

**THE EFFECTS OF REVENUE SYSTEM MODERNIZATION ON
REVENUE COLLECTION AT KENYA REVENUE AUTHORITY**

BY:

JANET MUTHAMA

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DECLARATION

This research project is my original work and has not been submitted for a degree award at the University of Nairobi or any other university.

SignatureDate

Janet Muthama

D63/79902/2012

This Research project has been submitted for examination with my approval as University Supervisor.

Signed..... Date

Lecturer: Mirie Mwangi

Department of Finance and Accounting

School of Business, University of Nairobi

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DEDICATION

The research project is dedicated to my lovely husband and children.

ABSTRACT

In today's competitive, fast-paced business landscape, getting the most out of available resources is not an option but rather a requirement. Organizations are taking a highly proactive approach to systems modernization and operations in an effort to increase efficiency and effectiveness in their operations. There is an increasing need by the government to collect much revenue by way of taxes to face the increasing financial expenditures budgeted by the country. The objective of the study was to determine the relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya with regard to the Simba System. This study employed descriptive study design. The study used secondary data collection. The study utilized KRA Customs data for four financial years before and after Simba System. The period selected was from July 2001 to June 2009. The data was analyzed using Statistical Package for Social Sciences (SPSS) and presented in figures and tables.

The study findings established that that the number of transactions and the revenue collected increased after the implementation compared to the years before the implementation. The study findings also established that the revenue collected was directly related to number of transaction but inversely related to inflation, operating costs and exchange rates and that there was a strong relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya with regard to the Simba System.

From the study it was evident that System modernization enhances Revenue Collection and thus it should be encouraged. This study recommends that policy makers should ensure that there is stable equilibrium for the exchange rates as they adversely affect the revenue collection process. In addition, the policy makers need to evaluate the best exchange rate policy for optimal economic development. The study further recommends that the policy makers come up with policies to control the inflation rate in Kenya as it negatively affects the entire revenue collection process.

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ABBREVIATIONS

BOFFIN	–	Bishops gate office freight forwarding
CAD	-	Computer Aided design
CIM	–	Computer integrated manufacturing
CRM	–	Customs Reforms and modernization
CSC	–	Cargo service center
DPC	-	Document processing center
DPM	-	Directorate of Personnel Management
GDP	-	Gross domestic product
GNP	-	Gross National Product
GOK	-	Government of Kenya
ICD	–	Inland Container Deport
ICDTS	–	Integrated customs Duty and Tax systems
ICT	-	Information and Communication Technology
IMF	-	International Monetary Fund
ITMS	-	Integrated Tax Management System
KAF	-	Kenya Association of freight forwarders
KPA	–	Kenya ports Authority
KRA	-	Kenya Revenue Authority
RARMP	-	Revenue Administration Reform and Modernization Programme
SPSS	-	Statistical Package for Social Sciences
TMP	-	Tax Modernization Programme
UNCTAD	-	United Nations Conference on Trade and Development
URA	-	Uganda Revenue Authority
VAT	-	Value Added Tax
WCO	-	World Customs Organization
TD	-	Technological determinism
TAM	-	Technology Acceptance Model

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Public revenue collection is an integral component of fiscal policy and administration in any economy because of its influence on government operations. It is the fuel of every government as it is the main instrument through which government funding is ensured. Tax revenue collection should comply with best practices of equity, ability to pay, economic efficiency, convenience and certainty (Visser and Erasmus, 2005). For any government to match in performance with the growth and expectations of its citizens, it needs to increase its fiscal depth without incurring costly recurring overheads (Gidisu, 2012).

There is an increasing need by the government to collect much revenue by way of taxes to face the increasing financial expenditures budgeted by the country. Automated systems have been proven to be capable of introducing massive efficiencies to business processes that can result in increased revenue collections (Zhou and Madhikeni 2013). Application of technological solutions towards the strategic goals for government is a key step towards transforming government into an entity that can keep abreast of the needs, requirements and expectations of today's modern world (de Wulf and Sokol, 2005).

Revenue administration automation has a positive impact on the cost of tax administration, automation and effectiveness of revenue collection. In Addition, automation of process at revenue collection points has a positive impact on the tax clearance time (Haughton and Desmeules, 2001). Automation of Tax-Information Processing System does not require high equipment cost, but rather helps to ease the

burden of over-staffing, high re-engineering cost confronted by among other government institutions.

Verifying that the correct amount of tax has been paid is an important component of improving compliance. Limited resources restrict the ability of revenue authorities to audit each and every tax return submitted (Amin, 2013). Increased focus on areas of greater revenue risk would form a major part of the strategy of any revenue authority, which relies on a self-assessment system. In order to curb tax evasion, revenue authorities make use of data base programs to assist with case selection. A data base is a research tool which combines data from various revenue information systems and identifies areas of risk to be investigated by the audit section (Dramod, 2004). External data base programs from other Government or non-Government agencies are also used, such as those of the Registrar of Companies, the Deeds Office, and others. As such, modernization of tax collection system has a great impact on the level of revenue collection in any economy (de Wulf and Sokol, 2005).

In today's knowledge based world, providing public services are heavily depend on information and communication technologies. The internet has simply become the basic information communication and sharing area of the future (UNCTAD, 2008). While information technologies provide austerity at an important level, they also improve the quality of the public service. One of the important application area related to the use of information technologies in the public services is taxation. Electronic tax return, payment systems and tax automation systems generated in this area gain an increasing importance because of their ability to increase collections. Electronic tax management applications

firstly started in the USA, and then spread in other developed and developing countries. Factors such as information and communication technologies which develop rapidly together with the process of globalization, gain strength and decrease costs and the increasing information sharing have extended the electronic tax management applications all over the world (de Wulf and Sokol, 2005).

1.1.1 Revenue System Modernization

The Revised Kyoto Convention is the generally accepted reference point for the key principles of customs administration modernization (Honoham, 2003). Tax system automation is increasingly being used by government tax collection agencies to improve their efficiency and effectiveness. In early human history, tax collectors used the most rudimentary methods; some of these methods were so crude that they gave the profession a bad name (UNCTAD, 2008). Over the centuries, however, civilized man has come to realize that taxes must be collected with a maximum of taxpayer cooperation and a minimum of irritation or inconvenience. Even the taxpayer who supports the use to be made of his money still wants and deserves to be treated with consideration. As such, tax system automation provides new tools for improving and, to some extent, simplifying tax administration although no computer, however sophisticated, can overcome the statutory complexities devised by ingenious legislative draftsmen (de Wulf and Sokol, 2005).

The challenges of the 21st Century are placing massive demands on customs administrations. Now, more than ever before, there is a need for Customs administrations to be more responsive. An understanding is required of issues such as globalization, the dynamics of international trade, the technicalities of the trade supply chain, emerging

policy directions and the complexities of the global landscape (Honoham, 2003). The basic strategy for modernizing Customs administration is to establish transparent and simple rules and procedures and foster voluntary compliance by building a system of self-assessment buttressed by well-designed audit policies (Keen and Mansour, 2010). Implementing this, however, requires addressing a range of issues, involving links with trade policy, organizational reform, the use of new technologies, the appropriate nature and extent of private sector involvement, designing incentive systems to overcome governance issues and many others.

1.1.2 Revenue Collection

Revenue refers to all amounts of money received by a government from external sources like those originating from “outside the government”, net of refunds and other correcting transactions, proceeds from issuance of debt, the sale of investments, agency or private trust transactions, and intra-governmental transfers (Lymer and Oats, 2010). Revenue comprises amounts received by all agencies, boards, commissions, or other organizations categorized as dependent on the government concerned. The amount of revenues collected by countries is related to historical and current political decisions regarding the goods and services governments provide and the way that they are produced (OECD, 2009). All governments raise revenues to finance public spending, from highways to schools to social security among other government budgetary needs. Revenue is measured over the full fiscal year of the government.

Tax revenue is the income that is gained by governments through taxation. Just as there are different types of tax, the form in which tax revenue is collected also differs;

furthermore, the agency that collects the tax may not be part of central government, but may be an alternative third-party licensed to collect tax which they themselves will use (Haughton and Desmeules, 2001). Tax and revenue agencies are under constant pressure to find ways to maximize revenue and efficiency and improve constituent services. They realize that achieving these goals requires taking a strategic view of their enterprise. Success only comes with the alignment of all elements of an organization people, processes and technology with an overall strategy.

