THE IMPACT OF AUTOMATION AS A STRUCTURAL CHANGE STRATEGY
ON CUSTOMS CLEARING PROCEDURES AT
KENYA REVENUE AUTHORITY

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A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF
BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, AND UNIVERSITY
OF NAIROBI.

AUGUST 2010
DECLARATION

This management research project is my original work and it has not been submitted to any other institution for the award of a degree.

Signature............................................ Date............................................

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D61/P/9283/2001

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

Signature............................................ Date............................................

DR. JOHN YABS
DEDICATION

I dedicate this study to my wife, Emily and Children: Owen, Stacy and Shirley. Without their patience, understanding, support, and most of all love, the completion of this work would not have been possible.
ACKNOWLEDGMENT

I would like to take this opportunity to express my sincere thanks and gratitude to the following people whose contributions have been invaluable and made this report a success;

to begin with is my supervisor especially Dr. John Yabs who guided me throughout the research and was easily available;

to all my friends for being a resourceful companionship fellow and fellow MBA students for sharing various academic and social issues;

to the entire staff of the KRA and clearing agents’ fraternity whose contributions helped me out;

Lastly, gratitude to all facilitators of this academic course whose knowledge and skills I have used to produce this work.

May the Almighty bless you all.
The purpose of this study was to establish the impact of automation on clearance procedures in the customs service department of the KRA. The basis of the problem regarding the impact of automation on processes that the research study aimed to explore is discussed based on the following research objectives: to establish whether automation has resulted to efficient service delivery at the customs service department, to establish if automation has led to skills improvement of 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.

In the year 2005, KRA-Customs Services Department deployed the Simba customs system (formerly known as GAINDE 2000), as a turnaround strategy in management of customs operations- clearing of cargo at Kenya’s entry points. Unlike the boffin IT system, the Simba system supports Direct Trader Input, allows for cross-departmental information sharing and has an intelligence and risk-based selectivity. The application is a web-based system with a centralized relational database. Kenya Revenue Authority applied organic change management model in the implementation of automation of customs procedures.

Case studies on customs modernization initiatives have been carried out in the past in other developing countries: Bolivia, Ghana, Morocco, Mozambique, Peru, the Philippines, Turkey and Uganda. The objectives of these studies were to obtain a first hand view of how these countries undertook customs reforms and to assess their success. Experiences from Ghana, Philippines and Morocco as cited by the World Bank in a report done in 2004 (Customs modernization) initiatives have shown that the automated customs procedures have ensured that data required by different bodies are centralized and easily accessible by all the relevant bodies. The systems implemented in these countries in mid 1990’s yielded substantial gain in the effectiveness of the customs procedures (International Monetary Fund, 2003). The systems provided adequate data for customs officers to make speedy and informed decisions, a network linking all users of the system and simplification of the customs procedures.
To meet the objectives of this study, a case study survey was chosen. The target population of the study consisted of licensed customs clearing agents. Respondents of the study involved 101 licensed customs clearing agents based in Nairobi and Mombasa. Interview guides were used to collect data from the agents. Quantitative and qualitative analysis techniques were used to analyze the data. The findings emerging from the analysis were used to compile this report. The research study concluded that with the introduction of the Trade X-Simba system in the customs department, there has been improved efficiency, improved effectiveness, improved staff skills, reduced costs and improved governance. Recommendations based on the findings of this study propose that the management of KRA consider the security of the system from manipulation, which is a major threat.
# TABLE OF CONTENTS

Declaration................................................................................................................................. ii  
Dedication................................................................................................................................. iii  
Acknowledgement..................................................................................................................... iv  
Abstract................................................................................................................................... v  
List of Figures............................................................................................................................ ix  
List of Tables............................................................................................................................. x  
Acronyms Abbreviations........................................................................................................... xii  

**CHAPTER ONE: INTRODUCTION** ..................................................................................... 1  
1.1 Background of the study ..................................................................................................... 1  
  1.1.1 Structural Change Strategy .......................................................................................... 3  
  1.1.2 Customs Clearing .......................................................................................................... 3  
  1.1.3 Kenya Revenue Authority ............................................................................................ 3  
1.2 Statement of the problem .................................................................................................... 4  
1.3 Objectives of the study ......................................................................................................... 6  
1.4 Importance of the Study ....................................................................................................... 7  

**CHAPTER TWO: LITERATURE REVIEW** ....................................................................... 8  
2.1 Introduction......................................................................................................................... 8  
2.2 Theoretical background ...................................................................................................... 8  
  2.2.1 Efficient Service Delivery .......................................................................................... 8  
  2.2.2 Designing the Right Change Management ................................................................ 9  
  2.2.3 Skills Improvement of Staff ...................................................................................... 10  
  2.2.4 Effectiveness of Automation ...................................................................................... 10  
  2.2.5 Cost Saving in Automation ......................................................................................... 11  
  2.2.6 Tax Compliance ......................................................................................................... 12  
  2.2.7 Improved Governance ............................................................................................... 12  
2.3 Strategic Change Management ......................................................................................... 13  
2.4 Forces of Change .............................................................................................................. 14  
2.5 Automation of African Libraries ...................................................................................... 16  
2.6 Critical Review .................................................................................................................. 18  
2.7 Conceptual framework ....................................................................................................... 21  
2.8 Limitations of the study ...................................................................................................... 23
LIST OF FIGURES

Figure 4.1 Gender of respondents.................................................................26
Figure 4.2 Age of respondents.................................................................27
Figure 4.3 Years of Service of Respondents ...........................................27
Figure 4.4 Marital status of the respondents..............................................29
Figure 4.5 Whether the respondents agree with the centralization of some customs operations e.g. security bonds processing, DPC etc in Nairobi .........................34
Figure 4.6 whether Trade X System can be Accesssed from anywhere in the country.........37
LIST OF TABLES

Table 4.1 Level of education of Respondents .................................................................29
Table 4.2 Respondents Other General Information .........................................................30
Table 4.3 Response on time taken for goods clearance in customs prior and since the introduction of Trade X-simba 2005 .................................................................31
Table 4.4 Response on number of documents required for cargo clearance prior and after the introduction of Trade X-simba 2005 .................................................................33
Table 4.5 whether complaints from clearing and forwarding agents, importers, exporters and shipping agents regarding delays in processing of entries reduced since the introduction of Trade X Simba ..........................................................................................................................33
Table 4.6 Response on time taken by the customs service department to respond to questions and complaints since the inception of Simba System .................................................................34
Table 4.7 Extent to which respondents feel satisfied with the current operations of trade Simba system 2005 .................................................................36
Table 4.8 Response on the Impact of Automation in Customs on Improvement of Staff Skills .................................................................37
Table 4.9 Reliability of Trade X system in respect to connectivity ....................................39
Table 4.10 whether Trade X system provide Relevant trade Statistics .................39
Table 4.11 whether the automation in customs has simplified customs procedures ..........40
Table 4.12 Respondents perception on whether automated customs procedures have reduced the amount of time and money spent on the following up customs clearance over the telephone and also physically .................................................................41
Table 4.13 whether man hours been reduced since the introduction of automation..............41

Table 4.14 whether cost of customs clearance has reduced after automation of customs procedures and processes.........................................................................................................42

Table 4.15 Response on estimated rate of cost reduction..........................................................................................................................43

Table 4.16 Response on the Impact of Automation on Governance .......................................................43
ACRONYMS ABBREVIATIONS

BOC: Bureau of Customs
Boffin: Bishops Gate office Freight Forwarding
CAD: Computer-Aided Design
CIM: Computer-Integrated Manufacturing
CNC: Computerized Numerical Control
CRM: Customs Reforms and Modernization
CSC: Cargo Service Centre
ICD: Inland Container Depot
ICDTS: Integrated Customs Duty and Tax System
ICT: Information Communication Technology
IMF: International Monetary Fund
IT: Information Technology
KAF: Kenya Association of Freight Forwarders
KIFWA: Kenya International freight and Warehousing Association
KPA: Kenya Ports Authority
KRA: Kenya Revenue Authority
RARMP: Revenue Administration Reform and Modernization Program
UNCTAD: United Nations Centre for Trade and Development
UNDP: United Nations Development Program
USD: United States Dollar
WTO: World Trade Organization
CHAPTER ONE: INTRODUCTION

1.1 Background of the study

1.1.1 Structural Change Strategy

An automated Management of Customs Information Transactions is an application designed for electronic collection of pre-customs clearance documents (Gainde, 2001). The platform interconnects all the administrative bodies involved in the processing of import/export procedures and enables declarants to lodge their requests through a single electronic form (KRA, 2005). Leuk is an application which is a search engine and a simulator on customs tariffs (OECD 2003). According to Rukus and Linden, 2005, Data network is defined as an electronic communications process that allows for the orderly transmission and receptive of data, such as letters, spreadsheets, and other types of documents. It is a respiratory of data pertaining to customs statistics. An exporter is one who sends/transports a commodity or service abroad for trade (Kotler, 1999) while an importer is one who brings in goods or services from an outside source/different country for trade. Grant(2001) defines a clearing and forwarding agent” as any person, who is engaged in providing any service, either directly or indirectly, concerned with the clearing and forwarding operations in any manner to any other person and includes a consignment agent.

