

EFFECTS OF STRATEGIC INNOVATIONS IN OPTIMIZATION OF REVENUE
COLLECTION IN COUNTY GOVERNMENTS OF WESTERN KENYA

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2023

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DEDICATION

I humbly dedicate this project to my family, colleagues, friends and all those who supported me in the completion of this project. Thank you and God bless you abundantly.

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ABSTRACT

Governments are aiming at increasing revenue collection through strategic innovations and measures that helps in maximizing revenue. There have been significant shortages in revenue collection at all levels of government as a result there are innovations and strategies that the governments comes up with so that to optimize the revenue. The purpose of the study was to assess the strategic innovation on revenue collection that optimized the amount of revenue collection in county governments of Western Kenya. The study was guided by the following objectives: to determine the effect of automation on optimization of revenue collection in county governments of Western Kenya; to examine the influence of outsourcing on optimization of revenue collection in county governments of Western Kenya; to examine the effect of discounting on optimization of revenue collection in county governments of Western Kenya; and to determine the influence of monitoring and evaluation on optimization of revenue collection in county governments of Western Kenya. A survey research design will be used in the study. The target population consisted of all revenue staff in the 4 identified counties. A census inquiry was used to study all the revenue staff. The study population to be used therefore consisted of 32 staff from Busia County, 29 from Kakamega County, 24 from Bungoma County and 25 from Vihiga County leading to total of 110 sampled respondents. By employing survey research design, data was collected using a questionnaire after ascertaining its content validity through experts and internal consistency reliability through cronbach alpha result. Data was then analyzed using descriptive and inferential statistics. The study employed regression analysis with aim of determining the significant relationships between the independent and the dependent variable sets. The government of Kenya is able to identify the challenges facing the county government revenue collection in optimizing revenue collection. Also, the country is able to know the importance of ranking the counties, provinces in terms of the amount of revenue collected. The researcher found out that automation affects optimization of revenue collection in Western Kenya ($P=0.044$). It was contented that outsourcing affects optimization of revenue collection in Western Kenya ($P=0.000$). It was found out that discounting affects optimization of revenue collection in Western Kenya ($P=0.030$). In addition the study revealed that monitoring and evaluation affects optimization of revenue collection in Western Kenya ($P=0.032$). The study concludes that strategic innovations affects optimization of revenue collection in Western Kenya. The study recommends that the county governments of western Kenya need to improve the efficiency and effectiveness of strategic innovations in order to increase the level revenue collection in the counties.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBEF:	County Budget and Economic Forums
CG:	County Government
GDP:	Gross Domestic Product
IFMIS:	Integrated Financial Management Information System
LGU:	Local government unit
PEOU:	Perceived Ease-of-Use
PU:	Perceived Usefulness
STC:	State Government Tax Collections
TAM:	Technology Acceptance Model
TRA:	Theory of Reasoned Action
UT:	Acceptance and use of technology

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Brill and Hassett (2007) stated that maximum revenue collection in a country is the main aim of every state since revenue collected from the country is the main way in which state can sustain itself. According to Shleifer and Vishny (1993) the success of development projects depend largely on the amount of revenue collected in a given country. States come up with approaches of optimizing revenue collection such as use of computers in revenue recording, revenue forecasting, fraud detection in revenue collection and leakage of revenue collected through corruption (Buyonge, 2007). Outsourcing of revenue collection is another strategy used to optimize revenue collection, discounting encourages tax payment and investment which in return will increase revenue collection in the country. Finally monitoring and evaluation increase revenue collection since it mainly ensures that the strategies of revenue collection come up with the desired results. Optimum revenue collection in a country is indicated by the Country's ranking on the amount of revenue they collect in a given year. Growth of revenue collected in a country is also an indicator of optimum revenue collection (Hutchcroft, 2000).