1.1.3 Effects of Revenue System Modernization on Revenue Collection

The public revenue collection challenge should be broadly conceptualized within the tax reform initiatives. System modernization is key in improving the efficiency and effectiveness in revenue collection. No doubt the traditional kinds of paper forms always will be an essential part of the tax administration system (UNCTAD, 2008). Through system modernization, a tax collection agency will be able to meet their revenue collection targets as there will be less tax avoidance and evasions. Modernization of the custom system falls under the Public Administration sector and its objective to improve the efficiency and effectiveness both at central and local level. Focus will be on capacity building for policy reforms, and implementation of the existing legal and strategic framework (de Wulf and Sokol, 2005).

According to Sohne (2003), for government to match in performance with the growth and expectations of its constituents, it must dramatically increase its fiscal depth without incurring costly recurring overheads. Sohne (2003) further noted that automated systems have been proven to be capable of introducing massive efficiencies to business processes that can result in increased revenue. Applying technological solutions towards the

strategic goals for government is a key step towards transforming government into an entity that can keep abreast of the needs, requirements and expectations of today's modern world. The benefits of computerizing revenue collection are many but there are some aspects, detailed below, those is especially important to a computerized revenue collection system or otherwise appear to be unachievable using traditional solutions

1.1.4 Revenue System and Collection in Kenya

In July 2005, KRA implemented a new Customs system (Simba 2005 System) to replace the Bishops Office Freight Forwarders Integrated Network (BOFFIN) system that was implemented in 1989. The Simba 2005 System encompasses TRADE-X, LEUK, PAYBOX_ and ORBUS modules (Okech and Mburu, 2011). The operations of the modules are; Simba 2005 system is similar to the customs administration system (GAINDE System) of Senegal. TRADE-X is the Customs clearance management module. LEUK provides Customs agents and Ship agents with on-line regulatory information including tariff research. PAYBOX module provides on-line contact between banks and Customs. ORBUS module facilitates electronic contact between Customs and Customs agents, Ship agents, carriers as well as regulatory government agencies.

Government of Kenya raises most of its revenue through enhancing elasticity of existing Tax systems that is rationalizing and regulating expenditure through strick fiscal controls (Murrithi and Moyi, 2003). The Tax structure generally consist of direct and indirect Taxes , regarding direct Taxes the factors that produce the incomes are assumed to pay the Taxes ,while for the indirect Taxes, households families and firms that consume the Taxed items pay the associated Taxes (KRA, 2013). Direct Taxes often include corporate

Tax, personal income Tax, withholding Tax, rental income Tax, Tax on interest in banks and presumptive income Tax.

Okech and Mburu (2011) argue that in revenue collection Tax administration is crucial in the implementation of a properly designed Tax. Tax administration consists of three interrelated activities. The identification of Tax liabilities based on existing Tax laws and the assessment of Taxes to determine if the Taxes actually paid are smaller or (large) than liabilities and the collection prosecution and penalty activities that impose sanctions on Tax evades and ensures that Taxes and penalties due from Tax payers are actually collected.

1.2 Research Problem

In today's competitive, fast-paced business landscape, getting the most out of available resources is not an option but rather a requirement. Organizations are taking a highly proactive approach to systems modernization and operations in an effort to increase efficiency and effectiveness in their operations. System modernization allows organizations to upgrade to new platforms of their systems in order to enjoy maximum benefits (Amin, 2000). Revenue system modernization improves the ability of an organization to collect more revenue with minimal costs. System modernization provides measureable improvements in the efficiency and effectiveness of development and maintenance activities with on-time delivery and predictable quality (UNCTAD, 2008). The dependence of the revenue of the State on a sound tax system is built on the core business of any tax administration organization in the levying, collection and control of taxes imposed by the government.

The KRA Customs Services Department (CSD) accounts for over 45% of all our revenue collection. The department's functions are geographically scattered throughout the country and include air and sea port operations, border operations, x-ray cargo scanners, transit management, trade statistics management function (KRA, 2013). The core businesses of the department are Collection and accounting of revenue, security and trade facilitation, compilation of trade statistics for economic planning and enforcement of prohibitions and restrictions. Up until 2005, the department was known as the Customs & Excise Department incorporating both the customs and domestic excise collection functions. Removal of the domestic excise collection function from the general Customs administrative function to Domestic Taxes Department was the first major Customs modernization initiative in KRA (KRA, 2013). This move was spurred by the need to streamline the Customs administration to focus on the core customs functions of trade facilitation and border protection while also enhancing customs revenue collection.

Globally, several scholars and researchers have reviewed revenue system modernization and revenue collection. Gidisu (2012) did a study on the automation system procedure of the Ghana Revenue Authority on the effectiveness of revenue collection using a case study of customs division. Gidisu (2012) established a positive impact of automation system usage and the cost of tax administration, automation and effectiveness of revenue collection. Wasilewski (2000) studied the economic development and taxation system by comparing the case of Brazil and Japan. Japan's experience demonstrated that a country does not need to postpone a real change in the tax structure until it achieves a high stage of development. Rather, a modern system can stimulate economic growth and enhance

the domestic market. In Brazil, on the contrary, low-income taxpayers bear most of the tax burden. Taxes on consumption and on circulation of goods, rather than on income and on property, predominate in the system. Gasteiger (2011) did a study an automated enrolment projection system and established that the system provides multiple scenarios that allow senior management in a multi-campus university system to generate multiple income scenarios, enabling them to make well-informed decisions concerning the operation of their institution and timely calculation and allocation of resources to academic departments.

In Kenya, Kioko (2012) did a study on the comparison between representative tax system and macro basis for revenue equalization systems in Kenya. The study indicates that the macro model performs better the variations in funds allocated to counties than the representative tax system. Kibe (2011) reviewed the use of geographical information systems to enhance revenue collection in Local Government. The study established that planning for revenue collection can best be carried out by a system that combines spatial and attribute data management capabilities like geographical information systems. Njenga (2009) did an analysis on revenue productivity of the Kenyan Tax System by finding ways of bridging fiscal deficits. From the discussions above, it is evident that limited studies if any have concentrated on the relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya. Specifically, the Simba system used in customs. This study therefore sought to fill this research gap by answering the question: What is the relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya?

1.3 Research Objective

To determine the relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya with regard to the Simba System.

1.4 Value of the Study

This study would be significant to several stakeholders:

To scholars and academicians, this study would increase body of knowledge to the scholars of revenue system modernization and revenue collection in the Kenyan. It would also suggest areas for further research so that future scholars can pick up these areas and study further.

The study would also be important to the Government especially the Ministry of Finance (Kenya Revenue Collection Authority) for making policy decisions whose overall objectives is to influence the level of economic activity and manage public debt.

Finally, for importers and exporters, the findings of this study would inform them on the changes recorded in the clearing systems in the Kenyan Customs Department.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the study reviews literature by different scholars that focuses on the relationship between revenue system modernization and revenue collection. First, it briefly reviews the theoretical models on which the study is build before reviewing the empirical studies relevant to the subject. The chapter then proceeds to present the chapter summary.

2.2 Review of Theories

2.2.1 Technological Determinism

Technological determinism (TD), simply put, is the idea that technology has important effects on our lives. This idea figures prominently in the popular imagination and political rhetoric, for example in the idea that the Internet is revolutionizing economy and society. According to the Technological Determinism theory wherein this study underlies, technology, specifically media decisively shapes how individuals think, feel and act and how societies organize themselves and operate. The thinking behind this theory is that we shape our tools, and in turn they shape us. Wood (2004) indicates that as an example, the computer is one technology that has promoted in society expectations of immediacy, and ability to multitask by engaging in several tasks simultaneously or in overlapping and interactive ways.

Inventions in technology have made it convenient to perform any form of transaction. Hall, an anthropologist has these human historical developments (inventions and innovations) as follows: Today man has developed extensions for practically everything he used to do with his body. The evolution of weapons begins with the teeth and fist and ends with the atom bomb (Whitey, 2000). Clothes and houses are extensions of man's biological temperature-control mechanisms. Furniture takes the place for squatting sitting in the ground. Power tools, glasses, Television, telephones and books which carry the voice across both time and space are examples of material extensions. Money is a way of extending and storing labor. Our transportation networks now do what we used to do with our feet and backs. In fact, all man-made material things can be treated as extensions of what man once did with his body or some specialized part of his body (McLuhan, 1962)

TD has also had a long and controversial history in the social sciences in general and in organization studies in particular. Critics of TD argue variously that technology itself is socially determined, that technology and social structures co-evolve in a non-deterministic, emergent process, or that the effects of any given technology depend mainly on how it is implemented which is in turn socially determined. Given the proliferation of new technologies in modern capitalism, the TD debate is continually renewed.

