

**EFFECT OF AUTOMATED CUSTOMS PROCEDURES ON TRADE
FACILITATION A CASE OF CLEARING AND FORWARDING AGENTS IN
NAIROBI REGION**

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DECLARATION

This research project is my original work and has not been submitted for examination to any other university.

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HDB-C335-2498-2016

This researchProjecthasbeensubmittedforexaminationwithmyapprovalasschoolsupervisor.

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DEDICATION

To my daughter Kelly and my wife Gladys to whom I derive strength and quest to work
adder; without forgetting my father who tirelessly make sure I get the best in life.

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ABSTRACT

It is noteworthy to note that in the recent past, several international organizations such as the World Customs Organization (WCO), Organization for Economic Co-operation, Development (OECD), the World Trade Organization (WTO) the World Bank and the European Union, have seen the need to take a proactive approach to modernize systems and processes aimed at increasing efficiency and as a such, there has been commendations on the usage of information and communication technology in enhancing trade facilitation aimed at improving customs processes. Further, there has been an increasing need for the governments to collect much revenues as well as the traders to expand their financial position a trend which has become a necessity in the current global economic slump. The studies main objective of the study was to analyze the effect of automated customs processes and procedures on trade facilitation for the clearing and forwarding agents in Nairobi region. Specific study objectives were; to establish the effect of automated goods declaration process on trade facilitation, to establish the effect of automated verification on trade facilitation, to establish the effect of electronic payment on trade facilitation, to establish the effect of automated release on trade facilitation. The study employed a descriptive survey to establish how automated customs processes and procedures affect trade facilitation for the clearing and forwarding agents in Nairobi region. The study targeted 150 clearing and forwarding firms within Nairobi. The study employed semi structured questionnaires to collect data from the respondents. Using stata, the data was analyzed and findings were presented in form of frequency tables and graphs. The study also, conducted a multiple regression analysis to establish the relationship between the study variables. The findings of the study show that automation of customs procedures and processes in the forwarding and clearing firms improves services through faster electronic lodgment also, it enhances capacity building of the staff through training and use of the system, it improves the effectiveness of the process in terms of accessibility and reliability, it leads to reduction of costs associated to clearance of goods and less physical examination of shipment. Also, automation of processes leads improved collection of taxes, duties and less fraud. Further, automated processes has led to uniform application of laws and regulation as well as inbuilt security. The policy implication is that there is need for all firms involved in clearing and forwarding firms to fully embrace and automate the customs procedures and system as it leads increased trade.

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ABBREVIATIONS AND ACRONYMS

ACOS	Automated Customs Operations Systems
ASYCUDA	Automated Systems For Customs Data
CASE	Customs Automated Services
CPRS	Client Profile Registration System
DTI	Direct Trader Input
EL	Electronic Lodgment
E-Commerce	Electronic Commerce Objectives
E-Payment	Electronic Payment
ICT	Information Communication Technology
ISP	Internet Service Provide
KIFWA	Kenya International Freight and Warehousing Association
KRA	Kenya Revenue Authority
NTBs	Non-Tariff Barriers
TRs	Trade Regulations
UNCTAD	United Nations Conference on Trade and Development
WCO	World Customs Organizations
WEF	World Economic Forum
WTO	World Trade Organization

OPERATIONAL DEFINITION OF TERMS

Clearing and forwarding refers to firms, agents or person/organization who is involved in providing services directly or indirectly and is associated with the **clearing and forwarding** operations.

Automated customs- is an integrated management system for international trade operations in an up-to-date computerized environment.

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Notable administrative hurdles to carrying trade is burdensome custom processes and regulations that have failed to tie with increasing trade dynamics globally. Trade facilitation has become a substantive item in today's WTO round negotiations. Trade facilitation has become an essential initiative and has been regularly cited in supply Chain security. It is a feature within many modern custom processes and programs. Trade facilitation has been largely used by institutions that seek to improve the regulatory interface between government administration bodies and traders of national borders covering many issues that are pertinent to the smooth flow of trade activities (Bhattacharya and Hossain, 2006). In ensuring optimal trade facilitation, use of information technology has improved economic growth and industry competitiveness (Wilson2007).

1.1.1. The Rational for Automated Customs Procedures

Automated system approaches have significantly become one of methods of achieving efficiency in administration of tax (UNCTAD, 2014). Under the electronic lodgment, the system is designed to record all customs entry declaration data as well as validation, computation of taxes and duties, lodge all entries electronically and seamlessly via the c website, initiation of file transfers; receiving of lodgment confirmations as well as rejection of lodgment with comprehensive errors, print the required linked forms and reports. With CASE in place, agents can submit entries from the comfort of their customs agents' office which are fully authenticated and lodged hence giving the required stage meant to accelerate the release of imports.

Automated Customs has been implemented in many countries around the world to monitor transshipment of goods. Notably, automated customs as a concept has been desired by many governments as a collection of revenue and has led to the elimination of revenue leakages. The adoption of automated customs is viewed by many customs departments as a necessity for them to remain relevant aimed at bringing the much needed revenue for running of government businesses as well as encouraging businesses to be compliant with tax regulations. For stakeholders, it has enabled them to lodge declarations online as such are able to do online monitor goods from entry to exit points.

1.1.2. Rationale for Trade facilitation

Trade facilitation refers “the oversimplification and synchronization of international trade measures and formalities aimed at facilitating smooth flow of goods and services within the international borders. These measures are imposed by customs who are the main agencies however, it may involve other agents such as the government agents authorized to issue licenses for specific goods, banking institutions that take payments as well as freight transporters (WTO Economist, 2015).

Trade facilitation has been acknowledged as one of the key drivers of export competitiveness globally aimed to smooth efficient flow of trade. Use of IT in trade facilitation has reduced unnecessary requirements and has harmonized relevant processes. According to UNECE, 2003, the study alludes that trade facilitated procedures have enabled clearing agents to benefit significantly due to reduction of associated trade transactions costs. For a long time, operation costs have been found to have a direct effect on clearing agents which in turn has an effect on the value of goods they trade.

For instance, automation procedures have reduced cases of corruption by minimizing occasional manual interventions and face to face over the counter point between business people, brokers and customs officials and has significantly reduced negative impacts of physical inspections. Further, it has reduced waiting times at border crossing and at ports as well as simplifying formalities. It has also reduced transaction costs as well as enhanced supply capacities, increased global market (REVISED KYOTO CONVENTION) 2006.

In general trade facilitation has led to efficient production and provision of resources as such, TF has increased competition through reduction of transaction costs leading to reduced ineptitudes and hurdles to trade (UNECE 2003).

1.1.3. International perspective on automated custom procedures

The concept of automation has gained popularity both in the local and international scene. Automated tracking and monitoring dates back when it was used in the world war 11 in differentiating the air allied and enemy aircrafts by the British (Smith and Konsynski, 2003) with recent technological advancement witnessed in; airport luggage tracking, maritime monitoring, logistic fleet management, electronic cargo monitoring among others. Globally, a number of countries have implemented automated cargo handling including Hong Kong and Jordan in 2010 and 2008 respectively which show elimination of transit escorts, reduction in time spend in clearing and forwarding, increased cross border trade and reduction of revenue leakages (Alfitiani, 2010).

