AUTOMATION ACTIVITIES, CAPACITY BUILDING AND REVENUE COLLECTION PERFORMANCE AT KENYA REVENUE AUTHORITY

BY

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DECLARATION

Declaration by Candidate

I declare that this research project is my original work and has not been presented either in full or part of it for a degree in this University or any other.

Signed…… Date…….

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Declaration by the Supervisors

This thesis has been submitted with my approval as the university supervisor.

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DEDICATION

This research work is dedicated to my dad and mum for their continued financial support and encouragements while undertaking this course. To my Grandmother, Mary who always encourages me to work hard.

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ABSTRACT

The Kenya Revenue Authority has over the years failed to meet its revenue collection target. This has been associated with the systems that are still operating manually in the tax collection process. This study's general objective was examining the role of automation activities and capacity building on revenue collection performance in the Kenya Revenue Authority. The specific objectives were: to examine the role of process automation on performance in revenue collection performance at KRA; to assess the role of capacity building on the collection of revenue at KRA; and to determine the moderating effect of capacity building on the relationship between Process automation and revenue collection performance. The research was guided by the theory of public expenditure, technological determinism, and social determinism. Explanatory research design was employed. A sample of 384 employees working in the department of Domestic Taxes and Customs and Border Control Department were selected using a systematic sampling technique from a target population of 4108 employees working in the two departments. Questionnaires were used to collect primary data. Descriptive and inferential statistics were employed in data analysis. Descriptive statistics included means and standard deviations to describe the characteristics of the variables. Inferential statistics included correlation and regression analysis, which tested the relationship between variables. The study adopted Hierarchical regression model. The findings indicate that process automation (β = .618, p = 0.000, R^2.441, ΔR^2.374) and capacity building (β = .374, p= 0.000, R^2.540, ΔR^2.099) significantly influence revenue collection performance. In addition, capacity building moderates the relationship between process automation and revenue collection performance (β= -.098, p = 0.034, R^2.547, ΔR^2.006). This information provides practical solutions on process automation to KRA management as results of the study have shown a positive notable effect of process automation on revenue collection performance and therefore the management should ensure that the systems are improved continuously so as to match with the current technological situation. The study also provides practical solution on capacity building to KRA management, findings have shown a positive significant effect of capacity building on revenue collection performance and therefore the management should invest more in building capacity of its staff. KRA policy makers should develop policies on training programs such as ITAX, ICMS, and EGMS to enhance employee performance and improve their productivity.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

OPERATIONAL DEFINITION OF TERMS

Capacity building: It is a new build-up of capabilities. It relates to enhancing or strengthening a person's or organizations' capacity to achieve their goals (Kuhl, 2009)

Process Automation: Is the use of digital technology to perform a process or processes in order to accomplish a workflow or function (Amin, 2013)

Revenue Collection: This is the action by an agency of the government to collect financial liabilities due from the public. Revenue collection has been done from the early civilization in which government gets funding from the citizens to meet expenditure for the benefit of the public (Broadway, 2012).

Revenue collection performance: Refers to a system of management that measures revenue (Richard et al,2009)

ABBREVIATIONS AND ACRONYMS

DPC:	Document Processing Center
ECTS	Electronic Cargo Tracking System
EGMS:	Excisable Goods Management System
GDP:	Gross Domestic Product
ICMS:	Integrated Customs Management System
ICT:	Information and Communication Technology
ITMS:	Integrated Tax Management System
KRA:	Kenya Revenue Authority (KRA
NACOSTI:	National Commission for Science, Technology and Innovation
NTSA:	National Transport and Safety Authority
OECD:	Organization for Economic and Cooperation Development
PCA:	Post Clearance Audit
SME:	Small and Medium Enterprises
SPSS:	Statistical Package for Social Sciences
SST:	Social Shaping of Technology
TRA:	Tanzania Revenue Authority
UNDP:	United Nations Development Program
URA:	Uganda Revenue Authority
VIF:	Variance Inflation Factors

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter covers the study's background, statement of the problem, research objectives, research hypotheses, the study's significance, and scope of the study.

1.1 Background of the Study

The collection of revenue is the billing of the public or its members for fines, taxes and fees by a government agency. In Kenya, the government agency in charge of revenue collection is Kenya Revenue Authority, and its major revenue collection is from tax collection. The collection of revenue has become a critical aspect of many organizations, i.e., both public and private organizations. Revenue collection can be traced from the early historical civilization whereby governments obtains funding from the citizens aiming to maintain public operations for the good of its citizens (Broadway, 2012). Revenue is a form of financing that is received by an institution. For Kenya Revenue Authority (KRA), these are the tax receipts that form part of the Authority's main collections. On the other hand, the revenue collection system's automation involves the investment in a modern technology in the tax collection system to increase the amount of taxes collected. According to Haughton and Desmeules (2011), automation of the process at revenue collection points positively impacts the revenue collection.

The collection of Government revenue is the revenue received the government and utilized in financing its operations and developmental projects. It forms a crucial function of the government's fiscal policy since it facilitates government expenditure (OECD, 2008). Governments are required to accomplish several functions in the

political, social, and economic sectors that are aimed at maximizing the social and economic welfare of citizens. In performing such functions, a large amount of resources is required by the government which is obtained from taxes and administrative sources like fines, fees, gifts, and grants. Taxes form the largest part of the government's revenue and are used in the provision of common benefits to all citizens which take the form of public welfare services like building public schools, hospitals, constructing roads, and provision of security services. A tax payment is not a guarantee of a direct benefit to the citizens who pay for it; it is hence not based on the direct quid pro quo principle

Through technology adoption, Kenya Revenue Authority will meet its collection targets since there will be fewer instances of tax avoidance and tax evasion by the taxpayers. Nisar (2013) noted that recent public taxation trends highlight the need to develop a taxation assessment system and collection system for services received over the internet. Factors explaining this are, potential benefit of tax in building the state, reduction in foreign aid receipts, fiscal effects of trade liberalization, and financial and debt crises. Governments in developing countries face a number of challenges involving the collection of taxes, which causes a discrepancy in what they receive and what they ought to receive.

According to Awiata (2010) staff training has improved employees' knowledge, skills, and professional capacity though employees are yet to apply their full knowledge and understanding in various technical matters and hence becomes a challenge in meeting the revenue targets set by the government. In Kenya, minimal commitment to automated revenue collection systems, limited supervision of management, and

inadequacy in management information systems are the key drawbacks to the realization of good collection of revenue.

Manyasia (2012) notes that KRA faces a number of challenges and threats like the implementation of the new constitution, variations in the micro and macro electronic environment, customs demand, staff training in customer care, the formation of the cell Centre to address taxpayers' matters and this affects the collection of revenue and hence leading to missed targets by KRA.

Wasilewski (2010) in a study conducted in Japan noted that revenue collections were highly automated. This high collection was attributed to the automation of the tax process. Japan's Tax Revenue was reported at 12.55337 percent of GDP in 2008. Figure 1.1 indicates an upward trend in Japan's taxation revenue as a proportion of GDP. This was attributed to the automation of the tax system. In addition, the use of technology in the online receipt process has shown a significant influence on organizational success in developing countries. In comparison to the conventional receipt process, an online receipt is a value-added service that enables secure online contact among senders and receivers.

A number of aspects need to be ensured through an efficient receipt procedure. The first aspect is the authenticity of the origin and the receipt exchange must be confirmed, and both the sender and the impeding mechanisms for the adoption of the new technology must be confirmed to the receiver upon successful delivery of the receipt or in the case of a failure of receipt (Zhou & Madhikeni, 2013).

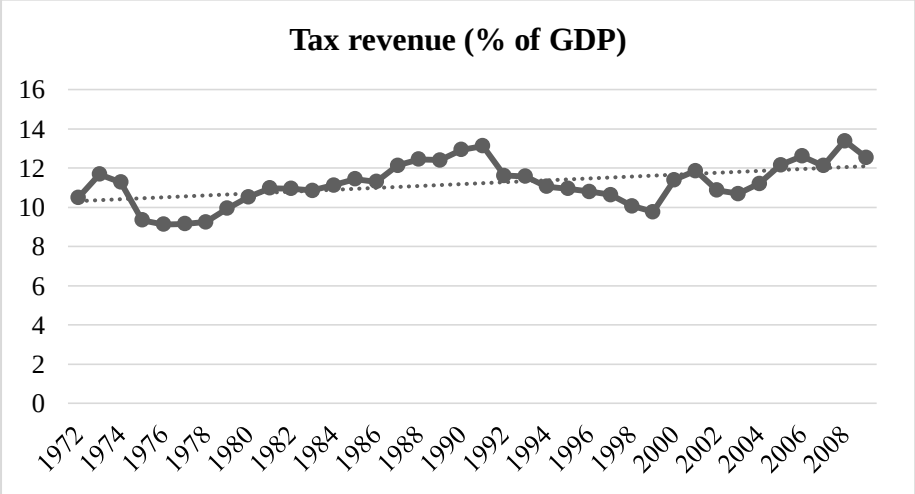

Figure 1.1: Japan Tax revenue as a percentage of GDP for the period 1972 to 2009
Source: (OECD, 2009)

In Uganda, Nkote and Luwugge (2010) suggested a positive correlation between automation and tax administration cost, automation, and revenue collection effectiveness while automation had a substantial negative impact on tax clearance time. The implementation of the Electronic Cargo Tracking System (ECTS) saved Uganda Revenue Authority (URA) $434,107 (sh1.2b) between May and November 2014, during which 9,350 consignments were tracked, and revenue collection rose from $534m in November 2013 to $644m in 2014.

In Kenya, KRA is tasked with the responsibility of collection of revenue on the Kenyan government's behalf in an effort to provide services to approximately 44 million people in the country, which has an annual increment of one million people (Macharia, 2016).

1.1.1 Kenya Revenue Authority

The Kenya Revenue Authority (KRA) was created by the Parliament Act, Chapter 469 of the Law of Kenya, taking effect on 1 July 1995. The body is responsible for raising revenue to be utilized by the Government of Kenya. The duties of the collection body shall be in the evaluation, collection and accounting of all taxes while complying with

the statutory provisions as explained in Part I and Part II of the First Schedule which relates to revenue. Advise on issues regarding the administration and collection of income in compliance with written legislation or the rules laid down in written legislation. They are also mandated to perform other activities as may be authorized by the Cabinet Secretary to the National Treasury. According to Gitaru (2017) KRA is a parastatal in Kenya with the mandate of collection of revenue for the government. Customs are responsible for the collection of revenue from imports and exports, but mainly from imported goods. Excise department collects revenue on all excitable goods and services manufactured in Kenya. Domestic taxes are responsible for all domestic taxes, for example, VAT, income tax both for individuals and corporations, and withholding taxes.

The Authority is under the minister of finance's general supervision as an agent responsible for collecting and receiving revenue. The collection body obtains approximately 95% of revenue from the government (Odundo, 2007) through taxes. Since the formulation of KRA, growth has been witnessed in revenue collection, in the financial year 2015/2016, revenue growth was 12.2%, in 2016/2017, revenue growth was 13.8%, and in 2017/2018, revenue growth was 5.1% average growth of 10.4%. This revenue growth could be associated with the automation of tax collection systems at the authority where several systems are used to collect revenue. The systems are I-tax, Integrated Customs Management System, Simba System, and Excisable Goods Management System, among others. However, several processes are still manually done, and Kenya Revenue Authority is yet to operate as a fully integrated organization (Yusuf, 2007).

Capacity building refers to the manner by which and organizations acquire, develop and maintain the expertise, experience, facilities, equipment and additional resources necessary to complete their job accurately. It helps individuals and organizations to operate at a greater capacity. Specifically, capacity building includes the human, scientific, technical, institutional and resource capacities of the organization. A core objective of this function is to improve the ability to assess and resolve key issues involving the choice of policies and implementation modes through planning options, which is based on understanding the environmental potentials and weaknesses and needs identified by the stakeholders of the organization concerned. According to UNDP 1991, Capacity Building is more involving compared to training. This involves improving human resources, improving individuals' understanding using knowledge sharing, expertise and access to information, knowledge, and training to work effectively. This is done by organizational development, elaborating management structures, processes, and organizational procedures, and the management of ties between various organizations and sectors. Development of the institutional and legal system, instituting legal and regulatory changes that will permit organizations, institutions and agencies in all sectors to improve their capabilities.

1.2 Statement of the Problem

Automation plays a crucial role in an institution; it influences the way people work, play, think, and interact with each other. Kinuthia and Akinnusi (2014) argued that modern revenue collection systems, such as e-payment, influence revenue collection performance. KRA (2012), states the institution's vision which is to be a current high, fully integrated, and client-oriented institution. This can only be possible when the systems are highly automated. According to Masese (2011), automation of the collection has improved operations of the Kenya Revenue Authority (KRA), by

minimizing tax evasion minimized and improving business efficiency, which has led to average growth of 15% in the past ten years.

However, despite the high investment in systems automation and numerous automation activities by the Authority, some of the revenue collection processes are still manual. Hence, leading to falsification of information, the automated process sometimes fails, and the staff capacity is not adequate to monitor all the taxpayers' activities thus giving taxpayers a room for tax avoidance and evasion. Therefore, resulting in unmet revenue collection targets by the Authority even after automation, forcing the government to source for expensive foreign funds that come with conditions to finance the deficit between the set revenue targets and the revenue collection performance. The numerous foreign debts also undermine the sovereignty of the nation. Despite the high investment in automation, KRA still misses the revenue targets annually; for instance, in 2014/2015 the authority missed targets by 3.54%, in 2015/2016, the authority missed the target by 1.023%; in 2016/2017, the authority missed the target by 4.645%, in 2017/2018, KRA missed target by 6.871%, in 2018/2019 the authority missed targets by 3.84% and from this trend its clearly shown that the revenue targets set by the government are realistic and can be met if KRA continues to improve its automation system and also increase its capacity building.