2.2.2 Theory of Social Determinism

The theory of Social Determinism which also impacts this study to some extent was developed as a reaction to McLuhan's theory of Technological Determinism. MacKenzie and Wajeman (1999), and later Wiebe and Law (1992), make passionate arguments concerning the impact of social and economic factors on technology. According to them,

it is the human race which shapes technology and not vice versa, because technologies are continually re-interpreted by users and given new, often unexpected trajectories. While the internet was first used as a communication and information searching engine, it has now developed to other uses including E- business, marketing media and social interactive media.

The central premise of this theory that Mackenzie and Wajeman (1999) refer to as the 'social shaping of technology' (SST), was that what matters is not technology itself, but the social or economic system in which it is embedded. Their view provides an antidote to what they call "naïve Technological Determinism" and caution that those who have not recognized the ways in which technologies are shaped by social and economic forces have not gotten very far. They dismiss the theory of Technological Determinism as mere "technological politics" that has fascinated historians, philosophers, and political scientists. Bijker and Law also make a forceful argument that the idea of 'pure' technology is nonsense. Technologies always embody compromise. Political, economics available raw material all of these are thrown into the melting pot whenever an artifact is designed or built. Technologies do not, we suggest, evolve under the impetus of some necessary inner technological or scientific logic. They are not possessed of an inherent momentum. If they evolve or change, it is because they have been pressed into that shape (1992).

Williams and Edge (1996) hold the same view and posit that organizational, political, economic and cultural factors do influence the design and implementation of technology. The above arguments do suggest that it is not only technology that affects society, but that social factors do affect technology as well.

2.3 Determinants of Revenue Collection

Tax revenue collection is one significant issue of economic development in an economy because of its relationship to finance government projects. The economic resources available to society are limited, and so an increase in government expenditure normally means a reduction in private spending. Taxation is one method of transferring resources from the private to the public sector, but there are others for example: creation of more money, to charge for the goods and services it provides or to borrow. Taxation has its limits as well, but they considerably exceed the amounts that can be raised by resorting to the printing press, charging consumers directly, or borrowing. So while governments often use all four methods of raising resources, taxation is usually by far the most important source of government revenue.

Aamir, Qayyum, Nasir, Hussain, Khan and Butt (2011) identified restructuring of the tax system as an important determinant in an economies revenue collection. Restructuring the tax system at federal level was central to the entire process of economic reforms. Direct tax reforms at federal level formed key component of wider reforms in fiscal and economic sector of Pakistan. Like in other developing countries, in India also the tax reforms aimed at correcting fiscal imbalances (Panday, 2006). The rise of the value-added tax (VAT) around the world has been one of the most important tax developments of recent times. This tax is considered to have advantages compared with other taxes, because it eliminates cascading, allows for zero rating of exports, and is broad based and difficult to evade. A very slightly modified form of VAT was general sales tax (GST) which was imposed in Pakistan in 1991 tax reforms.

Another key determinant of revenue collection is the tax reforms in a country. Osoro (1993) examined the revenue productivity implications of tax reforms in Tanzania. In the study, the tax buoyancy was estimated using double log form equation and tax revenue elasticity using the proportional adjustment method. For the study period, the overall elasticity was 0.76 with buoyancy of 1.06. The study concluded that the tax reforms in Tanzania had failed to raise tax revenues. These results were attributed to the government granting numerous tax exemptions and poor tax administration.

Chipeta (1998) evaluated effects of tax reforms on tax yields in Malawi for the period 1970 to 1994. The results indicated buoyancy of 0.95 and an elasticity of 0.6. The study concluded that the tax bases had grown less rapidly than GDP. Kusi (1998) studied tax reform and revenue productivity of Ghana for the period 1970 to 1993. Results showed a pre-reform buoyancy of 0.72 and elasticity of 0.71 for the period 1970 to 1982. The period after reform, 1983 to 1993, showed increased buoyancy of 1.29 and elasticity of 1.22. The study concluded that the reforms had contributed significantly to tax revenue productivity from 1983 to 1993.

Teera (2002) examined the tax system and tax structure of Uganda to investigate the factors effecting tax revenue in the country. He used the time series data of the period 1970 to 2000 and estimated a model. His results showed that agriculture ratio, population density and tax evasion affect all type of taxes. GDP per capita showed the surprising negative sign. Tax evasion and openness (as measured by import ratio) showed the significant negative impact. Aid variable showed positive sign since aid in Uganda always supported imports especially raw material so not surprisingly.

2.4 Review of Empirical Studies

Muriithi and Moyi (2003) did study tax reforms and revenue mobilization in Kenya. One of the key objectives of tax reforms in Kenya was to ensure that the tax system could be harnessed to mitigate the perpetual fiscal imbalances. This would be achieved through tax policies intended to make the yield of individual taxes responsive to changes in national income. In addition, it was expected that the predominant taxes in the revenue would be those with highly elastic yields with respect to national income (or proxy bases). This study applies the concepts of elasticity and buoyancy to determine whether tax reforms in Kenya achieved these objectives. Elasticities and buoyancies are computed for the pre-reform period as well as the post-reform period. Evidence suggests that reforms had a positive impact on the overall tax structure and on the individual tax handles. In fact, the elasticity of indirect taxes was low and that of direct taxes was high, especially after the reforms. Despite this positive impact, the reforms failed to make VAT responsive to changes in income, although VAT was predominant in the tax structure.

Odundo (2007) did a study on change management practices adopted by Kenya Revenue Authority in its reform and modernization programme. The objective of this study was to determine the Change Management Practices adopted by KRA. The study was conducted through a case study of KRA. It was found that there have been a lot of changes in the firm that have prompted the management to effectively manage change. New departments have been created, others merged while others split in a bid to deliver better services to clients. Similar to organizations, resistance to change was inevitable but the management was able to contain the pressures that wanted status quo to prevail.

The changes have been mainly internal where the change agents have been incorporated into the management system to specifically deal with the issue of change management. Through the strategic plan, KRA has laid down the objectives that each department has to channel its resources and energy towards. The company had long anticipated the changes and had prepared itself to embrace them and deal with those who do not believe in questioning why things must remain the same.

It can be concluded that in undertaking the Reform and Modernization Program, KRA's management should consider that change management, communication, automation and staff involvement are essential components that will determine program success. Priorities are to ensure that from the onset and throughout the reform period, comprehensive change management and communication initiatives are undertaken and that there is technical capacity to design a credible implementation strategy. This will facilitate the necessary buy-in from management and staff, and the wider public and ensure reforms are implemented on a common platform. While reforming itself, KRA has to consider regional issues such as the development of the East African Community, and the move towards the East African Federation. Consideration will be given to what the other East African countries are undertaking in reform of their revenue bodies.

Kariuki (2009) did a study on systematic change management at Kenya revenue authority. Kariuki argues that the Kenya Revenue Authority presents such a striking example of a complex organization in the public sector that has successfully embraced change. It has emerged as one of the most successful public sector organizations in Kenya. This achievement was primarily a culmination of measures and reform agenda focusing on automation of manual processes (KRA, 2009). The Kenya Revenue

Authority had modernized its procedures to eliminate bureaucracy that is common in public corporations. To get a complex organization that has modernized and reformed its systems is worth studying at least to find out how the Kenya Revenue Authority management succeeded.

The objectives of this study were to establish systemic change management practices employed by the Kenya Revenue Authority in its quest to implement systemic changes and to determine the factors that led the management to change its systems. The case study method was preferred. The study concluded that KRA spared time to anticipate the systemic changes it was to undergo by conducting various studies, preparation of situational analysis reports and corporate plans/BSC spelling out the changes to be implemented and respective time frames. The study also concluded that systemic change have been successfully managed at KRA and the adoption of the new systems have resulted in the public being made more aware of what KRA is doing, staff becoming more technologically advanced, increased accountability among staff and improved corporate image of KRA. The study recommended that for the staff to fully appreciate and use the KRA new systems comfortably there is need for more training in IT skills, more involvement of all stakeholders and provision of computers to all staff

Fernando (2010) studied the Flypaper Effects and Costly Tax Collection. This effect refers to the greater response of public spending to grants than to the tax base. This study presented a robust evidence consistent with costly tax collection being a determinant of the paper effect which reflected the observed greater responsiveness of local government's spending to increases in grants than to increases in local income. In the model, the cost difference between transfers and local taxes is driven by the local

government's failure to internalize the cost of funding the transfer scheme. This result points out a potential source of inefficiency in fiscal decentralization processes with overspending at local level.

