

**IMPACT OF ADOPTION OF CUSTOMS ELECTRONIC
PROCEDURES BY CLEARING AND FORWARDING
AGENTS IN NAIROBI, KENYA**

BY:

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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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D61/P/7004/2001

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

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ACKNOWLEDGEMENT

I wish to acknowledge the contribution made by my dad who encouraged me to go for further studies. I am also indebted to my Supervisor Dr. John Yabs who made sure I completed my project. And to my wife and kids, I say a big thank you for allowing me time to attend evening and weekend classes. Finally, I wish to acknowledge the contribution made by my research assistant.

DEDICATION

This project is dedicated to my dad, mum, wife and kids.

ABSTRACT

The purpose of this study was to establish the extent to which Clearing and Forwarding agents in Nairobi have adopted Customs Electronic Procedures. Specific objectives were to determine the extent to which Clearing and Forwarding agents have adopted Customs Electronic Procedures; identify the challenges of adopting Customs Electronic procedures as well as establish how the adoption of Customs Electronic Procedures has facilitated trade. This study used a descriptive survey method, in finding out how electronic lodgment of Customs entries affects trade facilitation. The target population of this research consisted of 350 clearing and forwarding firms based in Nairobi out of the 962 licensed in Kenya. This study used stratified sampling technique, which was appropriate in coming up with a sample for the study. This is because the population to be studied is heterogeneous. Stratified random sampling technique was considered for each clearing and forwarding company, since each company is unique with its own characteristics. The researcher used both primary and secondary sources of information to collect the data. The secondary data was obtained from company profiles and records from Customs department. Primary sources entailed the use of semi-structured questionnaires comprising of both open-ended and closed-ended questions completed by target respondents in the clearing and forwarding sector of the economy. The data collected from the field was both qualitative and quantitative. The data was then checked for consistency, completeness and usefulness. This entailed edits in the field, data results validation and central editing. Quantitative data was analyzed using descriptive statistics.

The study revealed that Customs electronic procedures have a great impact on the organizations. They have been forced to have an IT system with internet connectivity. Customs electronic procedures were found to have drastically reduced the average lodgment time, as well the clearance time and lodgment cost. Customs customer service was also found to have improved. The main challenges experienced in adopting Customs electronic procedures was found to be inadequacy of relevant skills to sustain the system, financial constraints and unfriendliness of the system. On areas that need improvement, most respondents cited infrastructure in order to reduce down time and inaccessibility.

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LIST OF ABBREVIATIONS AND ACRONYMS

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

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Information Technology (IT) has a significant role in simplifying and harmonizing border and administrative procedures that facilitates trade. It has given birth to Customs electronic procedures including lodgment of entries, data validation, cargo inventory control, and goods declaration processing, electronic notification of release, revenue accounting, and Customs enforcement. From the view point of businesses, electronic lodgment reduces the costs of doing business by raising the efficiency of Customs administration while ensuring the uniform application of legislation, transparency in the assessment of duties and taxes and predictability of clearance times.

Automation reduces corruption by minimizing direct contact between Customs officers and traders, and significantly reduces the potential negative impact of physical inspections. “ICT applications can reduce waiting times at border crossing and at ports, secure appropriate processing of fees and Customs duties, simplify formalities, and provide timely information to transport operators. It also reduces transaction costs, enhances supply capacities, and increases global market access” (UNCTAD, 2006).

Trade facilitation is recognized as a key driving factor in determining export competitiveness of a country. It covers a multitude of issues that are relevant to the smooth and efficient flow of trade. The term has been used in the context of a broad range of potential Non-Tariff Barriers (NTBs) such as import licensing, product testing and overly complex Customs clearance procedures. Increased facilitation of trade, by

way of ensuring optimal use of IT, should result in improved economic growth for countries and improved competitiveness of their industries by reducing unnecessary bureaucratic requirements and harmonizing relevant processes, at the same time, it should ensure that each country has the right to protect itself from unlawful trade practices (Schware and Kimberley, 1995).

1.1.1 Customs Electronic Procedures

The electronic lodgment system is designed to: capture all Customs entry declaration data, calculate duties and other taxes, and validate the entry; lodge the entry electronically by connecting seamlessly to the Customs Automated Services (CASE) website and initiate file transfer; receive lodgment confirmation or lodgment rejection with detailed error analysis; print the required related forms and reports. CASE would ensure that the entries submitted from the comfort and convenience of the Customs agents' office are fully validated and lodged, thus providing the platform to expedite the processing of import shipments. Entries could be easily reconciled against the collection of fees received via the integrated Customs cash Remittance system at Customs locations. The implementation of an e-payment component is available through CASE. Customs agents may also lodge their entries and pay duties over the internet.

The Automated System for Customs Data (ASYCUDA) was developed by UNCTAD in 1981 for computerized Customs management. The development was initiated at the request of the Economic Community of West Africa, as part of an assistance program to support improved compilation of trade statistics for its member states. This system, including a number of versions, was widely implemented and is currently being used by

over eighty countries including most Caribbean Common Market (CARICOM) countries (Buyonge, 2007).

Abrenica and Tecson (2003), notes particular interest in e-lodgment allows agents to learn the outcome of the selection process much earlier (for example, whether or not the cargo has been selected for physical inspection), enabling them to take measures to ensure that cargo are processed and released with fewer hitches. Electronic lodgment allows clients to use any computer with internet connectivity and therefore it is more easily accessible. The only prerequisite is to be CPRS – registered and have a Customs client number, indicating that one is enabled to transact electronically with the Bureau of Customs- a requirement which is also relatively easy to comply with.

1.1.2 Trade facilitation

The benefits of trade facilitation are beyond dispute. Trade facilitation programs are being initiated around the world. In this context, the most interesting and important question becomes; what are and where are the obstacles of trade facilitation? Some of these obstacles were identified at WTO symposium on trade facilitation. These include; excessive documentation requirements; lack of automation and insignificant use of information technology; lack of transparency; unclear and unspecified import and export requirements; inadequate procedures; especially a lack of audit-based controls and risk assessment techniques; and lack of modernization of, and cooperation among Customs and other governmental agencies, which thwarts efforts to deal effectively with increased trade flows. Other obstacles include; the need to amend trade and Customs related legislation; the need to implement improved management techniques and to re-organize

management structures in order to manage the changes required by trade facilitation (Matsudaria, 2007).

1.2 Research Problem

Customs Electronic procedures represent a major trend in management. The emergence of global networks has profoundly influenced the way individuals interact with each other, businesses conduct their affairs, and governments provide services to their citizens. There is therefore vital need for research that identifies the impact of electronic lodgment of Customs entries in trade facilitation in Kenya.

Developed countries perceive that Customs procedures in developing countries have not adjusted enough to the rapidly growing volume of trade of the last decade. Their complaints are echoed by service providers, such as Express mail couriers which handles a substantial proportion of all Customs entries (more than 30 per cent in their largest markets). The ability of such firms to provide their services depends heavily on efficient Customs systems and procedures, for example a guaranteed electronic lodgment system on delivery time for parcel (UNCTAD, 2006).