The government of Kenya depends more on revenue collected by KRA through taxation to deliver services to the citizens, and if KRA does not meet the government revenue targets it therefore means that the budget will always be in a deficit position. Therefore, government expenditure exceeds the revenue collected and therefore it will be hard for the government to fulfil its development plans like the big four agenda.

Kirimi (2015) conducted a study at the County Government of Meru, Kenya, on the impact of the revenue collection automation on organizational efficiency. The findings showed that the online automation of collection has had a substantial effect on results in the Meru County Office. The study centered on the automation of revenue collection processes and organizational efficiency, thereby establishing a contextual gap. Gitaru (2017) studied how system automation impacts the collection of revenue at the Kenya Revenue Authority, results showed that the revenues collected increased at a rising pace following the introduction of the Simba system since the study focused on system automation only it presents a conceptual gap because the current study focused on automation and capacity building on revenue collection performance. Osoro (2013) conducted a study on the implications of revenue productivity on taxation reforms in Tanzania. The study was done in Tanzania which presents a geographical gap. This study was based on the Kenya Revenue Authority. Sigey (2010) conducted a research on the effect of automation as a systemic improvement technique on customs clearance procedures at the KRA. The established that by introducing the Trade Simba system in the customs department, improved efficiency, effectiveness, staff skills, minimized costs and improved governance was experienced. This study by Sigey (2010) presents a conceptual gap since it only focused on effects of automation alone, the current study focused on the moderation effect of capacity building on the relationship between process automation and revenue collection performance.

There is therefore a need to carry out a research study to examine the role of automation activities, capacity building on revenue collection performance at KRA and also establish what can be done to ensure full utilization of these systems to achieve tax revenue targets.

1.3 Research Objectives

The following objectives guided the study:

1.3.1 General Objective

The general study's intent was examining the role of automation activities and capacity building on revenue collection performance at KRA.

1.3.2 Specific Objectives

(i) To examine the effect of process automation on revenue collection performance at KRA.

(ii) To assess the effect of capacity building on revenue collection performance at KRA

(iii) To determine the moderating effect of capacity building on the relationship between process automation and revenue collection performance at KRA.

1.4 Research Hypotheses

H_{01}: Process automation has no substantial direct effect on revenue collection performance at KRA.

H_{02}: Capacity building has no substantial direct effect on revenue collection performance at KRA.

H_{03}: Capacity building has no moderating effect on how process automation and revenue collection relate performance at KRA.

1.5 Significance of the Study

The study will benefit the Kenya Revenue Authority because it will avail information on the role of automation activities on revenue collection performance. The study collected data, analyzed data and summarized the research findings. These findings are

crucial to the Authority since it will provide a true reflection on the automation level and how it impacts revenue collection performance.

The senior management of the institution will find the study useful since it will provide practical solutions on automation and how it will help to improve revenue collection performance. A key issue to note is that the main mandate of the revenue authority is to collect public revenue as the agent authorized by the government. For this reason, the management should structure their activities in such a way that revenue collection is enhanced.

This study can also be of importance to the Republic of Kenya. This is because it provides valuable information on how to improve revenue collection by the Kenya Revenue Authority. Because of this reason, an enhancement of the revenue collection by the institution means that the Kenyan government will obtain more revenues that will increase public expenditure thereby improving the economy of the country improve its citizens living standards. Tax revenue is an important source of public finance and the process of tax administration should be as efficient as possible. Also, the study can be used by other scholars as it is a source of information and literature on automation and revenue performance.

1.6 Scope of Study

The studs examining how automation activities, capacity building, improves collection of revenue performance at KRA. Specifically, the study focuses on automation activities, capacity building, on revenue collection performance at Kenya Revenue Authority. The researcher collected primary data by administering questionnaires. The study targeted all the employees working in the Domestic Taxes Department and Customs and Border Control Department in KRA. The study was conducted in 2020.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section presents a literature review and theories on automation activities, capacity building and revenue collection performance at KRA. The chapter also outlines research gaps and the conceptual framework.

2.1 Concept of Revenue Collection Performance

Revenue collection involves the government agency's actions aimed at collecting outstanding financial liabilities from the public (GOK, 2010), it is the means by which government gets money from the public. Revenue collection is a relevant factor in fiscal policy and forms the largest share of the government expenditure in Kenya. The government agency in charge of revenue collection in Kenya is Kenya Revenue Authority and its major revenue collection is from taxes, though revenue is also collected from fees and fines. Taxation is one of the main channels through which governments all over the world collect revenue. It has been observed that developed nations are more advanced in terms of taxation policies which improve the collection of revenues collection while developing nations do not have efficient tax systems which limit their ability to collect more revenue (Kayaga, 2007), therefore leading to unmet revenue targets by the governments. The Kenyan government of Kenya acquires a majority of its revenue using taxation, the taxes are either direct or indirect taxes. Direct tax collection means that the tax incidence is borne in full by the entity/ individual that is responsible for paying it hence it cannot be transferred to another person (Yilmaz & Coolidge 2013). Examples of direct taxes are corporation tax, individual income tax, withholding tax, rental income tax, tax on interest and presumptive tax. Indirect taxes

are charges that are charged on goods and services (consumption), and include taxes like Value Added tax, excise duty and stamp duty.

Revenue performance is a system of management that measures whether revenue have grown or not. According to Purohit (2005) the performance of revenue is measured in a variety of ways, the first being the change in revenue for the last year as a proportion of the base year or successive years, which is an indicator of the revenue growth. The other method involves an estimation of growth relative to the base (income elasticity of the revenue), this method considers the changes in revenue relative to changes in the tax base.

Performance includes the actual outputs of an institution measured relative to its inputs (Richard et al., 2009). On the other hand, revenue collection performance is a system of management that measures revenue. The revenue collection performance process can be used to identify the factors that determine revenue, measures the performance of these factors and the actions to be taken to increase revenue. It also involves optimizing and quantifying marketing processes and helps in improving the effectiveness of the marketing effort so as to increase revenue.

According to Tax world report 2012, taxation in Africa was introduced by the colonial governments who performed administrative functions in those countries. After colonialist left, African countries maintained those tax systems and have gradually changed the systems to meet present needs and the facilitation of budgets. Centre for tax policy and Administration, (2011) indicated that South Africa and Nigeria have modified the tax systems to be able to effectively collect revenue and other revenue authorities have restructured their revenue systems by comparing them to such systems.

A sound tax system is one that shows qualities to increase revenue and discourages excessive government borrowing and which does introduce economic inequalities.

2.2 Concept of Capacity Building

This involves offering knowledge, understanding skills, access to information, and training which will improve their performance and efficiency (UNDP 1992). Berg (1993) further highlights that there are three main activities involved in capacity building. These include organization strengthening, procedural improvements and skill enhancement. This concept can be defined as the enhancement of an organization's ability to accomplish their missions effectively (McPhee and Bare 2001). Specifically, the concept involves empowering individuals thereby strengthening the ability of the Revenue Authority's employees to collect more revenue and engage in planning so as to achieve their set targets. In other words, capacity building is a continual process aimed at achieving self-awareness, internal evaluation and development towards a vision.

The capacity building process is very unique to every organization because needs to meet the demands of the organization at a specific stage of development, considering the context in which the operations of the organization are made and the objectives or goals it intends to accomplish. It can also signify various things to various people and depend on the context of each individual organization, their size, age, resources and what they feel they need. Chandller and Scott Kennedy (2005) described this concept as whatever is required to bring the non-profit to a new operational, programmatic, financial or organizational maturity level, so that it can advance its mission more effectively and efficiently in the future.

According to Hubbard 2005, there exists three forms of capacity building: individual, collective and organizational capacity building. Individual capacity building refers to the individual building up their own capacity to improve their own personal skills. Individual capacity building within an organization allows individuals to be successful in carrying out their work for the organization. Collective capacity building refers to supporting the community to work together towards common goals, it builds capacity to work collaboratively towards common goals. Organizational capacity building refers to the structure and systems that enable a group to succeed or meet the set objectives. In general, capacity building is an action which improves the efficiency of individuals, organizations, network or systems such as the financial stability of an organization, the service delivery of programs, quality of programs and growth. It is a long term process which improves abilities of individuals, groups, and organizations to perform better.

According to Collins, Smith, & Hannon (2006) capacity building is the effort to generate knowledge, skills and expertise to increase analytical capacity that is important in increasing productivity and sustenance of an organization. Peter (1996) stated that it is the ability of individuals, groups, institutions and organizations to identify and correct developmental issues over time.

Burke, R., (1999) defined monitoring as the process providing information and ensuring that the information is utilized by the management to assess the intentional and unintentional effects of processes and their impact. It entails determining if the intended objectives have been accomplished. Monitoring measures progress of project or program activities against the determined schedules and success indicators.

Evaluation involves the use of data and information relayed by the monitoring system to analyze the trends and impact of the project. In at should be noted that through the

monitoring of data a significant departure from expectations of the project might be identified, which may entail performing an evaluation that will examine assumptions and premises which form the basis of the project design.

2.3 The Concept of Process Automation

Process Automation refers to utilization of digital technologies to execute a process or process to perform a workflow or function. Automation of the collection of revenue is a situation where; the manual revenue collection system is replaced by new advanced technologies for collecting revenue. In the Kenya Revenue Authority, the use of latest technologies or machines will boost efficiency, convenience and increase the degree or level of transparency of revenue collection. Amin (2013), found that by automating the collection of revenue, transparency was increased and it was easy to supervise the revenue collection officers.

Automation is a technological improvement undertaken by business organizations to boost efficiency and meet the targets set, for Kenya Revenue Authority Automation is used to increase government tax collection while reducing loopholes in tax collection, particularly due to tax evasion. In addition, modernization of the revenue collection system requires investing in new technology, such as ICT, to update the revenue system to achieve convergence and knowledge exchange to increase the quality and efficiency of the system (Amin, 2013).

The frameworks used to Automate the revenue collection processes is crucial in enhancing and simplifying the administration of taxes using new technology such as ICT. KRA is committed to the technical transformation of tax administration mechanisms. For example, in the 2014-2015 financial year, the Board of Directors committed itself to raising the automation level within the Authority from 90.6% to

92.4%. Similarly, the 7th Corporate Plan aims to reduce the perception of corruption from the present 32% to 10% by: emphasizing equal focus on respect for and promotion of ethical behavior, by increasing technology use, improving cooperation with stakeholders and collaborating with partnering agencies, improving revenue mobilization by expanding the tax base, dealing with tax evasion through smart intelligence, and risk-based enforcement strategies, enhancing administrative capability, enhancing accountability and fairness through organizational change optimizing business processes, creating a secure, ethical, knowledgeable and helpful workforce, and facilitating business through the leveraging of technology to achieve full electronic service leading to improved operating efficiency and improved customer satisfaction.

I-Tax is a web-based framework implemented by KRA to simplify the collection of revenue in Kenya. I-tax replaced the online KRA system known as the Integrated Tax Management System (ITMS) which had some inefficiency due to semi-manual processes. Integrated Customs Management System (ICMS) is a system that facilitates the automated uploading of import and export freight information to prevent forgery and facilitates the sharing of information with I-tax for non-complaint traders. Excisable Goods Management System (EGMS) is also another system used by producers of excisable goods to account for excise tax.

2.3.1 Capacity Building as a moderator

Capacity building is a new buildup of capabilities (Kuhl, 2009). Capacity building is a concept that has different meaning for different people, but in general it refers to the strengthening of employees and organization capabilities to achieve the set organization goals and objectives. Capacity building is a continuous process in which people and

systems, that operate in a dynamic context enhance their abilities to develop strategies while pursuing the objective of increasing performance. Organizational performance can be effectively enhanced if employees acquire both internal and external capabilities.

According to Collins, Smith, & Hannon (2006) capacity building is the effort to generate knowledge, skills and expertise to increase analytical capacity that is important in increasing productivity and sustenance of an organization. Therefore, by looking at different definitions of capacity building the researcher believes that capacity building used as a moderator between process automation and revenue collection performance enhances the contribution of process automation to revenue collection performance.

2.4 Theoretical Review

Esper et al., (2008) argues that a good investigation should be based on theory. This investigation was based on the following theories, theory of public expenditure, technological determinism, and the theory of social determinism.

2.4.1 Theory of public expenditure

This theory was formulated by Peacock and Wiseman (1961). The hypothesis was based on the political theory of the determination of public spending, which notes that governments intend on spending more money, that people do not wish to pay more taxes, and that the government needs to consider the desires and requirements of its citizens. The theory intended to find an explanation of the circular trend or pattern of change in government spending in which corresponds to political economic growth while, simultaneously, restricting people's capacity to be taxed.

The above theory also holds that the expenditure buy the government is directly influenced by its revenue and taxation. To this end, the conclusion by the theorists was that as the economy and income grew, there would be an increase in tax revenue.

Because of this, there would be a rise in government expenditure corresponding to the Gross National Product (GDP). It was felt that the taxation level which acts as a constraint is tolerated. Additionally, there is a difference between taxation level desired and expenditure by the government (Baghebo, 2012). In the context of collection of revenue performance at KRA, the theory of public expenditure can be used in explaining the linkage between the government's efforts which include capacity building and process automation to collect taxes from its citizens to complete its agenda of development i.e. the big four agendas and the need to raise the required tax revenue.

2.4.2 Technological determinism

This theory is a reductionist theory which that states that technology is a social structure driving change and determines cultural values. Technological determinism changes the culture, structure, reporting line, norm and other aspects of an organization such as the conduct of operations. The theory makes an attempt to understand the impact that technology has on human action and thought. Developments in technology are the key sources of societal change. The theory is based on two main hypotheses which include; the belief that a society's technical base is the primary condition that impacts all forms of social existence and the belief that change in technology is the key source of societal change.