According to McKerchar and Evans (2009), optimization of revenue collection is an area of concern to most states globally. In devolved structures such as the Philippines and the U.K, each local government unit (LGU) are granted power to create their own sources of levy tax and revenue, charges and fees which is in consistent with the policy of local autonomy. According to Aizenman, Kletzer and Pinto (2007) the tax fees and charges accrues mainly to the legal government unit following the power of political subdivisions to tax. The revenue cycle staffs are insights on how the practice can prevent errors and better manage processes to prevent denials. A summary of

taxes collected by state for 5 broad tax categories and up to 25 tax subcategories is the annual Survey of State Government Tax Collections (STC) in United States (Hutchcroft, 2000).

Chatam (2013) asserts that adoption of automation in county government operations helps in high increase of revenue collection. Masese (2011) asserts that automation as strategic innovations in optimization of revenue collection helps in reduction of errors as revenue is collected from the public such as parking fee, business permit and so forth. Fjeldstad, Katera, and Ngalewa (2008) stated that outsourcing of revenue collection in most developing countries is plays a vital role since it makes sure there is high increase of revenue collected. Also, Stockamp (2016) revealed that outsourcing helps the government to improve its services in revenue collection through introduction of new ideas, ways and systems on how revenue is collected thus increasing profit revenue growth of the government.

Levi (2009) stated that offering of discounting as a strategic innovation in optimization of revenue collection helps the government in a nation to increase its revenue collection growth through making the public to pay the parking fee, business permit, bus station among others. It also helps the public comply in paying of tax thus increasing the profit revenue growth in the government (Singh & Wheeler, 2012). Engela and Ajam (2010) monitoring and evaluation plays a role in identifying when and the circumstances possible and appropriate to undertake impact evaluation. Monitoring and evaluation as strategic innovation in optimization of revenue collection makes sure there are no malpractice in collection of revenue and also the systems are in the right position to collect revenue in government such as used in UK (Preker, Langenbrunner, & Jakab, 2002).

African countries are also involved in application of strategic innovation that helps to optimize revenue collection. Local government in Tanzania has reformed system of revenue collection as a way of increasing the amount of revenue collection. Privatization of revenue collection in rural areas such as Kiloso and Kasarawe and urban councils such as Ilala and Kinodini is a way in which the country outsources collection of revenue to private sectors. Outsourcing of revenue collection in Tanzania it's result of complaints by the citizen on the revenue collectors and that the money collected from the revenues does not benefit them. In addition, government officials intervene in the revenue collection process and also in recruitment of revenue collectors.

Nwajiaku (1994) revealed that Togo revenue authority (OTR) which was formed in 2014 with selected services which are to be shared by taxes commissioners and customs.ORT established a system of collecting revenue directly with nearly total removal of tax cashier and all accounting and entrust banks with tax collection. This result to reduced delay on goods issued, queues disappearing when making tax payment and increase in state revenue. The OTR introduced system to disclose agents' asset and set up email and hotline for complaints from taxpayers (Buyonge, 2007).

Kamolo (2014) stated that county governments in Kenya are required to collect maximum revenue though tax to meet their financial expenditure budget and to balance between allocation of budget and revenue collected through tax instrument. County government has introduced use of computers in revenue authorities which allows county government to predict risks such as fraud or corruption and also to predict whether the revenue is on the increase or decrease. This ensures that there is optimum collection of revenue.

Contrary to what was expected, many county governments in Western Kenya have failed to discharge their functions due to lack of enough finances. It has been a common phenomenon in the local media reporting on county workers going on strike due to unpaid salaries, allowances and lack of funds to run county projects and operations. This denotes that most of these counties have poor revenue collection programs which results to financial deficit (Nyaga, 2016; Okir, 2015; Owino, 2017). It is against this backdrop, the study assessed effect of strategic innovation in optimization of revenue collection in Western Counties of Kenya.