Sigey (2010) did a study on the impact of automation as a structural change strategy on customs clearing procedures at Kenya Revenue Authority. The purpose of this study was to establish the impact of automation on clearance procedures in the customs service department of the KRA. The study sought to establish whether automation has resulted to efficient service delivery at the customs service department, to establish if automation had 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. 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.

Nkote and Luwugge (2010) reviewed the relationship between automation and customs tax administration using empirical evidence from Uganda. The results and evidence from the Uganda Revenue Authority (URA) suggested that whereas automation leads to efficiency of tax administration, this was rejected as automation had not led to efficiency through cost reduction, reduction of clearance time and effectiveness. The implications

were that URA achieved the computerization of customs tax administration at an increasing rate of costs due to incomplete automation of all the systems.

Secondly, the impact of automation on the clearance time of cargo meant that the computerization of customs tax administration at URA failed to fully solve the delays in the clearance time, hence, not realizing the purpose of automation. Thirdly automation impacted minimally on the effectiveness of revenue collection as the increase in effectiveness was prior to automation. From a policy standpoint, the results suggested that automation leads to cost reduction. However, the complexity of automation resulting from integration of various heterogeneous disciplines means that its application to any process such as tax administration goes through phases and stages until the whole process is fully accomplished. This explains why automated customs tax administration is developed and adopted in phases, and dealing with the contributing factors like break downs and full automation can achieve noticeable efficiency.

Çakmak, Benk and Budak (2011) reviewed the Acceptance of Tax Office Automation System (VEDOP) by employees using factorial validation of Turkish adapted Technology Acceptance Model (TAM). The study examined the extent to which perceived usefulness (PU), perceived ease of use (PE), and attitudes (AT) toward VEDOP affect behavior intentions (BI). The data set of the study was obtained from the survey applied to 185 individual tax officials in the city of Zonguldak. Consistent with the hypotheses, the results in general provided that the core constructs of TAM namely PU, PE and AT are positively and significantly determine BI of automation system used by tax officials. As predicted, these three factors explained a large proportion of variance

in Behavioral Intention to use the VEDOP system. Internet and VEDOP training experience have not found to effect significantly.

Okech and Mburu (2011) did an analysis of responsiveness of tax revenue to changes in national income in Kenya between 1986 -2009. The study concluded that the Kenya tax system is neither income elastic nor buoyant. Additionally, the study further affirmed that all major tax components in the country are inelastic. Income tax and excise tax had unity buoyancies over the study period contradicting Muriithi and Moyi (2003) who found the two taxes to have had buoyancies of above 1. This difference could be explained by the various tax reforms that were introduced after the study by Murrithi and Moyi (2003) including the introduction of ETR facility, Simba system among others. Further, from the study, import duty was the most buoyant tax component while the VAT was the least buoyant. Major tax components were found to be inelastic based on tax-to-base inelastic however; import duty, excise duty and VAT had base-to-income elasticity of above 1, while income tax had approximately unity base-to-income elasticity. This leads to the conclusion that, DTMs impact favorably to all major taxes meaning that a large percentage of tax revenue comes from discretionary tax policy and not from pure responsiveness of tax revenue to changes in national income.

Lukorito (2011) did a study on information security threats and E-government initiatives at the Kenya Revenue Authority (KRA). The study had three main objectives. First it was to establish the security threats on e-government initiatives in the KRA. Secondly it was to establish the factors that facilitate security threats to e-government initiatives in KRA. Thirdly it was to determine the influence of security threats on e-government initiatives in the KRA. The study found out that software bugs, spamming and identity theft are the

most common threats at KRA. These threats are facilitated by inadequate training, years an employee has worked at KRA, out dated software and social media. ITMS and Simba system are the most used system and are also prone to many of the threats. The information from this research will inform policy makers, government IT departments and other interested actors in the field of IT and internet security on the way forward in terms of policy formulation and implementation towards security and sustainable E-Governance in Kenya.

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.

Ndonye (2012) analyzed factors affecting revenue collection in the ministry of state for immigration and registration of persons (MSIRP). The study was guided by the following specific objectives: to establish the effect of technology on revenue collection in the MSIRP, to establish the effect of government policy on revenue collection in the MSIRP, to determine the effect of integrity on revenue collection in the MSIRP and to establish the effect of staff capability on revenue collection in the MSIRP. The study found that 65% of the respondents strongly agreed that making online applications is challenging

among the people seeking the service due to lack of technological knowledge making it a challenge to revenue collection in the ministry.

Other challenges to the use of technology were: inadequacy of facilities for the use of technology, lack of knowledge and skills on the use of ICT in the collection of revenue among the revenue collection staff, resistance to change by the employees in the ministry, inadequate of ICT infrastructure in the ministry and the incorporation of the non automated system of revenue collection. Regarding the effect of government policy on the collection of revenue, the study found that 87% of the respondents indicated that there were no policies hindering the collection of revenue in the ministry. On the effect of Integrity on revenue collection, the study found that 42% indicated that there was corruption in the collection of revenue in the Ministry. The study finally found that 71% of the respondents indicated that the revenue collection staff in the ministry was inadequate and that they were not properly trained as indicated by 54% of the respondents. The study concluded that the use of technology, integrity, and revenue collection staff were a challenge to the collection of revenue in the ministry while government policy was not a challenge.

Abiola and Asiweh (2012) did a study on the impact of tax administration on government revenue in a developing economy using a case study of Nigeria. The study looked at the Nigeria Tax administration and its capacity to reduce tax evasion and generate revenue for development desire of the populace. The study made use of 121 online survey questionnaires containing 25 relevant questions. Descriptive statistics were used to analyze 93 usable responses. The study found among other things that increasing tax revenue is a function of effective enforcement strategy which is the pure responsibility of

tax administration. Nigeria lack enforcement machineries which include among other things, adequate manpower, computers and effective postal and communication system. The study concluded that diversification of revenue sources for economic development is very important if Nigeria must rank among equals in the improvement of the lives of her citizens. The focus on revenue from oil and gas amounts to putting all her eggs in one basket.

2.5 Summary of Literature Review

This chapter reviewed literature by other scholars and researchers on the subject of revenue system modernization and revenue collection. Nkote and Luwugge (2010) reviewed the relationship between automation and customs tax administration using empirical evidence from Uganda. Çakmak, Benk and Budak (2011) reviewed the Acceptance of Tax Office Automation System (VEDOP) by employees using factorial validation of Turkish adapted Technology Acceptance Model (TAM). Fernando (2010) studied the Flypaper Effects and Costly Tax Collection. This effect refers to the greater response of public spending to grants than to the tax base. Odundo (2007) did a study on change management practices adopted by Kenya Revenue Authority in its reform and modernization programme. Sigey (2010) did a study on the impact of automation as a structural change strategy on customs clearing procedures at Kenya Revenue Authority. Lukorito (2011) did a study on information security threats and E-government initiatives at the Kenya Revenue Authority (KRA). Kariuki (2009) did a study on systematic change management at Kenya revenue authority. Muriithi and Moyi (2003) did study tax reforms and revenue mobilization in Kenya. From the above discussion, majority of the studies have concentrated on the management of revenue modernization system. There is no

study that has concentrated on the relationship between system modernization and revenue collection. This study therefore seeks to fill this research gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explores the methodology that was used in this study clearly explaining the research design, the population of interest, data collection and data analysis. It explains sources of the data that was used, methods of data collection and the techniques that were used to analyze the collected data. It also explains the model used as well as clearly elaborate all the variables of interest.

3.2 Research Design

This study used of descriptive study design. According to Cooper and Schindler (2003), a descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people, or events. This study chose descriptive as its design because it seeks to explain system modernization and its impact to revenue collection at Kenya Revenue Authority using a case of Simba 2005 System. Ngechu (2004) notes that the choice of the descriptive survey research design is made based on the fact that in the study, the research is interested on the state of affairs already existing in the field and no variable would be manipulated.

3.3 Data Collection

The main source of data was secondary data from the Kenya Revenue Authority records. Information and data was collected from the KRA official website and other reports

maintained by Kenya Revenue Authority. The study collected data necessary for completion of the study. Monthly data was used for both periods of the study.