The world today is becoming a global village because of the dynamic changes taking place in its macro-environment as indicated by (Rose and Lawton, 1999). These changes are influenced by advancements in technology which have consequently determined the success of various organizations around the world. The use of the internet for example has opened doors to a variety of business opportunities through e-commerce creating a global market where consumers have accessibility to cross-border purchases. It would therefore be strategically ‘suicidal’ for an organization to ignore its business environment and to formulate strategies that do not in any way address the dynamic changes taking place in its micro-environment. Ansoff and McDonnell (1990) asserts that for an organization to succeed it has to incorporate strategies that will address such dynamism and to improve its competitiveness not just within its local environment but also globally. It is through having such a global perspective that an organization will have the ability to exceed its stakeholders’
expectations to provide quality products and services in the market. According to Kotler et al. (1999) a company is not a lonely actor without exchange and interaction. There are factors that have to be considered in its strategic decisions. These factors fall under the micro-environment and macro-environment. The micro-environment consists of closely related actors, namely: suppliers, competitors, customers, marketing intermediaries and the public as a whole. The macro-environment on the other hand consists of larger societal forces that affect the micro-environment and either pose threats or provide opportunities for an organization’s strategic direction. While socio-cultural forces include factors such as demography, lifestyle, attitudes, employment trends and cultures. Factors such as income distribution, economic growth, interest rate, inflation, labour costs and levels of unemployment fall under the category of economic forces. While technological forces include research and development activities, technological transfer, impact of internet, communication and other emerging technologies. All these factors among others have a great impact on an organization and influence its operations (Burnes, 1998).

Organizational change is an empirical observation in an organizational entity of variations in shape, quality or state over time (Van de Ven and Poole, 1995), after the deliberate introduction of new ways of thinking, acting and operating (Schalk, Campbell and Freese, 1998). The general aim of organizational change is an adaptation to the environment (Barr, Stimpert and Huff, 1992; Leana and Barry, 2000) or an improvement in performance (Boeker, 1997; Keck and Tushman, 1993). Evolutionary, incremental, or first order changes are small changes that alter certain small aspects, looking for an improvement in the present situation, but keeping the general working framework (Blumenthal and Haspeslagh, 1994; Mezias and Glynn, 1993; Nadler and Tushman, 1989; 1990). The second types of changes are strategic, transformational, and revolutionary or second order ones. There are radical transformations, where the organization totally changes its essential framework (Blumenthal and Haspeslagh, 1994; Ghoshal and Bartlett. 1996; Marshak, 1993; Nadler and Tushman, 1989, 1990), looking generally for a new competitive advantage (Hutt, Walker and Frankwick, 1995) and affecting the basic capabilities of the organization (Ruiz and Lorenzo, 1999). Boyer et al. (1996) clustered 202 US metal-working companies into four groups according to the degree of adoption of automation: traditionalists, generalists, high investors.
and designers. However, they did not find any performance difference among these four groups of companies. Similarly, Sacristan Diaz et al. (2003) identify three groups out of 20 companies according to the investment of AMT and also found no performance differences among these three groups. It appears that the advantage lies not in whether or not you have the technology but how it is being used. Therefore, Jaikumar (1986) concluded that “The technology itself is not to blame; it is management that makes the difference.

1.1.2 Customs Clearing

In the year 2005, KRA-Customs Services Department deployed the simba customs system (formerly known as GAINDE 2000), as a turnaround strategy in management of customs operations-clearing of cargo at Kenya’s entry points. Unlike the boffin IT system the simba system supports Direct Trader Input, allows for Cross-departmental information sharing and has an intelligence and risk-based selectivity. The application is a web-based system with a centralized relational database. Kenya Revenue Authority applied organic change management model in the implementation of automation of customs procedures.

Case studies of customs modernization initiatives have been carried out in eight developing countries: Bolivia, China, Morocco, Mozambique, Peru, the Philippines, Turkey and Uganda. The objective if these studies were to obtain a first hand view of how these countries undertook customs reforms and to assess their success (Wulf, Luc De, 2004). This study is meant to analyze the impact of automation on customs clearing procedures. It will especially evaluate the results of automation on performance at the Customs Services department of Kenya Revenue Authority. This study therefore intends to use the variables of efficient service delivery, skills improvement, cost effectiveness, and improved governance; these variables will therefore form the objectives of the study.

1.1.3 Kenya Revenue Authority (KRA)

The Kenya Revenue Authority (KRA) was established by an Act of Parliament, Chapter 469 of the laws of Kenya, which became effective on 1st July 1995. The Authority is charged with the responsibility of collecting revenue on behalf of the Government of Kenya. Since its
inception revenue collection has continued to grow while professionalism in revenue administration has been enhanced (Mwangi, 2006). However despite these, a number of processes still remain manual and KRA is yet to operate as a fully integrated organisation. KRA has faced several challenges both external and internal factors ranging from Political, technological, legal and social. These include, among others, the ever widening informal sector and technological advancement, which have led to increased cases of tax avoidance and evasion. Thus the KRA Second Corporate Plan 2003/04-2005/06 while acknowledging these challenges recommended appropriate strategies to address the same. This actuated the Revenue Administration Reform and Modernization Program (RARMP).

During this period KRA’s strategic themes included; - Enhanced revenue collection through enhanced quality service to stakeholders, modernization of internal processes through automation and revitalization of the work force. These strategic changes were guided by the organisations vision and mission statements. In response to managerial concerns, KRA has undergone major strategic changes refocusing its business from the traditional authoritative ways of collecting tax to a more modern and customer friendly approach; change of leadership and various reforms in its management (KRA, 2005). In regard to structure, KRA has implemented changes which include restructuring departments in order to centralize key operational areas; review and modernizations of operational processes to improve efficiency and effectiveness; improving internal resource capabilities through staff appointments, training and development. These are supported by the introduction of appropriate technology for increased efficiency. At the Customs Service Department is the Customs Services Department Reform and Modernization Project (CRM) whose objectives included among others improving service delivery to customers by ensuring quick clearance of cargo, facilitating electronic trading and adopting a modern and open system capable of interfacing with internal and external systems.

1.2 Statement of the problem

For a number of years there had been talks of computerization of customs procedures, but until 2005, the customs clearance was done manually (Rukus and Linden, 2005). There were some major problems that were experienced while using systems like the boffin (bishops gate
office freight forwarding system) manual system. There were excessive documents required to enable clearance and forwarding. Systems in Kenya were still largely paper-based and generated many documents; often multiple copies, that were to be physically lodged at the customs office and stamped by a succession of officers and agencies. There was also insufficient use of IT, as routine procedures that could be automated were done manually or where there was automation, obsolete IT systems were used (KRA, 2005). Moreover, there was lack of co-ordination among agencies, in that authorities were based at different locations and had different hours of operation leading to additional delays and expense. The internal system in use were inefficient and thus leading to time-consuming bureaucratic procedures, delay in decision making and dispute resolution. This led to clients incurring high demurrage/storage charges (Mwangi, 2006).

The lack of transparency, unclear and unspecified import and export procedures was also a hindrance. Procedures were usually unclear and inconsistently applied with officers often having significant discretionary powers, creating uncertainty and unpredictability. Furthermore, the staffing levels were inadequate. There was a shortage of qualified personnel to handle the volume of work generated. This was due to lack of training and IT support, thus reducing staff productivity (OECD, 2003).

While the business community, including Clearing and Forwarding Agents remained supportive of the automation and modernization, they were concerned that the implementations of systems like simba 2005 led to unprecedented delays in clearance of both imports and exports. Since the introduction, there had been several problems experienced by those accessing it causing much frustrations, while in the press, it had appeared that the problems were only those by Clearing and Forwarding Agents.

Prior to Kenya Revenue Authority embarking on any of its reform and modernization projects, it was required by the International Monetary Fund and World Bank to do a preliminary research to determine the viability of the projects (IMF, 2003).

Thus a recent study was done to determine whether this project would be feasible and the predicted outcome. However, this previous research was sketchy and mainly as a means of evaluating the viability of the project.

According to Rukus and Linden (2005), a lot of doubt has been casted as to whether the modernization reforms that involved the introduction of technology through the automation
process in KRA have actually been effective. In an article in the Daily Nation newspaper (9th April 2006), over 400 luxurious vehicles were impounded having been registered without duty payment. This was blamed on the loopholes that existed in the new automated simba 2005 system. KRA lost over 1 billion shillings in terms of revenue- for both import duty and registration fees. Also in the same month, as reported in the Daily Nation Newspaper (30th April 2006), there was another crackdown of stolen vehicles, which were said to have been imported yet were stolen from developed countries. These vehicles were not only passed through the simba 2005 system as having been paid duty but also registered. Thus the amount of revenue collected especially after the introduction of the new automated system in the Customs services Department has reduced and was below target. An article in the Daily Nation (27th April 2006) said that for the nine months prior to this period that there was a shortfall of 7.4 billion of revenue collected.

Considering these circumstances it was necessary to look into the impact of the introduction of automation as a strategy, and more so at the customs department with particular emphasis on simba system. This study sought to establish the impact, both positive and negative that automation has had on the customs clearance performance since its inception.

1.3 Objectives of the study

1.3.1 General Objective
The main objective of this study was to find out the impact of automation on clearance procedures in the customs service department of the Kenya Revenue Authority.

1.3.2 Specific objectives
i. To establish whether automation has resulted to efficient service delivery at the customs service department;

ii. To establish if automation has led to skills improvement of staff working at Kenya Revenue Authority and other stakeholders, what impact the improved skills have had on performance at the customs department;

iii. To establish if automation has brought about improvement in effectiveness of customs clearance procedures;

iv. To establish if automation of customs clearance procedures has resulted in cost
To establish if automation has improved governance in the customs department.

1.4 Importance of the Study

1.4.1 Kenya Revenue Authority

Being the agency that is implementing the automation as a strategy and being part of its modernization program, it will use the findings to make informed decisions and put in place proper mechanisms where there are shortcomings as far as customs clearance is concerned.

1.4.2 The government

The government will find the study useful when the parastatal is performing well. Since it is only through KRA that the government raises the unlimited revenue, the efficiency will ensure that the government raises sufficient revenue.

1.4.3 Other Researchers

Other researchers will also benefit from this study as it opens up new areas for research.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This study was on establishment of the impact of automation on customs clearance procedures at Kenya Revenue Authority. This chapter reviews the work that has been done by other scholars. This is presented in terms of introduction, theoretical review and critical review.