Globally, a lot of initiatives have been taken including work by the WTO, WCO, and ICC on customs as well as well as reforming customs processes as well as other international scenes, such as APEC and Asia-Europe Conference have played an significant role. For example, in the third ASEM attended by many key players in trade from ten Asian and fifteen European

countries in September 2001, the stakeholders agreed that in the year that followed, they would focus on paperless custom processes as it would simplify procedures by creating favorable environment for goods to flow smoothly within borders. Trade facilitation has been recognized as a key driver in determining export competitiveness of a country in ensuring countries had the right to guard herself from illegal trade practices (Harzing, 1999). Various nations across the globe have adopted automated custom procedures to improve their operations in clearing and forwarding consignments. For instance, Germany has adopted the system and has led to reduced trade barriers and as a result, they are now able to influence free flow of good in European Union (OECD, 2011). In China, automated procedure have been classified as one of the best accounting to about 78% efficiency leading to simplified custom and harmonization with other users (Alcedo&Cajala, 2015). In Mexico, the government has adopted the automated custom procedures aimed at controlling the revenue collection as well as facilitating trade with neighboring countries (Horvat, 2011).Mexican automated customs system is used to avert permeations of illegitimate goods such as drugs.

Further, trade facilitation has been viewed as an additional effort to relax global trade. Reports show that trade facilitation in many medieval European markets such as Bernin Switzerland publicly display the units and measures used for the sale of goods (Grainger, 2008). With automation of trade, its believed that it will result to reduction in lodgment clearance and corruption cases as well as increasing taxes and customs (SchwareandKimberley,1995).

1.1.4. Local perspective on automated custom procedures

Kenya like many other countries, automated customs procedures has been a priority by different agencies who are involved international trade. The agencies control goods crossing the borders,

determine goods classification and origin as well collecting revenues and controlling trade policies. The mode in which customs operate greatly affect international trade either destructively or positively (Kafeero, 2007).The operations of clearing and forwarding firms in Kenya are licensed and regulated by KRA who fall under the department of Customs Services. Firm wishing to operate as clearing and forwarding must comply with the set minimum requirements including, membership to Kenya International Warehousing and Freight Association KIFWA, certificate of good conduct for the directors, recommendation letter from a bank, clearance certificate by Domestic Taxes Department in relation to Income Tax and Value Added Tax returns among other requirements.

In Kenya, they are about 824 licensed and registered customs clearing and forwarding agents by 2015 whereas KIFWA is the sole representative of all freight and forwarding companies in Kenya which was established in the 1996 and was formed due to the need to form one National body to represent the interests of all its members. Clearing and forwarding agents in Kenya are involved in clearing cargoes from port of Mombasa or containers freight stations customers who are either within Kenya or East and central Africa. Kenya being the main point of entry into the East Africa, development of infrastructure is the main priority since it will have huge potential development impact (Ndonye, 2014). Though the firms in this industry have been grown significantly in the recent past, as well as facing a lot of challenges including lack of information flow logistics integration, theft, poor customer support worldwide, costly marketing, the effect of automated customs on trade facilitation has not been fully addressed.

1.2.Research Problem

In today's competitive business environment, getting the most valuable available resources is not an option rather has become a necessity and as such, many organizations have taken a proactive

approach in modernizing the systems and operations all aimed at becoming efficient and effective. Automated Customs procedures pose a substantive desire to every business engagement to automate their systems in order to reap maximum benefits. This is because; automated custom procedures help organizations in identifying, analyzing and responding to socio-economic concerns affecting their business. The arrival of global linkages has greatly influenced the interrelations between different personalities, how they conduct businesses conduct in regards to tariffs as such, automation has received generous attention globally, the recent development by many logistic firms who have automated their operations has resulted to positive effects, however information on the effect of automated customs procedures on trade facilitation in Kenya and its challenges is scanty.

Numerous studies done in relation to the challenges of clearing and forwarding firms and customs reforms and modernization at the Kenya Revenue but most of it dwell on customs reforms; for instance, Aliet (2008) conducted a research focusing the challenges KRA face in the implementation of the Customs reforms. Further a study by Awitta (2010) focused on the effectiveness of KRA to collect revenues in Nairobi as well as a study by kivalia (2010) who focused on the adoption of automated customs procedures. In review of past researches it is evident that no specified research known to the researcher has been done regarding the effect of automated customs procedures on trade facilitation by clearing and forwarding agents in Nairobi region. Nevertheless the literature that is available has shown little about the direct effect of automated customs in the service delivery on logistic firms, it is against this back drop that this study sought to bridge the gap. Automation in clearing and forwarding in Kenya operates in a rapid changing environment with different activities impacting their viability. Many researchers have attempted to understand through which decision makers learn about their external

environment and try to implement the technological responses that have been brought about. This project sought to establish the underlying effects of automated Customs Procedures on trade facilitation a case of Clearing and Forwarding agents in Nairobi region.

1.3.Objective of the Study

The overall objective of this study was to establish the effect of automated Customs Procedures on trade facilitation a case of Clearing and Forwarding agents in Nairobi region. From this overall objective, specific objectives were to:

- i) To establish the effect of automated goods declaration process/e-lodgment on trade facilitation among clearing and forwarding agents in Nairobi region.
- ii) To establish the effect of automated verification of goods on trade facilitation among clearing and forwarding agents in Nairobi region.
- iii) To establish the effect of electronic payment on trade facilitation among clearing and forwarding agents in Nairobi region.
- iv) To determine the effect of electronic release of goods on trade facilitation among clearing and forwarding agents in Nairobi region.

1.4 Research Questions

This study therefore sought to answer the following questions;

- (i) How does automated goods declaration affect trade facilitation among clearing and forwarding agents in Nairobi region?
- (ii) How does automated verification of goods affect trade facilitation among clearing and forwarding agents in Nairobi region?

- (iii) How electronic payment does affected trade facilitation among clearing and forwarding agents in Nairobi region?
- (iv) How does electronic release of goods affect trade facilitation among clearing and forwarding agents in Nairobi region?

1.4. Significance of the Study

Kenya revenue authority being the agency of implementing automation as the strategy and being part of its modernization programs will use the findings to make informed decisions and put in place proper mechanism as far as modernization is concern especially at this time where the new system is in place, the policy makers will attain knowledge on customs automated procedures. The study will act as road map to KRA in implementation of best international trade standards in clearing firms concerning the new system. This would be a reference tool to KRA and other clearing and forwarding firms in their operations. Stakeholders in the clearing and forwarding industry will benefit as they can redesign their organizations on how they can respond to the new customs environment.

1.5. Limitations of the study

Carrying out a competitive study requires plenty of time. The researcher was forced to give up some of his work time and dedicate it to completing the research project. Soliciting of Information from different journals, libraries and internet sites was an uphill task, considering that some libraries required one to be a member before using the facility.

1.6. Scope of the study

The study was conducted in Nairobi region targeting clearing and forwarding agent.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The section presents the theoretical literature, empirical literature and an overview of literature.

2.2 Theoretical Literature

To fulfil the study objectives, theories were employed to guide the study. This section explores mainstream theories that are related to automated customs procedures and their effect on trade facilitation. These theories were discussed here under.

2.2.1 Theory of comparative advantage

According to Ricardo, (2009) in his theory of comparative advantage, the growth of trade globally depends on the efficiency and effectiveness of traders and clearing and forwarding agents in complying with customs procedures. The author Ricardo alludes compliance in trade is productive so long as each trader and clearing agents complies with local and international trade regulations, it has a relative performance productivity advantage. For instance, Transparency International, (2012) found out that the worst customs stations reported in terms of time spent to clear goods were the at Kenya and Tanzania borders of Namanga, Taveta, Holili, LungaLunga and Loitoktok as truck drivers would spend an average of 68 hours to clear their goods. This opens up the opportunity for traders and clearing and forwarding agents to give bribes to speed up the process. Therefore, the development of theory of comparative advantage is to enhance the efficiency and effectiveness if integrity in customs is enhanced to internal and external stakeholders involved in clearance of cargo as it will increase trade facilitation and minimization of cost involved in trade.