3.4 Data Analysis

Secondary data collected was coded and entered into Statistical Package for Social Sciences (SPSS, Version 19.0) for analysis. This particular package has chosen because it's user-friendliness. The study collected data on total revenue collected four (4) years before Simba System introduction and four (4) years after Simba System implementation. Data was presented in figures and tables, summary statistics of the mean, and standard deviation. In addition, the correlation matrix of the independent variables was created. The result of the regression of the model was then developed and tables used to show the regression results for the Country's performance.

3.4.1 Model Specification

In order to establish whether there is any relationship between Simba system performance variables and Revenue collection, the following multiple regression model equation was used before and after the implementation of Simba System.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where Y= Revenue Collected by customs service departments in Kshs

X_1 = Number of transactions completed (Monthly)

X_2 = Exchange rates (USD)

X_3 =Inflation (Consumer Price index)

X_4 = Operating Costs (Ksh)

ϵ = Error Term

This model was adapted from Nkote and Luwugge (2010) who reviewed the relationship between automation and customs tax administration using empirical evidence from Uganda and established that automation impacted minimally on the effectiveness of revenue collection as the increase in effectiveness was prior to automation. However, they included in their model policy provisions and complexity of automation as intervening variables.

The study compared the regression for the two periods under analysis (four years before the implementation of Simba System and four years after the implementation).

To test for the strength of the model and the effects of revenue system modernization on revenue collection at Kenya Revenue Authority, the researcher used chi-square test (X^2). Chi-square is a statistical test commonly used to compare observed data with data that one would expect to obtain according to a specific hypothesis. Chi-square test tests the null hypothesis, which states that there is no significant difference between the expected and observed result. System modernization has no effect on revenue collection at KRA.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents analysis, findings discussion of the study as set out in the research objective and research methodology. The aimed at establishing the study relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya with regard to the Simba System. The data was gathered exclusively from the secondary source which was Kenya Revenue Authority records.

4.2 Data Presentation

4.2.1 Independent Variables

The four independent variables were analyzed and presented as shown in figures 4.1, 4.2, 4.3 and 4.4 below. From these findings, operation costs for the period preceding the implementation of Simba system was lower than that recorded after the implementation of Simba system. The increases could however be attributed to general increases in the cost of living as indicated in the inflation rates. The numbers of transactions were more in the period after implementation of Simba system compared to that before Simba system implementation. The number of transactions increased tremendously after the implementation of Simba System as shown in the figure below.

Inflation over the study period was low over the period prior to implementation of Simba system except for the last year immediately before Simba system implementation when it

hit an all time high of 15.1%. After the implementation, the inflation rate was 10.57% which increased to 15.26 in the third year before slowing to 5.33%. Exchange rates over the study period show that the period preceding Simba system implementation experienced a strong local currency then depreciated in the period after Simba system implementation.

Figure 4.1: Operating costs

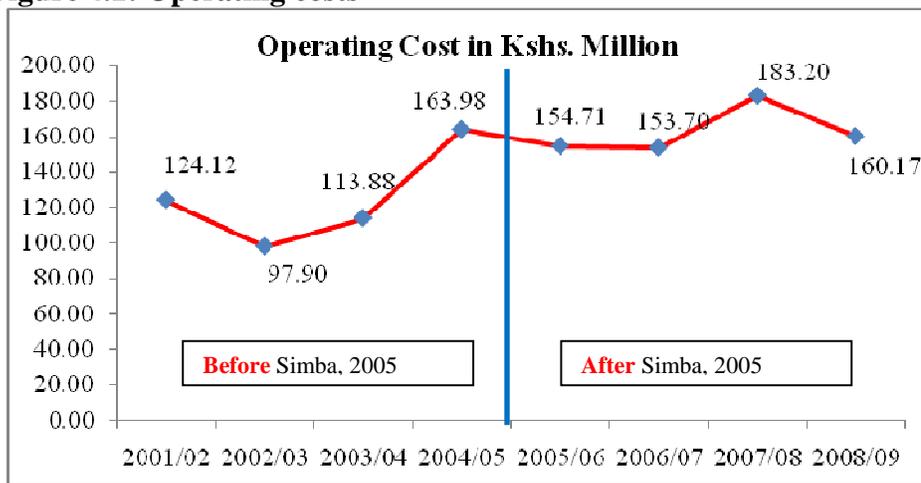


Figure 4.2: Number of Transactions Completed

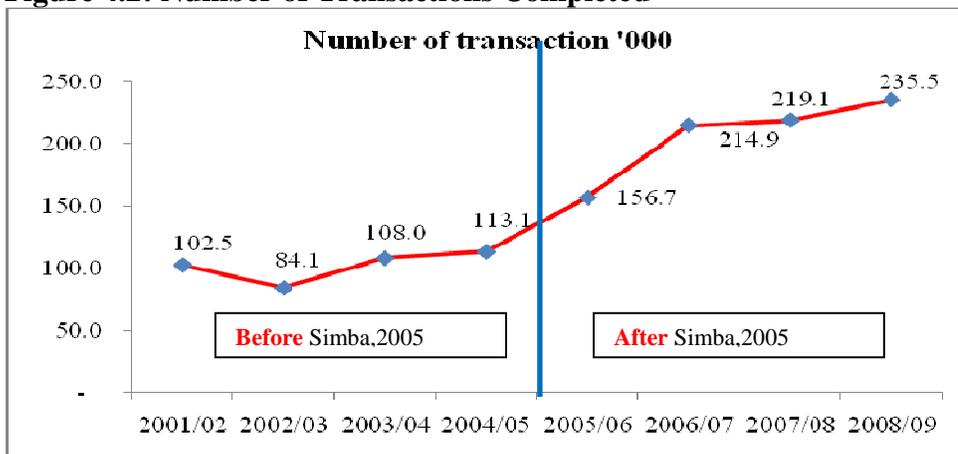


Figure 4.3: Inflation rates (Annual Averages)

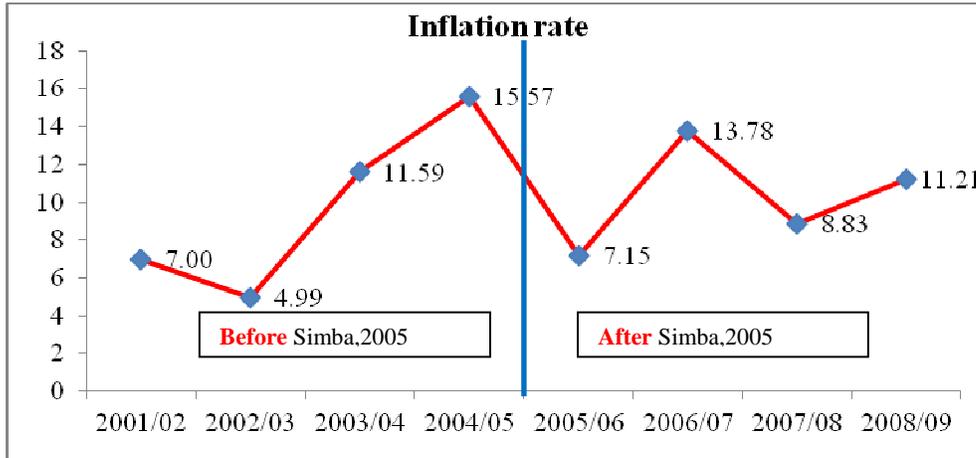
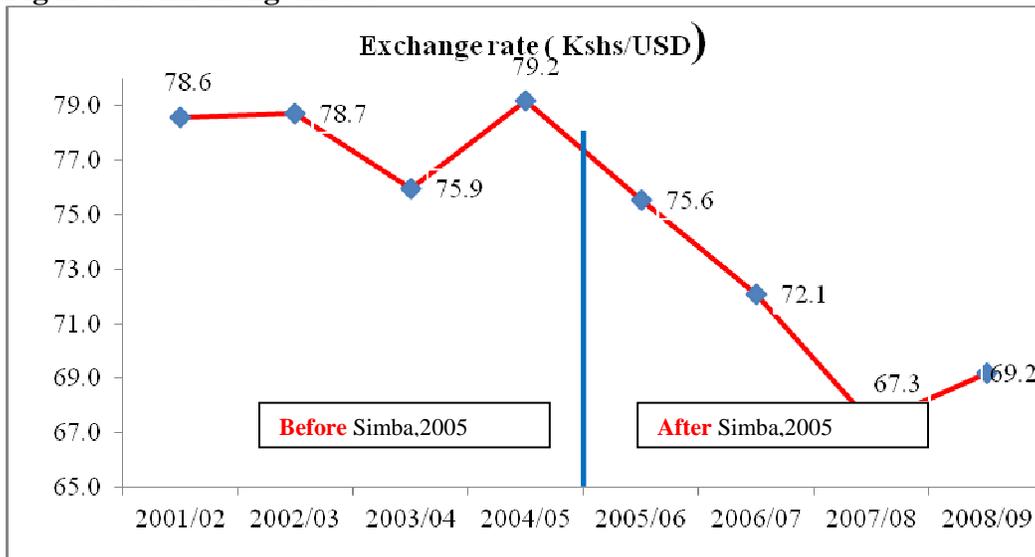