2.2 Theoretical background

Organizational change is an empirical observation in an organizational entity of variations in shape, quality or state over time after the deliberate introduction of new ways of thinking, acting and operating (Mbogo, 2003). In recent dialogue concerning organizational change, there has been broad consensus that increasing environmental instability and uncertainty are forcing companies to change continuously. Under the Customs Reforms and Modernization program (CRM), is the introduction of the trade X system and automated customs clearance system dubbed GAINDE 2000 (Automated management of customs information transactions). The Trade X system works on a unique software version 3.2. The system was designed in 2000 and it entirely built on state of the art technology tools, which enhance its performance and security.

2.2.1 Efficient Service delivery

Efficient service is critical for medium and long term successful performance of the clearing and forwarding firms. The process of improving service delivery involves an overhaul of the current system, identification of key stakeholders, and an assessment of the existing system. An example can be sited in Jamaica, a case study where an overhaul was done of the existing, Asycuda system and a new automated system dubbed Case Online was put in place (Grant, 2001). The new system resulted in increased speed in processing entries.
In contrast to lodgments being limited to Mondays to Fridays 9am – 4pm the new system permitted lodgments 24hrs a day, seven days a week.

A case study on customs modernization initiatives carried out by the World Bank in Morocco 1990 – 2004 and edited by Marcel and Wulf emphasized that introduction of automated customs procedures had led to a reduction in average processing time for customs clearance. The time between the validation of a customs declaration and release of goods had been reduced to less than an hour making the system among the most efficient in the world. Most developed countries with automated customs system report that average customs clearance took between 24-72 hours. In Canada, the standard clearance time was 45 minutes in 2000, but most goods were cleared within seconds (WTO, CTG, 2000). Customs clearance time was reportedly an average of 4 hours in Spain (OCED, 2000), 30 minutes in Greece, (OECD 2003b) and less than 24 hours in major cases in Mozambique (OECD 2003b).

2.2.2 Designing the Right Change management

Change programs and projects have to make sense from the very beginning. This is when the actual idea of change comes into place. The feeling that a change is right for a company and the necessary sense of urgency to secure its realization will only occur if it is clear that the change has been tailored to the company and its particular business situation (Bruch and Ghoshal, 2003). Change is only possible when it is contextualized against the backdrop of a company’s particular past and presents (Pettigrew, 1987). Change processes are only successful if they fit a company’s current culture. Traditions, norms and shared values within a company must be included in the deliberations regarding the selection of a change program (Heracleous, 2001). Certain change processes cannot be executed in more bureaucratic cultures, while other types of processes simply are not compatible with team-oriented or innovative/ dynamic organizations (Bruch and Ghoshal, 2004b). In addition, the basic process of designing the program for a particular change should also account for a company’s energy. Different types of change programs will be effective with companies characterized by comfortable inertia than for companies with other types of energy, such as change tiredness, high productive energy or resignative inertia (Bruch and Ghoshal, 2003, 2004a).
The management must systematically make decisions that will ensure that the change will be implemented successfully and have a permanent impact. Acceptance, attention, effective change agents as well as momentum and sustainability are all key in this regard (Davenport and Beck, 2000) and (Kotler, 1996). Without these factors, change processes will not be put in motion, make headway only with great difficulty or have a fleeting or even negligible impact (Weick, 2000).

### 2.2.3 Skills Improvement of Staff

People who maintain a constant focus on enhancing their skills keep themselves well positioned for career success. Individuals at every stage of their professional lives; especially those in management roles can benefit from building skills in communication, leadership and teamwork. Because the fast pace of business requires people to operate at high productivity levels, the staff can also benefit from refining skills in information technology, decision making, conflict resolution and time management. This implies that people are able to acquire new skills. The kind of training undertaken for the staff was mostly related to trade facilitation and information management system. In Jamaica with the rejection of the Ayscuda system and the inception of Case online, the supervisors in the customs department were trained anew. This enabled them to improve their skills and they were better able to monitor and distribute workflow (Rue and Byars, 2002). Chile’s implementation of an electronic data interchange system brought about significant benefits to the trading community (World Trade Organizaion, 2000) for example; officers were reassigned from repetitive administrative work to more value adding duties such as customs inspection. Thus they were able to improve on their skills.

### 2.2.4 Effectiveness of Automation

In a report by King and Konsunki (1995), United Nation Economic and Social Commission for Asia and the Pacific 2005, the benefits of the automated system, termed Trade Net are highlighted. The Singapore Trade Net links multiple parties involved in external trade, including 34 government units, to a single point of transactions for most trade related
activities, such as clearing customs and paying duties and taxes, processing export and import permits and certificates of origin and collection of trade statistics. Introduction of this system in 1989 drastically simplified trade transactions. Processing time for cargo clearance was reduced from 2-4 days to only minutes. The number of documents required for cargo clearance fell from a range of thirty five to three. Experiences from Ghana, Philippines and Morocco as cited by the World Bank in a report done in 2004 (Customs modernization) initiatives have shown that the automated customs procedures have ensured that data required by different bodies are centralized and easily accessible by all the relevant bodies. The systems introduction in these countries in mid 1990’s yielded substantial gain in the effectiveness of the customs procedures (International Monetary Fund. 2003). The systems provided adequate data for customs officers to make speedy and informed decisions, a network linking all users of the system and simplification of the customs procedures. In an evaluation of the Asycuda ++ in Jordan done between August 1 and August 13, 1999 by UNDP and UNCTAD respectively, one of the findings of the report stated that customs procedures had been simplified thus increasing the effectiveness of the system (UNCTAD, 2004). Trade statistics were also found to be more complete, accurate and up-to-date and this enabled the customs staff to make informed choices in regard to tariffs used for calculation of taxes.

2.2.5 Cost Saving in Automation

It is an undisputed fact that the introduction of information technology is seen as a cost saving measure. This may be in terms of number of staff employed, reduced over time and improved performance leading to higher profits. The establishment of the Case Online system in Jamaica, a case study, resulted in Customs overtime being drastically reduced, collection of revenue required fewer cashiers, yet long queues had been eliminated (Grant, 2001). The cashiers now had only to select entries and collect payments without entering large amount of transaction detail.

In a report titled (Role of Automation in Trade Facilitation OECD Trading Policy Working Paper No. 22) emphasis was placed on the initial investments on IT- equipment, professionals to run and maintain the system. This cannot be compared to savings made
through reductions in direct costs and delays thereby increasing customs productivity and performance of clearing and forwarding firms. In a case study of implementing a single window environment, a case of Japan done by the World Bank, some of the main benefits accruing from the system were reduced personnel and communication costs. Through reduced staff and overtime and through reduced amounts of money spent on unnecessary follow up both physically and via telephone or e-mail.

There was significant opportunity cost of foregoing the efficiency gains provided through automation of customs procedures (Gainde, 2001). Experiences have shown that development and implementation costs would be covered by the financial benefits in the long run as seen in World Bank project appraisal report (World Bank, 2000). The direct cost of developing Singapore’s Trade Net, cited as one of the successful examples to meet the peculiar need of its freight port environment, exceeded SGD 20 million (equivalent to about USD 11 million) in 1987 and saved Singapore Traders around USD 1 billion per year in internal productivity costs.

2.2.6 Tax Compliance

Revenue Collection is enhanced through tax administration reforms. It may also be enhanced through automation of customs, procedures. Experiences from Ghana, Morocco, Philippines, Uganda as cited by the World Bank (Customs modernization initiatives-case studies, edited by Wulf and Sokol) revealed that by the introduction of computerized customs procedures, for example, Asycuda in Uganda and Trade Net in Ghana, these countries saw an increase in revenue collection in spite of duty remaining steady. In Morocco for instance customs revenue increased by about 7.7% between 1998-2002 as a result of increased commercial activity and because of improved quality of declarations, increased customs productivity and quality controls.

2.2.7 Improved Governance

Governance is the exercising of power and decision-making for a group of people. Good governance is often used to describe the desired objective of a particular development in a
given sector. The principles of good governance, however, are not new. The major characteristics of good governance as outlined by the United Nations are; accountability, effectiveness and efficiency, participatory, transparency, responsiveness, consensus-oriented, and equitability (IMF, 2003). For good governance to exist in both theory and practice, all the relevant stakeholders in a given industry must be empowered to participate in meaningful ways in decision-making processes. They have a right to information and to access.

Although widespread accessibility remains a barrier for many sectors, one of those ways is through Information and Communication Technology (ICT) applications such as the internet. E-governance has emerged as a viable means to address development issues and challenges because the stakeholders find empowerment through access to information.

Governance has been and is still a major hindrance in the clearing and forwarding sector, not only in Kenya but all over the world. It has manifested itself in the form of facilitation of payments offered by traders to accelerate cargo clearance, declaration or accepting declarations that includes under invoicing and erroneous classifications to lower amounts of duties (Bhatnagar, 2001). The Asycuda system in Jordan has initiated transparency in the sector in the way operations were being conducted. In a working paper titled Role of Automation in Trade Facilitation dated 17th October, 2005, systems have provided an anti corruption mechanism that helps reduce face to face interaction between customs officials and traders. Several countries have also reported that the computerized customs systems have helped in tackling fraud, Smuggling and valuation issues (Burnes, 2000).

2.3 Strategic Change Management

Bowman (1987) describes organizational change management as the process of developing a planned approach to change in an organization. Typically the objective is to maximize the collective benefits for all people involved in the change and minimize the risk of failure of implementing the change. The discipline of change management deals primarily with the human aspect of change, and is therefore related to pure and industrial psychology.