2.2.2. Rational Expectations Theory of Technology Adoption

According to this theory by Davis (1989). The author alludes that optimal adoption of technology entails understanding of the incentives behind the different groups of users thus tailoring the deployment them to address their perceptions. This theory notes that considerably, the choice of technology adopted depends on a firm's prospect about the benefits and costs of the technology. This theory indicates that adoption of a technology such as ETR Machines depends on how the stakeholders value it in terms of bringing benefits to the business or reducing costs and increasing efficiency. This theory is important since it provides the researcher with a theoretical framework to test the ETRs effect (Gutierrez, 2013).

2.2.3. Cost Theory

The cost theory refers to the price of resources incurred when producing a good or offering a service. Also, it refers to costs of a firm is suffered to institute a production unit as well as buying different factors of production. In the Cost theory; they are two types of costs namely, Fixed Costs and Variable Costs. In the short-run, at least one factor of production is fixed, so firms face both fixed and variable costs. The shape of the cost curves in the short run reflects the law of diminishing returns. The long-run cost function is represented as $C = f(X, T, P_f)$ and the short-run cost function is presented as $C = f(X, T, P_f, K)$ where C = total cost X = output T — technology P_f = prices of factors K = fixed factor(s). In automated system, the operating costs tend to be small.

2.3 Conceptual framework

Conceptual frameworks, according to educational researcher Smyth (2004), are structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at, frame their questions and find suitable literature. Most academic research uses a conceptual framework at the outset because it helps the researcher to clarify his research question and aims.

Independent Variables

Dependent Variable

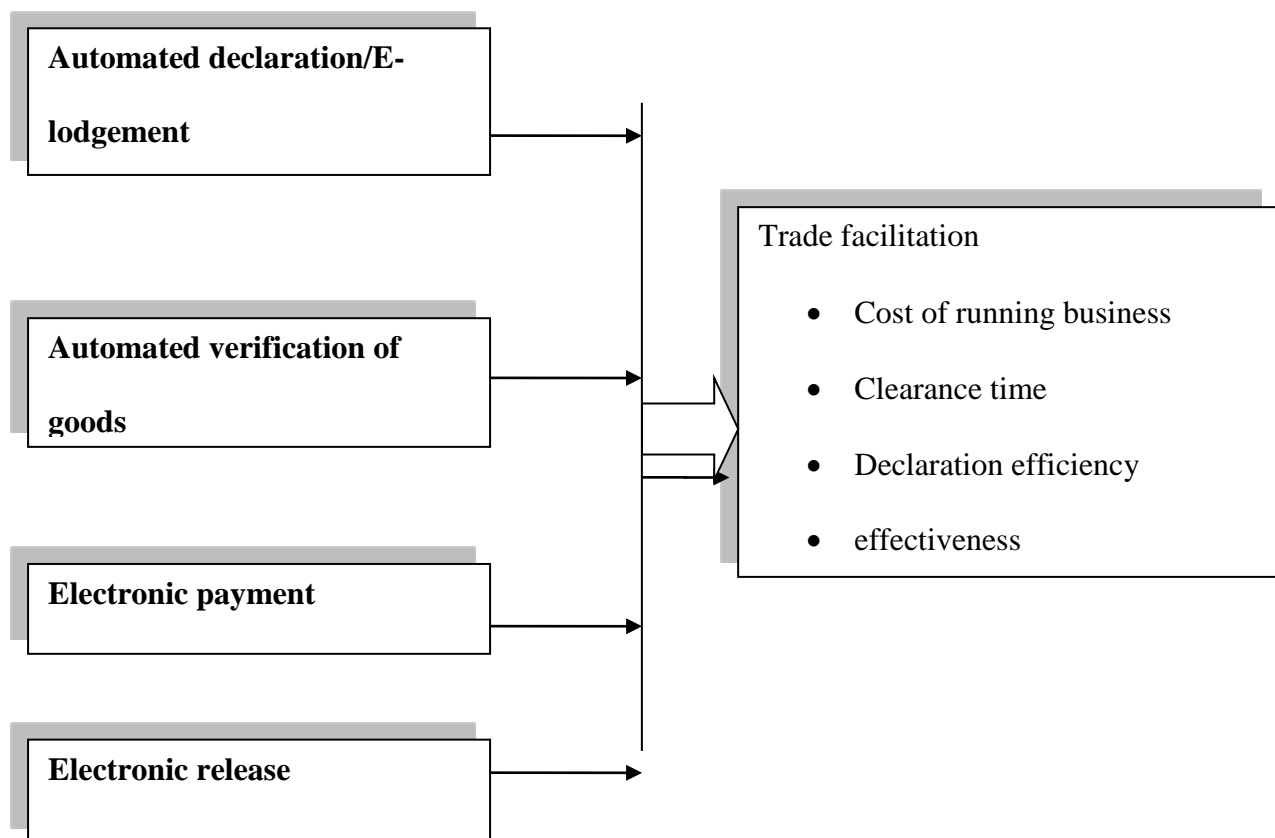


Figure 1.1 Conceptual Framework

2.4. Empirical review

This section will highlight what other scholars have researched on effect of automation and the impact it has on service delivery on firms that are carrying clearing and forwarding. The introduction of the automated customs procedures was an initiative of KRA. It was part of the reform and customs modernization programs. Trade X Simba 2005 was introduced in July 2005 with a view to eliminate or reduce some of the problems that were being encountered while using the old system which had been in use since colonial times (KRA. 2005).

Some of the problems being experienced included, excessive paperwork, manual intervention by customs officials, too many clearing steps, inefficient service delivery, delays in processing of documents thereby importers incurring high demurrage charges .Implementation of Trade X has not been without challenges. On its onset, a court barred KRA from implementing it in a case forwarded by representatives of clearing and Forwarding Agents. KRA discarded the ruling and went ahead to implement the system, there was a standoff between clearing agents and KRA leading to a pile up of documents at customs offices and creating disarray in the clearing and forwarding sector that threatened operations in industries in Kenya. Consignments at the airport, ICD and Mombasa Port incurred heavy demurrage charges. The above incidents frustrated clients as they incurred heavy losses (Central Bank of Kenya, 2007).

The system was also very slow at the beginning this was as a result of unfamiliarity with operations of the system. The data input system had not been completely constructed and there were various entries not reaching completion electronically. The number of trained staff was inadequate to operate the system effectively and the period of training was not sufficient, only 3 days is not enough to grasp a new system. Agents also complained of the fees being too high

Kshs. 15,000 per person together with Kshs. 15,000 of issuance of a password to access the system. Training and began early in the year and stopped end of May after hardly 30% of over 500 expected users from over 3000 registered and licensed organization had been trained.

The introduction of this system led to 'brief case clearing agents being thrown out of business due to high costs involved in training and buying equipment compounded with payment for accessing the system (Kasima, 2004). Although the system was fully operational, there were frequent breakdowns on a weekly basis, leading to unprecedented delays. The airlines were also not lodging their manifests on time with customs, thus in some cases entries were not being lodged on time. Delays were still being experienced at the time of verification of goods. The officers posted at the various stations were not enough and were sometimes too busy to verify all shipments in time. Some of these problems being experienced should have been addressed during the pilot phases.

In spite of the progress made a lot still remains to be done and the government should put considerate amount of funding in terms of purchasing of better and more equipment, and training of more customs officials for the system to be 100% effective Rukus and Linden, (2005).

As the world in general moves upwards, computer age, Africa should step up its resources and attempt to move at the same pace with the rest of the world. Lack of sound policy initiates, inadequate indigenous expertise and lack of funds are to blame for the slow pace at which Africa and in particular Kenya is embracing information technology.

In a study that was done in Philippines where the government in an effort to clean up customs; a Blue Print for Customs Development towards the year 2000 was prepared and CRM Program begun in 1992 through to 1998. As a result of the reforms, constraint on business operations were

removed and cases of bribery were cut off, revenues increased and cases of under invoicing was reduced. The reforms were supported by the World Bank, which also benefited from regular assessments by customs experts (Guillermo. 1992 1998).