However, Chandler (2000) criticizes this theory and states that apart from technological issues, there exists other factors drive change such as political factors, class interests, economic pressures, educational background, general attitudes, and others.

In context of process automation technological determinism theory explains the link between Kenya Revenue Authority efforts to change its operations and increase revenue collection using technology.

2.4.3 Theory of social determinism

This theory was proposed by Mackenzie and Wajeman (1999). According to this hypothesis it is human beings that shape technology and not the reverse since technologies are constantly being reinterpreted by users and given new, unanticipated trajectories. While the use of the internet was primarily intended for communication and for looking for information, it has since developed to include other functions such as E- business, marketing media and social interactive media. Therefore, an assumption has been made by social determinists that progress in technological development is not only influenced by the society but the structures of power that are in existence in that society.

Mackenzie & Wajeman, 1999, state that the main construct called the 'social shaping of technology' (SST), meant that it is not the technology that matters but what is more important is the social and economic system to which it is attached. Their perspective is an alternative to what they call "naive technical determinism" and warns that those with limited understanding of the way in which technology is influenced by social and economic factors have not gone far enough. The theory has been dismissed as being merely "technological politics" that were of interest to historians, philosophers, and political scientists. This theory informs an independent variable which is process automation and the moderating variable which is capacity building because it explains the link between capacity building and technological advancement.

2.5 Empirical Literature

2.5.1 Process Automation and Revenue Collection performance

Kirimi (2015) conducted a research on the effect of revenue collection automation process on the efficiency of organizations efficiency in Meru County Kenya. The

findings showed that the online method of automating collection methods has had a substantial effect on results in the Meru County Office. We therefore argue in this study that process automation enhances revenue collection performance in Kenya Revenue Authority.

Madegwa, Makokha and Namusonge (2018) conducted a report on the impact of automation of revenue collection on the efficiency of Trans Nzoia County Government, Kenya. Their study findings revealed that this automation processes have a major influence on efficiency. In addition, their study showed that process automation processes promote effective management. The conclusion also showed that the online payment mechanism for such revenue collection processes has a substantial effect on the efficiency of the Trans Nzioa County Government Office. Furthermore, the study showed that risk management, tax data entry and that feedback impact institutional performance.

Gitaru (2017) studied the effect of device automation on revenue collection at the KRA. The study involved descriptive design and used secondary data. The results of the study showed that the amount of transactions increased significantly following the process of implementation, which indicated that a majority of imported goods were processed and transferred through the Centralized Document Processing Center (DPC) due to the automation of revenue systems. The results also showed that the revenues collected increased at a rising pace following the introduction of the Simba system. From this scheme, the shilling encountered a high local currency that then depreciated. In addition, there was a substantial rise in revenues obtained following the automation of the Simba system. Following the increase in number of transactions performed, the number of transactions increased during the time following the automation of the Simba

system. Therefore, it is important to note that automation of processes is key change to many organizations as it greatly affects performance and improves efficiency and effectiveness.

Ng'ang'a (2013) did a study to determine how automation impacts the international operations of Iqplus (K) Limited. The descriptive survey was found to be appropriate in this investigation. Data was obtained through the use of interview guides and selected respondents from the managerial positions. The analysis of data obtained was compared to theoretical approaches and cited works provided in the review of literature. Findings from the study showed that the automation of business process assists IQPlus in maintaining a competitive edge globally since the decision makers are able to track trends in the market together with the marketing activities competitors at both the local and international market. additionally, the findings showed that the process of automation, significantly improve the sales of IQPlus internationally. It also indicated that the process of automation of manual processes showed by the respondent's aids in the lowering of costs related to management, improves quality, and controls accessibility to critical private data. Automation has been viewed as a solution to firms that seek to have a competitive edge by increasing productivity and profitability.

Wanjiku (2017) studied the impact of service automation on the generation of revenue at the national transport and safety authority in Kenya. The study used the descriptive analysis design together with secondary data. Findings showed an important and negative relation between pre-automation revenue and post-automation revenue, but there was a weak negative relation between pre-automation revenue and post-automation revenue. The conclusion from the study was that service automation at the NTSA substantially impacted the collection of revenue. The recommendation was that

the management of NTSA improve its automated service in order to improve the generation of revenue.

Sigey (2010) conducted a research on the effect of automation as a systemic improvement technique on customs clearance procedures at the KRA. The population of the study consisted of licensed customs clearing officers. Respondents of the study included 101 licensed customs clearing agents based in Nairobi and Mombasa. The use of interview guides was employed in gathering information from the officers. Quantitative and qualitative research methods have been used to interpret the results.

The results from the analysis were used in compiling the report. It was hence established that by introducing the Trade Simba system in the customs department, improved efficiency, effectiveness, staff skills, minimized costs and improved governance was experienced. However, the study only concentrated on a single aspect of trade facilitation measures that is ICT development; nevertheless, it did not specify how harmonization of clearance procedures, Post Clearance Audit (PCA) and Risk management systems influence revenue collections at the Customs services department of KRA.

Kiema (2017) conducted a study on the influence of ICT support services on revenue collection by the KRA. This study used a descriptive research survey design. Primary qualitative data were primarily used in this analysis using the interview guide. The findings of the study showed that ICT support services had a substantial effect on the collection of revenue from the revenue Authority. The study concluded that the automation of such processes offered a substantial management because it enables efficient access to services and provides easy and quick input to the consumer. The study concludes that the level of enforcement among tax payers has increased due to

the strategies put in place by KRA, such as ensuring that all registered companies obtain a PIN, all employers obtain tax compliance certificates during the recruitment process, the blocking of tax defaulters and also the opening of service agents who can handle customers conveniently in different locations. ICT production is of vital importance to many companies in need of sustainable growth and increased productivity in operations and customer service.

Osoro (2013) did an investigation on the productivity of revenue implications of reforms in tax in Tanzania. In this study, an estimation of tax buoyancy was made using double log form equation and the elasticity of tax revenue by the proportional adjustment method. For the selected period, the general elasticity was 0.76 with buoyancy of 1.06. It was hence concluded that the taxation reforms the country had failed in revenue collection. The findings were attributed to the granting of many tax exemptions by the government and poor tax administration.

Zhou & Madhikeni (2013) investigated the systems, processes and challenges facing the collection of public revenue in Zimbabwe. The study argued that there is still a structuraland operational undermining of optimal revenue collection by limitations of income tax systems, lack of accountability in the collection and remittance of revenue process, and corruption within organizations that have been selected as recipients of revenue. The paper recommends for the reformation of the institutional and operational mechanisms that regulate the national revenue authority, strengthen the control by the treasury over all national sources of revenue, strengthen legislative oversight and public audit, and plug loose areas into income tax frameworks, and create transparency the process of remitting national revenue.

Ngeno (2018) analyzed how computerized enterprise resource planning strategy impactsthe collection of revenue in Kericho county, Kenya. The descriptive design was appropriate in this study which targeted senior staff in the county together with support staff. Analysis of the data was made using descriptive and inferential statistics and illustrated in the form of frequencies, graphs, charts, and figures. A multiple regression model determines the extent of the association between dependent and independent variables. Findings showed that the integrated internal control process had a positive substantial influence on the collection of revenue. It was hence concluded that integrated internal control process led to a reduction in the loss and risks pointed out by management that will be beneficial to the County governments. It was also established that increasing automation by a unit would increase the collection of revenue.

2.5.2 Capacity Building and Revenue Collection Performance.

Mbatha (2010) studied how human capacity building impacts the performance of small and micro enterprises in Kisumu City, Kenya and established that research, management, and training on development of policy among the SME sector should be more open and flexible to address the distinctive nature of the requirements of SME's.

Muthoni (2013) conducted research on the effect of capacity building on the financial performance and development of women owned by small and medium-sized enterprises in the Gikomba market, Nairobi County, Kenya. The study found that Entrepreneurship Training was crucial to improving the financial results and development of female SMEs. However, the fact that the majority of owners of small and medium-sized businesses were not educated in entrepreneurship; they lacked skills.

Panitah (2017) conducted a study on factors that face capacity building in project procurement processes in Kenya. Regression analysis was used in this investigation of the relation between variables and capacity building in project procurement processes. Findings revealed that resource availability was positively associated with the dependent variable (capacity building). Organizational culture and capacity building was interpreted as an estimated twenty-four percent a change in capacity building is explained by organizational culture. Organizational culture is positively correlated with capacity building and statistically significant. This implies that based on the sampled data, one would expect change in organizational culture that will influence capacity building; Organizational culture has a causal effect on capacity building.

Gull et al (2012) conducted a study on capacity building in private banking sector of Pakistan. Findings of the study concluded that capacity development influences employee performance positively. They found out that 56.2% of employee performance can be explained by employee capacity development.

Emmanuel (2013) study on capacity building and employee performance with reference to MTN communication Ltd in Ghana. Primary data was collected using questionnaires and regression analysis was used to show the relationship of the variables. Findings showed that training when given properly has a positive significant effect on employee performance. However, the study also established that training does not always answer job performance problems, reward systems such as salary, bonuses and allowances are also major ingredients which fuel performance of employees.

2.5.3 The moderating role of capacity building

Capacity building has several meanings and depends on the users and context within which it is used. Generally capacity building is a concept that deals with employee

training and development. Groot & Molen (2000) stated that capacity building refers to development of knowledge, skills and attitudes among individuals and select group of persons relevant to the design, development, management and maintenance of locally significant institutional and operational infrastructures and processes. Accordingly, this study argues that intensive employee training and growth moderates the relationship between process automation and revenue collection performance in the Kenya Revenue Authority and this enhances the morale of employees, which in turn leads to improved revenue collection performance and hence the Authority will be able to meet its targets.

Enhancing capacity building for staff of an organization depends on the ability and willingness of individuals within an organization to develop new skills, acquire knowledge, implement, and sustain change. Enemark and Willliamson (2004) defined capacity building as a process by which individuals, groups, organizations, institutions and communities increase their capacity to perform core functions, solve problems, identify and achieve goals, recognize and respond to their development needs in a wide and sustainable manner.

Brown, LaFond & Macintyre (2001) Capacity building study suggested that the majority of established organizations are engaged in capacity building to achieve growth goals and contribute to sustainability, which is seen as a long-lasting consequence of capacity building. It is therefore important for Kenya Revenue Authority management to invest more on building capacity for its staff as previous studies have shown that capacity building leads to realization of an organization goals and objectives, and hence through capacity building the authority will be able to improve on its revenue performance and achieve the desired tax revenue targets.

Ahmad, Farrukh and Nazir (2015) study on capacity building on employee performance in banking sector of Pakistan showed that building the capacity of an individual employee improves his or her performance as results showed a significant p-levels and hence they concluded that capacity building significantly affects employee performance. Though capacity building in Ahmad, Farrukh and Nazir (2015) study was used as an independent variable, the researcher believes that capacity building moderates the relationship between process automation and revenue collection performance which in turn enhances employee performance and hence increases revenue collection.

Wanyama and mutsotso (2010) did a study on the association between capacity building and employee performance among Kenyan banks. Their study has shown that capacity building has a positive relationship between organizational performance and capacity building, employee productivity and organizational performance. The study showed a strong perfect linear correlation between capacity building, employee productivity and organizational performance and hence concluded that organizations with high capacity building increases employee performance which in turn results to a higher organizational performance. In this study capacity building enhances the moderation effect of process automation and revenue collection performance at Kenya Revenue Authority.

2.6 Summary of Literature and Research Gaps

This chapter has explained the concepts of process automation, capacity building and revenue collection performance. It has also explained the theories that forms the study. The chapter has also explained the past literature and the research gaps that will be filled by this study. The framework that shows the relation between the independent variable (process automation), moderator variable (capacity building), and the

dependent variables (Revenue collection performance). The chapter summary and research gaps is explained by Table 2.1.

After the literature review there is an evidence that there is need for more research since more studies reviewed are only on automation and revenue collection performance and capacity building and revenue performance. There is also little attempt done in capacity building and revenue performance at KRA and therefore need to carry out a research on the subject. Capacity building has not been used as a moderator on the relationship between process automation and revenue collection performance and hence presenting a research gap.

Table 2.1: Chapter Summary and Research Gaps

Author	Focus of the study	Findings	Research gaps	Focus of the current study
Kirimi (2015)	Impact of revenue collection automation processes on the performance of organizations in Meru county Kenya	Online process of automating collection of revenues significantly impact performance in Meru County office.	The study focused on online process, online receipting process and online payment process of revenue performance on organizational performance. Thus presenting a context gap. The current study focused on KRA which collects revenue for the entire country.	Process Automation and Revenue collection performance.
Madegwa, Makokha and Namusonge (2018)	Impact of automation of collectionof revenue on the performance of county government of Trans Nzoia, Kenya.	Online process of automating collection of revenues significantly impact performance in Trans Nzioa county government	The study focused on automation of revenue collection and performance of County government and thus presenting a scope gap, because the current study was be conducted at national government level.	Process Automation and Revenue performance
Gitaru (2017)	Impact of system automation on revenue collection in Kenya Revenue Authority.	The study established that revenue collection increased at an increasing rate after the implementation of Simba system	The study focused on customs department. The current study focused on the two revenue departments' i.e. customs and border control, department of domestic taxes. Hence covering both I tax, ICMS and Simba systems. Therefore presenting a scope gap	Process Automation and Revenue Performance
Ng'ang'a (2013)	Influence of automation on the international operations of Iqplus (K) Limited	Automation of business process helps IQPlus in gaining a competitive advantage internationally as the decision makers study trends in the market as well as the marketing practices of competitors activities of rivals in the domestic and international market	The study focused on the automation on international operations of Iqplus Limited which is a private body. Thus presenting a scope gap.The current study was conducted at KRA a government body	Process Automation and revenue performance.
Wanjiku (2017)	Effect of automation of services on the generation of revenue at NTSA Kenya	The conclusion arising was that automation of service at the NTSA substantially impacted the collection of revenue	The focus of the investigation was on the generation of revenue at national transport and safety authority thus presents a scope gap. The current study was on revenue collection performance at KRA	Process Automation and Revenue collection.