Change management can be either 'reactive', in which case management is responding to changes in the macro environment - the source of the change being external, or proactive, in which case management is initiating the change in order to achieve a desired goal; that is, the
source of the change is internal (Mezias and Glynn 1993). Change management can be conducted on a continuous basis, on a regular schedule such as an annual review, or when necessary, on a program-by-program basis deemed. Change management can be approached from a number of angles and applied to numerous organizational processes. To be effective, change management should be multi-disciplinary, touching all aspects of the organization. Hofer (1984) considers management of change as a process, which deals with fundamental organizational renewal and growth with development of strategies, structures and systems necessary to effectively manage the strategy formulation process. Kasima (2004) focuses on the crucial transition aspect and contends that unless this reorientation process is handled successfully, things will essentially remain the same. If people don't go through the inner process of transition they will not develop new behavior and attitudes the change requires.

2.4 Forces of Change

Companies no longer have a choice, they must change to survive. Unfortunately, people tend to resist change. It is not easy to change an organization, let alone an individual. This puts increased pressure on management to learn the subtleties of change (Comstock, 2006). Organizations encounter many different forces for change that come from external sources outside the organization and from internal sources. Nadler and Tushman (1990) points out that external force for change originate outside the organization. Because these forces have global effects, they may cause an organization to question the essence of what business it is in and the process by which products and services are produced. There are four key external forces for change: Demographic characteristics - the workforce is more diverse and there is a business imperative to effectively manage diversity. Organizations need to effectively manage diversity if they are to receive maximum contribution and commitment from employees. Technological advancement; both manufacturing and service organizations are increasingly using technology as a means to improve productivity and market competitiveness (OECD, 2003).

Market changes resulting from the emergence of a global economy is forcing US companies to change the way they do business. Companies have to forge new partnerships with their suppliers in order to deliver higher quality products at lower prices. Social and Political
pressures forces are created by social and political events. Managers thus may need to adjust their managerial style or approach to fit changing employee values. Political events can create substantial change. Although it is difficult for organizations to predict changes in political forces, many organizations hire lobbyists and consultants to help them detect and respond to social and political changes (Comstock, 2006).

Internal forces for change come from inside the organization (Rukunga, 2003). These forces may be subtle, such as low morale, or can manifest in outward signs, such as low productivity and conflict. Internal forces for change come from human resource problems and managerial behavior/decisions. Human Resource Problems/Prospects stem from employee perceptions about how they are treated at work and the match between individual and organization needs and desires. Dissatisfaction is a symptom of an underlying employee problem that should be addressed. Unusual or high levels of absenteeism and turnover also represent forces for change. Organizations might respond to these problems by using the various approaches to job design, by implementing realistic job previews, by reducing employees' role conflict, overload, and ambiguity, and by removing the different stressors. Prospects for positive change stem from employees participation and suggestions (Robins and Coulter 2002).

Managerial Behaviour/Decisions-excessive interpersonal conflict between managers and their subordinates is a sign that change is needed. Both the manager and the employee may need interpersonal skills training, or the two individuals may simply need to be separated. For example, one of the parties might be transferred to a new department. Inappropriate leader behaviours such as inadequate direction or support may result in human resource problems requiring change. Leadership training is one potential solution for this problem. Inequitable reward systems are additional forces for change.

Kotter (1995) lists the major economic and social forces driving change as; the increasing pace of technological changer that is hinged on the information technology and a more developed transport network, greater international integration through greater liberalization and reduction of trade barriers, maturing of markets in the developed countries and stagnation of growth hence the trend towards seeking international/global markets for opportunities. The fall of communism and socialism also catalysed more privatization and heralded competition. The resultant effect according to kotter (1995) has been globalization.
and increased competition. Globalization has diminished the shield or insulation that firms formerly enjoyed. Peters (1994) sees the ensuing change as going beyond tradition.

Kanter (1984) talks of the phenomenal change in the environmental as originating from such sources as; the labour force, patterns of world trade, technological changes and political realignment. The forces reflect those advanced by Kotter (1995) with the only difference being that Kanter adds the peoples dimension (labour), this may be for good reason given that she appears focused on the response to the changes. Her solution lies in the people to make decisions in response to the changes.

Kazmi (2002) sums up the business environment as being complex, dynamic, and multifaceted with far reaching impact. The traditional approach to strategic management has had its emphasis on control, order and predictability. But, the environment is proving to be more unpredictable, uncertain and non-linear. The environment can be summarized as characterized with ever recurring changes and herein lies the challenge for business managers.

Burnes (1996) says the magnitude, speed, unpredictability and impact of change has become greater than ever before. New products and processes are appearing in the market at an increasing rate. Boundaries are shrinking as globalization takes centre stage. The source of the next competition may not even be within imagination. Protected markets are opening up while public bureaucracies and monopolies are changing hands to private sector or having the competitive market culture transferred to them.

2.5 Automation of African Libraries

Numerous researchers have paid attention to particular aspects of African librarianship, such as staffing [Nwokocha, 1993, Otike, 1989]; collection development [Agboola, 1993]; users [Mohammed, 1991]; co-operative efforts [Abifarin, 1993, Sturges, 1990]; and type of library [Rosenberg, 1993, Odi, 1994]. Ehikhamenore, 1993 points out the obstacles to the advancement of scientific and technological information (STI) in Nigeria: inflationary book and journal prices; depreciation of the value of Nigerian currency; financial inability to purchase abstracting and indexing services; high downtime of computers due to power and/or air conditioning failures; computer breakdowns and lack of spare parts and/or service; and
negative attitudes towards implementing technological innovations. One can add to these list prohibitions to resource sharing outlined by Otike. 1989 who suggests that libraries in Kenya need a plan for facilitating co-operative agreements among the nation’s libraries. Abifarin. 1993 surveyed the extent of information technology in 17 university libraries in Nigeria. Concluding that computer information technology was inadequate and underutilized, he identified constraints such as the inability to recruit expertly trained professionals with computer expertise, an unstable telecommunications system, an inconsistent supply of electrical power. and, perhaps more importantly, a lack of planning and policy development relevant to acquisition of computers and related equipment.

Sturges. 1990 describes the development of information in Africa and major factors that have affected the expansion, or lack, of automation in libraries. His overview of the information environment describes the limited role of libraries in a continent where there is a lack of published books and information in general: political censorship; prevalence of an orally communicated cultural heritage; acceptance of radio and, more recently, television as communication media; a history of resistance to the African press; and the inability of national institutions to monitor or control the flow of data and information across borders made possible by computer and telecommunications technology. Rosenberg. 1993 concurs with many of Sturges’ observations, also commenting on the fact that libraries in Kenya were based totally on the British model and were not necessarily relevant to Africans and their information needs. She says of the Kenya National Library Service: “It did not have its roots in Kenyan society. Rather than being an exercise in nation building by indigenous forces, the public library system was a part of the state structures left behind by the departing colonial power”.

The study concluded that there should be computer literacy programmes in those libraries which hope to automate their operations in the future. The management of each library should arrange for periodic training of their low and middle staff on computer use and information handling. The library management could also send the staff, in rotation, to computer firms for short term training. Where the cost of such training presented by the computer firms is very high, arrangements could be made for the training to be undertaken at university computer centers, so that the staff of a university library could have part of their computer orientation within the institution’s computer centre.
2.6 Critical Review

The introduction of the automated customs procedures was an initiative of KRA. It was part of the reform and customs modernization programme. 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 boffin 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 considerable 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 initiatives, 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. Customs procedures in many third world countries have faced an overhaul and many countries are making an effort to computerize customs procedures (Robins and Coulter 2002). Various research case studies have been carried out to determine the extent to which computerization has influenced customs clearing procedures.

A new Philippines government took over and decided to clean up customs; the BOC (Bureau of Customs) Commissioner prepared a Blue Print for Customs Development towards the year 2000. A CRM Program was begun in 1992 and it continued through to 1998. The reforms were necessary as customs had been ranked by exporters and foreigners as the major constraint on business operations. It was also noted that bribery was typically used to speed up the process of getting government authorization or permits thus encouraging officials to slow down the process. The reforms were supported by the World Bank, which also benefited from regular assessments by customs experts (Guillermo. 1992 1998).

Philippines Customs Department’s responsibilities included facilitating importation of goods into the country, collection of government revenue at points of entry. The processing of imports had been primarily manual and some unwanted seeds led to the reform being instigated. There were revenue leakage and collection inefficiencies. It was estimated that revenues being collected were as high as revenues being uncollected. There were also cases of under invoicing. Percentages ranged from 12.2% to 53.0% of recorded imports. There was clearly need for harmonization of customs procedures and adoption of international best
practices. There were also calls by international and regional organization for customs administrations to adopt international best practices and to harmonize their procedures. Excessive document requirements had become a hindrance to the system flowing smoothly. Too much paper work was being handled at the various stages of the customs procedures. The performance of the system led to; increased efficiency measured by increased revenue collection as compared to the previous years. As far as entry processing is concerned, the process to clear shipment within 48 hours had been achieved. In the case of entries lodged electronically, results have been more dramatic.

Senegalese single window, called ORBUS, was established in order to achieve the following objectives; reduction of customs clearance time limits, reduction customs clearance costs, improve quality of service offered to importers and exporters, elimination of red tape. The project was started in early 1996 by Ministry of Commerce. GAINDE 2000 was created in order to finalize the project and run the system.