In Senegal, a single window was established to reduce; customs clearance time, costs as well as improving the quality of service offered to importers and exporters leading to the elimination of red tape.

Kariuki (2012) sought to investigate the effect of automation as an operational change strategy on customs clearing procedures at Kenya Revenue Authority. The foundation was to establish whether automation of custom processes resulted to efficient service delivery at the customs service department, to establish if automation had led to improvement of skills for the staff working at Kenya Revenue Authority and other stakeholders; what effect the improved skills had on performance at the customs department, to establish if automation has brought about improvement in effectiveness of customs clearance procedures, to establish if automation of customs clearance procedures had resulted in cost saving, to establish if automation has improved governance in the customs department. The findings showed from the interviews from the licensed customs clearing agents involving 57 respondents showed that automation had a positive effect and had brought positive effects such as skills improvement, governance and reduction of cost and performance of customs departments.

Other literature show that automated customs has had impactful effects to the firms and has been discussed below.

2.4.1 Electronic lodgment

Electronic lodgment permits registered customers to use any internet connected making it easily and accessible for all traders/agents, irrespective of magnitude of entries as such, the number of people and firms benefiting as a result of electronic lodgment is significant (KIFWA, 2009).

Under the electronic lodgment, system is intended to: capture all customs entry declaration, compute duties and other taxes, and validate the entry; lodge the entry electronically by connecting seamlessly to the Customs Automated Services (CASE) website and initiate transfer files; receive lodgment validation or rejection with detailed error analysis; print the required related forms and reports. CASE would guarantee that the admittances submitted from the comfort of customs agents' office are fully authenticated and lodged, thus giving the platform to expedite the handling of import consignments. Admittances could be easily settled against the collection of fees received via the assimilated customs cash remittance system at customs locations.

Private investors can bring innovations by changing customs procedures (Cattai, 1998). For instance in Jamaica, an overhaul of the system was in place resulting to speedy processing of entries as such; it increased working hours to 24 hours. A study by the World Bank in Morocco between 1990 to 2004 and edited by Marcel and Wulf has shown that automated customs procedures would lead to a reduction of average processing time for customs clearance.

2.4.2 Automated verification.

Through the use of scanners and bar code readers physical verification of goods has been reduced;scanners at entry point can detect and track defects within the container and raises alarm thus the necessary action taken. This has enhanced fast shipment of goods and increased security.

2.4.3. Electronic payment

Studies have found that revenue Collection will be improved through tax administration reforms as well as automation of customs, procedures. For instance countries like Ghana, Uganda, Morocco and Philippines have cited by the World Bank that the introduction of computerized customs procedures have led to an increase in revenue collection in spite of duty remaining steady. In Morocco for example, revenue increased by about 7.7 percent between 1998 and 2002.

(Bhatnagar, 2001 in his study notes that, governance has always been a major hindrance in the clearing and forwarding sector, not only in Kenya but all over the world. It has demonstrated itself in the form of facilitation of payments offered by traders to accelerate cargo clearance, declaration or accommodating declarations that comprises under invoicing and erroneous classifications to lower custom amounts. The Asycuda system in Jordan has introduced transparency in the sector on how the processes were carried out. In a working paper titled ,’Role of Automation in Trade Facilitation,’ dated 17th October, 2005, systems have delivered an anti-corruption mechanism that have helped in reducing face to face interactions between custom officers and traders. Numerous countries have specified that the computerized customs systems have supported tackling fraud, smuggling and valuation concerns (Burnes, 2000).

2.4.4. Electronic release

King and Konsunki (1995 in his report on United Nation Economic and Social Commission for Asia and the Pacific 2005, the author asserts that the benefits of the automated system has simplified trade transactions, for instance, the introduction of this system in in 1989 , the Singapore Trade Net links parties involved including 34 government units asserts that

processing and clearing of cargo had reduced from 2-4 days to only minutes as well as number of clearing documents reducing from an average of 35 to around 3.

World Bank report done in 2004 (Customs modernization) show that Ghana, Philippines and Morocco automated systems on customs procedures have ensured that data required by different bodies are centralized and easily accessible by all the relevant bodies. Further, as a result of the introduction of the systems in these countries in mid 1990s, it has resulted to substantial gains in terms of efficiency (International Monetary Fund. 2003). In addition, the systems has provided sufficient, accurate and up-to-date data for customs officers to make fast informed decisions, as such, it had linked all users to a simplified customs procedures. (UNCTAD, 2004).

2.5. Critique of existing literature

The Bureau of Customs' first serious attempt at automation was through the installation of a mainframe computer system in 1976 for the purpose of capturing transactions data and generating databases of customs bonds, orders of payment, and customs declarations to inform management. The manifest clearance system remained up to the 1990s, encoding paper cargo manifests into electronic files for the posting of declarations and cargo claims and generation of shipment reports. From 1992 to 1998, a Customs Reform and Modernization Program was undertaken, initially to plug revenue leakages, and later broadened through a "Blueprint for Customs Development" to cover such objectives as a better business and investment environment, protecting public health and the environment, and streamlining the bureaucracy.

Extensive use of information and communication technology was a major strategy, mainly to advance customs processes ahead of arrival of cargo, automate processes, and minimize human intervention. Systems and procedures were reengineered in the following ways: (1) processes were automated to reduce intervention in 80 percent of transactions; (2) controls were

positioned at points where they would be most effective without obstructing business; (3) remote facilities were provided for lodging declarations; (4) paperless and cashless processes were introduced; (5) certain operations were privatized; (6) agencies participating in the system were linked electronically (Parayno 2004).

2.6. Summary

Clearing and forwarding agents on the imported goods has contributed in the development of trade. The role of small and medium enterprises is worldwide acknowledged for their unique contribution to the economic development. Both the developed countries and the ones in course of development realize that the SMEs and the entrepreneurs play a vital role in the industrial development of a country.

Intra-African trade remains very low despite its huge potential to accelerate development within regional trading blocs and at the continental level. The low level of intra-Africa trade is attributed to among other things, complicated customs procedures, inadequate customs training of clearing and forwarding agents on customs clearance procedures, integrity issues among customs administration officers and clearing and forwarding agents. Therefore, there is a need for research that examines on the effects of automated customs procedures on trade facilitation.

2.7. Research Gaps

According to Kosgei (2008), who conducted a study on clearing and forwarding agents in Mombasa on environmental change as such, there is no known research which has been done on the effects of automated customs procedures on trade facilitation. Therefore, there is need to find out the effects of automated customs procedures on trade facilitation on clearing and forwarding agents in Nairobi region.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This study aims to establish the effect of automated Customs Procedures on trade facilitation by Clearing and Forwarding agents in Nairobi region. This chapter presents the research design adopted, target population, sampling procedures, pilot study, reliability and validity, data collection methods, data analysis and presentation.

3.2. Research Design

This research project employed a descriptive survey in finding out the effect automated Customs Procedures on trade facilitation by Clearing and Forwarding agents in Nairobi region. Descriptive survey is critical when the goal is to estimate the proportion or describe the characteristics of certain people or goods who act in a certain manner and make precise likelihoods (Kothari, 2004). Descriptive survey method was favored since it permits for a description of the effect of automated Customs Procedures on trade facilitation by Clearing and Forwarding agents in Nairobi region.

3.3. Population of the Study

Population is a set of events, people, elements, services or group of things that are being examined and to which the findings will be generalized (Ngechu, 2004). According to Bryson (2011) asserts that is a specified set of people, firms, households, elements, services or events which are being examined. The target population of this study will be the licensed and registered customs clearing agentin Nairobi Kenya. The population of interest in this study was comprised

of the 150 clearing and forwarding agents in Nairobi-kenya and out of about 1298 licensed in Kenya (KRA website, 2017).

