procedures, MEAN for Pre-clearance Permits Procedures, MEAN for Ship Manifest Procedures

From the Anova Table 4.10 above, p<0.05 hence the independent variables statistically significantly predict the dependent variable and therefore the regression model is a good fit for the data.

Table 4.10 – Coefficient of determination Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.028	.227		.124	.901
	MEAN for Ship Manifest Procedures	.626	.094	.606	6.673	.000
	MEAN for Pre-clearance Permits Procedures	-.228	.105	-.146	-2.169	.033
	MEAN for Customs Goods Declaration Procedures	.571	.091	.509	6.283	.000

a. Dependent Variable: MEAN for Cargo Clearance Efficiency

The regression model that was used to predict Cargo clearance efficiency from Ship manifest procedures, Pre-clearance permit procedures and Customs good declaration procedures is as follows;

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

y = Cargo clearance efficiency

β_0 = Constant Term

β_1= Beta coefficients

X_1= Ship manifest procedures.

X_2= Pre-clearance permit procedures.

X_3= Customs good declaration procedures

This is summarized as follows: $y = 0.28 + (0.626 * X_1) – (0.228 * X_2) + (0.571 * X_3) + 0.227$

In summary, therefore, the study concluded that the model chosen was fit in predicting effect of Single Window system procedures on cargo clearance efficiency at the port of Mombasa i.e. the effect of

independent variables Ship manifest procedures, Pre-clearance permit procedures and Customs good declaration procedures on the dependent variable Cargo clearance efficiency.

4.2.6 Interpretation of the findings

The analysis established that there is a significant relationship between the independent variable and dependent. This was evident from the analysis done using SPSS for Correlation, Multiple regression and Analysis of variance.

On Correlation, the analysis using Bivariate Pearson correlations which involved one independent variable indicator against one variable for the dependent variable. The test confirmed that there is a statistically significant linear relationship with a 0.01 significance level between Cargo clearance efficiency with Ship manifest procedures, Pre-clearance permit procedure and Custom goods declaration procedures. This implies that the an increase efficiency in management of Ship manifest procedures, Pre-clearance permit procedure and Custom goods declaration procedures leads to an increase Cargo clearance efficiency at the port of Mombasa.

Analysis of Variance ANOVA also showed there is a statistically significant difference between group means, with significance value is 0.00(i.e., $p = .00$), which is below 0.05. And, therefore, there is a statistically significant difference in the means of between each variable groups in each category.

4.3 Discussion of findings

The study inferred that there is improvement in cargo clearance efficiency with the implementation of Single Window system at the port of Mombasa. This is in tandem with study finding, Tosevska and Trpcevska (2011), which established that after implementation of Single Window system in Macedonia, stakeholders both from government and private sector were able to reap benefits from efficiency brought by the system, these include; time, cost and human resource savings, improved communication and resolution of problems.

The respondents agreed that Ship Manifest Procedures have improved with the implementation of Single Window system at the port of Mombasa. UNCTAD (2003) observed that with the implementation of the system, there is faster processing of ship documents which has in-turn reduced the clearance time. This has been achieved through elimination of submission of hard

copies to Customs and also the port authority. UN/CEFACT (2004) also observed that the countries have successfully implemented the system, their shipping procedures has greatly improved. Mikuriya (2001) also noted that with the implementation of the system in Japan, time taken to file shipping documents has reduced significantly leading reduced clearance time.

The study also revealed what Muyenjwa D.D. (2004) observed in his study that the use of technology gives the customs better targets and productivity. Accordingly, express carriers electronically transmit details of manifest to the New Zealand customs which saves time and paperwork by replacing the old manual manifest system.

The respondents agreed that Pre-clearance permit Procedures have improved with the implementation of Single Window system at the port of Mombasa. This is in line with study conducted by UN/CEFACT (2004), which identified that, the system implementers stand to gain benefits ranging from improved revenue yields, Improved trader compliance, enable the use of sophisticated "risk management" techniques for control and enforcement purposes. Mwajita (2016) observes that The SWS provides a single point of interaction between Government Agencies, Traders, Clearing Agents and Financial Institutions. This has greatly reduced processing time of documentation of consignments that are being imported, exported or transited through Kenya.

Kostovski (2011), also noted that there is increase compliance with regulatory requirements by merchants involved in cross border trader due to exchange of trade information to various agencies using the system. This is through facilitating trade by speeding up the process of obtaining licenses, providing savings in terms of time, human resources and costs, and generally, in facilitating the activities of economic operators.