Like other countries, Customs procedures in Kenya suffered from manual operations, arbitrary decisions, corruption and delays in clearance. Despite simplification of Customs procedures in recent times, Customs formalities in Kenya were lengthy and less than efficient, leading to delays in the release of goods.

Several studies have been conducted on responses and challenges of clearing and forwarding firms and Customs reforms and modernization at the Kenya Revenue

Authority. Kosgei (2008) conducted a study on the responses by clearing and forwarding firms in Mombasa to changes in environment. Aliet (2008) undertook a research on responses by the KRA to the challenges in the implementation of the Customs reforms and modernization. Awitta (2010) conducted a study on the effectiveness of revenue collection strategies of KRA in Nairobi. This clearly depicts that no particular study has been conducted on the adoption of Customs electronic procedures by Clearing and Forwarding agents in Nairobi..

This study therefore sought to answer the following questions; (i) To what extent have Clearing & Forwarding agents adopted Customs Electronic Procedures? (ii) What are the challenges faced in the adoption of Customs electronic procedures? and (iii) how has the adoption of Customs electronic procedures facilitated trade?

1.3 Research Objectives

The overall objective of this study was to establish the extent to which Clearing and Forwarding agents in Nairobi have adopted Customs Electronic Procedures. From this overall objective, specific objectives had been derived:

- i) Determine the extent to which Clearing and Forwarding agents have adopted Customs Electronic Procedures.
- ii) Identify the challenges of adopting Customs Electronic procedures.
- iii) Establish how the adoption of Customs Electronic Procedures has facilitated trade.

1.4 Value of the Study

The study provided information to potential and current scholars, wishing to undertake research on the adoption of Customs electronic procedures and its effect on trade facilitation. This will enhance their knowledge on the same and also identify areas that require further research. The study will also highlight other important areas that need relational studies and comparison between the previous manual system and the new electronic system.

The government policy makers will acquire knowledge on Customs electronic procedures. This will lead to appreciation of the essence of electronic procedures and necessary policies might be implemented to enhance efficiency in the Customs electronic system. The study will act as a blue print to managers of KRA in their implementation of international trade procedures and standards. This will be a reference tool in their day-to-day operations concerning the lodgment of Customs entries.

The stakeholders in the clearance of goods industry will benefit a lot from this study. The main stakeholders are the clearing and forwarding firms and firms or companies that engage in international trade. They will be able to gauge the value of the new electronic lodgment system on their business operations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter addresses the various theories, concepts, empirical works and reviews on the literature on Customs electronic procedures and their effect on trade facilitation. Extensive literature reviews covering, among others, relevant national-levels studies and reports, conference proceedings, working papers and other sources of information will be explored.

2.2 Environmental dependency

One of the most dramatic and significant world trends in the past two decades has been the rapid, sustained growth of international business. Markets have become truly global for most goods, services especially financial instruments. World product trade has expanded by more than 6% a year since 1950 which is more than 50% faster than growth of output. The most dramatic increase in globalization has occurred in financial markets (Kafeero, 2007). Over time, trade facilitation has become more of an international concern and less of an issue of rationalizing a national Customs regime. Trade facilitation in previous generations sought to harmonize different regimes, or at least establish an element of mutual recognition between different regimes environments.

It is, however, not simply the growth in trade or even the growth in related trade and transfer pricing that is fueling the need for trade facilitation. Another important factor include increased economic integration by an explosion of regional and bilateral free

trade agreements that often feature complex Customs requirements (i.e. rules of origin). Technological progress has also introduced faster and cheaper forms of transportation and transportation management techniques, such as the increased use of electronic lodgment of Customs entries. Finally, there have been significant changes in the nature of internationally traded goods, from complete or whole goods towards re-exported sub-assemblies and intermediate products (Wilson, 2007).

2.3 Clearing and Forwarding in Kenya

In Kenya, as in many other countries, Customs is in the forefront of the various agencies that intervene in international trade in goods. Customs is, for instance deeply involved in controlling goods which cross borders, determining goods nomenclature and origin, and collecting revenue as well as administering trade policies. Hence the manner in which Customs operates highly affect international trade either negatively or positively. In other words, the manner in which Customs operates can either complicate or simplify international trade in goods. And this introduces us to the concept of trade facilitation (Kafeero, 2007).

The operations of clearing and forwarding firms are licensed and regulated by the Kenya Revenue Authority (KRA) under the Customs Services Department. There are certain minimum requirements that a firm must comply with to get approval for licensing or have the existing license renewed. These includes, membership to KIFWA, obtaining a certificate of good conduct for directors, a recommendation letter by a bank, clearance by the Domestic Taxes Department in relation to Income Tax and Value Added Tax returns among others (www.kra.go.ke)

The number of firms that have registered as clearing and forwarding agents is approximately 1500. However those who have registered and gained membership of KIFWA are 1200 firms nationally with 657 of them based in Mombasa (KIFWA register, July 2010). It should however be noted that the registered office of most of these agents is Nairobi but the main operations are based in Mombasa.

2.4 Need for Trade Facilitation

The concept of trade facilitation is receiving unprecedented attention and is at the heart of numerous initiatives within the Customs world. Trade facilitation has become a substantive item within WTO round negotiations. It is frequently referred to in supply chain security initiatives, and is a feature within many Customs modernization programs. Trade facilitation is also a significant item within wider aid-for-trade capacity building initiatives. The term ‘trade facilitation’ is largely used by institutions that seek to improve the regulatory interface between government bodies and traders of national borders (Bhattacharya and Hossain, 2006).

Trade facilitation potentially covers a multitude of issues that are relevant to the smooth and efficient flow of trade. The term has been used in the context of a broad range of potential Non-Tariff Barriers (NTBs) such as import licensing, product testing and overly-complex Customs clearance procedures. Increased facilitation of trade, by way of ensuring optimal use of IT, should result in improved economic growth for countries and improved competitiveness of their industries by reducing unnecessary bureaucratic requirements (Wilson, 2007).

UNCTAD (2006) observed that in most countries trade facilitation involves the ministries of trade, transport and finance as well as the private sector. With a view to maintaining a sound balance between the operational procedures and stakeholders' requirements, the global trading community has long been striving to move towards the concept of paperless trade. This implies a shift towards automation and the virtual abandonment of all paperwork (Schware and Kimberley, 1995).

As stated above, trade facilitation is a diversified concept and incorporates a wide range of issues related to the regulation and conducting of international trade, including supply chain management. Trade facilitation is now recognized as a key driving factor in determining export competitiveness of a country. It should at the same time ensure that each country has the right to protect itself from unlawful trade practices (Harzing, 1999).