3.4 Sampling and sample size

Sampling procedure is a procedure of selecting a sub group from a population to partake in the study (Mugenda and Mugenda, 2003). Based on the target population, a sample was drawn. The study will use simple random sampling technique. The formula is as follows:

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

Where: n is the sample size, N is the population, e is the level of precision assuming 5% or 0.05
n = 109 firms.

Therefore the total sample size will be 109 clearing and forwarding firms and this sample size is considered adequate. Gravetter and Forzano (2012) recommends a sample size of greater than the 1% for large populations while Mugenda & Mugenda (2003) observes that a sample size of 30% is adequate.

3.4 Data Collection

This study used self-administered questionnaire as a data collection instrument to collect both primary and secondary sources from the clearing and forwarding firms. The structured questionnaire was administered to the manager and or experienced officer with over three years" experience in the industry. Both quantitative and qualitative data was collected. Structured interview was appropriate for this study since it provided for one set of questions that was asked to few selected respondents. Also semi structured questionnaires consisting of both closed and

open ended questions targeting respondents in the clearing and forwarding firms. The questionnaires were distributed according to set study objectives. A pilot study was carried out to validity and reliability of the instrument.

3.6. Pilot Test

To test the validity and reliability, the questionnaire was piloted to 10 respondents. Saunders et al. (2009), agrees that in any research it is expedient as a matter of validity and reliability to check that the instrument is pre-tested before final administration. The pilot study would enable the researcher to assess the clarity of the questionnaire so that those items found to be redundant and misunderstood would be either discarded or modified to improve the quality of the research instrument, thus increasing its validity. Cronbach's test checked the reliability of the instrument in assessing the clarity of the questionnaires so that those items found to be misunderstood and redundant be detached or modified to improve the quality of the survey, thus increasing its validity. Cronbach's alpha ranges from $r = 0$ to 1, with $r = 0.7$ or greater considered as reliable (Nunnally & Bernstein, 1994). The 0.7 reliability coefficient of the instrument meant that it did not need any alteration hence was used in the entire data collection exercise.

3.7. Data Processing and Analysis

Collected data was edited and checked for any errors, omissions or any other discrepancies. This was to ensure completeness and accuracy of data filled in the questionnaires. The data was analyzed using stata as it's capable of handling large amounts of data. Further, it was in a position to execute all the analysis that were covered in the text and the numbers and present them in form of pie chart and graphs.

Connections between study variables were statistically analyzed by a multivariate regression given that the model had more than one variable. For this regression model the following regression equation derived: is,

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \text{ where:} \dots\dots\dots 3.1$$

X1 is E-lodgment

X2 is automated verification of goods

X3 is electronic payment

X4 is electronic release

Y= Trade facilitation (organizational performance)

ε is the error term

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ is the intercepts of the model

The ε = error term represents other variables that would have an effect on the dependent variable but were not included in the model either because they were difficult to measure or not known.

T-tests were used to test the significance of the association between the dependent and independent variables. R² measured the goodness of fit, the F-Statistic show how independent variables significantly explain the variance in logistics performance. The F critical at 5% level of significance was compared with F calculated to show if the model was significant or not. A significance of less than 0.05 indicating that the predictor study variables strongly explains the variant of the dependent variable.

3.8. Operationalization of Variables

Objective	variable	indicator	measurement
To establish the effect of automated goods declaration process/e-lodgment on trade facilitation among C& F agents in Nairobi region	Independent variable- e-lodgment time reduction	Entry declaration, calculate duties value entry	Ordinal interval
To establish the effect of automated verification of goods on trade facilitation among C&F agents in Nairobi region	Independent variable- verification of goods	Track defects	Ordinal interval
To establish the effect of electronic payment on trade facilitation among C& F agents in Nairobi region	Independent variable- of electronic payment	have aided in tackling fraud, Smuggling and valuation issues	Ordinal interval
To determine the effect of electronic release of goods on trade facilitation among C &F agents in Nairobi region	Independent variable- electronic release	Improved governance, costreduction performance of customs departments.	Ordinal interval
Trade Facilitation (Y)	(dependent variable)	Cost of running business, Clearance time, Declaration , Increase in revenue collected, Capacity building	ordinal

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings on the effect of automated customs procedures on trade facilitation by clearing and forwarding agents in Nairobi-Kenya. It provides the analysis, presentation and interpretations. The data was analyzed using stata where frequencies, percentage as well as standard deviation guided the researcher to interpret the data. The chapter is sub-divided into sections based on the study objectives.

4.2 Response rate

Table 4.1 below shows the response rates.

Table.4.1: Return Rate

	Frequency	Percentage
Total no. of questionnaires returned	98	89.9
Total no. of questionnaires not returned	20	13.3

A total of 109 respondents were targeted in the survey nevertheless, only 98 respondents were surveyed making a response rate of 89.9 percent while 11 respondents were non-committal and did not take part of the survey. Mugenda and Mugenda (1999) asserts that a response rate of 50 percent is adequate; rate of 60 percent is good while a response of 70 percent is excellent. Based on the proclamation, the response rate was considered excellent. Table 4.1 shows the response rate of respondents who were surveyed.

4.3 Demographic Information

This section is based on the gender of respondents, their age distribution and academic qualification. Fig 4.1 represents the gender of respondents.

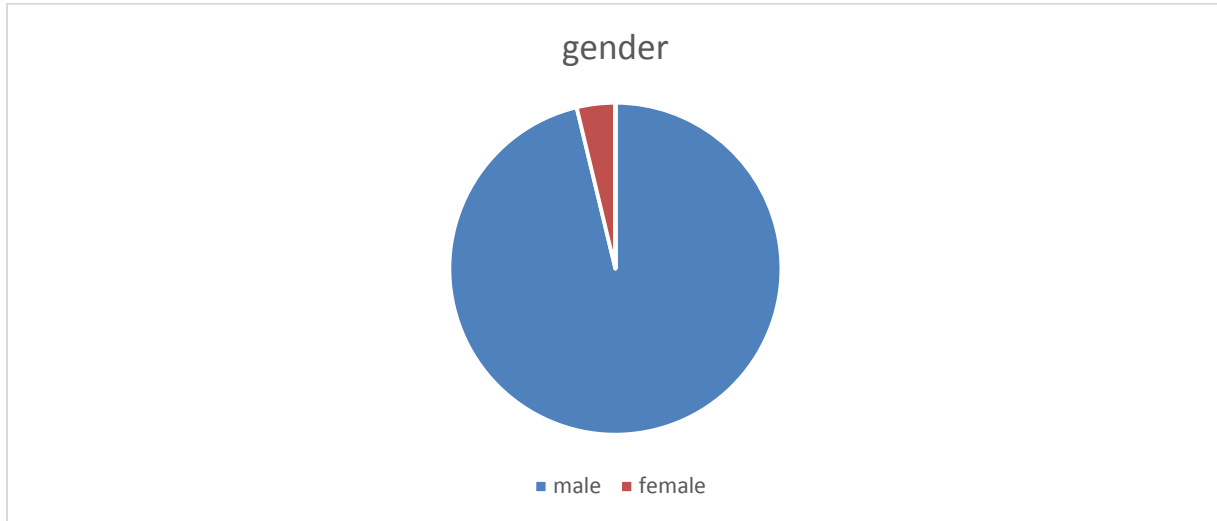


Figure4.1: Gender of respondents.

Figure 4.1 shows that there were 82male representing 83.67 percent and16 females representing 16.33percent respectively.Findings show that majority were males.

4.2.1. Age Brackets of Respondents

Table.4.2: Distribution of the respondents by their age

age	Frequency	Percentage
20-25	12	12.24
25-30	29	29.59
30-35	24	24.49
35-40	24	24.49
Above 40	9	9.18

Table 4.2 show that, majority of the respondents (29.595) were in the age bracket of 25-30years of age, 12.24 % were between the age of 20-25years, 24.49% between30-35years,24.49% were in the age of 35-40 and 9.18%40years and above respectively.