The single window had to be interfaced with other systems, if in existence. Some stakeholders were already equipped with their own system such as Banks, Insurance Companies, Inspection and Customs (Gainde, 2001). For those not equipped, they were provided with ORBUS interface that they could use by creating an electronic link to their system to proceed 100% electronically. The project was implemented in four phases, study phase, from 1996 – 1998, development phase, 1998 – 2003, pilot phase, February 2004 to July 2004. Parallel run, from July 2004 to February 2005 (55% of operation through ORBUS). Total run, since March 2005 (100% of operation through ORBUS). The ORBUS 2000 system was designed to facilitate foreign trade procedures through electronic exchanges among the different stakeholders. The system is built on a technological infrastructure and provides a set of services. The facilitation Centre, being the key point of the ORBUS system was in charge of coordinating the ORBUS operations and the monitoring of the system’s performance. The challenges faced during implementation were mainly changing resistance and power migration or reduction with IT introduction. Resistance was also as a result of fear of the unknown. Resistance to the introduction of the system could also be attributed to lack of skills on the part of the users and the high costs that they were to incur in training. However, there were some benefits realised; within a single day, clients could have without
any movement what they previously obtained in 2 to 3 days with at least 4 displacements (Gainde, 2001). For the participating Agencies, ORBUS provided them with an electronic system they did not have in the past. They would now have better control of operations, and could communicate online with other stakeholders and with clients, and also provided better and quality service to users.

2.7 Conceptual framework

![Conceptual framework diagram]

**Independent Variable**

**Dependent Variables**

*Source: Author 2008*

2.7.1 Efficient Service Delivery

Efficient delivery of the required function means ensuring that the right product (meeting the requirements of quality, reliability and maintainability) is delivered in the right quantity, at the right time, in the right place, from the right source (a vendor who is reliable and will meet commitments in a timely fashion), with the right service (both before and after sale), and, finally, at the right price. The customer must perceive that these objectives occur simultaneously (Belev, 1993).

The researcher would like to find out the effect of automation on the delivery of service by KRA. There have been many complaints by Clearing and Forwarding firms as well as importers and exporters regarding time taken from the time documents are lodged at customs until the time of release of the cargo.
2.7.2 Skills Improvement

Skills improvement/ development is the training and development that the employer provides to his employees in the workplace. It is often construed that only training that is provided by an outside training provider falls within the definition of skills development. The researcher aims at establishing whether Trade X System has encouraged or lead to skills improvement in regard to the kind of training received and whether the imparted skills will have positive effect to the staff and other stakeholders working in the sector thus leading to productivity.

2.7.3 Effectiveness

Effectiveness refers to the degree to which objectives are achieved and the extent to which targeted problems are resolved. In contrast to efficiency, effectiveness is determined without reference to costs and, whereas efficiency means "doing the thing right," effectiveness means "doing the right thing." Effectiveness is the extent to which an activity fulfils its intended purpose or function. The researcher intends to determine the effectiveness of automation. This is in regard to accessibility by all stakeholders: these are Clearing and Forwarding firms, also find out if the systems will be operational at all times with infrequent downtimes and that it can be accessed from anywhere in the country provided there is a computer and accessories connected.

2.7.4 Cost Savings

These include decisions or actions that will result in fulfillment of the objectives of a purchase, at a cost lower than the historical cost or the projected cost. Apart from the initial cost of purchase of additional computers and connection to an internet service provider, the researcher also seeks to establish whether the system leads to reduction of and/or elimination of some of the additional costs being previously incurred by the Customs Services Department customers. This is in reference to reduced man-hours, therefore reduced overtime as well as personnel costs, reduced telephone bills as well as other communication costs, cost of follow-up of entries.
2.7.5 Improved Governance

In the case of a business, governance relates to consistent management, cohesive policies, processes and decision-rights for a given area of responsibility. For example, managing at a corporate level might involve policies on privacy, on internal investment, and on the use of data. Automation aims at reducing manual intervention by customs officers as most procedures are to be computerized and thus the researcher seeks to find out if this has created transparency and improved governance in customs clearing procedures.

2.8 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, while others charged entrance fee.
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This study was an evaluation of the effects of automation on customs clearing procedures in KRA. This chapter explains the Research Design and methodology to be employed. This has been presented in terms of research design, data collection and data analysis procedures.

3.2 Research Design

This study utilized case study approach. Case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Researchers have used the case study research method for many years across a variety of disciplines. Social scientists, in particular, have made wide use of this qualitative research method to examine contemporary real-life situations and provide the basis for the application of ideas and extension of methods. Researcher Yin (1984) defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are clearly not evident; and in which multiple sources of evidence are used.

3.3 Data Collection

Data collection procedures are the steps taken to ensure that the data collection captures the desired objective the study using the data collection instrument (Robson, 2002). The procedures used in this study were interview guides. Interviewing as a research method involves the researcher asking questions and, hopefully, receiving answers from the people being interviewed. It is very widely used in social research and there are many different types (Robson, 2002, p.270). For instance, a fully structured interview has predetermined questions with fixed wording, usually in a pre-set order. Semi-structured interview has predetermined questions, but the order can be modified based upon the interviewer’s perception of what seems most appropriate.
Interviews as a research method, have benefits of allowing the researcher to follow up on interesting responses that were not expected (Jackson, 1990). The structured interview was appropriate for this study since it provided for one set of questions that were asked to few selected respondents. This ensured that the same aspects were sought from different respondents. Respondents of the study comprised of licensed clearing/customs agents. The study had 101 respondents composed of 41 agents based in Nairobi and 60 based in Mombasa Port.

3.4 Data Analysis

The whole process commenced immediately after data collection and ended at the point of interpretation and processing data is data analysis (Cooper & Schindler, 2003). Qualitative method (content analysis) of analysis was used. According to Cooper & Schindler, 2003 content analysis consists of counting and classifying content. It involves conclusions that are usually communicated by the researcher in a narrative manner. Flick, 1998 defines content analysis as a research technique for the systematic, objective and quantitative description of the content of research data procured through interviews, questionnaires, schedules and other linguistic expressions, written or oral.

Content analysis offers several advantages to researchers who consider using it. In particular, content analysis: looks directly at communication via texts or transcripts, and hence gets at the central aspect of social interaction; can allow for both quantitative and qualitative operations; can provides valuable historical/cultural insights over time through analysis of texts; allows a closeness to text which can alternate between specific categories and relationships and also statistically analyzes the coded form of the text; can be used to interpret texts for purposes such as the development of expert systems (since knowledge and rules can both be coded in terms of explicit statements about the relationships among concepts); is an unobtrusive means of analyzing interactions; provides insight into complex models of human thought and language use and; when done well, is considered as a relatively "exact" research method (based on hard facts, as opposed to Discourse Analysis).
CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the results and findings of the study whose general objective was to find out the impact of automation on clearance procedures in the customs service department of the KRA. Findings were presented and analyzed on the basis of the five specifics as discussed in chapter one.

Respondents of the study comprised of licensed clearing/customs agents. The study had 101 respondents composed of 41 agents based in Nairobi and 60 based in Mombasa Port.

4.2 Demographic Information

In order to capture the general information of the respondents, issues such as gender, age, years of service, level of education and marital status were addressed in the first section of the questionnaire. The general information is important to the study since it improves the reliability of the data collected.

4.2.1 Gender of respondents

![Gender of respondents](image)

Figure 4.1 Gender of respondents
Figure 4.1 sought to show the number of males and females under study. The study shows that the majority, 51.4% of the respondents under study were males while 48.6% were females. This was a representative sample of the population by gender.

4.2.2 Age of respondents

![Age of respondents graph](image)

Figure 4.2 Age of respondents

Figure 4.2 shows the age of respondents. Majority, 34.3% of the respondents were in the 20-25 year age bracket while 25.7% were above 45 years of age. Majority of the respondents fell on these two age brackets. A further 22.9% of the respondents were between 26-35 years of age while 17.1% were between 36-45 years of age.

4.2.3 Years of Service

![Years of Service graph](image)

Figure 4.3 Years of Service of Respondents
Figure 4.3 shows the number of years the respondents have served in the customs clearing. It was established that most, 42.9% of the respondents had served between 6-10 years while 28.6% had served for more than 10 years. This reveals that majority of the respondents had served for long in the customs and hence they had a lot of experience in the work; it also improves the reliability of data. Further, 25.7% of the respondents stated that they had served between 2-5 years while only 2.9% had served for 1 year and below.

4.2.4 Level of education

Table 4.1 Level of education of Respondents

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-level</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Certificate</td>
<td>12</td>
<td>34.3</td>
</tr>
<tr>
<td>Diploma</td>
<td>14</td>
<td>40.0</td>
</tr>
<tr>
<td>Degree</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.1 sought to show the highest level of education reached by the respondents. The study found out that 40% of the respondents had attained a diploma while 34.3% had attained a certificate as their highest level of education. A further, 17.1% of the respondents were degree holders while only 8.6% had reached O-level as their highest level of education.
4.2.5 Marital status

Figure 4.4 shows the marital status of the respondents who took part in the study. It was found out that majority, 60% of the respondents were married while 40% were single.

4.2.6 Other General Information

Table 4.2 Respondents Other General Information

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is your company fully automated and</td>
<td>f = 35, % = 100</td>
<td>f = 1, %</td>
<td>f = 1, %</td>
</tr>
<tr>
<td>connected to simba 2005 system</td>
<td></td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Do you have any computing skills</td>
<td>f = 34, % = 97.1</td>
<td>f = 1, %</td>
<td>f = 1, %</td>
</tr>
<tr>
<td>Have you ever done a course in C &amp; F</td>
<td>f = 24, % = 68.6</td>
<td>f = 10, %</td>
<td>f = 1, %</td>
</tr>
</tbody>
</table>

Table 4.2 sought to show whether the respondents company is fully automated, whether the respondents have any computing skills and whether they have done a course in C & F. All
the respondents stated that their company is fully automated and connected to simba 2005 system. An overwhelming 97.1% of the respondents stated that they have computing skills while only 2.9% stated that they don’t have. Further, 68.6% of the respondents revealed that they had done a course in clearing and forwarding while 28.6% stated that they have never done a course in C&F. On those respondents with computing skills, majority of them revealed that they have been trained on use of Simba system and even awarded a Certificate in Simba System Operations. This has been emphasized to ensure that the agents have the skills to operate the system. Further a number of respondent stated that they have basic skills in computer, it was found out that majority have done computer packages such as Ms Dos, excel, word, internet and intranet. Others also revealed that they have Diploma in computer studies from various colleges.