To a large degree, trade facilitation can be viewed as an extension of the efforts to liberalize international trade. As history shows, trade facilitation is not a new phenomenon. For instance, many medieval European market towns would publicly display the units and measures used for the sale of goods. In some towns, like Bern in Switzerland, these measures can still be found on display today. In more recent history, trade facilitation has become firmly established within the current international, regional, national, and even at the local level (Grainger, 2008).

2.5 Customs Electronic Procedures

There appears to be significant agreement among traders and Customs agents' with regard to the expected positive impact of the automation process. It is believed that the initiative will result, for example, in the reduction in lodgment clearance time and costs

and corruption; an increase in number of clients for the Customs agents and freedom for agents and traders to work outside Customs normal working hours. It is also interesting to note that the majority of the Customs agents and traders are ready to set up new offices or install new equipment (such as computers, fax machines and internet connection) to gain access to the service automation process (Schware and Kimberley, 1995).

Electronic lodgment allows registered clients to use any computer with internet connectivity, making it easily accessible. Prior to this, importers/brokers had to go to the ECC for lodgment or be EDI or DTI – enabled. Electronic lodgment now makes it easier and cheaper for all importers/brokers, regardless of size to file entries. Since small importers account for over half of the 800,000 import entries lodged annually, the number benefiting from electronic lodgment is substantial (KIFWA, 2009).

Automated Customs Operations System (ACOS), the first IT-based system that sought to automate the entire cargo clearance chain, was initiated in 1997. By 1998, almost all segments of cargo clearance were fully automated with the system running at all major ports in the world (Gulane, 2007). Extensive use of information and communication technology is a major strategy, mainly to advance Customs processes ahead of arrival of cargo, automate processes, and minimize human intervention. Systems and procedures are reengineered in the following ways: processes are automated to reduce intervention in 80 percent of transactions, controls are positioned at points where they would be most effective without obstructing business, remote facilities are provided for lodging declarations, paperless and cashless processes are introduced, certain operations are privatized, and finally agencies participating in the system are linked electronically (Parayno, 2004).

2.6 Challenges of adopting the Electronic Lodgment System

The main difficulty encountered by Customs stakeholders in adopting the electronic lodgment is poor connectivity and frequency of server breakdown, a result of inadequate infrastructure or systems. Insufficient preparation by the government is perceived to have hampered implementation of IT-based measures. Systems improvements with the greatest impact would be adjustments to accommodate peak hour traffic and 24/7 server availability. The infrastructure should be set up in all ports. Updated and clear guidelines must also be immediately provided in view of fast changing procedures (Harzing, 1999).

The challenges experienced vary in degree among Customs brokers/agents, Customs officers, financial institutions and telecommunications service providers. Each has a critical effect on successful implementation. The Customs brokers/agents are particularly a difficult group, as their competitive advantage over each other is diminished by the changes in their interaction with Customs. They also fear the new technology, with many using transactional internet services for the first time. Others, while somewhat familiar with technology, do not utilize it for their own internal functions and are therefore inexperienced.

Reactions range from organized protest to sabotage among Customs officers and changes are often opposed for monetary reasons. The electronic system would eliminate the need for overtime. With the old manual system, they had to process paperwork well into the evening to keep up with the volume of import entries coming in on a daily basis (Duval, 2006).

Telecommunication services also presented two significant obstacles; many Customs brokers/agents required additional phone lines for access to internet service providers. As it turned out many of the lines could not be made available due to physical infrastructure deficiency in certain areas. It proved difficult to access ISPs during peak hours, and the timeliness of response to relay email messages proved problematic. (Wilson, 2007) stated that delay in documentation at Customs is still a major issue despite the introduction of the computer based system for processing import/export documents. Other major challenges include; lack of clarity/transparency of procedures, direct transactions with several employees, numerous manual paperwork and many errors, many control entries with difficult policies and procedures, lack of coordination among various trade facilitating agencies and unclear standards for the valuation of goods (Buyonge, 2007). It is worth noting that while automation of trade procedures is a pre-requisite for faster and secured trade, the initial and perhaps most important task is to eliminate both domestic and external barriers affecting trade growth.

Therefore, measures to ensure the positive impact of IT in trade facilitation will only achieve their objectives when the business community feels safer and encouraged by the government's trade enhancement policies (Matsudaira, 2007). There are many examples of conflicting interest which hamper successful implementation of trade facilitation initiatives. Source of conflict may be found between government and business stakeholders; local, national and international interests; government departments (for example, Customs and Customs inspectors); policy priorities; industries; countries (for example, who have different legacy arrangements or IT system suppliers); and between liberal and protectionist trade policy tendencies (Grainger, 2008).

The incompatibility of procedures with local operational practices can be another area causing conflicting interest. Customs, on the one hand need to enforce the law, on the other hand, they may find that it is not optimally defined to suit the operational needs of business stakeholders. For example, when UK Customs introduced x-ray scanning, they mandated port operators to deliver goods to the x-ray facilities. At the container ports, where the port operator owns the handling equipment, this was not much of a problem. However, most ports do not have any cargo handling equipment. At these ports, it is customary for lorry drivers to drive straight off the ship, or where rolled-off to the quayside, for haulers to come and pick up the goods (Abrenica and Techson, 2003).

2.7 Benefits of the Electronic Lodgment System

In recent years, the idea of trade facilitation has expanded to include the modernization and automation of import procedures in order to make the adoption of international standards easier. It is generally understood that trade facilitation involves the reduction of transaction costs for all parties in the enforcement, regulation and administration of trade policies. Trade facilitation has been described as the “plumbing” of international trade (Hoekman; Mattoo and English, 2002) that focuses on the efficient implementation of trade rules and regulations. By nature, trade facilitation is very technical and detailed, with the underlying objective of reducing various forms of NTBs that impose significant loss of time and costs in conducting trade, including an excessive number of documents, involvement of dozens of agencies, and complexity in data reporting and processing. It is in this context that the simplification of Customs procedures is of great importance.

Apart from the convenience and speed of electronic submission, the ability to view immediately the results of lodgment reduces transactions costs. IT-based lodgment benefits them by lowering unit operational costs and total cost burdens enough to make them more competitive with their large counterparts, the manpower required to undertake import procedures is lessened, financial outlay is reduced by the shorter wait, and uncertainty is eliminated with online information about the status of entries and bureau of Customs announcements (Berida, 2008).

Recently, there has been a significant increase in revenue collection, despite little or no economic growth in the economy of a nation. The Customs agents have come to appreciate the convenience and increased speed in processing an entry. In contrast to lodgments being limited to Mondays to Fridays 9:00am to 4:00pm, the new electronic system permits lodgments 24 hours per day, seven days a week. Customs agents are also gratified that processing of an entry, which previously took two to three days, on average, is typically done in three to four hours. (This does not include “fast path”, which is immediate for those who qualify, requiring only duty payments). At present, over 98 per cent of entries are submitted electronically, with almost all the agents on-board and on-line (Clarete, 2004).