The respondents agreed that Customs goods declaration Procedures have improved with implementation of Single Window system at the port of Mombasa. The study concurs with a study conducted by ESCWA (2011) which observed that the Single windows implementation brings efficiency and productive use of resources; More comprehensive, streamlined and automated business compliance to Government legislative and regulatory requirements, including the terms of international trade treaties; Cost reductions through minimized clerical efforts, time taken to reduce and to eliminate delays, and more predictable, reliable and authoritative decisions; Faster goods clearance, exception handling and dispute resolution, leading to reduced inventory holding

costs; Predictable and reliable consignment clearance and availability of advanced goods release information.

The study also is in-line with KRA time release study (2004) which confirms that the use of Information Communication Technology can improve the control and risk assessment of a customs administration and at the same time allow for a reduction in release time.

The study also confirms what Maniego (1999) noted earlier that, Philippine customs reduced the time for cargo release from the customs custody from 6-8 days to 4-6 hours for "green channel" shipments and 48 hours for other shipments by introducing an EDI system based on UNCTAD's ASYCUDA++ Chinese Taipei used to spend 10 to 15 hours for customs clearance of air cargo. Thanks to the use of EDI and pre-arrival screening, actual clearance after the arrival of vessels takes merely two to four hours.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings of this study, the drawn conclusions and the limitations of the study. The chapter discusses, in summary form, the results of analyses both descriptive and inferential statistics. The chapter makes conclusions, suggestions for further research and recommendation.

5.2 Summary of Findings

The study sought to analyze the effect of Single Window System procedures on cargo clearance efficiency at the port of Mombasa. The research study revealed that the launch and implementation of Single window System operations led to an affirmative increase in efficiency in cargo clearance at the port of Mombasa. The test statistics conducted denoted a statistically significant deviation between the means of Single Window procedures.

5.2.1 Ship manifest procedures

The research study determined that Ship Manifest Procedures affected cargo clearance efficiency at the port of Mombasa. This was evident with most respondents agreeing that the procedures have improved with the implementation of Single Window system in Kenya having an overall index of 56.25%, Mean=3.68 and Standard deviation of 0.809 less than (SD ≤1).

5.2.2 Pre-clearance permit procedures

More specifically the study established that Pre-clearance permit procedures affect cargo clearance efficiency at Mombasa port. The respondents agreed that Pre-clearance permit procedures have improved with the implementation of Single Window system in Kenya having an overall index score of 70.75%, Mean = 4.145 and Standard deviation of 0.619 less than (SD ≤1)

5.2.3 Customs goods Declaration procedures

The study also found that that Customs goods declaration procedures affect cargo clearance efficiency at the port of Mombasa. The respondents agreed that Customs goods declaration

procedures have improved with the implementation of Single Window system in Kenya having an overall index score of 56.2%, Mean = 3.311 and Standard deviation of 0.7862 less than (SD ≤1).

5.2.4 Cargo clearance efficiency

The study revealed that Single Windows system procedures have an effect on cargo clearance efficiency. The respondents agreed that there is greater efficiency in Cargo clearance with the implementation of Single Window system at the having overall index score of 54.2%, Mean=3.262 and a standard deviation of 0.8394 less than (SD ≤1).

5.3 Conclusions of the Study

It is evident from the study that the implementation of Single Window system has Leading to increased efficiency at the port Mombasa. This is evident that on Ship Manifest procedures, there is faster lodgment and processing of manifest, improved process of submitting IARs, improved turn around for ships and reduced cargo dwell time.

On Pre-Clearance permit procedures efficiency is also noted in cost savings achieved by traders, less time taken to lodge & process permits, increased compliance and revenue collection by regulatory agencies.

On Customs good declaration procedures, the implementation of the system has also resulted in increase in revenue collection, less time taken to lodge & process Customs clearance documents, increased transparency & accountability.

However there is need for the government to look at why there is no improvement in time taken to declare goods to Customs where the respondents did not agree that the time taken to declare goods to Customs has reduced significantly.

5.4 Recommendations

Overall there is need for the government to streamline the cargo clearance at the Port of Mombasa by re-engineering of clearance some process. One of the recommendation is to allow advance lodgments of manifest when vessels leave other ports to Kenya. This will help in allowing processing of documentation before the cargo arrives at the port. There is also need for the port operator and Customs to automate some of the manual procedures such a CFS nominations to enable faster clearance of goods at the port.