Ngeno (2018)	The impact that computerized enterprise resource planning strategy has on the collection of the county's revenue in Kericho, Kenya	It was concluded that integrated internal control process lowered instances of loss of revenues and risks identified by the management for the benefit of the County governments	The study focused on integrated internal control process as a variable. The current study focused on process automation at KRA hence presenting conceptual gap.	Process automation and Revenue Collection Performance.
Muthoni (2013)	The impact that capacity building has on performance and growth of women-owned SME's at Gikomba market	The study established that Training on entrepreneurship was critical in enhancing financial performance and growth of women owned SMEs	The study focused on the effects of capacity building on financial performance of SMEs in Gikomba Market while the current study focused on the role of capacity building on revenue performance in KRA. Thus presenting a context gap.	Capacity building and Revenue Collection Performance

Source: Researcher 2020

2.7 Conceptual Framework

A concept refers to a notion of general ideas drawn from certain circumstances and needs that are not discussed and neither understood like a theory (Kombo & Tromp, 2009). On the other hand Mugenda & Mugenda (2003) defined a conceptual framework as a predicted model that identifies the model being studied and the relation between the variables.

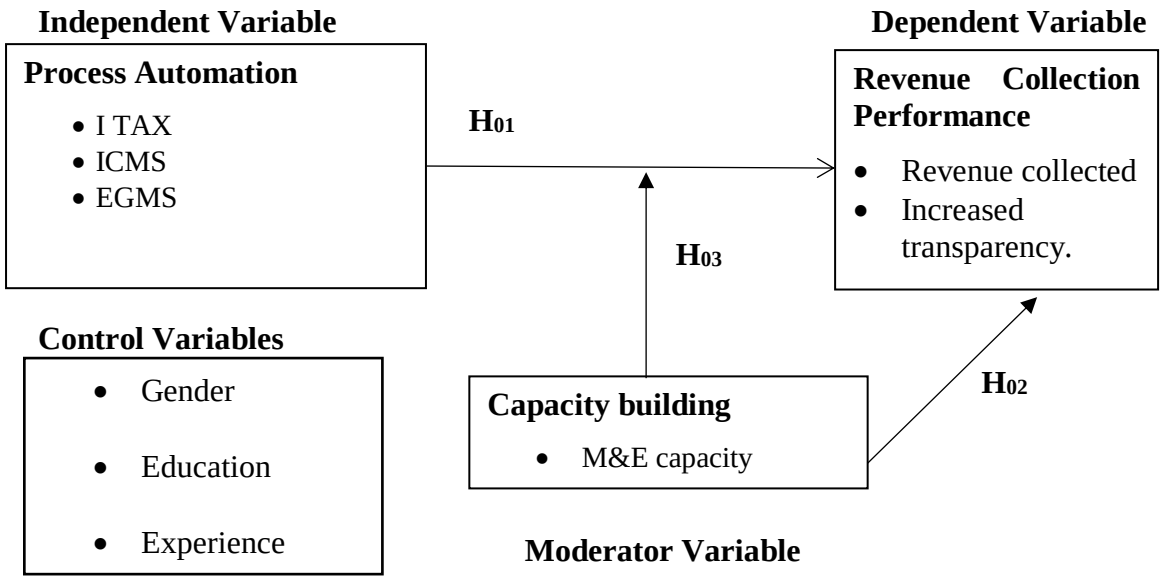

Figure 2.2: Conceptual Framework

(Researcher, 2020)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The chapter discusses the methodologies utilized in the study consisting of: the research design, study area, target population, sample size and sampling technique, pilot study, data collection procedures, analysis and reporting of the findings together with the ethical considerations.

3.1 Research Design

Saunders, Lewis, and Thornhill (2003) define a design as a unique blueprint for fulfilling research objectives in addition to answering research questions. Selecting a research design may be constrained by availability of array of techniques, methods, procedures, protocols, as well as sampling plans. The design is the plan for carrying out a study. It articulates the techniques and procedures that will obtain data, data measure, and analyze it. This study adopted explanatory design. According Saunders *et al*., (2011), explanatory research design is used in exploring a problem or a phenomenon to establish how the variables are related. Thus, this study aims at investigating the cause effect relationship between process automation, capacity building and revenue collection.

3.2 Study Area

The research was conducted at Kenya Revenue Authority Times Tower, Nairobi. It entailed the two revenue departments i.e. Department of Domestic Taxes and Customs and Border Control Department because these are the two revenue departments at the authority. The research was based at Times Tower, Nairobi because it is the headquarters of Kenya Revenue Authority.

3.3 Target Population

This refers to an entire group of people or events that exhibit similar features of interest to an investigator. This targeted population consists of elements that may be larger than or distinct from a sample from which the researcher makes conclusions on the targeted population (Mugenda, 2013). In this study, the unit of analysis was two KRA departments, that is, Department of Domestic Taxes and Customs and Border Control Department. Further, the unit of observation comprised of employees working in the two departments. There are approximately 4108 employees working in the two departments (KRA Report, 2018).

Table 3.1 Target population

Department	Population	Distribution
Domestic Taxes	2,269	261
Customs and Border Control	1,739	123
Total	4,108	384

Source: Kenya Revenue Authority Report, 2018.

3.4 Sample size and Sampling Technique

A sample contains a smaller but representative collection of units that is obtained from a bigger group and utilized by the researcher in making conclusions on the population of interest, while a sampling frame refers to a selection of the entire units in the population. The sampling technique is a method that is utilized by the researcher to select an appropriate sample that is representative of the population (Cooper &Schindler, 2003). This study adopted Fisher formula in computing the sample size. The formula is as follows:

$$n = \frac{z^2 p(1-p)}{d^2}$$

Where.

n= sample size

z= the standard normal deviation for a given level of confidence, for example, 95% confidence =1.96.

d= margin of error at 0.05 for CI at 95%

p= proportion to be estimated. If one does not know the value of p then you should assume p=0.5

Therefore, the sample is calculated as:

$$n = \frac{(1.96^2)(0.5)(1-0.5)}{(0.05)^2}$$

$$n = 384$$

The final sample was 384 employees. The employees were selected using systematic random technique.

Systematic sampling is a probability sampling methodology by which sample members from a larger population are randomly selected from a specified starting point with fixed periodic interval. Systematic sample is obtained by randomly selecting 1 unit from each K units in the population.

K= N/n

Where: N is total population unit

: n is the sample size

Domestic taxes department K= 2,269/261

= 9

Customs and border control department= 1,739/123

=14

Therefore, the employees in the department of domestic taxes department were selected within an interval of 9 employees and from customs and border control department were selected within an interval of 14 employees.

Table 3.2 Sampling Frame

Category	Frequency
Top management	10
Supervisors	89
Officers	285
Total	384

Source: Researcher 2020

3.5 Research Instruments

Data collection is a precise process which involves the systematic collection of information that is required for the specific research sub-problems. In collecting the data, the researcher utilized a questionnaire as the main tool. The questionnaire follows a specific format and contains sections which reflect the variables of the study. The study utilized closed questions for every section of the questionnaire to obtain the respondents' views, opinions, and attitude. The questionnaire was administered in person using the drop and picks method to the employees in the revenue authority, through research assistants. Use of self-administered questionnaire is appropriate in eliciting self- report on respondents' opinions, attitudes, and values (Mugenda,2013).

3.6 Data Collection Procedure

Prior to starting the data collection process, the researcher obtained research letter from Moi University. The researcher also applied for research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). Data was collected by administering the questionnaires to the target respondents with the help of research assistants who had been trained for this purpose.

3.7 Measurement of variables

The questionnaire used in this study was developed using measures from previous studies of Prudence (2015) and Margaret (2010). Three variables were controlled in this study, namely, respondents' gender, education level and work experience. The questionnaire had four sections, A, B, C and D. The first section of the questionnaire covered the demographic variables of the respondents, such as gender, age, education, department, working experience and employment status. Gender was measured in two categories, education was measured in three categories, respondents' department was measured in two categories, employment status was measured in two categories and experience was measured in five categories. Questions used were brief and comprehensive.

Section B of the questionnaire comprised of the independent variable (process automation), section C of the questionnaire comprised of the moderating variable (capacity building) and section D of the questionnaire comprised dependent variable (revenue collection performance) of the which were adapted from various sources and was measured based on five (5) point Likert Scale as described in table 3.2.

Table 3.3. Instrument sources and measures

Variable	Sources(s)	Likert scale
Independent variable (Process Automation)	Prudence (2015)	(1) strongly disagree to (5) strongly agree
Moderating variable (Capacity Building)	Margaret (2010)	(1) strongly disagree to (5) strongly agree
Dependent variable (Revenue collection performance)	Prudence (2015)	(1) strongly disagree to (5) strongly agree

Source: Researcher 2020

3.8 Pilot Study

This is a small scale prior study conducted to evaluate feasibility of the main research. It is conducted to ascertain how valid and reliable the questionnaire is. This was carried out prior to conducting the main study. It is utilized in the detection and correction of possible errors arising in the questionnaires (Lee, Whitehead, Jacques & Julious, 2014). According to Mugenda & Mugenda (2003), 5-10% of the sample population is considered adequate representative for pilot study. In this study, 10% of the population (38 questionnaires) was piloted by issuing them to employees at KRA. However, the employees were chosen from other departments apart from Customs and Border control department and the department of Domestic Taxes. The instrument was fine-tuned and refined in line with the pilot results to achieve reliable and valid results.

3.8.1 Validity

This is defined as the degree by which the findings of the study reflect the characteristics of the whole population. It is the extent to which findings derived from the analyzed data in the study represents the variables being investigated (Okwako, 2013). The investigation utilized content validity, that confirms the substance or

significance of each estimation item, that must be set up prior to any hypothesis. Validity was tested using factor analysis, factor analysis is used for data reduction and helps to eliminate items that are not valuable. Factor analysis deal with data sets where there are large numbers of observed variables that are thought to reflect a small number of underlying or latent variable. Expert judgment was used in enhancing content through the identification of weaknesses and their correction (Best & Kahn, 2011). Content validity is crucial since it ensures that a measurement represents all characteristics of the phenomenon.

3.8.2 Reliability

This is used in measuring how relevant and correct the instruments used are. The Cronbach's Alpha Coefficient was used to measure reliability of the instrument (Cronbach, 1951). It was used in the assessment of the consistency/homogeneity of the questions. The coefficient has a value from 0 to 1, in which case the greater the value, the better the alpha. 0.7 was the minimum required alpha value hence anything below this value was disregarded.

3.9 Data Analysis and Presentation

The collected data was entered and coded in SPSS version. 21 for analysis to generate results. Descriptive and inferential statistics were employed in data analysis. Descriptive statistics included, means and standard deviations to help in describing the characteristics of the variables. On the other hand, inferential statistics included correlation and regression analysis which helped in testing the relationship between variables. Findings were illustrated in tables and figures.

3.10 Model Specification

Hierarchical regression model is a special kind of multiple linear regression analysis which permits the addition of more variables into the model in different steps. This is often accomplished to determine whether the addition of the variables with substantially improve the ability of the model to predict the criterion variable or to investigate the moderating effect of a variable. It is also a way to see what value an individual independent variable adds to the dependent variable in terms of variance. Bommae Kim (2016).

The study adopted Hierarchical regression model with the following equations:

i. $Y = \beta_0 + \beta_1 Gender + \beta_2 Education + \beta_3 Experience + \varepsilon$ (This was used to test the effect of control variables on revenue collection in terms of variance (R^2) and individual effect, β-values)

ii. $Y = \beta_0 + C + \beta_1 X + \varepsilon$ (This was used to test the effect of process automation on revenue collection while holding constant the control variables)

iii. $Y = \beta_0 + C + \beta_1 X + \beta_2 M + \varepsilon$ (This was used to test the effect of capacity building on Revenue collecting while controlling for control variables and process automation)

iv. $Y = \beta_0 + C + \beta_1 X + \beta_2 M + \beta_3 X*M + \varepsilon$ (This was used in testing the moderating effect of capacity building on the relation between Process automation and Revenue collecting while holding constant the control variables, process automation and capacity building).

Where:

Y= Revenue Collection (Dependent variable)

X = Process Automation (Independent variable)

M= Capacity Building (Moderator variable)

X*M = Interaction between Process Automation and Revenue collection (moderation)

C = Control variables

β_0, β_{1-3} = coefficients of estimates

ε = Error Term

3.11 Assumptions of Regression Model

Prior to running the regression model, both normality and multicollinearity tests was conducted to ensure that the results are accurate and free from bias.

3.11.1 Test for normality

A true population's sample representative is supposed to follow the population's same distribution pattern to predict the population accurately. This ascertains that the population's properties are not over or under-presented in the sample and that the sample is close to the range of the population mean (Sekaran & Bougie, 2016). To test for the normality of the data, the respondent's data was used to plot a histogram.

3.11.2 Test for Multicollinearity

Multicollinearity refers to high correlation between independent variables (Kothari, 2004). Independent variables should not correlate highly with one another because it reduces the precision of the estimate coefficients which weakness the statistical power of the regression model. Test for multicollinearity was conducted using the Variance Inflation Factor (VIF), where a VIF value more than 10 indicates presence of

multicollinearity problem while a VIF value less than 10 indicates no multicollinearity problem.