Increased emphasis on the wider use of IT in promoting trade facilitation, as reflected in many of the proposed measures in the WTO negotiating group on trade facilitation is therefore not unexpected. Considering that the transactions costs of complying with trade regulations and procedures are higher for smaller firms (de Dios, 2009). Customs overtime has drastically reduced and can be completely eliminated once the Customs reforms are fully implemented. Customs supervisors are now better able to monitor and

distribute the workflow, thereby achieving greater efficiency. Changes to tariff rates and other fees are quickly and accurately accommodated. Inconsistency and errors in duty calculation have been totally eliminated. Reconciliation of payment is now provided on demand. Management and activity reports are all easily generated and made available through the implementation of data warehousing tools. Collection points require fewer cashiers, and long queues have been eliminated. The cashiers now have only to select the entry and collect payment, without entering large amounts of transaction details. Electronic payments, by either the Customs broker/agent or importing company, have been welcomed and are becoming widely used (Lorenzo, 2007).

The potential benefits of paperless trade include easier processing of reliable information, reduction of costs and delays along the supply chain, and increased security in conducting international trade. Trade analysts across the world tend to believe that the adoption and proper use of IT could help save international trade billions of dollars per year. Unfortunately the reality is somewhat different. Most traders and administrators are still largely dependent on paper documents. This not only slows down the flow of trade, but imposes a huge amount of extra cost on doing business. In addition, more productive use of IT must be made in order to increase the efficiency, effectiveness and transparency of revenue collections by expediting Customs clearance procedures. Such a measure will be a step forward towards effective utilization of the automated system. Further, this will enhance transparency and help eliminate corruption among Customs officials. (Bhattacharya and Hossain, 2006).

Wilson (2007) estimated that all countries could benefit from more efficient Customs administrative procedures, with the greatest benefits accruing to those countries with the most efficient Custom administrative procedures. Wilson et al., (2004) found a significant positive relationship between trade flow and port efficiency, Customs environment, regulatory environment and service sector infrastructure. Schware and Kimberley (1995) in their study, focused on worldwide experience and identification of factors that make way for trade facilitation through the successful application of IT. The study found that accessible information and communication technology (IT) could significantly improve trade performance. However, this technology must be accompanied by simplification of documentation, reengineering of procedures, appropriate training and availability of local expertise, and a reliable and cost-effective communication infrastructure. Automation has, therefore been considered to be making sense only if it serves as a tool to support Customs management practices (Duval, 2006).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the methods and procedures that were used in carrying out the study. It includes the survey research design, population, the sampling frame and techniques, data collection methods (instruments and procedures), and data analysis and presentation methods.

3.2 Research Design

This study used a descriptive survey method, in finding out the impact of adoption of Customs electronic procedures by clearing and forwarding agents in Nairobi. Descriptive design is used when the purpose is to describe characteristics of certain goals, estimate the proportion of people who behave in a certain way and make specific predictions (Kothari, 2004). This method is preferred because it allows for a description of what, who, where and how adoption of Customs electronic procedures has impacted on clearing and forwarding agents in Kenya.

3.3 Population

Mugenda and Mugenda (2003) refer to population as the 'universe'. Borg and Gall (1999) define population as all the members of a real hypothetical set of people, event or object to which a researcher wishes to generalize the results of the study. The target population of this research consisted of the 350 clearing and forwarding agents based in Nairobi out of the 962 licensed in Kenya (KRA website, 2012).

3.4 Sampling

This study used stratified sampling technique, which was appropriate in coming up with a sample for the study. This is because the population to be studied is heterogeneous. Stratified random sampling technique was considered for each clearing and forwarding company, since each company is unique with its own characteristics hence each must be included in the study. The characteristics considered were the size, type of main business and use of the license (own use or business). The study then used purposive sampling technique within the sub-population/stratum (composed of individual clearing and forwarding companies). Purposive sampling technique ensured that the study's objective was attained, as only one respondent who was in management level was considered or targeted. The researcher sampled out 10% of the respondents giving a sample size of 35 respondents.

3.5 Data Collection

The researcher used both primary and secondary sources of information to collect the data. The secondary data was obtained from company profiles and records from Customs department. Primary sources entailed the use of semi-structured questionnaires comprising of both open-ended and closed-ended questions completed by target respondents in the clearing and forwarding sector of the economy. The questionnaire was divided into three sections. Section one was designed to gather general information on personal and organizational profile of employees and employer/management. Section two consisted of questions on the need for electronic lodgment of Customs entries on trade facilitation, and section three consisted of question on benefits and challenges of

implementing the electronic lodgment system. The questionnaires were administered to the respondents through 'drop and pick later' method

3.6 Data Analysis

The data collected from the field was both qualitative and quantitative. The data was then checked for consistency, completeness and usefulness; this entailed field edits, data results validation and central editing. Kothari (2004) points out that analyzing research includes coding, tabulating responses, translating the response into specific categories and then entering them in the Statistical Package for Social Science (SPSS) computer software for windows.

Quantitative data was analyzed using descriptive statistics. Descriptive statistics involves the use of absolute and relative (percentages) frequencies, measures of tendency and dispersion (mean and standard deviation respectively), and was used alongside the frequencies for Likert items. Baker (1994) argues that descriptive statistics highlight features of a set of observation and do not support or falsify a relationship between two variables according to their numerical properties.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings on the impact of adoption of customs electronic procedures by clearing and forwarding agents in Nairobi, Kenya. It gives the data analysis, presentation and interpretations. The data was analyzed using a statistical package where frequencies, percentage as well as standard deviation guided the researcher to interpret the data. The chapter is divided into sections based on the research objectives which include; determining the extent to which Clearing and Forwarding agents have adopted Customs Electronic Procedures, identifying the challenges of adopting Customs Electronic procedures and lastly establishing the benefits of adopting Customs electronic procedures.

4.2 Questionnaire return rate

The study targeted 35 respondents out of which 31 filled and returned their questionnaires. The other 4 respondents were not available to fill in the questionnaire since they were away during the time of data collection. The return rate was 88.6 percent as presented in Table 4.1

Table 4.1: Return Rate

	Frequency	Percentage
Total no. of questionnaires returned	31	88.6
Total no. of questionnaires not returned	4	11.4
Total no. of questionnaires	35	100.0