The government also needs to look at conflicting/ duplication roles of some regulatory agencies managing the Pre-clearance procedures. This can be achieve by merging their mandates, which will in-turn reduce time take to process documents and also cost of clearance of goods at the port. The government may also need change some laws which requires input of manual operation such stamping of clearance documents. This may involve change of laws to also allow electronic cargo authentication of documents. The government needs also to improve port infrastructure such internet, road way which will improve flow of trucks and also faster processing of documents. There is also need to train of the various agencies staff at the port on the dynamics of business or emerging trends to enable them change with time. Customs also need to improve by adding more staff at the port to reduce work load and also deploy modern technology in scanning containers without having to physically verify them.

5.5 Suggestion for further studies.

The researcher limited the study to imports through the port of Mombasa. Additional studies could be carried out at other ports of entry such airport and border posts.

This study focused on imports to determine the effect of Single Window system procedures on cargo clearance at the port of Mombasa. Further studies could be carried out to establish the effect of the same on exported goods.

There are advances within the port of Mombasa such as opening of a new container terminal, procurement of new cargo handling equipment, launch of Standard gauge railway, improvement of inland container depots and also the development of the new integrated Customs Management System (iCMS). This would impact cargo clearance efficiency which opens up an area for further research study.

There is also the Port Charter agreement between the Port community/players, which aims at improving efficiency in cargo clearance at the port of Mombasa. This also opens an area for further study.

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APPENDICES

Appendix 1: Introduction letter

BILLY NGUMI KABUI,

Kenya School of Revenue Administration
P.O. Box 48240,
NAIROBI

To whom it may concern.

Dear Sir/ Madam,

RE: INTRODUCTION LETTER

This is to inform you that am a student at Kenya School of Revenue Administration (in collaboration with Jomo Kenyatta University) pursuing a Post Graduate Diploma in Customs Administration. I intend to carry out a research on **EFFECT OF SINGLE WINDOW SYSTEM PROCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT**. Your Agency/company/association has been identified as a rich source of information.

The purpose of this letter is to kindly request you to allow me to collect data required for the study from your area of jurisdiction. The information provided will be confidential and will only be used for academic purpose.

Thanks in advance.

Yours faithfully,

Appendix II: Instruments Questionnaire

Dear Respondent

This questionnaire is intended to collect data to carry out research on "**EFFECT OF SINGLE WINDOW SYSTEM PROCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT**".

Your identity and information therein, will remain confidential throughout and will be used purely for academic purposes only. Kindly fill in the entire questionnaire with as much information relevant to this study as possible.

Please give answers in the spaces provided and tick (√) the box that matches your response to the questions where applicable.

SECTION A	**RESPONDENT & COMPANY PROFILE**
Name (Optional)	
Company Name	
Date (dd/mm/yyyy)	

1. **What is the nature of your business? (Please tick appropriately)**

Type of Business	**Tick**
EXIM (Exporter/ Importer)	
Freight Forwarders/Clearing Agents	
Shipping agent or Consolidator	
Terminal Operator/CFS	
Government agency/regulatory	

2. **For how long has your business been in operation?**

Less than one year 1-5 Years

5-10 Years More than 10 years

SECTION B	EFFECT OF SINGLE WINDOW SYSTEM PROCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT

Please rank the extent to which you agree on the efficiency of Ship Manifest procedures with the implementation of Single Window system at the Port of Mombasa

(1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

	Shipping and manifest procedures	**1**	**2**	**3**	**4**	**5**
1	The time taken to lodge a ship manifest has reduced significantly.					
2	The process of submitting of shipping documents e.g. Impeding Arrival Reports IARs has improved					
3	The time taken to lodge a Consolidation & process manifest has improved significantly					
4	The time taken to process a ship manifest & amendments has reduced significantly					

SECTION C	EFFECT OF IMPLEMENTATION OF SINGLE WINDOW SYSTEM PRODCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT

Please rank the extent to which you agree on the efficiency of Pre-clearance permits procedures with implementation of Single Window system at the port of Mombasa.

(1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

	Pre-clearance permits procedures	**1**	**2**	**3**	**4**	**5**
1	Payment of permits by Exporters & Importers has been made easier and faster.					
2	Generation of performance reports is faster and efficient					
3	Time taken to lodge permits has reduced significantly					
4	Time taken to process permits has reduced significantly					

SECTION D	EFFECT OF IMPLEMENTATION OF SINGLE WINDOW SYSTEM PROCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT

Please rank the extent to which you agree on the effect of Customs goods declaration procedures at the port of Mombasa with the implementation of Single Window System.