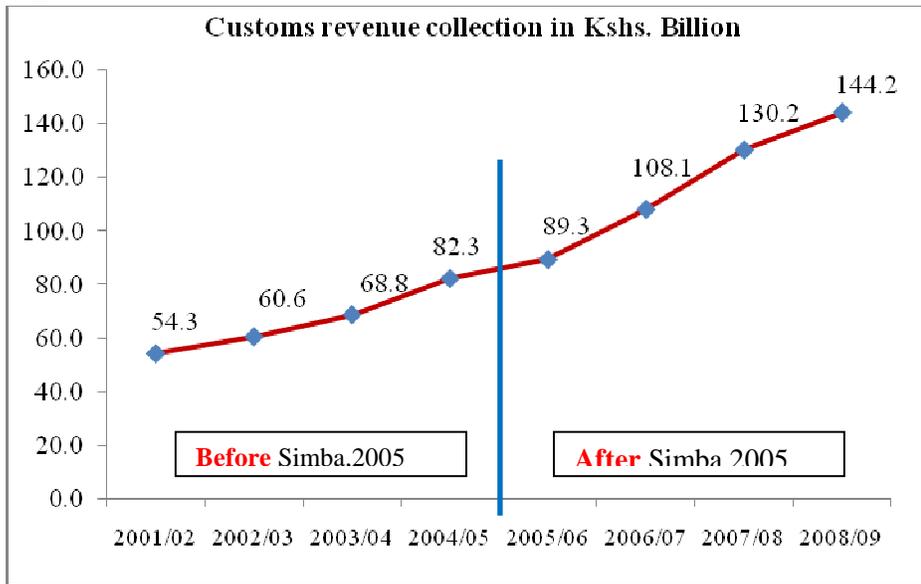
Figure 4.4: Exchange Rates



4.2.2 Revenue Collected

The study sought to find out the trend in variation of revenue collected by KRA within the study period. The findings were as shown in the figure 4.4 below and appendix I.

Figure 4.5: Revenue Collected



Source: (Kenya Revenue Authority, 2013)

From the findings, revenue collected increased at an increasing rate after the implementation of Simba system as compared to the increases recorded prior to the implementation of the system. As a result of system implementation, efficiency levels in the organization in revenue collection were high. This was largely because the implementation of Simba system allowed coordinated declaration of custom values in a centralized system regardless of the office location.

4.2.3 Regression Analysis

4.2.3.1 Regression Before introduction of the Simba System

The researcher conducted multiple regression analysis in order to determine the whether there was any relationship between Simba system performance variables and Revenue collection. Two regression models were used to compare the relationships one before and the other after the introduction of the Simba System. The study findings for the

regression analysis four years before the adoption of the Simba system were as illustrated in the table 4.1 below:

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.949 ^a	.901	.802	4.04917
a. Predictors: (Constant), Operating cost, Exchange rates (USD), Inflation (Consumer Price index), Number of transactions completed				

Coefficient of determination explains the percentage of variation in the dependent variable that is explained by the independent variables. It explains the extent to which changes in the dependent variable can be explained by the change in the independent variables.

From the analysis, the independent variables (Inflation measured by Consumer Price index, Number of transactions completed, Exchange rates against USD and operational cost) in this study contributed to 90.1% of the variation in the revenue collected as explained by adjusted R^2 of 0.901.

Table 4. 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	595.586	4	148.896	9.081	.028 ^a
	Residual	65.583	4	16.396		
	Total	661.169	8			
a. Predictors: (Constant), Operating cost, Exchange rates (USD), Inflation (Consumer Price index), Number of transactions completed						
b. Dependent Variable: Revenue Collected						

From the ANOVAs results, the probability value of 0.028^a was obtained implying that the regression model was significant in predicting the relationship between Revenue Collected and all the predictor variables as it was less than $\alpha=0.05$.

Table 4.3: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.859	8.653		.793	.472
	Number of transactions completed	.001	.000	.623	2.052	.009
	Exchange rates (USD)	-.002	.002	-.028	-.126	.906
	Inflation (Consumer Price index)	-.114	.044	-.489	-2.615	.049
	Operating cost	-.024	.000	.522	1.945	.024
a. Dependent Variable: Revenue Collected						

The researcher conducted a regression analysis so as to determine the relationship between Revenue Collected and the independent variables before introduction of the Simba system. The regression equation was:

$$Y=6.859+ 001X_1-0.002X_2-0.114X_3 -0.024X_4+4.049$$

From the regression model obtained above, holding all the other factors constant, the revenue collected will be Ksh. 6.859 billion. A unit change in the number of transactions completed holding the other factors constant will change the revenue collected by Ksh. 0.001 billion; A unit change in Exchange rates (USD) holding the other factors constant will change the revenue collected by Ksh. **-0.002** billion. A unit change in Inflation (Consumer Price index) holding the other factors constant will change the revenue

collected by Ksh. -0.144 billion. This implied that Number of transactions completed had the highest influence on the revenue collected followed by Inflation (Consumer Price index) and finally Exchange rates (USD). The obtained regression equation further implied that there was a direct relationship between the revenue collected and the number of transactions completed while there was an inverse relationship between the revenue collected and Inflation, Exchange rates (USD) and operating costs.

The analysis was undertaken at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was through comparing the obtained probability value and $\alpha=0.05$. If the probability value was less than α , then the predictor variable was significant otherwise it wasn't. Number of transactions completed, inflation and operating costs were significant in the model as their respective probability values were 0.009, 0.049 and 0.024 which were less than 0.05. However, the other variable was insignificant in the model.

4.2.3.2 Regression after the Introduction of the Simba System

The study further conducted a regression model for the period after introduction of the Simba system to establish the relationship between Simba system performance variables and Revenue collection. The findings were presented below.

Table 4.4: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842 ^a	.742	.691	5.394683
a. Predictors: (Constant), Operating cost, Exchange rates (USD), Inflation (Consumer Price index), Number of transactions completed				

From the analysis, the independent variables contributed to 74.2% of the variation in the revenue collected as explained by adjusted R² of 0.74.2

The study conducted an Analysis of Variance, in order to test the significance of the model. The findings were as shown below:

Table 4.5: ANOVA

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6374.586	3	2126.812	85.831	.000 ^a
	Residual	2395.324	104	28.335		
	Total	9386.972	107			
a. Predictors: (Constant), Operating cost, Exchange rates (USD), Inflation (Consumer Price index), Number of transactions completed						
b. Dependent Variable: Revenue Collected						

From the ANOVAs results, the probability value of 0.000^a was obtained implying that the regression model was significant in predicting the relationship between Revenue Collected and all the predictor variables as it was less than $\alpha=0.05$.

Table 4. 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.461	11.335		.723	.374
	Number of transactions completed	.002	.001	.846	12.641	.000
	Exchange rates (USD)	-.0053	.043	-.002	-.024	.093
	Inflation (Consumer Price index)	-.058	.018	-.261	-3.412	.001
	Operating cost	-.012	.002	.528	1.445	.003
a. Dependent Variable: Revenue Collected						

The researcher conducted a regression analysis so as to determine the relationship between Revenue Collected and the independent variables. The regression equation was:

$$Y=12.461+ 0.002X_1-0.0053X_2-0.058X_3-0.012 X_4 + 5.39$$

From the regression model obtained above, holding all the other factors constant, the revenue collected will be Ksh. 12.461 billion. A unit change in the number of transactions completed holding the other factors constant will change the revenue collected by Ksh. 0.002 billion; A unit change in Exchange rates (USD) holding the other factors constant will change the revenue collected by Ksh. -0.0053; a unit change in Inflation (Consumer Price index) holding the other factors constant will change the revenue collected by Ksh. -0.058 billion while a unit change in operating cost holding other factors constant will change the revenue collected by -0.012 billion. This implied that Number of transactions completed had the highest influence on the revenue collected followed by Inflation (Consumer Price index) then operating cost and finally Exchange

rates (USD). The obtained regression equation further implied that there was a direct relationship between the revenue collected and the number of transactions completed while there was an inverse relationship between the revenue collected and Inflation (Consumer Price index) Exchange rates (USD) and operating cost.