3.11.3 Test for Linearity

Before carrying out a regression analysis, it is prudent to establish that the predictor variables have a linear relationship with the outcome variable. Linearity can be tested using ANOVA or correlation where if the F significance value for the nonlinear component is lower than the critical value (X is less than .05 then there is significantly nonlinearity.

3.11.4 Homoscedasticity

According to G. David Garson (2012) this property means the relation being investigated is similar for the complete range of the dependent variable. The lack of this property is indicted by higher errors in some portions of the range in comparison to others. When this assumption is met, residuals will form a pattern less cloud of dots.

3.11.5 Data independence

Before running a regression analysis, it is important to establish that the error terms are independent of each other. Independent means the value of one observation does not influence the value of other observations. The Durbin-Watson test was used to test for this assumption.

3.12 Ethical considerations

Ethical consideration in an investigation is important. Ethics refers to the acceptable standards of conduct which provide a distinction for what is right and wrong. Thy assist in determining the differences between the acceptable and unacceptable behaviors. To make sure that the investigation follows strict ethical considerations, the information obtained from the respondents was made private with the names and identities of the

informants coded and hidden, thereby maintaining their privacy. Personal integrity was maintained in the conduct of the study by ensuring objectivity and avoidance of the misrepresentation of findings. Respondents were also required to understand the purpose of conducting the study, therefore making informed consent. There was an appreciation of the respondents for making time to answer the questionnaires.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents an analysis of the data collected using relevant tools discussed in the previous chapter. The focus of the chapter is on the analysis, interpretation and discussion of the study findings derived from the study model. It involves response rate, demographic factors related to the respondents and presentation of descriptive and inferential statistical results.

4.1 Response Rate

In a sample of 384, 339 correctly filled questionnaires were returned, this represents 88.28% answer rate, as shown in Table 4.1. The 50% answer rate is acceptable, 60% is decent, and above 70% decent (Kothari, 2007).

Table 4.1: Response Rate

Questionnaires	**Frequency**	**Percent (%)**
Returned	339	88.28
Not Returned	45	11.72
Total	**384**	**100**

Source: Survey data (2020)

4.2 Demographic Characteristics

Demographic information is important because it helps us to understand the respondents' characteristics as well as their potential future which also sheds light on their nature and caliber from which interpretation would be justifiably made. This section describes the demographic elements of the individuals participating. The demographic characteristics of the participants covered include the following:

4.2.1 The Respondents' Gender

As illustrated in Table 4.2, the study findings revealed that majority of the participants (58.4%, 198) were males, while 41.6% (141) were females. From the findings, it is common to see that the KRA sector is male dominated, but in this study, the number of females working in KRA is almost half of that of males and thus there was a fair representation in terms of gender.

Table 4.2: Respondents Gender

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	141	41.6	41.6	41.6
	Male	198	58.4	58.4	100.0
	Total	**339**	**100.0**	**100.0**	

Source: Survey data (2020)

4.2.2 Education Levels of the Respondents

Table 4.3 shows the findings of the respondents' education levels. Results indicate that many respondents have a first degree/diploma level of education which is represented by 60.2% (n=204) and a post-graduate of 20.4% (n=69). Finally, the study shows that 66 of the respondents had secondary education (19.5%). The research indicates a fair demographic composition of the respondents for the sample in general.

Table 4.3: Level of Education

Level of education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary	66	19.5	19.5	19.5
	Undergraduate/College	204	60.2	60.2	79.6
	Post-Graduate	69	20.4	20.4	100.0
	Total	**339**	**100.0**	**100.0**	

Source: Survey data (2020)

Out of the 339 participants, 65.5% (n=222) were working in domestic department while 34.5% (n=117) were working in custom department. Majority of the respondents worked in the Domestic Department of Kenya Revenue Authority meaning therefore the department that forms the largest part of Kenyan tax base was well presented.

Table 4.4: Respondents Departments

Department					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Domestic	222	65.5	65.5	65.5
	Customs	117	34.5	34.5	100.0
	Total	**339**	**100.0**	**100.0**	

Source: Survey data (2020)

4.2.3 Terms of employment

Table 4.5 reveals the nature of employment contract of the respondents. Results show that 93.8% (n=318) respondents were permanent employees while 6.2% (n=21) were on contract-based. Therefore, it can be noted that many respondents were permanent employees in the Department of KRA.

Table 4.5: Terms of Employment

Employment Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permanent	318	93.8	93.8	93.8
	Contract	21	6.2	6.2	100.0
	Total	339	100.0	100.0	

Source: Survey data (2020)

4.2.4 Working Experience

Research findings in table 4.6 revealed that of that many respondents, n= 141 (41.6%) had had between 6 to 10 years of experience in either of the department, followed by 40.7% (n=138) of those with five or less than five years of experience, and 12.4% (n=42) of those who had worked for between 11-15 years. Finally, results show that 12 (3.5%) of the employees had an experience of between 16- 20 years while Six employees (1.8%) had over 20 years of job experience in the Kenya Revenue Authority and therefore had relevant knowledge to respond to the queries adequately.

Table 4.6: Employees Work Experience

Working Experience		
Number of years in service	Frequency	Percent (%)
Five years and below	138	40.7
6-10 years	141	41.6
11-15 years	42	12.4
16-20 years	12	3.5
Above 20 years	6	1.8
Total	**339**	**100**

4.3 Descriptive Analysis

Descriptive statistics were analyzed on all the variables beginning with the dependent variable (Revenue collection), independent variable (process automation) and the moderating variable (capacity building). The descriptive analysis includes mean and standard deviations.

4.3.1 Descriptive for Revenue Collection Performance

Table 4.7 indicates descriptive statistics for revenue collection performance which includes the mean and standard deviation values of revenue collection items with "Automation reduces administration cost and increases effectiveness in collection"

measures gaining wider agreement from respondents with mean value 3.59, and standard deviation of 1.189, On the other hand, the item “Automation of revenue collection processes increases transparency in the declaration of exports and imports” reporting lower agreement among respondents with a mean value of 3.35, and standard deviation of 1.191 as illustrated in Table 4.7. These findings are in agreement with a study conducted by Sigey (2010) on how automation as a structural change strategy impacts customs clearing procedures at KRA which established that automation improved efficiency, effectiveness, lowered costs and improved governance.

Table 4.7: Descriptive for Revenue Collection Performance

Items of Revenue collection	N	Mean	Std. Deviation
Automation of revenue collection processes increases transparency in the declaration of exports and imports	339	3.35	1.191
Automation of revenue collection processes reduces substantially the customs clearance time, and predictability	339	3.37	.950
Automation reduces administration cost and increases effectiveness in collection	339	3.59	1.189
Automation of revenue collection processes reduces physical examination of goods and enhances separation of payment of duties and taxes from physical clearance of goods and faster electronic lodgments of customs declaration	339	3.40	1.122

Source: Survey data (2020)

4.3.2 Descriptive for Process Automation.

As illustrated in Table 4.8, the overall mean for the process automation dimension items is represented below with "The implementation of Excisable Goods Management System has reduced tax evasion on manufactures of excisable goods and this has increased revenue collection" achieving higher levels of the respondent agreement with a mean of 3.15 and standard deviation of .999. On the contrary the item "The

implementation of Integrated Customs Management System has led to shortening cargo clearance process" scored lower at 2.66 and standard deviation of 1.296. "The generation of payment registration on I tax has increased efficiency, and this has led to increased revenue collection," scored a mean of 2.75 and standard deviation of 1.166 "Reducing cargo clearance process increases revenue collection" had a mean score of 2.87, while " The use of online income tax filing systems has made the process of filing tax more efficient " had mean score of 2.95, standard deviation of 1.256. The results are in agreement with a research conducted by Kiema (2017) on effects of ICT support services on the collection of revenues by KRA which concluded that ICT support services have greatly influenced revenue collection at Kenya Revenue Authority and also increased the level of compliance among tax payers.

Table 4.8: Descriptive Statistics for Process Automation

Items for Process Automation	N	Mean	Std. Deviation
The generation of payment registration on I tax has increased efficiency, and this has led to increased revenue collection	339	2.75	1.166
The use of online income tax filing systems has made the process of filing tax more efficient.	339	2.95	1.256
The implementation of ICMS has led to shorten cargo clearance process	339	2.66	1.296
Reducing cargo clearance process increases revenue collection	339	2.87	1.103
The implementation EGMS has reduced tax evasion on manufactures of excisable goods and this has increased revenue collection.	339	3.15	.999

Source: Survey data (2020)

4.3.3 Descriptive for Capacity Building

A higher trend is recorded in the mean values of capacity building dimensions with "Staff training improve revenue collection" measure gaining wider agreement from respondents with a mean value of 3.61 (SD =1.136). "Staff skills and professionalism

has increased revenue collection" received the least agreement with a mean value of 3.29 (SD=1.65). The study findings agree with Muthoni (2013) study on how capacity building impacts the performance and growth of women-owned SME's at Gikomba market, in Nairobi Kenya which concluded that training on entrepreneurship was essential in ensuring performance and growth of the SMEs. The findings are presented in Table 4.9.

Table 4.9: Descriptive Statistics for Capacity Building

Items for Capacity Building	N	Mean	Std. Deviation
Our department leadership capacity enhances revenue collection	339	3.33	1.070
Our department financial capacity enhances revenue collection	339	3.51	1.116
Staff skills and professionalism has increased revenue collection	339	3.29	1.065
Staff training improve revenue collection	339	3.61	1.136
Our department M& E capacity supports revenue collection	339	3.40	1.101

Source: Survey data (2020)

4.3.4 Summary of Descriptive statistics for the Constructs

The study used a single construct in the questionnaire, which was evaluated using multiple items, the estimated average item scores were determined and used for the final analysis, including regression model assumptions, correlation, and hierarchical regression analysis. To create the final data, the aggregated survey data set was merged based on the means of responses.

Table 4.10 gives a summary statistic for the variables. Revenue collection performance showed a mean of (3.35) and a standard deviation of (.609). Results further showed that the respondents were also in agreement with the statements describing process automation as indicated by mean of (3.37) and a standard deviation of (.709). Finally,

the construct of capacity building had the highest mean of 3.52 and a standard deviation of .784 showing the power that capacity building enhances revenue collection.

Table 4.10: Summary of the Descriptive Statistics for the Variables

Variables (n= 339)	Mean	Standard Deviation	Skewness	Kurtosis
Revenue Collection	3.35	.60868	-.042	-.058
Process Automation	3.37	.70896	-.353	.273
Capacity Building	3.52	.78360	-.245	-.574

Source: Survey data (2020), n=339 *Five-point scale: 1=strongly disagree; 5=strongly agree

4.4 Reliability Tests of the Instrument

Reliability is a measure of how much the research instruments yields similar findings from subsequent tests (Mugenda and Mugenda, 2003). It finds out if the measure can yield same outcomes on different events. The questionnaire's reliability was given by the Cronbach alpha measurements. According to George and Mallery (2003), a coefficient >.9 is excellent, >.8 is good, .7 is acceptable, >.6 is questionable, >.5 poor, and <.5 is unacceptable. The study findings in table 4.11 indicates that the Cronbach's alpha for all the variables higher than the base value of 0.70, indicating that the research tool was reliability.

Table 4.11 indicate that capacity building had the highest measure of coefficient $\alpha = 0.876$ which was followed by process automation with reliability coefficient of $\alpha = 0.834$, while revenue collection had the least but strong reliability coefficient score of 0.818.

Table 4.11: Results of the Reliability Test

Name of Variables	Number of Items	Cronbach's Alpha
Revenue Collection	4	0.818
Process Automation	5	0.834
Capacity Building	5	0.876

Source: Survey data (2020)

4.5 Factor Analysis

Before data analysis factor analysis was performed on each variable to test the validity of the research instruments using extraction method principle component analysis to identify a small number of items which can be used to compute the variables of the study. The Kaiser-Meyer-Okin sampling adequacy measure (KMO) has the ability to predict if the size of the sample size is large enough to measure factors reliably (Kothari, 2007). The KMO "represents the squared correlation ratio between variables to the partial squared correlation between variables" (Kothari, 2007). When the KMO is close to 0, a factor is difficult to extract because only two variables share the amount of variance (partial correlation) compared to the amount of variance two variables share with other variables (correlation minus partial correlation). If the KMO is close to 1, it is likely possible to extract a factor or factors as the opposite pattern is visible. KMO's values between 0.5 and 0.7 are therefore mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great, and values above 0.9 are excellent "(Kothari, 2007). For this study, based on the size of loadings that were influenced by the homogeneity of scores in the samples, a factor loading, which was higher than 0.5 was taken into consideration.

4.5.1 Factor Analysis for Revenue Collection Performance

Four (4) items of revenue collection performance considered as the dependent variable of the study were examined using principal components extraction with Varimax rotation. The Kaiser-Meyer –Olkin (KMO) measure of sample adequacy was 0.770 with Bartlett's test of Sphericity being 472.655 and df = 10 which had a significant Chi-square, p = 0 .000. Table 4.12 shows that all the four (4) items were clustered into one component with eigenvalue of 2.594, which explained a percentage variance of 64.86% shared by the four items.