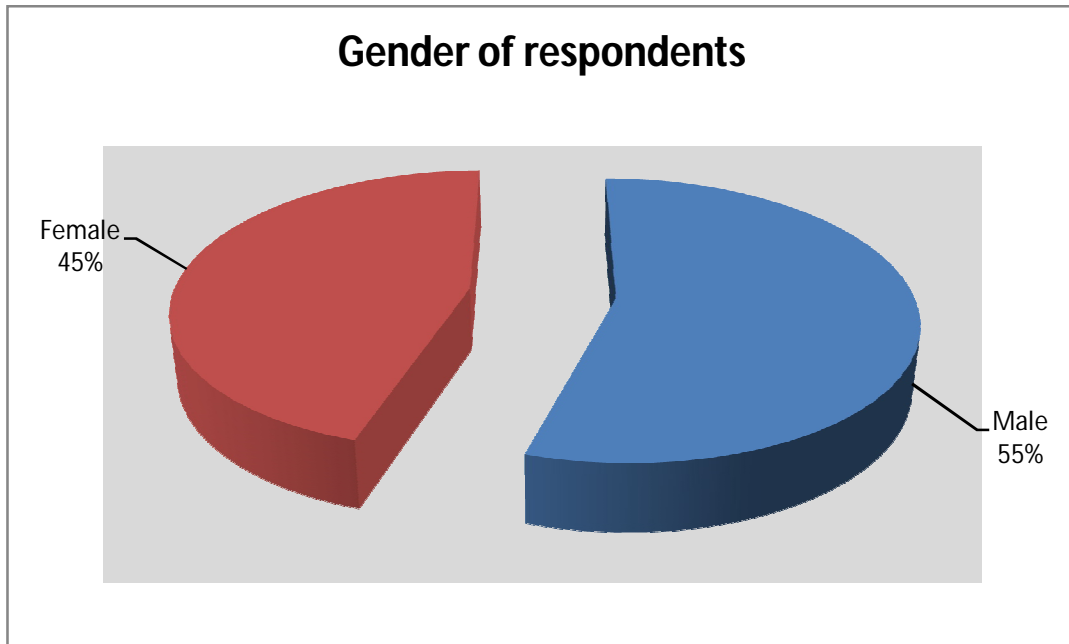
According to Edwards *et al* (2002), a questionnaire return rate of 80 percent and above is absolutely satisfactory, while 60 percent – 80 percent return rate is quite satisfactory. A return rate below 60% is ‘barely acceptable’. A satisfactory questionnaire return rate is imperative to minimize assumptions in the study as well as diminish any bias, which could probably be brought out by a lower questionnaire return rate. The return rate for this study was therefore sufficient since it was over 80 percent.

4.3 Demographic Information

This section is based on the gender of respondents, their age distribution and academic qualification. It also presents the duration the respective organizations existed, whether the organization has registered with KIFWA as well as the organizational main business activity.

The figures and tables below show the gender distribution of the respondents, age distribution, academic qualifications, duration of existence, and main business activity.

Figure 4.1: Gender of respondents



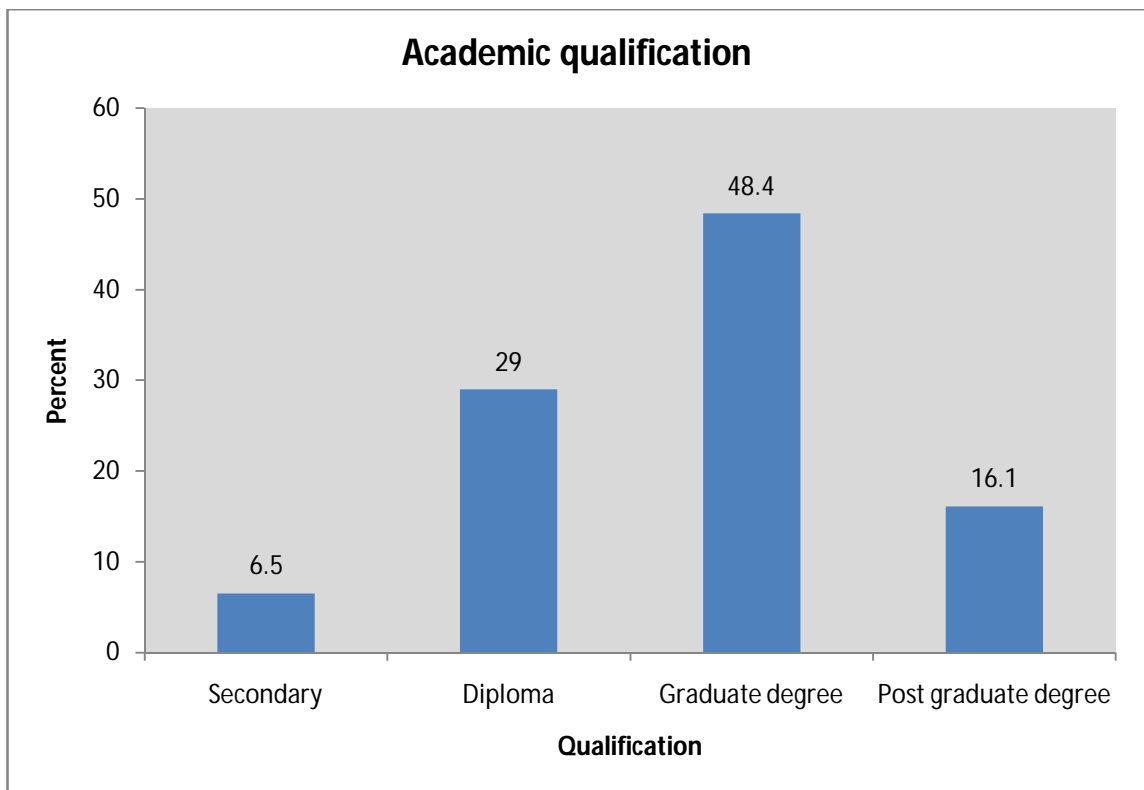
Findings on the respondent's gender showed that majority, (54.8%) of the respondents were males and the rest (45.2%) were females. This implies that most of the organizations' managerial teams are dominated by males.

Table 4.2: Distribution of the respondents by their age

	Frequency	Percentage
Less than 30 years	15	48.4
30-39 years	8	25.8
40-49 years	5	16.1
50 and above years	3	9.7
Total	31	100.0

Concerning distribution in their ages, majority of the respondents (48.4%) were aged below 30 years of age, 25.8% between 30-39 years, 16.1% and 9.7% between 40-49 years and 50 years and above respectively. This indicates that most of the managerial team is less than 40 years and thus able to adopt the modern technology easily. This information will help us to determine how easily the employees are able to adopt Customs Electronic procedures.

Figure 4.2: Academic qualification



The study also sought to know the academic levels of the respondents where majority, (48.4%) had a graduate degree, 29% diploma, 16.1% post graduate degree and the remaining 6.5% had a certificate in secondary education. This indicates that majority of the respondent had a degree certificate. This information will help us in determining how

the employees are aware of the modern technologies and thus able to work well using the Customs Electronic System.

Table 4.3: Duration the firm has been in existence

	Frequency	Percentage
Less than 10 years	7	22.6
10-14 years	16	51.6
15-19 years	4	12.9
20 and above years	4	12.9
Total	31	100.0

Findings on the duration the different organizations had existed showed that 51.6% had existed for a duration of 10-14 years, 22.6% less than 10 years, 12.9% and 12.9% for 15-19 years and 20 and above respectively. This implies majority of the organizations have existed for less than 15 years when The Electronic Lodgment System of Custom Entries was introduced.