4.3 Impact of Automation on Efficiency in Service Delivery
4.3.1 Time taken and documents required for goods clearance in customs prior and since the introduction of automation in customs

Table 4.3 Response on time taken for goods clearance in customs prior and since the introduction of Trade X-simba 2005

<table>
<thead>
<tr>
<th>1-6 Hrs</th>
<th>6-12 Hrs</th>
<th>12-24 Hrs</th>
<th>Over 24 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
</tbody>
</table>

The approximate time that clearance of goods in customs was taking under normal circumstances prior to introduction of trade X-simba 2005

What is the approximate time taken to clear goods in customs under normal circumstances since the introduction of trade X 2005

Table 4.3 sought to show the time taken for goods to be cleared in customs prior and after the introduction of the Simba system and whether it has an impact on efficiency in service delivery in customs department. The study shows that all the respondents stated that before
the introduction of the Trade X-simba 2005, it would take over 24 hours to clear goods in customs under normal circumstances. It was found out that after the introduction of the system it is now taking between 12-24 hours to clear the goods in customs; this was according to an overwhelming 91.4% of the respondents while 8.6% revealed that it is now taking between 6-12 hours to clear the goods under normal circumstances. The respondents established that the reduction in time taken to clear goods in customs has been brought about due to introduction of the Trade X-simba, 2005. They stated that automated operations, for example, processing of entries, release of goods and online banking, have made work simpler and reduced time to clear goods. Easy communication on Simba system and the introduction of 24hr operation in document processing centre has made the clearance process faster. 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 such as the police and the CID in the customs clearance. 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 Simba system clearance time has reduced to a day.

Table 4.4 Response on number of documents required for cargo clearance prior and after the introduction of Trade X-simba 2005

<table>
<thead>
<tr>
<th>Documents required</th>
<th>1-5</th>
<th>6-10</th>
<th>11-15</th>
<th>Over 15</th>
<th>No response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Number of documents that were required for cargo clearance prior to introduction of automation of customs procedures</td>
<td>2</td>
<td>5.7</td>
<td>32</td>
<td>91.4</td>
<td>1</td>
</tr>
<tr>
<td>The number of documents required for cargo clearance since the introduction of automation of customs procedures</td>
<td>3</td>
<td>8.6</td>
<td>31</td>
<td>88.6</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 4.4 sought to show the number of documents required for cargo clearance prior and after the introduction of Trade X-simba 2005. The study shows that prior to introduction of automation of customs procedures, cargo clearance would require between 11-15 documents; this was according to a majority of 91.4% of the respondents while only 5.7% stated that the clearance would require between 6-10 documents. However, an overwhelming 88.6% of the respondents revealed that since the introduction of automation of customs procedures cargo clearance require 6-10 documents while a further 8.6% stated that it requires between 1-5 documents for the cargo to be cleared.

4.3.2 Whether Complaints regarding delays in processing of entries have reduced since the introduction of Trade X Simba

Table 4.5 whether complaints from clearing and forwarding agents, importers, exporters and shipping agents regarding delays in processing of entries reduced since the introduction of Trade X Simba

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>30</td>
<td>85.7</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can't say</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.5 sought to show whether complaints from clearing and forwarding agents, importers, exporters and shipping agents regarding delays in processing of entries reduced since the introduction of Trade X Simba. An overwhelming 85.7% of the respondents stated that the complaints regarding delays in processing of entries had reduced since the automation while 11.4% could not say whether the complaints had reduced. However, the study shows that none of the respondents stated that the complaints had not reduced since the automation. The study established that the reasons why the complaints regarding delays in processing of entries had reduced since the automation it’s because automation has facilitated easy and continuous operations, communication, that is, online communication and problem
solving. The respondents also stated that automation has promoted transparency and accountability especially by KRA staff possible since all transactions and correspondences are recorded. The system has also resulted to minimal human interactions in the process of clearance hence the process is faster. It was also found out that there has been restructuring of customs services department, for example, introduction of customer care desks which have enhanced faster responses to complaints and there has also been centralization of operations.

4.3.3 Time taken by the customs service department to respond to questions and complaints since the inception of Simba

Table 4.6 Response on time taken by the customs service department to respond to questions and complaints since the inception of Simba System

<table>
<thead>
<tr>
<th>Time Range</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5hrs</td>
<td>26</td>
<td>74.3</td>
</tr>
<tr>
<td>6-10</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td>11-15hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 15 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.5 shows time taken by the customs service department to respond to questions and complaints since the inception of Simba. Majority, 74.3% 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 and complaints. Further, 22.9% 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 and complaints.
Figure 4.5 Whether the respondents agree with the centralization of some customs operations e.g. security bonds processing, DPC etc in Nairobi

Figure 4.5 shows respondents’ response on whether they agree with the centralization of some customs operations, for example, security bonds processing and DPC in Nairobi. Majority, 85.7% of the respondents stated that they don’t agree with the centralization of some customs operations, for example, security bonds processing and DPC in Nairobi, while 11.4% stated that they agree with the centralization of some customs operations, for example, security bonds processing and DPC in Nairobi. However, 2.9% of the respondents did not respond to this.

The reason why the respondents stated that they don’t agree with the centralization of some customs operations is because it causes delays in processing of entries and inefficiencies hence increase the cost of clearance. It also promotes integrity problems among the staffs of KRA and clearing agents since it promotes corruption and extortion; this also discourages smooth flow of trade. It was also established that it would be inconvenient for agents that decentralization be done to other towns, for example, Mombasa, Kisumu and Eldoret.
4.3.5 Extent to which you feel satisfied with the current operations of trade Simba system

Table 4.7 Extent to which respondents feel satisfied with the current operations of trade Simba system

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely satisfied</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td>Satisfied</td>
<td>27</td>
<td>77.1</td>
</tr>
<tr>
<td>Indifferent</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Strongly dissatisfied</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.7 shows the extent to which respondents feel satisfied with the current operations of trade Simba system. The study revealed that the majority, 77.1% of the respondents feel satisfied while a further 22.9% feel completely satisfied with the current operations of trade Simba system. It was found out that all the respondents were satisfied with the current system.

4.4 Impact of Automation on Skills

4.4.1 Impact of Automation in Customs on Improvement of Staff Skills

Table 4.8 Response on the Impact of Automation in Customs on Improvement of Staff Skills

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Have you undergone any form of training on the operations of Trade X Simba</td>
<td>35</td>
<td>100.0</td>
<td>—</td>
</tr>
<tr>
<td>Can the Trade X Simba 2005 system be learned and operated easily</td>
<td>34</td>
<td>97.1</td>
<td>1</td>
</tr>
<tr>
<td>Do you think customs staffs have adequate skills to use the system</td>
<td>34</td>
<td>97.1</td>
<td>—</td>
</tr>
</tbody>
</table>
Table 4.8 sought to show the impact of automation in customs has led to skills improvement of staff working at Kenya Revenue Authority and other stakeholders. The study found out that all respondents had undergone some form of training on the operations of Trade X Simba system. Further, an overwhelming 97.1% of the respondents stated that Trade X Simba 2005 system can be learnt and operated easily while only 2.9% stated that the system cannot be learnt and operated easily. Moreover, 97.1% of the respondents stated that they think customs staffs have adequate skills to use the system, however 2.9% of the respondents did not respond. The study also established that the number of days allocated by the KRA for training on the Simba system are sufficient for one to learn and grasp the system, this was according to 62.9% of the respondents while 37.1% stated that the number of days allocated for training on the Simba system are not sufficient for one to learn and grasp the system.

4.4.2 Views and recommendations on customs automation (Trade Simba system)

The respondents stated that there should be decentralization of centralized operations and especially processing of entries to other regions. There should also be introduction of cyber cafes by KRA in major customs offices for use by agents. Since there have been cases of manipulation of the system, the respondents revealed that the customs department should ensure that the system is free from any manipulation or unauthorized access. They should also link the system to other revenue authorities system in EAC and expands usage of Orbus System by other stakeholders, for example: Kenya Bureau of Standards, Kenya Plant Health Inspectorate Services and Treasury. It should also reduce the cost of training in simba system; training of agents on simba should be made free. However, the respondents revealed that the system has enhanced efficiency in customs clearance, promoted transparency amongst the Customs officers and agents. It has also simplified payments of taxes through banks and reduced the cost of custom clearance hence saving on cost.
4.5 Impact of Automation on Effectiveness

4.5.1 Whether Trade X System can be Accessed from anywhere in the Country

Figure 4.6 whether Trade X System can be Accessed from anywhere in the country

Figure 4.6 sought to establish whether Trade X system can be accessed from anywhere in the country. Majority, 77.1% of the respondents stated that the system can be accessed from anywhere in the country while 17.1% stated that the system is not accessed from anywhere in the country. However, 5.7% did not respond.

4.5.2 Reliability of Trade X system in respect to connectivity

Table 4.9 Reliability of Trade X system in respect to connectivity

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Fair</td>
<td>15</td>
<td>42.9</td>
</tr>
<tr>
<td>Good</td>
<td>18</td>
<td>51.4</td>
</tr>
<tr>
<td>Very Good</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Excellent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 4.9 sought to show how reliable is Trade X system in respect to connectivity. Majority, 51.4% of the respondents stated that the reliability of the system is good while 42.9% stated that the reliability of the Trade X system is fair in respect to connectivity. Further, 2.9% of the respondents revealed that the reliability is very good; however a similar percentage stated that the reliability of the system is poor.