All the predictor variables in this study were significant in the model as their probability values were less than $\alpha=0.05$ as indicated by probability values of 0.000, 0.001 and 0.03 for number of transactions completed, Inflation (Consumer Price index) and Operating costs respectively except exchange rates whose probability value was 0.092 .Comparing the two regression equations, the revenue collected was higher after the introduction of the Simba system while operating cost increased significantly. Also the impact of operational cost on the revenue collected reduced in the second model implying that the Simba system contributed toward reducing the operational cost.

An analysis of the level of confidence at 95% revealed that three variables were significant in measuring the effects of system modernization on revenue collection while one was not significant. From the findings, number of transaction completed registered a significance of 0.009, inflation registered 0.049 while operating costs registered 0.024 which are below the threshold of 0.05. Exchange rate was found to have insignificant relationship in explaining the relationship.

An analysis of post Simba system implementation revealed that again the three variables were significant in explaining the changes in the dependent variable (revenue collected). Number of transaction recorded significance of 0.000, Inflation 0.001 while operating costs 0.003. These significance also show that these three variables were relevant in

explaining the relationship to revenue collected. Exchange rates recorded a significance of 0.093 which is above the threshold of 0.05 at 95% level of confidence hence insignificant in explaining the changes in revenue collected at KRA.

4.3 Summary and Interpretation of Findings

The number of transactions completed by KRA after it implemented a new Customs system (Simba 2005 System) to replace Bishops Office Freight Forwarders Integrated Network (BOFFIN) system that was implemented in 1989 had increased. Comparing the average of these transactions for four years before and four years after the implementation, the study findings established that the transactions increased significantly after the implementation process. The number of transactions, as established by the study, has positive relationship with revenue collection process, this means that due to revenue systems modernization a high number of imported consignments were processed and passed through the centralized Document Processing Center (DPC).

The study findings established that there was a significant increase in the the revenue collected after the implementation of a new Customs system in July 2005. prior to the introduction of the new system the average collections of revenue were low after which they increased significantly afterwards.

The study findings established that the exchange rates of Kenyan shillings against the United States dollar has been unstable over the period of study. The findings established that the revenue collected was inversely associated with the exchange rates . The study findings observed that the operating costs by the Customs Department increased significantly due the system trainings and sensitizations to KRA staff and clearing agents,

others costs with upward trends was costs on compliance audits which resulted to increased revenue . On inflation rate the study found out that the inflation rates were high as insicated by the consumer price index. there was no change in the inflation rates after the introduction of the simba system as the consumer price index remained high.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of key data findings, conclusions drawn from the findings highlighted and policy recommendations that were made. The objective of the study was to determine the relationship between system modernization and revenue collection at the Kenya Revenue Authority in Kenya with regard to the Simba System.

5.2 Summary

With regard to the number of transactions completed the study findings established that since the introduction of the simba system in July 2005, the number of completed transactions increased significantly over the following years. As at July 2001, the number of completed transactions were 9764 and monthly average was 9344 transactions. The number of transactions reduced over the year to close at 6567 as at June 2002. In the financial 2003/2004 on average 8002 transactions were completed per month. The following financial year 2004/2005 the average number of transactions in were 9344 per month. From July to October 2005, the transactions were recorded through parallel systems, both through simba system and Boffin system, then after full implementation of the system the number of transactions increased to an average of 10262 for the part of that financial year, this was from November to June 2006. Simba system was adopted in July and by December that year, the number of completed transactions increased to 11210. The following four financial years witnessed an increase in the average number of transactions per month where by in 2005/2006 an average of 16185 transactions was

completed per month while in 2006/2007, an average of 19199 transactions were completed while in 2007/2008 and 2008/2009, an average of 18561 and 20154 transactions were completed respectively.

The study findings established that there was a significant increase in the revenue collected after the introduction of the simba system in July 2005. In 2001/2002, the revenue collected amounted to 54.303 billion which increased to Ksh 60.595 billion in 2002/2003. The financial year after the implementation of simba July 2005/June 2006 the revenue collected amounted to Ksh. 89.309 billion. This depicted a revenue growth of 8.5%. The revenue collected increased continuously over the following years, were by in 2006/2007 the total revenue collected was Ksh 108.057 billion a percentage growth of 21% which increased to Ksh 130.174 billion in 2007/2008, and then finally Revenue increased to Ksh 144.170 billion in 2008/2009. Comparing the revenue collected before and after the introduction of the Simba system, the study established that more revenue was collected after the introduction of the new Customs system.

With regard to exchange rates, the study findings established that in the inception year 2001, the amount of Kenya shillings exchanged for a United States Dollar was Ksh. 79.02 as at July. on average, the exchange rates remained stable during the year . As at July (2003), the exchange rates against the dollar started at Ksh. 74.75 and then appreciated over to close the financial year at Ksh.76.72. For the year 2004/2005, the exchange rate appreciated higher to a rate of 81.02 in November and December. For the Financial year 2005/2006 , the exchange rates started at Ksh. 76.23. by December , they were at Ksh. 73.11. It then appreciated slightly for the remainder of the year to close at

Ksh. 76.68. For the year 2006, the exchange rate opened at Ksh. 72.21 then fluctuated slightly throughout the year to close at an appreciated level of Ksh. 69.6 in December. For the year 2007, the exchange rate opened at Ksh.69.88 and appreciated to exchange at an annual high of Ksh. 63.30 in December. The year 2008 started at Ksh. 68.08. For the remainder of the year, the local currency depreciated continuously to close the year at Ksh.78.04 in December. For the year 2009, the exchange rate opened at Ksh. 78.95. Starting April till the end of the year, Kenya Shilling appreciated marginally to close the year at Ksh. 75.43.

From the findings, the inflation percentage rate as at July 2001 was 4.2, this decreased to 1.8 by December. After which it increased significantly to 13.7 by the end of the financial year. On average the percentage inflation was found to be 8%, 4.99%, 11.59% and 15.67% for four periods before Simba system respectively. Due to high inflation the cost operations were too high a year before Simba. Measurement for inflation was estimated from the Consumer price index which was recorded as stated below. In 2004, the consumer price index was 151.83 as at January. By August, the consumer price index had increased to 168.62 after which it increased further to 172.16 by December that year. Consumer price index was 174.41 as at January 2005 which further increased to 184.48 in May. By December 2005 the consumer price index was 185.18. In the year 2006, the consumer price index as at January was 201.25 after which by the end of the year, consumer price index was 199.52. In 2007, the consumer price index was at 220.72 in January after which it increased over the year to 233.28 by December. As at January 2008, the consumer price index was 260.94 followed by a sharp decline over the year to

close at 130.4 in December. In the year 2009, the consumer price index was at 135.6 by January which reduced to 102.90 by December.

5.3 Conclusion

From the findings, the study concludes that the implementation of the new Customs system (Simba 2005 System) to replace Bishops Office Freight Forwarders Integrated Network (BOFFIN) system in July 2005 has contributed to increased Revenue collection compared to the past four years before the implementation process. The study further concludes that there has been, the revenue collected is strongly related to the number of transactions completed, operating costs, the exchange rates and the inflation rate.

Comparing the number of transactions before and after the implementation of the Simba system, the study concludes that study concludes that the number of transactions increased after the implementation compared to the years before the implementation. The study further concludes that there is a direct relationship between number of completed transactions and the revenue collected. The study concludes that there is an inverse relationship between inflation rate and the revenue collected. The study further concludes that the inflation rate has been relatively high over the study period. The study also concludes that revenue collected is inversely related to exchange rates.

The study concludes that following system modernization at KRA, operational costs increased in tandem with the revenue collected. However, the rate of increase in revenue collection was higher than that in costs. The implementation of the new customs system enhanced revenue collection due to simplification of cargo clearance, reduced cases of

diversion and improved compliance. This therefore means that there was some level of efficiency brought about by system modernization.

5.4 Policy Recommendations

This study recommends that the policy makers should take ensure stable equilibrium for the exchange rates as they adversely affect the revenue collection process. The policy makers need to evaluate the best exchange rate policy for optimal economic development.

Secondly, the study recommends that the policy makers come up with policies to control the inflation rate in Kenya as it has it negatively affects the entire revenue collection process. The inflation rates need to be lowered in the as the findings established that high inflation rates resulted to increased operational costs.