The respondents were also asked whether they have registered with KIFWA. From the study it was established that all the firms were registered with KIFWA. The licensing of clearing & forwarding agents is regulated by the Kenya Revenue Authority (KRA) under the Customs Services Department and membership with KIFWA is a minimum requisite that a firm must comply with to get approval for licensing or have the existing license renewed (www.kra.go.ke).

Table 4.4: Main business activity

	Frequency	Percentage
Shipping agency	2	6.5
C & F agency	2	6.5
Freight forwarder	13	41.9
Packers and consolidators	14	45.2
Total	31	100.0

The researcher also sought to know the main business activity carried out in the different organizations where majority (45.2% and 41.9%) of the respondents carried out the business of packers and consolidators as well as freight forwarding respectively. The rest carried out Clearing & Forwarding agency (6.5%) and shipping agency (6.5%). This implies there are more manufacturing and airline business activities carried out in Nairobi as compared to main port of Mombasa. This information will help the researcher determine the extent to which a certain business activities use Electronic Lodgment of Customs Entries as well as the challenges they face and the benefits they gain in adopting.

4.4 Impact of adopting Customs Electronic Procedures

This section presents the information on whether the organization interviewed had their own IT system for import/export transactions and the capability of those system, satisfaction with the existing level of automation of the firm and whether full automation of Customs procedures has effect on small and medium enterprises. The findings are presented in tables 4.8, 4.9, 4.10 and 4.11.

Table 4.5: If the organization has its own IT system for import/export transactions

	Frequency	Percentage
Yes	31	100.0

Regarding if the organization had its own IT system all firms (100%) said they had such system(s). This is because for one to be licensed as a clearing agent or for a license to be renewed, you must have at least a computer and internet connectivity.

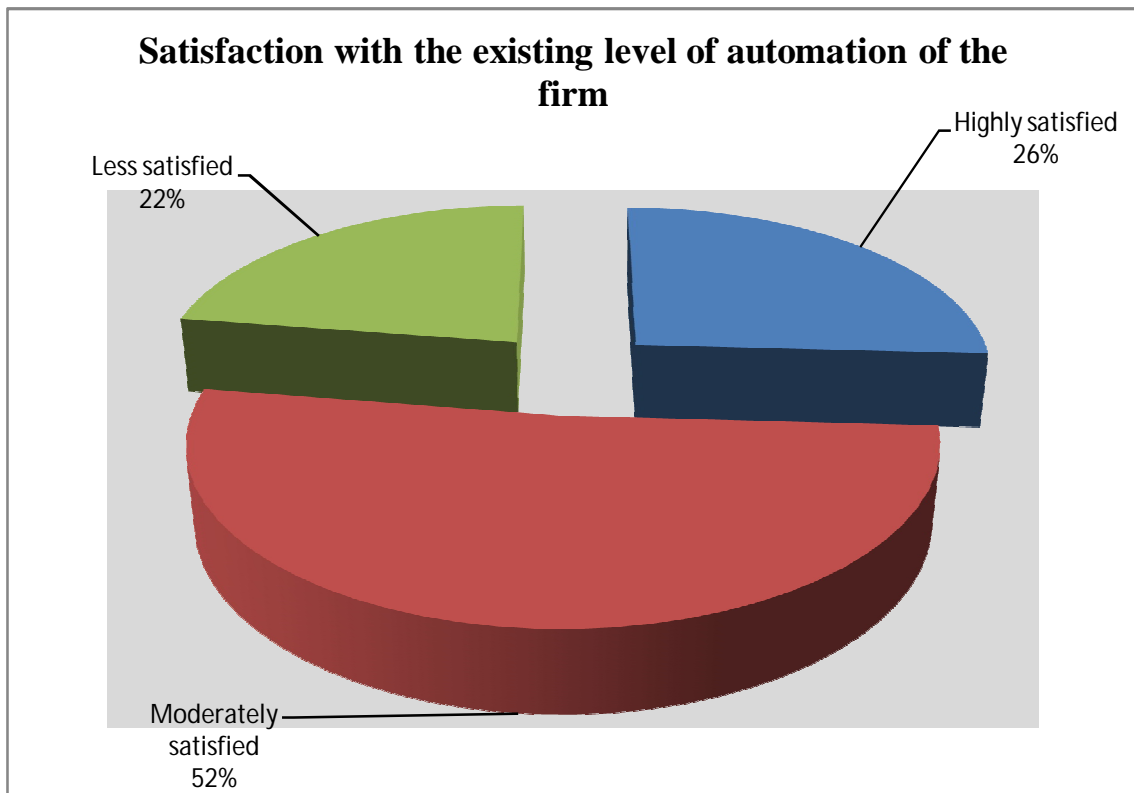
Table 4.6: Capability of the system

	Frequency	Percentage
The system has internet connectivity	31	100
The system can compute the tax due	31	100
The system can send information electronically	31	100
Total	31	100.0

Those respondent who their organizations used IT system were also asked the capability of the system where all (100%) said the system had an internet connectivity; that it was capable of computing tax and that their system can send information electronically. This implies that most organization use IT systems with internet connectivity and therefore able to use electronic lodgment. The Customs system allows registered clients to use any computer with internet connectivity, making it easily accessible, (KIFWA, 2009). This findings also shows that, all the organization use information and communication technology. Extensive use of information and communication technology is a major

strategy, mainly in advancing Customs processes ahead of arrival of cargo, automating processes, and minimizing human intervention, (Parayno, 2004).

Figure 4.3: Satisfaction with the existing level of automation of the firm



The respondents were also asked about the satisfaction with the existing level of automation of the firm. Majority (55.2%) said moderately satisfied, 27.6% highly satisfied and 24.1% less satisfied. This shows that there is satisfaction of the existing level of automation of the firms. This confirms the significant agreement between traders and clients as supported by (Schware and Kimberley, 1995), who claimed that, there appears to be significant agreement among traders and Customs agents' with regard to the expected positive impact of the automation process.

Table 4.7: If full automation of Customs procedures has effect on small and medium enterprises

	Frequency	Percentage
Yes	2	6.5
No	29	93.5
Total	31	100.0

Concerning whether full automation of Customs procedures has effect on small and medium size enterprises, majority respondents (93.5%) said it has no effect showing that automation does not depend on the size of the firm as supported by (KIFWA, 2009). They said that electronic lodgment now makes it easier and cheaper for all importers/brokers, regardless of size to file entries. Since small importers account for over half of the 800,000 import entries lodged annually, the number benefiting from electronic lodgment is substantial.

4.5 Challenges of Implementing the Customs Electronic Procedures

This section contains the challenges firms face in adopting or implementing the Customs Electronic procedures. The challenges experienced vary in degree among Customs brokers/agents, Customs officers, financial institutions and telecommunications service providers. Each has a critical effect on successful implementation. Table 4.12 illustrates the challenges different organization face. The levels of agreement ranges from strongly disagree – 1 to strongly agree – 5.