The respondents further established that system is reliable because it can be accessed from any computer that is connected to internet. They stated that connectivity is consistent and reliable. However, it was also revealed that the system is slow in connectivity and erratic; breakdowns are also frequent. Also, the system can only be accessed from a computer connected to internet.

4.5.3 Whether Trade X system provide Relevant trade Statistics

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.10 sought to establish whether Trade X system provides relevant trade statistics. The study shows that all the respondents stated that the system provide relevant trade statistics.

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. Further, it was also found out that the statistics enhances effective and faster reporting and analysis, prediction and monitoring of processing of entries. Generally, the statistics enhances decision making, Planning, Performance management, review, monitoring and reporting.
4.5.4 Whether the automation in customs has simplified customs procedures

Table 4.11 whether the automation in customs has simplified customs procedures

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>28</td>
<td>80.0</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>20.0</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.11 sought to show whether the automation in customs has simplified customs procedures. Eighty percent of the respondents who were the majority established that the automation in customs has actually simplified customs procedures. However, 20% of the respondents did not respond to this.

4.6 Impact of Automation on Cost

4.6.1 Whether automated customs procedures have reduced the amount of time and money spent on the following up customs clearance over the telephone and also physically

Table 4.12 Respondents perception on whether automated customs procedures have reduced the amount of time and money spent on the following up customs clearance over the telephone and also physically

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally agree</td>
<td>28</td>
<td>80.0</td>
</tr>
<tr>
<td>Partially agree</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>Neither agree nor disagree</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Partially disagree</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Totally disagree</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The table sought to establish whether 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 reducing cost. Majority, 80% of the respondents stated totally agreed while 17.1% partially agreed that 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. However, 2.9% of the respondents did not respond to this.

4.6.2 Whether man hours have been reduced since the introduction of automation (Trade X Simba)

Table 4.13 whether man hours been reduced since the introduction of automation

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>34</td>
</tr>
<tr>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
</tr>
</tbody>
</table>

Table 4.13 shows that an overwhelming 97.1% of the respondents revealed that the automation, that is, introduction of Trade X Simba system has reduced man hours. None of the respondents stated that the system have not effectively reduced man hours; however 2.9% of the respondents did not respond.

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 Simba 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.
4.6.3 Whether cost of customs clearance has reduced after automation of customs procedures and processes

Table 4.14 whether cost of customs clearance has reduced after automation of customs procedures and processes

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33</td>
<td>94.3</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The study found out that the cost of customs clearance has reduced after automation of customs procedures and processes, this was revealed by an overwhelming 94.3% of the respondents who were clearing and forwarding agents. However, 5.7% of the respondents did not respond.

4.6.3.1 Estimated rate of cost reduction

Table 4.15 Response on estimated rate of cost reduction

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%-35%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36%-40%</td>
<td>7</td>
<td>20.0</td>
</tr>
<tr>
<td>Over 40%</td>
<td></td>
<td>74.3</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

It was further established that the cost of customs clearance has reduced at a rate of over 40%, this was according to 74.3% of the respondents while 35% revealed that the cost had reduced at a rate of between 36%-40%. However, 5.7% of the respondents did not respond to this.
### Table 4.16 Response on the Impact of Automation on Governance

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whether Automation (Trade simba) has enabled the KRA to closely monitor revenue collection through the clearing and forwarding agents</td>
<td>33</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Whether since the introduction of automation (Trade X) there is more transparency and accountability in the manner of transacting operations in customs</td>
<td>32</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Whether the introduction of the simba system has reduced interaction between customs officials and C&amp;F agents, importers, exporters and shipping agents</td>
<td>33</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Whether the simba system is free from manipulation by either clearing agents or customs officials or any other party</td>
<td>5</td>
<td>28</td>
<td>80.0</td>
</tr>
</tbody>
</table>

Table 4.16 sought to establish whether automation has improved governance in the customs department. An overwhelming 94.3% of the respondents stated that automation (Trade X Simba) has enabled the KRA to closely monitor revenue collection through the clearing and forwarding agents; 5.7% of the respondents did not respond to this. Further, 91.4% of the respondents stated that since the introduction of automation (Trade X) there has been more transparency and accountability in the manner of transacting operations in customs, however 2.9% stated that there has been no transparency. Moreover, 94.3% of the respondents revealed that the introduction of the Simba system has reduced interaction between customs officials and other parties; 5.7% of the respondents did not respond to this.
officials and C&F agents, importers, exporters and shipping agents: 5.7% of the respondents did not respond to this.

The respondents stated that the reason why the system has reduced interaction between customs officials and C&F agents, importers, exporters and shipping agents is because entries are done from the agents premises on Simba system (through internet) and online processing is then carried out by customs officers on the system. It is no longer necessary to visit customs offices for processing of entries. Automation of clearance procedures has also enhanced communication through Simba system, that is, communication is done on internet thus reducing staff interactions. The system allows clearing agents to make declarations from their offices, premises or even cyber cafes without having to make visits to the customs offices. Follow ups can also be done online since there has been introduction of customer care desks in the customs department thus minimal visits to customs offices.

The study further established that the Simba system is not free from manipulation by either clearing agents or customs officials or any other party; this was according to 80% of the respondents. Only 14.3% of the respondents stated that the system is free from manipulation while 5.7% of the respondents did not respond.

Moreover, majority of the respondents revealed that the reason why the system is not free from manipulation is because access to the system is not watertight; reports of unauthorized access and processing of entries are very common. There have been cases of unauthorized use of passwords and resulting to deletion of verification reports and fraudulent declarations that have led to loss of revenue; tax evasion through manipulation of the system is also common. Generally, the respondents established that the system has a weakness and is liable to manipulation.
CHAPTER FIVE
DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1: Introduction

The general objective of this study was to find out the impact of automation on clearance procedures in the customs service department of KRA. The study was guided by the following specific objectives: to establish whether automation has resulted to efficient service delivery at the customs service department, to establish if automation has led to skills improvement of 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.

5.2 Summary of Findings

The study established that majority of the respondents were male while most of them were in the age bracket of 20-25 years. The study also established that most of the respondents had served between 6-10 years. Most respondents had a diploma and were married.

The study established that after the introduction of the Trade X-simba system in 2005, it was now taking between 12-24 hours to clear goods in customs. The study found out that automated operations, for example, processing of entries, release of goods and online banking, had made work simpler and reduced time to clear goods. Further, easy communication on Simba system and the introduction of 24hr operation in document processing centre had made the clearance process faster. From the study, automation had reduced the number of security agencies such as the police and the CID in the customs clearance. From the study, automation of customs procedures cargo clearance now required 6-10 documents from the 11-15 documents required for processing. Further, automation had reduced complaints regarding delays in processing of entries as a result of easy and continuous operations, communication, problem solving, transparency, accountability and minimal human interactions. The study also established that since the inception of the system the customs service department, it was taking between 0-5 hours to respond to questions and
complaints from 1 day it used to before automation. However, most respondents disagreed with the centralization of some customs operations, for example, security bonds processing. DPC in Nairobi. This was largely attributed to delays in processing of entries and inefficiencies, integrity issues among the staffs of KRA and clearing agents and inconvenience for agents located in other towns, for example, Mombasa and Kisumu. In general majority of the respondents felt satisfied with the current operations of trade X-Simba system.

The study further established that all respondents had undergone some form of training on the operations of Trade X Simba system and that they had acquired adequate skills on the same. From the study, it was established that the system had enhanced efficiency in customs clearance, promoted transparency amongst the Customs officers and agents, simplified payments of taxes through banks and reduced the cost of custom clearance hence saving on cost.

The researcher also found out that Trade X-Simba could be accessed from anywhere in the country and was highly reliable. However, it was also revealed that the system was slow in connectivity and erratic and that breakdowns were also frequent. Additionally, it was established that the system could only be accessed from a computer connected to internet. In addition the system provided relevant trade statistics which were useful for sound decision making and planning, effective performance management, monitoring and control, ease of measuring staff performance, effective and faster reporting and analysis, prediction and monitoring of revenue collection and performance. Finally the study revealed that automation in customs had actually simplified customs procedures.

Further, the study established that automation of customs procedures had reduced amount of time and money spent on following up customs clearance hence reducing cost. In addition, introduction of Trade X Simba system had reduced man hours through fewer staff/manpower, minimal processing of documents, effective communication and improved transparency and accountability. From the study, majority of the respondents agreed that cost of customs clearance had reduced with a rate of 40% after automation of customs procedures and processes.
In addition, the study established that automation (Trade X simba) had enabled KRA to closely monitor revenue collection through the clearing and forwarding agents, improve transparency and accountability in the manner of transacting operations in customs and reduced interaction between customs officials and C&F agents, importers, exporters and shipping agents since entries were done from the agents premises on simba system (through internet) and online processing then carried out by customs officers on the system eliminating physical visits to customs offices for processing of entries. Further, the study established that simba system was not free from manipulation by either clearing agents or customs officials or any other party since access to the system was possible. In general majority agreed that the system was prone to manipulation.

5.3 Discussion

5.3.1 Automation and efficient service delivery

The study revealed that automation of the customs department had resulted to improved efficiency in terms of processing of entries. This finding is in line to the works of other authors on automation and efficiency. Grant, 2001 did a case study in Jamaica, where an overhaul was done of the existing, Asycuda system and a new automated system dubbed Case Online was put in place. The new system resulted in increased speed in processing entries. In contrast to lodgments being limited to Mondays to Fridays 9am – 4pm the new system permitted lodgments 24hrs a day, seven days a week. In a case study on customs modernization initiatives carried out by the World Bank in Morocco (1990 – 2004) and edited by Marcel and Wulf, it emphasized that introduction of automated customs procedures had led to a reduction in average processing time for customs clearance. The time between the validation of a customs declaration and release of goods had been reduced to less than an hour making the system among the most efficient in the world.
5.3.2 Automation and skills improvement

The study revealed that with the introduction of Trade X-simba system, all staff in customs department was adequately trained on all aspects of the system and this enhanced their skills in the system. These findings are in line with the findings in Jamaica, where with the rejection of the Ayscuda system and the inception of Case online, the supervisors in the customs department were trained anew. This enabled them to improve their skills and they were better able to monitor and distribute workflow (Rue and Byars, 2002). In Chile, the implementation of an electronic data interchange system brought about significant benefits to the trading community (World Trade Organization, 2000) for example; officers were reassigned from repetitive administrative work to more value adding duties such as customs inspection. Thus they were able to improve on their skills. The trainees were also able to do less of clerical work and concentrate more on their supervisory role as officers.