4.2.2. Academic qualification

Table 4.3 presents the results on academic qualification.

Table.4.3: Academic qualification

Highest Education	Frequency	Percentage
Diploma	25	25.51
Post Diploma	13	13.27
Degree	31	31.63
Masters	22	22.45
PhD	7	7.14

Table 4.3 show that majority, (31.64%) are graduate holders, 25.51% diploma, 13.63% post graduate degree, 22.45% master degree and 7.14% PhD degree. This indicates that majority of employees aware of the modern technologies as such can work well with automated customs systems.

4.2.3. Work Experience

Table 4.4: Working experience

Experience bracket Yrs	F	Percentage
1 year & below	1	1
2--5 Years	47	47.9
6-- 10 years	36	36.73
Above 10 years	14	14.9

Table 4.4 show that those who had a working experience of 1 year and below were 1, 2-5 years were 47, 6-10 years were 36 and those with above 10 years were 14. This reveals that more than

half of the respondents had served for long that is 6 years and above in the customs and hence they had a lot of experience in the work; it also improves the reliability of data.

4.2.4: Other General Information

Figure 4.2 sought to know whether the firms are fully automated and connected to Simba 2005 System.

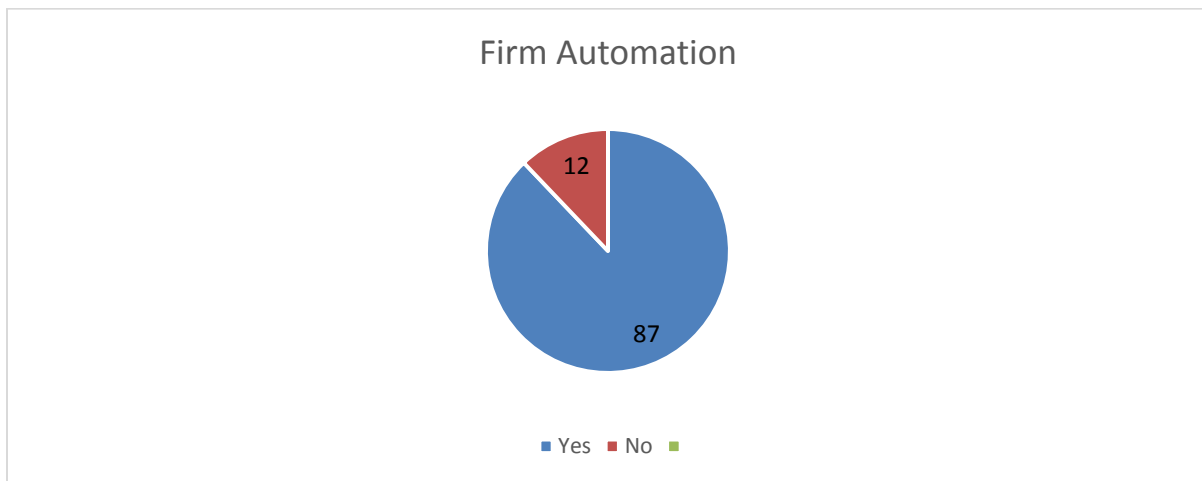


Fig: 4.2. Firm Automation

Fig.4.2 shows that 88.78% were fully automated and connected while 11.22 were not fully automated and connected.

4.2.5. Computing skill and course in Clearing and Forwarding

All respondents revealed that they have all computing skills and had done a course in clearing and forwarding. This shows that majority hard skills and knowledge on how the system works.

On those respondents with computing skills, majority of them revealed that they have been trained on use of the system.

4.3. EFFECTS OF ELECTRONIC LODGEMENT

Table 4.5 below sought to find out the effect of e lodgment on trade facilitation.

Table. 4.5. Effect of e lodgment

Effect of e lodgment	Frequency	Percentage
1	10	10.20
2	13	13.27
3	12	12.24
4	26	26.53
5	37	37.75

The Respondents were asked to provide answers on the effect of e lodgment on trade facilitation. Each piece was measured using a five point Likert using Likert scale indicated as; Completely satisfied (1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree. Majority of the respondents 35.71 % strongly agreed that e lodgment had facilitated trade facilitation, while. 26.53 % agreed that it facilitated trade facilitation.

4.3.2. Time before automation

Table. 4.6. Time before automation

Hours	Frequency	Percentage
12-24 Hours	34	52.30
Over 24 hours	65	47.70

Table 4.6 show that Whilst before automation, 34 respondents representing 52.30 % said it would take 12-24 to clear goods, while 65 respondents representing 47.70 said it will take over 24 hours to clear. It was also revealed that prior to automation clearance procedures were

manual, complex and tedious, the clearing agents were disorganized, corrupt and not subject to any controls or suspension, cargo could be cleared by individuals or illegal brokers and not necessarily registered agents. It has also reduced the number of security agencies example the police and the CID in the customs clearance department. It was found out that before the automation it could take up to 10-14 days to clear goods/ cargo; however since the introduction of the system clearance time has reduced to a day.

4.3.3. Documents for Clearance prior to introduction of automation in Customs

Table. 4.7. Documents for Clearance prior to introduction of automation in Customs

No of Documents	F	%
15	10	10.20
20	9	9.18
25	10	10.20
30	69	70.41

Table 4.7 sought to show the number of documents required for cargo clearance prior the introduction automated customs. The study shows that prior to introduction of automation of customs procedures, cargo clearance would require between around 30 documents; this was according to a majority of 70.41% of the respondents while 10.20 % stated that the clearance would require between 25 documents, 9 respondents said it will require 20 documents representing 9.18%. However, 10.2% of the respondents revealed that it will take 10 documents.

4.3.4. Current documents for cargo clearance

Table 4.8. Current documents for cargo clearance

No of Documents	Frequency	Percentage
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2	4	4.08
3	75	76.53
4	18	18.37
5	1	1.02

Since the introduction of automation of customs procedures majority said it will take 3 and 4 documents to clear cargo representing 76.53% and 18.37% respectively. While 4 said it will require 2 documents and one said it will require 5 documents representing 4.08% and 1.02% respectively.

4.3.5. Efficiency of current operations of Trade

The study sought to know to what extent the respondents were satisfied with the current operations and it was analyzed using mean and standard deviation. The table below shows the research findings.

Table 4.9 Efficiency of current operations

	Mean	Standard deviation
Efficiency of current operations	3.918367	.6528837

From the results above based on the findings on Table Respondents were asked to provide answers on each item that was measured by a five point Likert using Likert scale of Completely satisfied (5) Dissatisfied (4) Satisfied (3) Strongly dissatisfied (2) Indifferent (1). Majority of the respondents 57.14% said they were satisfied. The mean and standard deviation were used in this study to test the respondent ideas. The standard deviation measures the spread of a set of observations. The larger the standard deviation, the more spread out the observations are while

mean is the arithmetic mean across the observations. From the table, the mean of 3.918367 showed that the system was efficient.

4.4. Effect of Electronic release

The Respondents were asked to offer answers on the effect of electronic release on impact on trade facilitation.

Table 4.10. Effect of electronic release

Effect of electronic release	Frequency	Percentage
3	16	16.33
4	54	55.10
5	28	23.57

Each piece was measured with a five point Likert using Likert scale of Completely satisfied (1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree. Majority of the respondents 55.10 % agreed that electronic release had facilitated trade facilitation. 23.57 % strongly agreed.

4.4.1. System Accessibility

Table. 4.11 System Accessibility

System Accessibility	Frequency	Percentage
Yes	87	88.78
No	11	11.22

The results show that Majority of the respondents 87 representing 88.78% said that they can access the system from anywhere whereas 11 respondents representing 11.22 said they can't access the system from anywhere in the country.