Thirdly, the study recommends that, with development in technology, the KRA should adopt new strategies and systems that supplement the efforts of Simba system in revenue collection. Finally, the study recommends that the revenue collection process should be continuously revised so as to ensure that the number of transaction increases and that tax evasion is avoided. Policy makers should come up with policies that prevent the tax evasion in Kenya.

5.5 Limitations of the Study

A limitation for the sake of this study comprised of any factor that was present and could have hindered the attainment of this study's research objective. The study experienced several limitations. First, the data used was secondary data meant for other purposes and

was subject to various macroeconomic variables which may have influenced their construction. This may however limit the applicability of the data in other circumstances.

The respondents who were meant to provide data were reluctant in providing it claiming that the information requested may be misused thus expose the organization. To overcome this challenge, the researcher carried with her an introduction letter from the University of Nairobi to confirm that the information requested would only be used for academic purposes. The study also encountered a limitation of time where the study had limited time to completion. In order to meet the timelines, the researcher had to work extra hours with the data providers to ensure the study was completed on time. The study also faced financial constraints as it did not have enough funding to collect all observations so as to complement the secondary data collected.

5.6 Suggestions for Further Research

The study recommends that future studies be done to establish the effects of tax system adjustment on economic development in Kenya by taking into account the newly enacted Value Added Tax that was amended to include some of the items initially either zero rated or Vat exempted.

The study also recommends that future studies be carried out on revenue maximization strategies used by KRA in Kenya. Since Simba system implementation in the year 2005, KRA has been using several strategies in addition to system modernization to improve revenue collection. It would be appropriate to bring these into light.

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APPEDICES

Appendix I: Revenue Collected by Customs Service Departments in Million Kshs

Financial year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	TOTAL
July 2001 to June 2002	3,977	4333.2	4893.6	4394.4	3622.5	4851.3	4,694	4,007	4,403	5,313	4553.7	5260.5	54,303.90
July 2002 to June 2003	4157.1	4534.8	5129.1	4934.4	4587.3	5459.7	5,081	4,642	4,893	6,367	4818	5992.2	60,595.20
July 2003 to June 2004	4,988	4537.5	5705.4	5226.3	4841.7	6492	5,592	5,434	5,955	7,481	5320.2	7233	68,806.50
July 2004 to June 2005	6258.3	5806.2	7292.8	6538.8	6135.3	8729.0	6768. 6	5,771	6,543	8,093	6519.9	7819.2	82,275.60
July 2005 to June 2006	6005.7	6747.3	8154.6	7000.7	6541.7	8532.8	7,437	6,260	7,851	8,186	7432.734	9226.734	89,376.64
July 2006 to June 2007	7749.5	7756.1	9360.3	7873.2	7726.4	9866.1	8,473	7,646	9,343	11,645	8942.514	11679.39	108,061.79
July 2007 to June 2008	9891.9	9080.0	10968.9	10918.2	9727.9	15263.2	10266	8804	9809	13369.08	9895.304	12253.71	130,247.18
July 2008 to June 2009	10014.0	9915.2	12729.9	11702.6	10435.6	14402.4	11115	10156	1178 8	16316.81	10735.86	14907.18	144,218.83
July 2009 to June 2010	11686.6	10637.4	14882.6	12466.2	11708.5	16861.3	11845	11075	1399 7	16268.94	12646.88	16246.59	160,322.06

Source: (Kenya Revenue Authority, 2013)

Appendix II: Number of transactions completed (Monthly)

Financial year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
July 2001 to June 2002	9764	10438	8297	9290	9883	7819	9962	7385	7182	8030	7925	6567	102,542.00
July 2002 to June 2003	4413	3823	4600	5219	8931	7898	8596	7497	8003	8908	7568	8621	84,077.00
July 2003 to June 2004	7326	7053	7916	8025	8100	8408	10008	9772	10349	9998	9925	11151	108,031.00
July 2004 to June 2005	7945	7703	9113	8680	8729	9472	7943	10842	11381	10186	9687	11407	113,088.00
July 2005 to June 2006	8602	4859	10219	9894	10077	11210	15,406	15,718	17,011	19,106	17,634	16,972	156,708.00
July 2006 to June 2007	13,571	17,575	17,504	13,832	13,357	16,536	19,596	19,025	21,081	20,602	20,913	21,322	214,914.00
July 2007 to June 2008	17,376	19,879	15,988	15,693	15,686	23,231	18,161	15,245	18,022	19,944	20,404	19,486	219,115.00
July 2008 to June 2009	18,130	18,210	20,555	15,743	18,963	19,873	21,325	19,366	19,184	21,614	21,275	21,223	235,461.00
July 2009 to June 2010	19,338	20,793	22,999	15,939	17,573	21,224							

Source: (Kenya Revenue Authority, 2013)

Appendix III: Exchange rates (USD)

Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2001	78.61	78.25	77.75	77.5	78.54	78.62	79.02	78.91	78.95	78.97	78.96	78.69
2002	78.6	78.25	78.06	78.27	78.31	78.66	78.8	78.57	78.81	79.32	79.57	79.53
2003	77.72	76.84	76.58	75.66	71.61	73.72	74.75	75.96	77.9	77.77	76.74	76.02
2004	76.29	76.39	77.26	77.91	79.24	79.27	79.99	80.83	80.72	81.2	81.2	79.77
2005	77.93	76.94	74.8	76.15	76.4	76.68	76.23	75.81	74.1	73.71	74.74	73.11
2006	72.21	71.8	72.28	71.3	71.76	73.41	73.66	72.87	72.87	72.29	71.13	69.63
2007	69.88	69.62	69.29	68.58	67.19	66.57	67.07	66.95	67.02	66.85	65.49	63.3
2008	68.08	70.62	64.92	62.26	61.9	63.78	66.7	67.68	71.41	76.66	78.18	78.04
2009	78.95	79.53	80.26	79.63	77.86	77.85	76.75	76.37	75.6	75.24	74.74	75.43

Source: (Kenya Revenue Authority, 2013)

Appendix IV: Inflation (Consumer Price index)

Financial year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual Averages
July 2001 to June 2002	4.2	4	3.1	3.2	2.1	1.8	6.47	7.54	10.22	11.6	14.91	13.7	7.00
July 2002 to June 2003	2.15	1.81	1.78	1.87	2.65	4.1	9.14	9.85	8.32	7.58	4.66	5.94	4.99
July 2003 to June 2004	10.9	8.3	7.9	9	8.97	8.35	14.9	13.9	14.1	16	14.8	11.9	11.59
July 2004 to June 2005	8.54	15.8	19	18.3	16.6	16.3	15.4	18.9	19.1	14.9	13.1	10.9	15.57
July 2005 to June 2006	11.8	6.9	4.3	3.7	6	7.6	9.7	6.8	5.9	5.7	6.3	11.1	7.15
July 2006 to June 2007	10.1	11.5	13.8	15.7	14.6	15.6	9.3	10.58	11.76	15.95	18.6	17.82	13.78
July 2007 to June 2008	5.4	5.2	5.4	5.3	6	5.6	13.3	14.6	14.6	12.4	9.6	8.6	8.83
July 2008 to June 2009	17	18.3	18.6	18.6	19.5	17.8	4.7	5.2	4	3.7	3.9	3.2	11.21
July 2009 to June 2010	8.4	7.3	6.7	6.6	5	5.3							

Source: (Kenya Revenue Authority, 2013)

Appendix V: Operating Costs (Ksh)

	KSHS' .000'												
Years	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	TOTAL
July 2001 to June 2002	5,356	6936	6962	8545	9080	8596	9306	9045	9326	9213	9326	10732	124,124.00
July 2002 to June 2003	7982	8758	8987	8995	9931	11970	11200	10764	10872	10996	11691	11978	97,901.90
July 2003 to June 2004	5977	6684	7958	7866	7161	8972	7405	7986.9	8739	9877	9674	9602	113,879.00
July 2004 to June 2005	5629	6639	7756	8791	8984	11895	9959	9673	9772	10932	11982	11867	163,977.20
July 2005 to June 2006	14025	13162	13828	13971	12862	12669.2	13952	13894	13926	13946	13767	13975	154,709.71
July 2006 to June 2007	12,289	11536	12849	12828	11589	13242	12780	12855	12957	13813	14040	135433	153,703.00
July 2007 to June 2008	13788	12569	14099	13893	12250	14049	13584.8	13715	13767	14753.6	14957.2	14181	183,195.86
July 2008 to June 2009	15286	13602	15349	14957.6	12912	14856	14390	14576	14577	15694	15875	14818	160,174.44

Source: (Kenya Revenue Authority, 2013)