5.3.3 Automation and improvement in effectiveness

The study also revealed that automation of processes at customs department had led to improved effectiveness through sound decision making and planning, effective performance management, monitoring and control. According to King and Konsunki (1995), the introduction of Singapore Trade Net system in 1989 drastically simplified trade transactions. Processing time for cargo clearance was reduced from 2-4 days to only minutes. The number of documents required for cargo clearance fell from a range of thirty five to three. Experiences from Ghana, Philippines and Morocco as cited by the World Bank in a report done in 2004 (Customs modernization) initiatives have shown that the automated customs procedures have ensured that data required by different bodies are centralized and easily accessible by all the relevant bodies. Trade statistics were also found to be more complete, accurate and up-to-date and this enabled the customs staff to make informed choices in regard to tariffs used for calculation of taxes.
5.3.4 Automation and cost saving

The study further established that automation of customs processes had led to cost savings through various measures. The establishment of the Case Online system in Jamaica, resulted in Customs overtime being drastically reduced, collection of revenue required fewer cashiers, yet long queues had been eliminated (Grant, 2001). In a case study of implementing a single window environment, a case of Japan done by the World Bank, some of the main benefits accruing from the system were reduced personnel and communication costs. Through reduced staff and overtime and through reduced amounts of money spent on unnecessary follow up both physically and via telephone or e-mail.

5.3.5 Automation and governance

The study revealed that automation of processes at the customs department had led to improved governance through improved monitoring and improved transparency and accountability. According to Bhatnagar, 2001, governance has manifested itself in the form of facilitation of payments offered by traders to accelerate cargo clearance, declaration or accepting declarations that includes under invoicing and erroneous classifications to lower amounts of duties. According to Burnes, 2000, the Asycuda system in Jordan had initiated transparency in the sector in the way operations were being conducted. In a working paper titled Role of Automation in Trade Facilitation dated 17\textsuperscript{th} October, 2005, systems had provided an anti corruption mechanism that helped reduce face to face interaction between customs officials and traders. He adds that several countries have also reported that the computerized customs systems have helped in tackling fraud, Smuggling and valuation issues.

5.4 Conclusions

The purpose of the study was to determine the impact of automation on clearance procedures in the customs service department of the KRA. The following are the major conclusions based on the findings and discussions.
That automation of processes improves service delivery in an organization. This could be through processing of entries, release of goods, online banking and clearance of goods. Further, automation of processes enhances skill development of the staff through training and use of the system. Automation of processes improves the effectiveness of the process in terms of accessibility and reliability. It also improves decision making, planning, effective performance management, monitoring and control. In addition, automation of processes leads to reduction in costs through reduced amount of time and money spent on following up customs clearance and man hours. Finally the researcher concludes that automation of processes enhances improved governance mainly as a result of improved transparency and accountability.

5.5 Recommendations
The following recommendations were made based on the findings and conclusions of the study.

5.5.1 Suggestions for Improvement

i. It is clear that the system (Trade X-Simba) is open to manipulation due to some existing loopholes. The management of KRA should ensure that the system is at least 90% secure for it to achieve its intended purposes.

ii. Training of staff on the operations of the system should be continuous so as to provide them with up to date applications. This will help improve the system’s efficiency further.

5.5.2 Suggestion for further research

The research recommends the following areas for further study:

i. Since this study adopted the interview method as the primary data collection method, the researcher suggests that a study be carried out using other methods of primary data collection to see whether there will be difference in the results.
ii. It would be interesting to find out the impact of other systems especially in public companies on the organization’s performance. This is due to the large sums of money that the Government uses to procure systems meant to bring about efficiency.
REFERENCES


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LIS 391 D.I (1997), Users and Users of Information.


World Customs Organization(2009), “Capacity Building Development Compendium”
Appendix 1: Interview Guide

The following interview guide is structured to extract information on the impact of automation (Trade X simba) on customs clearing procedures at Kenya Revenue Authority. Kindly fill it in with as much detailed information as possible.

SECTION ONE: GENERAL INFORMATION

1. Gender
Male ( ) Female ( )

2. Age
20 – 25 ( ) 36 – 45 ( ) 26 35 ( ) Above 45 ( )

3. Years of service
1 year & below ( ) 2-5 years ( ) 6 – 10 years ( )
Above 10 years ( )

4. Level of Education
0 – Level ( ) Certificate ( ) Diploma ( ) Degree ( )

5. Marital Status
Married ( ) Single ( )

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Is your company fully automated and connected to simba 2005 system?</td>
<td></td>
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<tr>
<td>7. Do you have any computing skills? If yes give the details below</td>
<td></td>
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<tr>
<td>8. Have you ever done a course in C &amp; F?</td>
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</tbody>
</table>

If yes in 7, specify........................................................................................................
**SECTION TWO: IMPACT OF AUTOMATION ON EFFICIENCY IN SERVICE DELIVERY**

<table>
<thead>
<tr>
<th>Question</th>
<th>1Hr - 6 Hrs</th>
<th>6Hrs - 12Hrs</th>
<th>12Hrs-24Hrs</th>
<th>Over 24Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. What was the approximate time that clearance of goods in customs was taking under normal circumstances prior to introduction of Trade X-simba 2005?</td>
<td></td>
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<tr>
<td>10. What would you think to be the approximate time taken to clear goods in customs under normal circumstances since the introduction of Trade X-2005.</td>
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<tr>
<td>11. Give reasons for the above responses</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>1 - 5</th>
<th>6 - 10</th>
<th>11 - 15</th>
<th>Over 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. How many documents were required for cargo clearance prior to introduction of automation in customs?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. How many documents are required for cargo clearance since introduction of automation of customs procedures?</td>
<td></td>
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</tbody>
</table>

15. Have complaints from clearing and forwarding agents, importers, exporters and shipping agents regarding delays in processing of entries reduced since the introduction of Trade X simba?

YES ( ) NO ( ) Can’t say ( )

Give Reason(s)..........................................................................................................................
16. How long does the Customs service department take to respond to questions and complaints since the inception of simba?
0-5 hours ( ) 6-10 hours ( ) 11-15 hours ( ) Over 15 hours ( )

17. Do you agree with the centralization of some customs operations e.g. Security Bonds Processing, DPC, etc in Nairobi?
YES ( ) NO ( )
Give Reason(s)............................................................................................................................

18. 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 THREE: IMPACT OF AUTOMATION ON SKILLS

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Have you undergone any form of training on the operations of Trade x simba?</td>
<td></td>
<td></td>
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<tr>
<td>20. Can the Trade X simba 2005 system be learned and operated easily?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Do you think customs staff have adequate skills to use the system?</td>
<td></td>
<td></td>
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<tr>
<td>22. Is the number of days allocated by the KRA for training on the simba system sufficient for one to learn and grasp the system?</td>
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</tbody>
</table>

23. Please give your views and recommendations on what you think of customs automation (Trade X simba System)?
1.......................................................................................................................
2.......................................................................................................................
3.......................................................................................................................

SECTION FOUR: IMPACT OF AUTOMATION ON EFFECTIVENESS

24. Can the Trade X system be accessed from anywhere in the country?
YES ( ) NO ( )

25. How reliable is the Trade X system in respect to connectivity?
Poor ( ) Fair ( ) Good ( ) V.Good ( ) Excellent ( )
Give Reason(s);.............................................................................................................................

26. Does the Trade X system provide you with relevant trade statistics?
Yes ( ) No ( )
If yes, then how useful is the statistics?

27. Has the automation in customs simplified customs procedures?
Yes ( ) No ( )

SECTION FOUR: IMPACT OF AUTOMATION ON COST

28. 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?
Totally agree ( ) partially agree ( ) Neither agree nor disagree ( )
Partially disagree ( ) Totally Disagree ( )

29. Have man hours been reduced since the introduction of automation (Trade X simba)?
YES ( ) NO ( ) Can’t say ( )
Give reason(s):.............................................................................................................................

30. Do you think that the cost of customs clearance has reduced after automation of customs procedures and processes?
Yes ( ) No ( )
If yes above, please give an estimated rate of reduction.
1% - 5% ( ) 6% - 10% ( ) 11% - 15% ( ) 16% - 20% ( )
21% - 25% ( ) 26% - 30% ( ) 31% - 35% ( ) 36% - 40% ( )
Over 40% ( )
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>31. In your opinion has Automation (Trade X simba) enabled the KRA to closely monitor revenue collection through the clearing and forwarding agents?</td>
<td></td>
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<tr>
<td>32. Do you feel that since the introduction of automation (Trade X) there is more transparency and accountability in the manner of transacting operations in customs?</td>
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<tr>
<td>33. In your opinion has the introduction of the simba system reduced interaction between customs officials and C and F agents, importers, exporters and shipping agents?</td>
<td></td>
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<tr>
<td>34. Is the simba system free from manipulation by either clearing agents or customs officials or any other party?</td>
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35. Kindly give reasons for Q33 and 34 above.

Q33...........................................................................................................................................

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Q34...........................................................................................................................................

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Thank you for your time