Table 4.8: Challenges of Implementing the Customs Electronic procedures

	SD	D	M	A	SA	Mean	Std. Deviation
Financial constraints	7	13	16	29	36	3.7	1.2
Inadequacy of relevant skills to sustain the system	3	3	7	13	74	4.5	1.0
Fear that the system may be ineffective	26	10	7	16	42	3.4	1.7
Lack of compatibility of the system to the existing operations	13	26	42	10	10	2.8	1.1
Manual/DTI systems are more user-friendly as compared to Customs electronic procedures.	7	16	10	32	35	3.7	1.3

Findings on the challenges faced in implementing the Customs Electronic procedures showed “inadequacy of relevant skills to sustain the system” as the most faced challenge as indicated by the highest mean of 4.5. This challenge may be because of lack of clarity/transparency of procedures, direct transactions with several employees, numerous manual paperwork and errors, many control entries with difficult policies and procedures, lack of coordination among various trade facilitating agencies and unclear standards for the valuation of goods as identified by Buyonge (2007). Followed by the challenge of financial constraints as well as manual/DTI system are more user-friendly as compared to electronic lodgment of customer entries, this is so because it is difficult to access ISPs during peak hours, and the timeliness of response to relay email messages proved problematic. (Wilson, 2007) stated that delay in documentation at Customs is still a major issue despite the introduction of the computer based system for processing import/export documents.

The respondents also gave some of the challenges they are currently facing which include; connectivity and frequency of server breakdown due to inadequate infrastructure or systems, insufficient preparation by the government which is perceived to have hampered implementation of IT-based measures, many Customs brokers/agents required additional phone lines for access to internet service providers. Most important task is to eliminate both domestic and external barriers affecting trade growth and conflict between government and business stakeholders.

4.6 Benefits of using The Customs Electronic Procedures

The last section was based on the benefits gained from using the Customs Electronic procedures. By nature, trade facilitation is very technical and detailed, with the underlying objective of reducing various forms of non tariff barriers (NTBs) that impose significant loss of time and costs in conducting trade, including an excessive number of documents, involvement of dozens of agencies, and complexity in data reporting and processing. It is in this context that the simplification of Customs procedures is of great importance. Table 4.13 presents the benefits of using The Customs Electronic procedures.

Table 4.9: Benefits of using The Customs Electronic System

	SD	D	M	A	SA	Mean	Std. Deviation
Significant reduction in average lodgment time	7	10	16	26	42	3.9	1.2
Significant reduction in average clearance time	3	3	10	13	71	4.5	1.0
Significant reduction in average lodgment cost	3	3	3	7	84	4.6	0.9
Significant reduction in average clearance cost	3	10	13	16	58	4.2	1.2
Improvement in customer service	3	7	3	13	74	4.5	1.0
Reduction in corruption among Customs	7	10	16	32	35	3.8	1.2

The researcher sought to know the benefits of using The Customs Electronic procedures. Some of the benefits stated included; significant reduction of average lodgment cost, clearance cost, lodgment time and clearance time, with reduction of average lodgment cost most beneficial as presented by the highest mean of 4.6 and lowest standard deviation of 0.9. These supports (Berida, 2008) argument that, apart from the convenience and speed of electronic submission, the ability to view immediately the results of lodgment reduces transactions costs. IT-based lodgment benefits them by lowering unit operational costs and total cost burdens enough to make them more competitive with their large counterparts, the manpower required to undertake import procedures is lessened, financial outlay is reduced by the shorter wait, and uncertainty is eliminated with online information about the status of entries and bureau of Customs announcements.

Table 4.10: Ways in which the company can benefit from Customs electronic system

	Frequency	Percentage
Providing quicker services to clients	11	35.5
Freedom to work outside Customs normal working hours	9	29.0
Reduced traveling, delays and queues in Customs	7	22.6
Easy access to own declaration data from the system	6	19.4
Total	33	106.5

Findings on the ways in which the company can benefit from lodgment, majority (35.5%) stated one of the benefit as providing quick services to clients, 29% freedom to work outside customer working hours, 22.6% and 19.4% stated reduced traveling, delays and queues in customers and easy access to own declaration data from the system. These goes hand in hand with (Lorenzo, 2007) argument that due to adoption of electronic lodgment Customs supervisors are now better able to monitor and distribute the workflow, thereby achieving greater efficiency, collection points require fewer cashiers, and long queues have been eliminated and that the cashiers now have only to select the entry and collect payment, without entering large amounts of transaction details.

The areas that need to be improved in automation of Customs procedures in the Kenyan ports included; setting up adequate infrastructure in all ports, employees to try to familiarize themselves with the new technology as well as utilizing it for their own internal functions and each organization to emphasize more on wider use of IT in promoting trade facilitation.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the findings, conclusions and recommendations. It also gives areas for further research and the challenges or limitations experienced.

5.1 Summary of Findings

The purpose of the study was to establish the impact of adoption of customs electronic procedures by clearing and forwarding agents in Nairobi, Kenya. Specifically the study aimed to determine the extent to which Clearing and Forwarding agents have adopted Customs Electronic Procedures, identify the challenges of adopting Customs Electronic procedures and lastly establish how the adoption of Customs Electronic Procedures has facilitated trade. The questionnaire return rate was found to be 88.6%.

Findings on the respondent's gender showed that majority, (54.8%) of the respondents were males and the rest 45.2% were females; most of these respondents were aged below 40 years. Majority of the respondent (48.4%) had a bachelor degree where the information helped us in determining how the employees are aware of the modern technologies and thus able to work well using the Electronic Lodgment System of Custom Entries. Also majority of the organizations have existed for less than 15 years when The Electronic Lodgment System of Custom Entries had already been established and thus they are likely to be using it. Most organization were found to not have registered with KIFWA which was disadvantageous to them as they have no access to

licensing irrespective of the offices been in Nairobi. Majority (45.2% and 41.9%) of the organization business activity was found to be carrying out packers and consolidators as well as freights forwarding respectively.

Electronic Lodgment of Customs Entries was found to have a great impact where majority (93.5%) of the organization has an IT system with internet connectivity. Most respondents (51.6% & 22.6%) were satisfied with the existing level of automation of the firms and thus significant agreement between traders and clients. Concerning whether full automation of Customs procedures has effect on small and medium enterprise, majority respondents (93.5%) said it does not depend on the size of the firm. Findings on the challenges faced in implementing the Customs Electronic procedures System, showed inadequacy of relevant skills to sustain the system as the mostly faced challenge as indicated by the highest mean of 4.5. Followed by the challenge of financial constraints as well as manual/DTI system are more user-friendly as compared to Customs electronic procedures.

The researcher also sought to know the benefits of using The Customs Electronic System. Some of the benefits stated included; significant reduction of average lodgment cost, clearance cost, lodgment time and clearance time, with reduction of average lodgment cost most beneficial as presented by the highest mean of 4.6 and lowest standard deviation of 0.9. Findings on the ways in which the company can benefit from lodgment, majority (35.5%) stated one of the benefit as providing quick services to clients, 29% freedom to work outside customer working hours, 22.6% and 19.4% stated reduced traveling, delays and queues in customers and easy access to own declaration data from the system.