(1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

	Customs goods declaration procedures	**1**	**2**	**3**	**4**	**5**
1	Lodgment and processing of Imports declaration form has improved significantly.					
2	Lodging and processing of Customs declaration has been made easier and transparent.					
3	Compliance with Customs procedures has improved significantly.					
4	There is greater coordination of verification process between Customs and PGAs.					
5.	Time taken to declare goods to Customs has reduced significantly					

SECTION E	EFFECT OF IMPLEMENTATION OF SINGLE WINDOW SYSTEM PROCEDURES ON CARGO CLEARANCE EFFICIENCY IN KENYA: A CASE FOR MOMBASA PORT

Please rank the extent to which you agree on effect of Cargo Clearance efficiency at the port of Mombasa with the implementation of Single Window system.

(1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

	Cargo Clearance efficiency	**1**	**2**	**3**	**4**	**5**
1	The cargo dwell time at the port of Mombasa has reduced significantly					
2	Cargo clearance time at the port of Mombasa has improved significantly					
3	Compliance with regulatory requirements has improved significantly					
4	There is increase revenue collection by regulatory agencies at the port of Mombasa					
5	There is faster lodgment & processing of regulatory documents by Traders					

Appendix 111: Schedule of activities

	Activity Description	Number of Weeks													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	**Data collection**														
2	**Data analysis**														
3	**Data interpretation**														
4	**Report writing**														
5	**Compilation and presentation**														

Appendix IV – Respondents results

Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
Shipping and Manifest procedures	**1**	**2**	**3**	**4**	**5**	**% Score**	**Interpretation**
The time taken to lodge a ship manifest has reduced significantly.	**1**	**10**	**20**	**50**	**15**	**52**	**Agree**
The process of submitting of shipping documents e.g. Impeding Arrival Reports IARs has improved	**3**	**6**	**10**	**57**	**20**	**59**	**Agree**
The time taken to lodge a Consolidation & process manifest has improved significantly	**1**	**5**	**35**	**55**	**0**	**57**	**Agree**
The time taken to process a ship manifest & amendments has reduced significantly	**3**	**8**	**30**	**55**	**0**	**57**	**Agree**

Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
Pre-clearance permits procedures	**1**	**2**	**3**	**4**	**5**	**% Score**	
Payment of permits by Exporters & Importers has been made easier and faster.	**0**	**2**	**20**	**70**	**4**	**73**	**Agree**
Generation of performance reports is faster and efficient	**0**	**0**	**2**	**64**	**30**	**67**	**Agree**
Time taken to lodge permits has reduced significantly	**0**	**1**	**5**	**75**	**15**	**78**	**Agree**
Time taken to process permits has reduced significantly	**0**	**2**	**10**	**22**	**62**	**65**	**Strongly Agree**

Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
Customs goods declaration procedures	**1**	**2**	**3**	**4**	**5**	**% Score**	**Interpretation**
Lodgment and processing of Imports declaration form has improved significantly.	**5**	**10**	**30**	**50**	**1**	**52**	**Agree**
Lodging and processing of Customs declaration has been made easier and transparent.	**1**	**5**	**22**	**60**	**8**	**63**	**Agree**
Compliance with Customs procedures has improved significantly.	**1**	**6**	**30**	**54**	**5**	**56**	**Agree**
There is greater coordination of verification process between Customs and PGAs.	**2**	**4**	**50**	**40**	**0**	**52**	**Neutral**
Time taken to declare goods to Customs has reduced significantly	**0**	**56**	**10**	**30**	**0**	**58**	**Disagree**

Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
Cargo Clearance efficiency	**1**	**2**	**3**	**4**	**5**	**% Score**	**Interpretation**
The cargo dwell time at the port of Mombasa has reduced significantly	**0**	**38**	**10**	**48**	**0**	**50**	**Agree**
Cargo clearance time at the port of Mombasa has improved significantly	**2**	**13**	**55**	**26**	**0**	**57**	**Neutral**
Compliance with regulatory requirements has improved significantly	**1**	**15**	**22**	**58**	**0**	**60**	**Agree**
There is increase revenue collection by regulatory agencies at the port of Mombasa	**5**	**10**	**28**	**51**	**2**	**53**	**Agree**
There is faster lodgment & processing of regulatory documents by Traders	**4**	**13**	**26**	**49**	**4**	**51**	**Agree**