Table 4.12: Factor analysis for Revenue Collection Performance

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				.770
Bartlett's Test of Sphericity	Chi-Square			472.655
	df			10
	Significance			.000
Items of Revenue Collection (Sample size 339)		Factor Loadings	Eigen Values	% Variance
Component Name: Revenue Collection Performance			2.594	64.860
Automation of revenue collection processes increases transparency in the declaration of exports and imports		.777		
Automation of revenue collection processes reduces substantially the customs clearance time, and predictability		.828		
Automation reduces administration cost and increases effectiveness in collection		.824		
Automation of revenue collection processes reduces physical examination of goods and enhances separation of payment of duties and taxes from physical clearance of goods and faster electronic lodgments of customs declaration		.791		

Source: Research Data (2020)

4.5.2 Factor Analysis for Process automation

Factor analysis was performed on process automation with five (5) items measurement scales. Before performing Principal Component Analysis (PCA), the data suitability for factor analysis was measured, which showed a Kaiser-Meyer-Olkin (KMO) value of 0.772 and Bartlett's Test of Sphericity which is significant at $p < 0.001$. Thus, it can be

concluded that the construct was adequate for the factor analysis. When performing the factor analysis for this variable, the varimax rotated principal components analysis was used, which permits each variable to load on a single factor. As illustrated in Table 4.13, all the factors had a greater loading value more than 0.5, so no items were deleted. The factor loading for the five items included .806, .834, .842, .659, and .727 with eigen value of 3.018. All the five items jointly account for 60% of the total variance of process automation.

Table 4.13: Factor Analysis for Process Automation

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				.772
Bartlett's Test of Sphericity	Chi-Square			741.664
	df			10
	Significance			.000
Items of Process Automation (Sample size 339)		Factor Loadings	Eigen Values	% Variance
Component Name: Process Automation			3.018	60.353
The generation of payment registration on I tax has increased efficiency, and this has led to increased revenue collection		.806		
The use of online income tax filing systems has made the process of filing tax more efficient.		.834		
The implementation of ICMS has led to shorten cargo clearance process		.842		
Reducing cargo clearance process increases revenue collection		.659		
The implementation EGMS has reduced tax evasion on manufactures of excisable goods and this has increased revenue collection.		.727		

Source: Research Data (2020)

4.5.3 Factor Analysis for Capacity Building

Finally, factor analysis was also performed on Capacity Building (moderating variable) with five items measurement scales. Before performing PCA, the data suitability for factor analysis was measured, which showed a Kaiser-Meyer-Olkin (KMO) value of 0.820 and Bartlett's Test of Sphericity, 892.771, which is significant at p = 0.000. Thus,

it can be concluded that the construct was adequate for the factor analysis. Factor analysis for this variable was performed using varimax rotated principal components analysis, which permits each variable to load on a single factor. As illustrated in Table 4.14, no item had a loading value of less than 0.5, and therefore, none was deleted. Results indicates that this factor had an eigen value of 3.355 with all the loaded items accounting for over 67% of the total variance in capacity building.

Table 4.14: Factor Analysis for Capacity Building

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				.820
Bartlett's Test of Sphericity	Chi-Square			892.771
	df			10
	Significance			.000
Items of Process Automation (Sample size 339)		Factor Loadings	Eigen Values	% Variance
Component Name - Capacity Building			3.355	67.094
Our department leadership capacity enhances revenue collection		.718		
Our department financial capacity enhances revenue collection		.820		
Staff skills and professionalism has increased revenue collection		.883		
Staff training improve revenue collection		.840		
Our department M & amp; E capacity supports revenue collection		.826		

Source: Research Data (2020)

4.6 Correlation Analysis

Correlation analysis seems to establish the direction and strength of the relationship between the different variables that have an impact on revenue generation. The study results in table 4.15 show that the relationship between process automation and revenue collection performance was found to be positive, strongest, and significant at 1 percent significant level (r = 0.639). In addition, findings reveal that the relationship between revenue collection performance and capacity building was also found to be positively significant at 1 percent significant level (r = 0.611). Finally, results also show that

capacity building has a significant positive relationship with process automation as indicated by r = 0.510.

Table 4.15: Results for Correlation Analysis

Variable	1	2	3
1. Revenue Collection	1		
2. Process Automation	.639**	1	
3. Capacity Building	.611**	.510**	1

Source: Research Data (2020), ** Correlation is significant at the 0.01 level (2- tailed)

4.7 Assumptions of Regression Model

Before testing the hypotheses of study, it was important to test for regression assumptions. Multivariate assumption tests were done to determine if data was reliable and its reliability to be used prior to performing an inferential analysis. The gathered data was assessed using different tests, including linearity, normality, multicollinearity, data independence, and homoscedasticity tests.

4.7.1 Assumptions of Linearity

Before carrying out a regression analysis, it is prudent to establish that the predictor variables have a linear relationship with the outcome variable. The assumption of linearity in this study was checked by using correlation results indicated in **Table 4.15** which shows that all the variables of the study are lineally related with the dependent variable.

4.7.2 Assumptions of Normality

While performing a parametric statistical analysis, the researcher is required to assess the normality assumption. This test measures whether the characteristics or attributes

of a population have a normal distribution. The variables which are not normally distributed can distort relationships and significance tests.

Skewness is used in measuring a distribution's symmetry and kurtosis is used in measuring its peakness. Based on the results, in table 4.10 the values of skewness and kurtosis revealed a normal distribution of the data in which the skewness values were in the range of -0.042 to -0.352 while, kurtosis ranged from 0.273 to -0. 058.which is within the threshold of -2 to +2. Normality test was further checked and analysis using the regression standardized residual on histogram (**Figure 4.1**) which showed that the data were normally distributed.

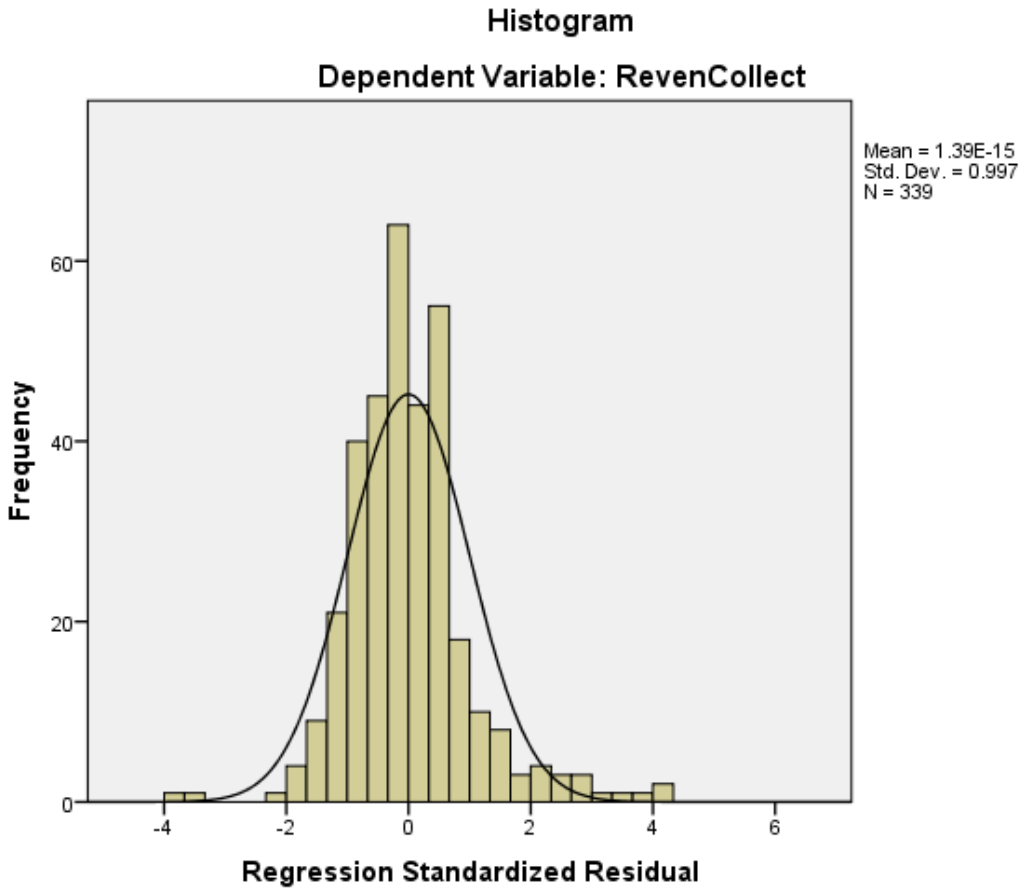

Figure 4.1: Normality Histogram

4.7.3 Assumptions of Homoscedasticity

To test this assumption, the residual scatter plot indicated as Figure 4.2 was used. The figure indicates that the variance of residuals is equal similar for all values of the dependent variable predicted which support homoscedasticity as residuals are randomly scattered around 0 (the horizontal line) providing a relatively even distribution. Notably, the data values had an even distribution across the area. This confirmed that all the residual data was drawn from a population with a constant variance.

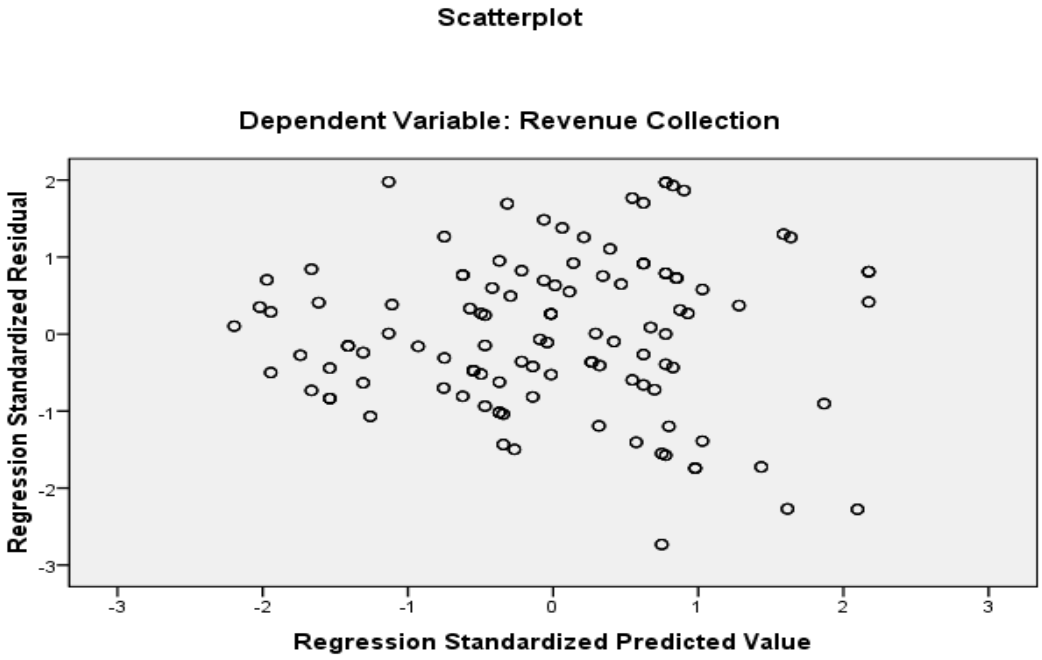

Figure 4.2: Homoscedasticity Scatter Plot

4.7.4 Assumptions of Multicollinearity

Multicollinearity occurs when the independent variables in a regression model are highly correlated. Normally, explanatory variables are supposed to be independent; therefore, if the multicollinearity test shows these variables are highly correlated, the data is not valid to undertake the inferential analysis. For this study, tolerance, and

variance inflation factor (VIF) was utilized to check for multicollinearity. As shown in Table 4.16, all the values of tolerance are above 0.2 and all the VIF values are lower than 10, indicating that the explanatory variables have no high correlation, hence proving the non-existence of multicollinearity in the data.

Table 4.16: Assumption of Multicollinearity

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	*t*	Sig.	Tolerance	VIF
1	(Constant)	1.014	.125		8.125	.000		
	ProceAut	.380	.038	.442	10.048	.000	.740	1.352
	CapBuild	.300	.034	.386	8.769	.000	.740	1.352

Source: Research (2020), N/B ProceAut = Process Automation, CapBuild = Capacity Building

4.7.5 Testing for Data independence

Before running a regression analysis, it is important to establish that the error terms are independent of each other. The Durbin-Watson test was used to test for this assumption. Results highlighted in table 4.17 shows a Durbin-Watson being 1.815 which lies between the recommended value of 1.5 to 2.5 indicating the assumption was met.

Table 4.17: Assumption of Data Independence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.720	.519	.516	.42359	1.815

Source: Research data (2020)

4.8 Hypothesis Testing of the study

This study adopted a Hierarchical regression model to test the effect of the control variables (Gender, education, and experience), independent variable (process automation) and the moderator (capacity building) on the dependent variable (Revenue collection performance). Finally, the study examined the moderating effect of capacity building on the relationship between the independent variable (process automation) and the dependent variable (Revenue collection performance).

4.8.1 Effect of Control Variables on Revenue Collection Performance.

Results in table 4.18, Model 1, indicates the findings of the three control variables of the study which reveals how much they affect revenue collection performance as indicate in $Y= \beta_0 + \beta_1 Gender + \beta_2 Education + \beta_3 Experience + \varepsilon$. Results reveal that the control variables, Gender ($\beta= 0.142$, $p = 0.187$) and Education ($\beta = -0.151$, $p = 0.071$) were found to be insignificant in influencing revenue collection. However, results reveal that respondents' working experience ($\beta= 0.259$, $p = 0.000$) have a positive and a significant influence on revenue collection. Results indicate that this model has $R^2 = 0.067$, with a significant F-value of 8.008, $p = 0.000$. This indicates that 6.7% of the total variance in revenue collection performance is accounted for by these three control variables.

4.8.2 Effect of Process automation on Revenue Collection Performance.

Model 2 of Table 4.18 shows the results of H_{01}, testing the effect of process automation while controlling gender, education levels and work experience as indicated in $Y= \beta_0 + C+ \beta_1 X + \varepsilon$. The study findings indicate that individuals gender ($\beta = 0.055$, $p = 0.511$) and their education ($\beta = - 0.070$, $p = 0.279$) remained insignificant in this model as respondents working experience ($\beta = 0.195$, $p = 0.000$) remained significant.