4.4.2 Reliability of the system in respect to connectivity

Table 4.12. Reliability of the system in respect to connectivity

	Mean	Standard deviation
Reliability of the system in respect to connectivity	4.163265	0.6440

From the results above based on the findings on Table Respondents were asked to provide answers on each item that was measured by a fivepoint Likert using Linkert scale of completely strongly satisfied (5) satisfied (4) Indifferent (2) dissatisfied (1) Strongly dissatisfied. Majority of the respondents 51.02% were satisfied that the system was reliable. The high mean of 4.163265 and Standard deviation of 0.6440 indicated that it was reliable.

4.4.3. Reduction of time

Table 4.13.Reduction of time

	Mean	Standard deviation
reduction of time	4.163265	.6840431

On reduction of time, the results showed that the system had reduced time and majorities were satisfied with 51.02%. The mean of 4.163265 and Standard deviation of .6840431. Majority, 89.80% of the respondents stated that since the inception of the system the customs service department, it takes between 0-5 hours to respond to questions. Further, 10.20% of the

respondents stated that it takes between 6-10 hours. Generally, the study established that it takes less than a day to respond to questions.

The respondents further stated that the reason why the system have reduced man hours is because fewer staffs/manpower is required in customs clearance unlike prior to automation where many staffs were required for the same job, it resulted to outlay of excess staffs. Since automation, human intervention in processing of documents is minimal; this is due to online processing of documents, introduction of customer care desks, shorter time taken to process documents. The system has also facilitated effective communication within customs department. The respondents also revealed that overtime charges have greatly reduced and hence reduced the cost of labor. It was also found out that automation has promoted transparency and accountability and there are no more physical follow up in customs office.

4.5. Effect of Automated payment

This section sought to find out the effect of automation on trade facilitation.

4.5.1. Effect of electronic payment

Table 4.14. Effect of Automated payment

Effect of electronic payment	Frequency	Percentage
3	25	25.51
4	56	57.14
5	17	17.35

On whether automated payment had Impact on trade facilitation, majority of respondents 57.14%, agreed while 17.35 % strongly agreed that the automation had enhanced trade

facilitation. There has been more transparency and accountability in the manner of transacting operations in customs.

4.5.2. Provision of relevant trade statistics

The study sought to establish whether the automated system provides relevant trade statistics.

Table 4.15. Provision of relevant trade statistics

	Frequency	Percentage
Yes	87	88.78
No	11	11.22

Majority of respondents said that the system would provide statistics representing 87.78% while 11.22 said no. The respondents revealed that the statistics are useful for sound decision making and planning. It is also useful for effective performance management, monitoring and control, it eases measuring of staff performance. Generally, the statics enhances, decision making, Planning, Performance management, review, monitoring and reporting.

4.6. Effect of Automated Verification of goods

This section sought to find out the impact of Automated Verification.

Table 4.16. Effect of Automated Verification of goods

Verification of goods	Frequency	Percentage
1	25	25.51
2	1	1.02
3	6	6.12

4	34	34.69
5	32	32.65

Majority of the respondents 32.65% strongly agreed, 34.69 agreed that automated verification had helped in trade facilitation. Only 25.51 strongly disagreed.

4.6.1. Automation on cost.

Table 4.17. Automation on cost

Automation on cost	Frequency	Percentage
Yes	87	88.78
No	11	11.22

Majority of the respondents said that automation had reduced cost were 87 respondents representing 88.78 percent while those who said No were 11 representing 11.22 percent. Automated customs procedures have reduced the amount of time and money spent on the following up customs clearance over the telephone and also physically hence it reduces cost.

4.7. Effect of automated customs on trade facilitation

Table 4.18. Effect of automated customs on trade facilitation

Trade facilitation	Frequency	Percentage
3	11	11.22
4	64	65.31
5	23	23.47

On whether automated customs had an impact on trade facilitation, majority of the respondents 65.31% agreed while 23.47 % strongly agreed that the automation custom had enhanced trade facilitation.

4.8. Regression Results

A multivariate regression was used to determine the effect of automated customs procedures on trade facilitation by clearing and forwarding agents in Nairobi region. Using a multiple regression, four independent variables on the dependent variable, the results of the model summary is presented in the table 4.19 below.

Table 4.19 Regression results

Trade Facilitation	Coef	Std.err	t	P> t	[95% Conf.	Interval]
Verification of goods	0.0967648	.026852	3.60	0.001	.0434421	.1500875
electronic payment	.5056237	.0647814	7.81	0.000	.3769807	0.6342668
e-lodgement	.0548205	.0294972	1.86	0.066	-.0037551	0.1133961
electronic release	.1537987	.0618827	2.49	0.015	.0309119	.2766854
_cons	.9674407	.3582397	2.70	0.008	.2560476	1.678834

RMSE=40.2282

R-sq =0.5374

F=27.00404

P=0.000

$$Y = 0.9674 + 0.5480X_1 + 0.09676X_2 + 0.5056X_3 + 0.15379X_4 + \varepsilon$$

The regression model of Trade facilitation explained 53.74 % measured by adjusted R². The results in Table 4.19 show that the coefficient of electronic payment was statistically significant at 5 percent on trade facilitation with a coefficient of **0.5056** and a t-value of 7.81. Further, the

coefficient of verification of goods was statistically significant at 5 percent on trade facilitation with a coefficient of 0.09676 and a t-value of 3.60. Also, the coefficient e lodgement was statistically significant at 5 percent on trade with a coefficient of .0548205 and a t-value of 1.86. The regression results show that holding other things constant; increasing electronic payment by one unit will increase trade facilitation by 50 percent. In addition, holding other things constant, increasing electronic verification by one unit trade performance will increase by 9.67 percent. Also, increasing e lodgement by one unit, trade facilitation will increase by 5.48 percent while increasing electronic release by one unit, trade will increase by 15 percent. Holding the four variables constant, the trade facilitation would be at 0.96. The F static that measures of joint determination has an estimated value of 27 and probability statistic of 0.000 (Prob> F=0.000).The results were consistent with a study by the World Bank in Morocco between 1990 and 2004 and edited by Marcel and Wulf which showed that automated customs procedures would lead to trade facilitation in reducing average processing time for customs clearance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1. Introduction

This chapter presents a summary, conclusions and recommendations of the study findings.

5.2 Summary

The objective of the study was to find out the effect of automated customs processes on trade facilitation for the clearing and forwarding agents in Nairobi area. The specific objectives of the study were; to establish the effect of automated goods declaration process/e-lodgment on trade facilitation among clearing and forwarding agents in Nairobi region, to establish the effect of automated verification of goods on trade facilitation among clearing and forwarding agents in Nairobi area, to establish the effect of electronic payment on trade facilitation among clearing and forwarding agents in Nairobi area, to determine the effect of electronic release of goods on trade facilitation among clearing and forwarding agents in Nairobi area.

Majority of the respondents 35.71 % strongly agreed that e lodgment had facilitated trade facilitation, while. 26.53 % agreed that it facilitated trade facilitation. The study shows that prior to introduction of automation of customs procedures, cargo clearance would require between around 30 documents; this was according to a majority of 70.41% of the respondents while 10.20 % stated that the clearance would require between 25 documents, 9 respondents said it will require 20 documents representing 9.18%. However, 10.2% of the respondents revealed that it will take 10 documents. On efficiency of automation, Majority of the respondents 57.14% said they were satisfied. The mean and standard deviation were used in this study to test the respondent ideas where the Standard deviation is the square root of the variance. The standard

deviation measures the spread of a set of observations. From the table, the mean of 3.918367 showed that the system was efficient. On electronic release, majority of the respondents 55.10 % agreed that electronic release had facilitated trade facilitation. 23.57 % strongly agreed.