The areas that need to be improved in automation of Customs procedures in the Kenyan ports included; setting up adequate infrastructure in all ports, employees to try to familiarize themselves with the new technology as well as utilizing it for their own internal functions and each organization to emphasize more on wider use of IT in promoting trade facilitation.

5.2 Conclusions

Based on the findings of this study, the following conclusions were made;

The adoption of Customs electronic procedures system has had a great impact on clearing and forwarding firms. All the firms have been forced to have an IT system with internet connectivity in order to be allowed to use the Customs electronic system.

The Customs electronic system has greatly reduced the average lodgment time as well as the clearance time. The lodgment cost and clearance cost has also been drastically reduced because of the adoption of Customs electronic procedures. From these observations, we can conclude that with the adoption of Customs electronic procedures, there is now faster movement of goods. Thus, the adoption of Customs electronic procedures has greatly impacted on trade facilitation.

5.3 Recommendations

From the findings I recommend; (i) the setting up of adequate infrastructure in all ports in order to reduce down times and inaccessibility of the system at peak times; (ii) that all organizations in the areas of trade should emphasize more on wider use of IT in promoting trade facilitation. This is because IT system is used as a trade facilitator and

trade facilitation is now recognized as a key driving factor in determining export competitiveness of a country and (iii) that the government and its agencies should sufficiently prepare when introducing new IT systems. This includes the acquisition of adequate infrastructure, harmonization of existing systems and procedures and adequate training of users, both internal and external.

5.4 Areas for further research

There is need to conduct a study on the impact of adoption of customs electronic procedures on trade facilitation. This study will establish the benefits of adopting customs electronic procedures Vis a Vis the manual lodgment system that was in place before the implementation of the Simba system in Kenya.

5.5 Limitations of the study

The challenges faced when collecting data included non-responsiveness of some of the targeted respondents; the halo effect in responses; and the limited time available to carry out the research. Out of the 35 questionnaires sent to targeted respondents, only 31 were returned. The time available to carry out the research, analyze the data collected and present the findings was less than a month.

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Appendix 1 : Letter of Introduction

OWEN K. KWALIA

P.o Box 4959-00100

NAIROBI.

TO WHOM IT MAY CONCERN

RE : INTRODUCTION LETTER

My Name is Owen Kwalia and i am a post-graduate student at the University of Nairobi,
School of Business.

I am undertaking a research on the impact of adoption of Customs electronic procedures
by clearing and forwarding agents in Nairobi.

The purpose of this letter is to request you to take a few minutes of your time and fill the
attached questionnaire. The information you give shall be treated confidentially and shall
be used solely for academic purposes.

Thank you.

Yours faithfully,

Owen Kwalia

APPENDIX 2: QUESTIONNAIRE

IMPACT OF ADOPTION OF CUSTOMS ELECTRONIC PROCEDURES BY CLEARING AND FORWARDING AGENTS IN NAIROBI, KENYA

PART A: DEMOGRAPHIC INFORMATION

- 1) Name of the organization (Optional) _____
- 2) Gender of the respondent Male Female
- 3) Respondent's age bracket

Less than 30 years	<input type="checkbox"/>	40 – 49 years	<input type="checkbox"/>
30 – 39 years	<input type="checkbox"/>	50 years and above	<input type="checkbox"/>
- 4) Academic/professional qualifications of the respondent

Secondary certificate	<input type="checkbox"/>	Postgraduate degree	<input type="checkbox"/>
Diploma	<input type="checkbox"/>	PhD	<input type="checkbox"/>
Graduate degree	<input type="checkbox"/>		
- 5) Any other (Kindly specify) _____
- 6) Position in the organization

- 7) Duration in which the respondent's organization has been in existence

Less than 10 years	<input type="checkbox"/>	15 – 19 years	<input type="checkbox"/>
10 – 14 years	<input type="checkbox"/>	20 years and above	<input type="checkbox"/>
- 8) Level of experience in clearing and forwarding industry

Less than 10 years	<input type="checkbox"/>	15 – 19 years	<input type="checkbox"/>
10 – 14 years	<input type="checkbox"/>	20 years and above	<input type="checkbox"/>
- 9) Is your organization registered with KIFWA? Yes No
- 10) What is the main business activity of your company?

Shipping agency	<input type="checkbox"/>	Freight forwarder	<input type="checkbox"/>
C & F agency	<input type="checkbox"/>	Packers and consolidators	<input type="checkbox"/>
- 11) Any other (Kindly specify) _____

PART B: IMPACT OF ADOPTING CUSTOMS ELECTRONIC PROCEDURES

12) Does your organization have its own IT system for import/export transactions?

Yes [] No []

If yes, tick where appropriate for the following statements

- a. The system has internet connectivity []
- b. The system can compute the tax due []
- c. The system can send information electronically []
- d. Any other? (Kindly indicate) _____

13) How satisfied are you with the existing level of automation of your firm? Please tick one.

- a. Highly satisfied []
- b. Moderately satisfied []
- c. Less satisfied []

14) Do you think full automation of Customs procedures will have an impact on a small and medium size organization?

- a. Yes []
- b. No []

If yes/no, state the reasons

- a. _____
- b. _____
- c. _____

PART C: CHALLENGES OF IMPLEMENTING THE CUSTOMS ELECTRONIC PROCEDURES SYSTEM

15) What do you think may hinder an individual clearing and forwarding firm from adopting the Customs electronic procedures? Indicate the level of agreement ranging from strongly disagree – 1 to strongly agree – 5.

	1	2	3	4	5
a. Financial constraints					
b. Inadequacy of relevant skills to sustain the system					
c. Fear that the system may be ineffective					
d. Lack of compatibility of the system to the existing operations					
e. Manual/DTI systems are more user-friendly as compared to electronic lodgment of Customs entries.					
f. Any other (Kindly specify)					

16) What are the current challenges faced by organizations that have adopted Customs electronic procedures system?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

PART D: BENEFITS OF USING THE CUSTOMS ELECTRONIC SYSTEM

17) What changes, according to your opinion, does a company expect by lodging declarations electronically as compared to manual/DTI facility?

Indicate the level of agreement ranging from strongly disagree – 1 to strongly agree – 5.

	1	2	3	4	5
a. Significant reduction in average lodgment time					
b. Significant reduction in average clearance time					
c. Significant reduction in average lodgment cost					
d. Significant reduction in average clearance time					
e. Improvement in customer service					
f. Reduction in corruption among Customs					

18) In what ways do you think a company can benefit from electronic lodgment? Kindly tick where appropriate.

- a. Providing quicker services to clients
- b. Freedom to work outside Customs normal working hours
- c. Reduced traveling, delays and queues in Customs
- d. Easy access to own declaration data from the system
- e. Any other? (please specify) _____

19) What areas do you think need to be improved in automation of Customs procedures in the Kenyan ports?

- a. _____
- b. _____
- c. _____
- d. _____