In addition, the model reveals that process automation positively and significantly influences revenue collection as shown by $\beta = 0.618$, $p = 0.000$. This model shows a R^2 .441 and change in R^2.374 (0.441 - 0.067) with the model goodness of fit, $F = 223.557$ which was significant $p = 0.000$. This means that holding the control variables constant, process automation accounts for 37.4% of the total variance in revenue collection. Since, process automation indicates a $\beta = 0.618$, $p < .05$, hypotheses, H_{01} which hypothesized that Process automation has no significant direct effect on Revenue Collection Performance at Kenya Revenue Authority is rejected by the study.

4.8.3 Effect of Capacity Building on Revenue Collection Performance

Hypothesis **H_{02}** sought to examine the direct effect of capacity building (moderator) on revenue collection while controlling for the control variables and the independent variable as depicted in $Y = \beta_0 + C + \beta_1 X + \beta_2 M + \varepsilon$. Findings in **Model 3** of table 4.18 shows that control variables gender ($\beta = -0.048$, $p = 0.531$) and education ($\beta = -0.029$, $p = 0.626$) were found to be insignificant in this model. However, respondents' working experience ($\beta = 0.161$, $p = 0.00$), significantly impacts revenue collection performance.

Furthermore, findings reveal that process automation ($\beta = 0.435$, $p = 0.000$) was found to be significant in this model. More importantly, results of capacity building show a positive substantial impact on revenue collection performance as indicated by $\beta = 0.374$, $p = 0.000$. Findings further reveal an increased R^2.540 and a change in R^2.099 (0.540 - 0.441), with a significant $F = 72.058$ at $p = 0.000$. The change in R^2 of .099 implies that while holding all the control variables and the independent variable (process automation) constant, capacity building (moderator) accounts for 9.9% of the total variance in revenue collection. Based on the results of capacity building having a $\beta = 0.374$, $p < .05$, hypothesis **H_{02}** which hypothesized that Capacity Building has no

significant direct effect on Revenue Collection Performance at Kenya Revenue Authority is hereby rejected by the study.

4.8.4 Moderating Effect of Capacity Building on Process Automation and Revenue Collection Performance

Results of table 4.18, Model 4 reveals results of Hypothesis **H_{03}**. The study hypothesized that capacity building has no moderating effect on the relationship between process automation and revenue collection performance. In this model, the control variables and the independent variable were controlled as depicted in $Y = \beta_0 + C + \beta_1X + \beta_2M + \beta_3X*M + Ɛ$. Results of control variables show that control variables gender ($\beta = -0.048$, $p = 0.529$) and education ($\beta = -0.019$, $p = 0.754$) were found to be insignificant but respondents' experience ($\beta = 0.163$, $p = 0.000$), remained significant in the model. Additionally, results show that process automation ($\beta = 0.685$, $p = 0.000$) and capacity building ($\beta = 0.628$, $p = 0.000$) were found to be positively significant in this model.

Finally, results of the interaction in table 4.18 reveal that capacity building moderates the relationship between process automation and revenue collection Performance as shown by $\beta = -0.098$, $p = 0.034$. Findings show that the model has also an improved R^2.547 and a change in R^2.006, with a significant $F= 4.512$ at $p <.05$. The change in R^2 of .006 implies that the interaction process accounts for 0.6% of the total variance in revenue collection while holding the controls, independent variable (process automation) and capacity building (moderator). Based on these interaction findings of $\beta = -0.098$ $p= 0.034$, hypothesis **H_{03}** which hypothesized that capacity building has no moderating effect on the relationship between process automation and revenue collection performance is also rejected by the study.

Figure 4.3 reveals the nature of the interaction. Findings show that when Kenya Revenue Authority automation process is low, revenue collection performance is high with high levels of capacity building compared to low levels of capacity building. However, as process automation is increased, revenue collection increases with both levels of capacity building. Thus, capacity building and process automation work hand in hand and none works in isolation of the other in enhancing revenue collection. From the findings it is noted that before moderation in model 2 the independent variable (process automation) had a positive beta of $\beta = 0.618$ and after moderation the beta increased to $\beta = 0.685$ this means that the moderation enhanced the contribution of process automation to revenue collection performance in model 4. In model 3 also, the moderator variable (capacity building) had a positive beta of $\beta = 0.374$ and in model 4 where there was the interaction the beta increased to $\beta = 0.628$ this means that capacity building and process automation contributes more to revenue collection performance where there is moderation.

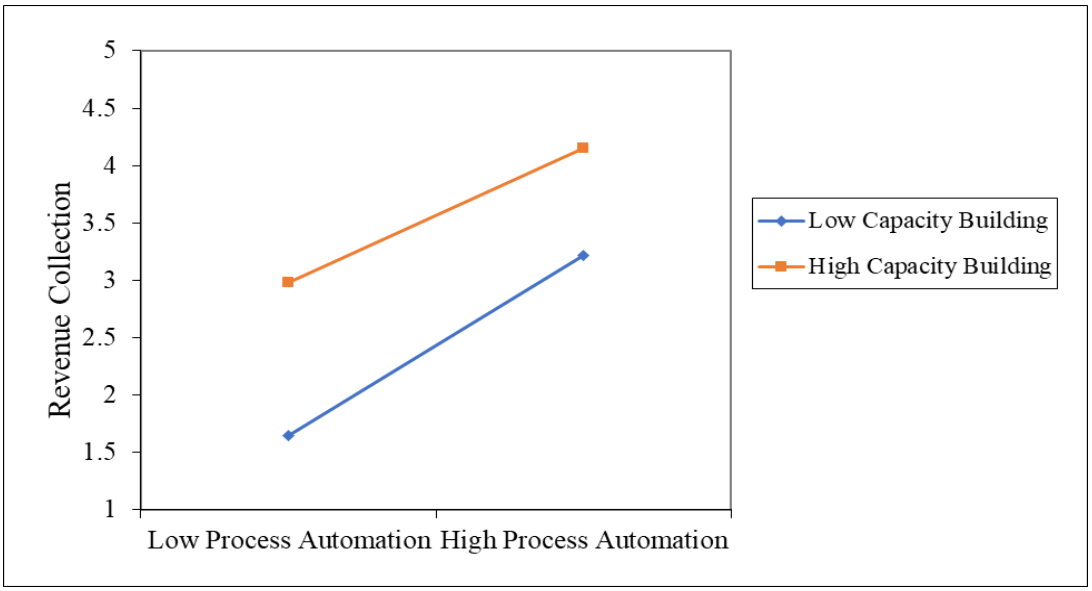

Figure 4.3: The moderation of capacity building on process automation and Revenue Collection

Table 4.18: Hierarchical Regression Results

Variable	Model 1		Model 2		Model 3		Model 4	
	β	*p-v*	β	*p-v*	β	*p-v*	β	*p-v*
Constant	-.396	.140	-.304	.144	-.163	.389	1.009	.084
Gender	.142	.187	.055	.511	-.048	.531	-.048	.529
Education	-.151	.071	-.070	.279	-.029	.626	-.019	.754
Experience	.259***	.000	.195***	.000	.161***	.000	.163***	.000
ProAuto	-	-	.618***	.000	.435***	.000	.685***	.000
CapBuild	-	-	-	-	.374***	.000	.628***	.000
ProAut*Cap	-	-	-	-	-	-	-.098*	.034
R2	.067		.441		.540		.547	
ΔR^2	.067		.374		.099		.006	
F	8.008***		223.557***		72.058***		4.512*	

Source: Research data (2020). Note: *p <.05, ***p <.001, Dependent Variable = Revenue collection, ProAuto =Process Automation, CapBuild = Capacity Building,

Table 4.19: Summary of Hypotheses Results

	Hypothesis	Beta	p-values	Decision
Hypothesis **H_{01}**	Process automation has no significant direct effect on Revenue Collection	.618	0.000	Rejected
Hypothesis **H_{02}**	Capacity Building has no significant direct effect on Revenue Collection.	.374	0.000	Rejected
Hypothesis **H_{03}**	Capacity Building has no moderating effect on the relationship between Process Automation and Revenue collection	-.098	0.034	Rejected

Source: Research data (2020)

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This section provides the conclusion as a summary of the previously discussed chapters. Furthermore, it highlights the proposed study contributions to the current literature and provides recommendations for further research. This chapter will end with a brief discussion about the possible applicability of the suggested recommendations. The section will also make suggestions for a roadmap in which the subject can be extended for further research.

5.1 Summary

The main objective was examining the effect of automation activities and capacity building on revenue collection performance at KRA. The study also sought to examine the effect of process automation on revenue collection performance at the revenue authority, the effect of capacity building on revenue collection performance at the revenue authority, and to determine the moderating effect of capacity building on the relationship between process automation and revenue collection performance in the institution.

The study confirms the effects of automation activities and capacity building on revenue collection performance at Kenya Revenue Authority. From the findings it is noted that process automation positively and significantly influences revenue collection, capacity building also significantly and positively influences revenue collection performance and the moderating effect of capacity building on the relationship between process automation and revenue collection significantly affects revenue collection. Therefore, both process automation and capacity building are

important in increasing revenue collection performance in Kenya Revenue Authority and none works in isolation of the other and therefore the authority should invest more in building its capacity and improving its process automation so as to achieve the set objectives.

The study adopted hierarchical regression model which had four models. The first model was to test the effect of control variables on revenue collection performance in terms of variance (R^2) and individual effect, β-values, $Y = \beta_0 + \beta_1 Gender + \beta_2 Education + \beta_3 Experience + \varepsilon$. The second model was used to test the effect of process automation on revenue collection performance in terms of variance (R^2) and individual effect, β-values while holding constant the control variables, $Y = \beta_0 + C + \beta_1 X + \varepsilon$. The third model was used to test the effect of capacity building on revenue collection performance in terms of variance (R^2) and individual effect, β-values while holding constant the control variables and process automation, $Y = \beta_0 + C + \beta_1 X + \beta_2 M + \varepsilon$. The last model was used to test the moderating effect of capacity building on the relationship between process automation and revenue collection performance in terms of variance (R^2) and individual effect, β-values while holding constant the control variables, process automation and capacity building, $Y = \beta_0 + C + \beta_1 X + \beta_2 M + \beta_3 X*M + \varepsilon$.

Findings from the model in terms of variance (R^2) showed that the was an improved (R^2) from one model to the other and this means that each variable had a contribution to revenue collection performance. In model 1 (R^2) was 6.7% this means that the total variance in revenue collection performance is accounted for by these three control variables. In model 2 while holding the control variables constant, process automation accounts for 37.4% of the total variance in revenue collection performance. In model 3

the change in R^2 of .099 implies that while holding all the control variables and the independent variable (process automation) constant, capacity building (moderator) accounts for 9.9% of the total variance in revenue collection performance and in model 4 the change in R^2 of .006 implies that the interaction process accounts for 0.6% of the total variance in revenue collection performance while holding the controls, independent variable (process automation) and capacity building (moderator). Therefore, it is concluded that all the variables jointly contribute to revenue collection performance at Kenya Revenue Authority.

Findings from the study revealed that process automation, which includes ITAX, Integrated Customs Management System, Excisable Goods Management System, and Capacity Building, which includes Leadership capacity, Financial capacity, and M&E capacity, have a significant role in revenue collection performance. Process automation refers to the utilization of technology in performing processes to complete a workflow or function. Capacity building involves giving individuals the knowledge, skills, and access to information, and training thereby enabling them to perform effectively. The current results showed that capacity building is essential in improving employees' skills that enhance their performance in revenue collection performance. Particularly the process automation had a positive effect on improving revenue collection performance in the Kenya Revenue Authority. This is because Kenya Revenue Authority and other authorities elsewhere in the world, under such processes, will be legally obliged to provide all the training and enough skills available for their employees to be precise in revenue collection performance.

5.2 Discussion of the Key Findings

The study findings show that process automation significantly and positively affects revenue collection performance at Kenya Revenue Authority. The regression results from the study shows a positive beta coefficient of $\beta = 0.618$, and a p value of $p = 0.000$. This finding is in line with a previous research of Kirimi (2015) conducted in Meru county, Kenya on influence of automation of revenue collection processes on organizational performance in Meru county Kenya. From the investigation, it was established that the online automation of collection of revenue impact on the performance of the County office substantially. The findings showed that automation of online payment systems has a substantial impact on performance of the county office. It was concluded from the study that online payment process of automation in the collection of revenue significantly impact performance at Meru county offices. Additionally, it was concluded that online response process of automating the collection of revenue significantly impacts performance of the county government. The study is also in line with Madegwa, Makokha and Namusonge (2018) study which was done in Trans Nzoia county, Kenya on the effects of automation of revenue collection on the performance of county government of Trans Nzoia, Kenya. The study concluded that online automation of the process of collecting revenue in Trans Nzoia county significantly impact performance of the county. The investigation additionally made the conclusion that such automation of processes is an indicator of effectiveness in management. The study also concludes that online automation of the payments processes substantially impact performance in Trans Nzioa County. The study also concluded that online response process to the automation of processes substantially impacted performance in the county government office. Additionally, it was established

from the study that risk management, tax data entry and feedback impact office performance.

Secondly the study findings show that capacity building positively and significantly affects revenue collection performance at KRA. The regression results from the study shows a positive beta coefficient of $\beta = 0.374$, and a p value of $p = 0.000$. This finding agrees with a study conducted by Muthoni (2013) on the Influence of capacity building on financial performance and growth of women owned small and medium enterprises in Gikomba market, Nairobi County, Kenya. The study established that Training on entrepreneurship was critical in enhancing performance and growth of the SMEs. However, the fact that majority of the SMEs owners had not been trained on entrepreneurship; they lacked expertise.