On whether automated payment had Impact on trade facilitation, majority of respondents 57.14%, agreed while 17.35 % strongly agreed that the automation had enhanced trade facilitation. There has been more transparency and accountability in the manner of transacting operations in customs. On verification of goods, majority of the respondents 32.65% strongly agreed, 34.69 agreed that automated verification had helped in trade facilitation. Only 25.51 strongly disagreed. On whether automated customs had an impact on trade facilitation, majority of the respondents 65.31% agreed while 23.47 % strongly agreed that the automation custom had enhanced trade facilitation.

The results from the regression show that all the independent variables; E-lodgment, automated verification of goods, electronic payment and electronic release had an impact on trade facilitation.

5.3 Conclusions

The foundation of the problem concerning the impact of automation on processes was to establish whether automation has resulted to efficient service delivery at the customs service department, to establish if automation has led to improvement of skills for the staff working at Kenya Revenue Authority and other stakeholders; what impact the improved skills have had on performance at the customs department, to establish if automation has brought about improvement in effectiveness of customs clearance procedures, to establish if automation of

customs clearance procedures has resulted in cost saving, to establish if automation has improved governance in the customs department.

Based on the findings of this study, the following conclusions were made; automated customs processes brings considerable cost savings in trade.

5.3.1. E-lodgment and trade facilitation

The study has shown that with automation of customs has led to trade facilitation. E-lodgment has enabled has enabled validation of goods and entry declaration as well as calculation of duties. The electronic lodging of Customs has helped in time savings in cross-border trade. It has enhanced collection of taxes and duties. Online connections has reduced customs physical examination of consignments owing to the use of risk management applications; calculation of duties and taxes as well as capacity building for staff.

5.3.2. Automated verification of goods and trade facilitation

On verification of goods, the study further has established that automation of customs has resulted in trade facilitation by tracking goods. This has reduced time

5.3.3. Electronic payment and trade facilitation

The automation of the system has demonstrated electronic payments has offered traders to accelerate cargo clearance, accepting declarations that includes under invoicing and erroneous categorizations to lower amounts of duties. This has increased revenues.

5.3.4. Electronic release and trade facilitation

The automation of customs have facilitated trade in ensuring that data required by different bodies are centralized and easily accessible by all the relevant bodies. Further, it has resulted to

substantial gains in terms of efficiency, accurate and up-to-date data for customs officers to make fast informed decisions, as such, it had linked all users to a simplified customs procedures.

5.3.5. Automation capacity building

The study has revealed that with introduction of automation, it has led to enhancement of skills where staffs within the department are trained on different aspects of the system. These findings are in line with a study by Rue and Byars, 2002 who found out that as a result of a rejection of Asyscuda and the inception of online system in Jamaica had led to retraining of supervisors of the customs department being trained as such, they acquired new skills. Also were in line with a report by World Trade Organization, 2000 on Chile's implementation of automation, the author found out that it brought significant benefits to the trading as officers were reassigned from repetitive administrative work as such they were able to improve on their skills.

5.3.6. Automation and improvement in effectiveness

The study further established that automation of customs processes has resulted in Customs overtime being drastically reduced; also long queues had been eliminated. Also, savings have been made through reductions in direct costs and delays leading to increased customs productivity and performance of clearing and forwarding firms. This was in line with a study by Grant, 2001 in Jamaica who found out that automation had reduced costs.

5.3.7 Automation and governance

The study has found out that automation of customs leads to improved governance. This concurred with a study by Bhatnagar, 2001 who found out that, governance has always been a major hindrance in the clearing and forwarding sector, however the introduction of the Asyscuda

system in Jordan has introduced transparency in the sector on how the processes were carried out.

5.3.8. Increased Efficiency of services delivery

The study revealed that automation of the customs department had resulted to improved efficiency in terms of processing of entries. The findings concurred with King and Konsunki 1995 in his report on United Nation Economic and Social Commission for Asia and the Pacific 2005, who found out that the benefits of the automated system has simplified trade transactions, for instance, the introduction of this system in in 1989 , the Singapore Trade Net links parties involved including 34 government units asserts that processing and clearing of cargo had reduced from 2-4 days to only minutes as well as number of clearing documents reducing from an average of 35 to around 3 days. Also, the results were consistent with King and Konsunki (1995 in his report on United Nation Economic and Social Commission for Asia and the Pacific 2005 which alludes that automated system has simplified trade transactions in reducing time.

5.5. Suggestion for further research

The research recommends the following areas for further study; since this study was done in Nairobi, the researcher suggest that the study should be carried out in other areas like Mombasa.

5.6. Recommendations

From the findings, all clearing and forwarding firm must highlight more on broader use of custom automation in stimulating trade facilitation.

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Appendix 1 Letter of introduction

I am Kosgei Simeon a Student at Kenya School Of Revenue Administration and undertaking research on effects of automated customs procedures in trade facilitation a case of c&f agents in Nairobi region kindly aid me in making my research a successful one.

Appendix 2: Interview Guide

The following interview guide is structured to extract information on the impact of adoption of customs electronic procedures by clearing agents on trade facilitation in Nairobi region

Kindly fill it accordingly

SECTION A: GENERAL INFORMATION

1. Gender

Male () Female ()

2. Age bracket 20-25 () 25-30()30-35()35-40() Above 45

4. Level of Education

Diploma () Post Diploma () Degree () Masters () PhD ()

5. Work Experience in Years

Less 1 year () 2-5() 6-10() Above 10

6. Is your company fully automated? Yes () No ()

7. Do you have any computing skills? Yes () No()

8. Have you ever done a course in C & F?

SECTION B: EFFECTS OF AUTOMATED DECLARATION ON TRADE FACILITATION

9. What was the approximate time of clearance of Goods in customs was taking after introduction of the automated system?

Less 12 hrs () More than 12 Hours ()

10. How many documents were required for cargo Clearance prior to introduction of automation in Customs.15()20()25()30()

11. How many documents are required for cargo Clearance since introduction of automation of customs Procedures? 2()3()4()5()

12. To what extent do you feel satisfied with the efficiency of current operations of Trade X Simba system?

Completely satisfied Dissatisfied Satisfied strongly dissatisfied Indifferent

SECTION C: IMPACT OF ELECTRONIC VERIFICATION ON TRADE VACILITATION

13.a) Do you agree that automated verification had helped in trade facilitation.?

(1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree

13.b) Can the Trade X system be accessed from anywhere in the country?

YES NO

14. How reliable is the Trade X system in respect to connectivity?

Completely satisfied Dissatisfied Satisfied strongly dissatisfied Indifferent

15. Does the Trade X system provide you with relevant trade statistics? Yes No

SECTION D: EFECT OF ELECRONIC PAYMENT ON TRADE FACILITATION

16(a).Do you agree that automated customs procedures have reduced the amount of time and Money spent on following up customs clearance over the telephone and also physically?

Completely satisfied Dissatisfied Satisfied strongly dissatisfied Indifferent

16(b).Do you agreed that the automated payment had enhanced trade facilitation?

(1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree

17 .Have man hours been reduced since the introduction of automation (Trade X simba)?

YES () NO () can't say ().

SECTION E: EFFECT OF ELECTRONIC RELEASE OF GOODS ON TRADE FACILITATION

18.(a) Do you agree that automated customs procedures has enhanced governance

(1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree

18.(b)do you agreed that electronic release has enhanced trade facilitation?.

(1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree

19.Has automated customs procedures reduced costs. Yes () No()

F: EFFECTS OF ELECTRONIC LODGEMENTOF GOODS ON TRADE FACILITATION

20. Has e lodgment facilitated trade facilitation?

(1) strongly disagree (2) disagree (3) Indifferent (4) Agree(1) Strongly Agree

THANK YOU