Finally, findings on the interaction process reveal that capacity building moderates the relationship between process automation and revenue collection performance at Kenya Revenue Authority as shown by $\beta = -0.098$, $p = 0.034$. These findings are in line with Ahmad, Farrukh and Nazir (2015) study on capacity building on employee performance in banking sector of Pakistan which showed that capacity building of an individual employee leads to enhance his or her performance as results showed a significant p levels and hence they concluded that capacity building significantly affects employee performance. Wanyama and mutsotso (2010) study on the relationship between capacity building and employee productivity in commercial banks of Kenya also agrees with the findings of the study as it showed that capacity building had a positive correlation on organizational performance and also confirms the relationship between capacity building, employee productivity and organizational performance.

5.3 Conclusion of the Study

The findings of this study confirm the role of automation activities and capacity building on revenue collection performance at Kenya Revenue Authority. The first objective of the study was designed to examine the role of process automation on revenue collection performance in the Kenya Revenue Authority. The study concludes that the process automation in the system has contributed to increased revenue collection performance at Kenya Revenue Authority. This because the findings showed a positive association between revenue collection performance and process automation.

In the second objective, the study was to assess the role of capacity building on revenue collection performance in the Kenya Revenue Authority. The results showed a positive and significant association between capacity building and revenue collection. Hence, the study concludes that Leadership capacity, Financial capacity, and M&E capacity, which are the key factors in Capacity Building, will contribute to instilling skills that are needed by the Kenya Revenue Authority, which in return will lead to a high level of revenue collection performance.

Finally, the study intended on determining the moderating effect of capacity building on the relationship between process automation and revenue collection performance in the Kenya Revenue Authority. The results showed that capacity building as a moderator contributes positively to the enhancement of revenue collection performance. The moderator also lowers the initial effect of process automation on revenue, and this helps to balance the association of revenue collection performance and automation process. Hence, the study concludes that capacity building as a moderator enhances the model and produces a new influence on the revenue collection performance.

5.4 Study Implications

The findings of this study have implications to theory and existing literature.

5.4.1 Theoretical Implications

This study was built on the following underpinning theories, theory of public expenditure, technological determinism, and the theory of social determinism. The theory of public expenditure sought to explain the circular trend or time pattern of change in government expenditure in response to the development in the political economy while at the same time, the taxable capacity of the citizens is a constraint. Hence, in the current research of revenue collection performance, the theory of public expenditure was employed to explain the link between the government's efforts to raise the tax collected from its citizens in order to address its development agenda and its capacity to raise the desired tax revenue.

Technological determinism theory states that technology is a social structure or a force that drives change and determines cultural values. Technological determinism changes the organizational culture, structure, reporting line, norm and many other aspects including the modes of operations. In this context of process automation activities, technological determinism theory explains the link between KRA efforts to change its operations and increase revenue collection through the use of technology. Social determinists theory perceives that technological development is not only determined by the society in which it occurs but that it is inevitably shaped by the power structures that exist in that society. According to this hypothesis it is humans which shapes technology and not vice versa, because technologies are continually reinterpreted by users and given new, often unexpected trajectories. This theory informs an independent

variable, process automation, and the moderator, capacity building because it explains the link between capacity building and process automation.

5.4.2 Managerial Implication of the study

This study has implications to practice and policy makers. The use of digital technology to perform processes to accomplish a workflow in organizations is the way to go and cannot be underestimated. This is because technological machines enhance efficiency, convenience, and give a higher degree or level of transparency in revenue collection. Thus, the management need to invest in process automation as this has made the process of filing tax more efficient.

Additionally, the policy makers need to put in place policies and procedures to ensure that the implementation of Integrated Customs Management System is adhered to by every employee as this will shorten cargo clearance process. Furthermore, polices should be put in place to ensure implementation of Excisable Goods Management System is supported by not only the management but every employee as this can help in reduction of tax evasion on manufactures of excisable goods, hence increase in revenue collection performance.

Finally, investing in capacity building enhances performance of any organization. Policy makers need to put in place policies on continuous employee development particularly in the use of technology as literature has indicated that staff skills and professionalism can help the Authority to increase revenue collection performance.

5.4.3 Recommendations to management

To address the role of process automation and capacity building on revenue collection performance at Kenya Revenue Authority, this study makes the following recommendations in respective areas:

With the positive process automation from the findings of the study, Kenya Revenue Authority is advised to continuously change its systems to meet the current needs and include trainings on programs such as ITAX, Integrated Customs Management System, Excisable Goods Management System to enhance employee performance and improve their productivity since training on these programs needs aids the identification of corporate goals such as meeting the set revenue target by the government of Kenya through the ministry of finance to Kenya Revenue Authority, competency gathering as well as the analysis of information hence the accurate identification of gaps between the in-existence situation of not meeting the revenue targets and the future requirements of meeting revenue targets.

The study also recommends Kenya Revenue Authority to adapt capacity building methods such as Leadership capacity, Financial capacity, and M&E capacity. These methods improve the skills of the employees, which in turn improves their performance in revenue collection.

In terms of the moderating effect of capacity building, the study showed it significantly influences the association between process automation and revenue collection. Hence, it is recommendable for the authority to invest in both capacity building and process automation, which will improve the work of the employees who will, in turn, improve performance in collection of revenue at Kenya Revenue Authority.

Generally, since Kenya Revenue Authority is mandated by the Government of Kenya to collect tax revenue on behalf of the government, the study recommends the Kenya Revenue Authority to apply the best process automation methods and the best capacity building practices to improve revenue collection performance, which in turn improves the economy without sourcing for expensive external foreign loans which comes with conditions so as to finance the deficient between set revenue targets and actual revenue collected.

5.5 Contribution of the Study

Findings show that when Kenya Revenue Authority automation process is high, revenue collection performance is high with high levels of capacity building compared to low levels of capacity building. However, as process automation is increased, revenue collection increases with both levels of capacity building. Thus, capacity building and process automation work hand in hand and none works in isolation of the other in enhancing revenue collection performance at Kenya Revenue Authority.

5.6 Limitations

Several limitations are possible in accomplishing successful research. These limitations include aspects that may limit the accuracy of the research outcome. In the current study, sampling is a profound limitation as selecting a sample cannot access the complete population, and there can be variations in the assumptions made concerning the complete population. The research also incorporates a sample size of 339 respondents, which cannot justify examining the role of automation activities and capacity building on revenue collection performance in Kenya Revenue Authority, because a sample cannot incorporate a large number of the population. A small sample size can also hinder the generalization of the research findings.

5.7 Suggestions for Future Research

The current study focuses on the role of automation activities and capacity building on revenue collection performance in Kenya Revenue Authority in Nairobi. Hence researchers can conduct the same study in other major counties in Kenya e.g., Mombasa, compare their results with current results, and see if the finding concurs or differs. Researchers can also use other public institutions rather than KRA, e.g., County Governments, Kenya Power and Lighting Company to assess the role of process automation and capacity building on revenue collection performance in Kenya. Researchers could also carry out the same study and expand the research scope by including employees' work outcomes, turnover intention, and job satisfaction.

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APPENDICES

Appendix I: Letter of Instruction

Dear respondent,

I am a master's student, at the Kenya School of Revenue Administration (KESRA) and as part of my course requirement I am currently conducting a study on "**Automation activities, capacity building and revenue collection performance at KRA."**

You are requested to kindly participate in the survey. The information you will provide is for academic purpose only and shall be treated with utmost confidentiality.

Thank you in advance for your co-operation and active participation to this academic effort.

Yours Faithfully,

MIRIAM MUTHINI NTHENGE

Appendix II: Questionnaire

This questionnaire seeks to collect data on the role of automation activities and capacity building on revenue collection performance at Kenya Revenue Authority. You are requested to provide accurate answers to the questions. The information you give will be treated with utmost confidentiality.

Section A: Demographic Information

1. What is your Gender

   Male [ ] Female [ ]

2. Highest Level of Education

   Secondary [ ] Undergraduate/College [ ] Post-Graduate [ ]

3. Which is your department?

   Domestic [ ] Customs [ ]

4. What is your working experience?

   1 – 5 years [ ] 6- 10 years [ ] More than 20 years [ ]

   11- 15 years [ ] 16 – 20 years [ ]

5. What is your employment Status?

   Permanent [ ] Contract [ ]

Section B: Process Automation

6. Please rate your agreement or otherwise with the following statements relating to process automation in your department.
   Use the scale: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The generation of payment registration on I tax has increased efficiency and this has led to increased revenue collection					
The use of online income tax filing systems has made the process of filing tax more efficient.					
The implementation of ICMS has led to shorten cargo clearance process					
Reducing cargo clearance process increases revenue collection					
The implementation EGMS has reduced tax evasion on manufactures of excisable goods and this has increased revenue collection.					

Section C: Capacity Building

1. Please rate your agreement or otherwise with the following statements relating to capacity building in your department.

Use the scale: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Our department leadership capacity enhances revenue collection					
Our department financial capacity enhances revenue collection					
Staff skills and professionalism has increased revenue collection					
Does staff training improve revenue collection					
Our department M& E capacity supports revenue collection					

Section D: Revenue Collection Performance

1. Please indicate whether you agree or disagree with the following questions on revenue collection. Use the scale: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Automation of revenue collection processes increases transparency in the declaration of exports and imports					
Automation of revenue collection processes reduces substantially the customs clearance time, and predictability					
Automation reduces administration cost and increases effectiveness in collection					
Automation of revenue collection processes reduces physical examination of goods and enhances separation of payment of duties and taxes from physical clearance of goods and faster electronic lodgments of customs declaration					

Appendix III: SPSS Correlation Results

Correlations

		Zscore(RevenCollect)	Zscore(ProcessAuto)	Zscore(CapBuild)
Zscore(RevenCollect)	Pearson Correlation	1	.639**	.611**
	Sig. (2-tailed)		.000	.000
	N	339	339	339
Zscore(ProcessAuto)	Pearson Correlation	.639**	1	.510**
	Sig. (2-tailed)	.000		.000
	N	339	339	339
Zscore(CapBuild)	Pearson Correlation	.611**	.510**	1
	Sig. (2-tailed)	.000	.000	
	N	339	339	339

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix IV: SPSS Regression Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.259[a]	.067	.059	.97027765	.067	8.008	3	335	.000
2	.664[b]	.441	.434	.75209708	.374	223.557	1	334	.000
3	.735[c]	.540	.534	.68294909	.099	72.058	1	333	.000
4	.739[d]	.547	.538	.67937582	.006	4.512	1	332	.034

a. Predictors: (Constant), Work_Experience, Level of education, Gender

b. Predictors: (Constant), Work_Experience, Level of education, Gender, Zscore(ProcessAuto)

c. Predictors: (Constant), Work_Experience, Level of education, Gender, Zscore(ProcessAuto), Zscore(CapBuild)

d. Predictors: (Constant), Work_Experience, Level of education, Gender, Zscore(ProcessAuto), Zscore(CapBuild), ProAuto_CapBuild

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.396	.268		-1.480	.140
	Gender	.142	.107	.070	1.323	.187
	Level of education	-.151	.084	-.096	-1.813	.071
	Work_Experience	.259	.059	.233	4.406	.000
2	(Constant)	-.304	.208		-1.465	.144
	Gender	.055	.083	.027	.658	.511
	Level of education	-.070	.065	-.044	-1.084	.279
	Work_Experience	.195	.046	.175	4.266	.000
	Zscore(ProcessAuto)	.618	.041	.618	14.952	.000
3	(Constant)	-.163	.189		-.863	.389
	Gender	-.048	.076	-.024	-.627	.531
	Level of education	-.029	.059	-.018	-.488	.626
	Work_Experience	.161	.042	.145	3.874	.000
	Zscore(ProcessAuto)	.435	.043	.435	10.066	.000
	Zscore(CapBuild)	.374	.044	.374	8.489	.000
4	(Constant)	1.009	.583		1.730	.084
	Gender	-.048	.076	-.024	-.630	.529
	Level of education	-.019	.059	-.012	-.314	.754
	Work_Experience	.163	.041	.146	3.926	.000
	Zscore(ProcessAuto)	.685	.125	.685	5.470	.000
	Zscore(CapBuild)	.628	.127	.628	4.931	.000
	ProAuto_CapBuild	-.098	.046	-.444	-2.124	.034

a. Dependent Variable: Zscore(RevenCollect)

Appendix V: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 482976

Date of Issue: 29/September/2020

RESEARCH LICENSE

This is to Certify that Miss. MIRIAM MUTHONI NTHENGE of Moi University, has been licensed to conduct research in Nairobi on the topic: AUTOMATION ACTIVITIES, CAPACITY BUILDING AND REVENUE COLLECTION PERFORMANCE AT KENYA REVENUE AUTHORITY for the period ending : 29/September/2021.

License No: NACOSTI/P/20/6890

482976

Applicant Identification Number

Director General

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Appendix VI: Research Letter

Kenya School of Revenue Administration

KENYA REVENUE AUTHORITY

ISO 9001:2015 CERTIFIED

REF: KESRA/NBI/036

14th September, 2020

TO WHOM IT MAY CONCERN

RE: REQUEST FOR RESEARCH PERMIT:

NAME : MIRIAM MUTHINI NTHENGE
REG. NO.: MU/KESRA/105/0007/2017

This is to confirm that the above named is a student at Kenya School of Revenue Administration (KESRA) Nairobi Campus pursuing Masters in Tax & Customs Administration.

The named student is undertaking Research on **"Automation Activities, capacity building and revenue collection performance at KRA ."**

The purpose of this letter is to request your good office to assist the above student with the information to enable her work on her project.

Thank you.

Dr. Marion Nekesa PHD,
Head Academic Research
KESRA

DEAN OF STUDIES
14 SEP 2020
ACADEMIC AFFAIRS

P. O. Box 48240 – 00100, Nairobi **Email:** kesratraining@kra.go.ke **Tel:** +254715877535/9