1.2 Statement of the Problem

Kamolo (2014) asserted that it is imperative for county governments to exhaustively collect revenue from the county as this is the main source of funds to be used in funding development project. Projects such as development of market, feeder roads, garbage collection, maintenance and establishment of sewerage systems, keeping the street clean, rural access roads in towns are financed by local revenues. County governments should collect enough revenue through taxes so that they can face increasing budget and to balance county budget and revenue collection through tax instrument. It is required that the county government optimizes revenue collection to be able to meet their financial demand without dependence on the national government.

This however is not the case. Though the county Governments have made some progress in revenue collection such as full adoption of the Integrated Financial Management Information System (IFMIS), establishment of County Budget and Economic Forums (CBEF), and improvement in the absorption of development funds revenue collection is not optimized. According to Nyaga (2016); Okiro (2015) and Owino (2017), western Kenya revenue collection have been on the decline and the target is not met despite the high needs to serve the locals this have affected the performance in the region. The counties in the region have not allowed advanced

strategies in revenue collection method this has led to minimum revenue collection as shown in table 1.1 below. Also, the results indicates from 2013/14 to 2018/19 there has been high increase of revenue collection but in 2019/20 the revenue collection started to decrease by 0.9% The region should adapt strategic innovation in order to optimize revenue collection (Owino, 2017). It is therefore against this will assess strategic innovations in optimization of revenue collection in county governments of western Kenya.

Table 1.1: Revenue Collection of County Governments of Western Kenya

COUNTIES	YEARS						
	2013/14 000's	2014/15 000's	2015/16 000's	2016/17 000's	2017/18 000's	2018/19 000's	2019/20 000's
Busia	3.473	4.799	5.668.	6.256	6.894	6.734	6.380
Kakamega	6.931	8.090	9.646	10.703	11.062	12.151	11.364
Bungoma	6.271	6.783	8.029	8.876	9.430	10.120	9.559
Vihiga	2.860	3.420	4.054	4.470	4.843	5.221	5.198

Source: (KNBS and Commission of Revenue Allocation 2021; County Government of Western Kenya Report, 2021).

1.3 Objectives of the Study

1.3.1 General Objective

The overall objective was to determine the effect of strategic innovation in optimization of revenue collection in Western Counties of Kenya

1.3.2 Specific Objectives

The study was guided by the following objectives;

- i. To determine the effect of automation on optimization of revenue collection in county governments of Western Kenya.
- ii. To examine the influence of outsourcing on optimization of revenue collection in county governments of Western Kenya.
- iii. To examine the effect of discounting on optimization of revenue collection in county governments of Western Kenya.

- iv. To determine the influence of monitoring and evaluation on optimization of revenue collection in county governments of Western Kenya.

1.4 Research Hypotheses

H₀₁: There is no statistically significant effect of automation on optimization of revenue collection in county governments of Western Kenya.

H₀₂: There is no statistically significant influence of outsourcing on optimization of revenue collection in county governments of Western Kenya.

H₀₃: There is no statistically significant effect of discounting on optimization of revenue collection in county governments of Western Kenya.

H₀₄: There is no statistically significant influence of monitoring and evaluation on optimization of revenue collection in county governments of Western Kenya.

1.5 Significance of the Study

The study will be of great benefit to the Western Kenya because it will help in identifying the ways of optimizing revenue collection. Also, it will enable the county government to know the drawbacks that are faced in meeting the optimum revenue collection in the counties.

The study is also of great importance to other counties in Kenya as they will learn ways in which revenue collection can be optimized to meet the budget needs of the County. It will also be of great importance to the residence of a county because it will help them identify the importance of paying tax and revenues without failure and in advance.

Finally, the government of Kenya will be able to identify the challenges facing the county government revenue collection in optimizing revenue collection. Also the country will be able to

know the importance of ranking the counties, provinces in terms of the amount of revenue collected.

The findings of the study will enable governments of different countries to know the importance of automation of revenue collection and its impact on optimization of revenue collection. The country government will know the importance of outsourcing of revenue collection in the country and how it reduces cost and cases of corruption in revenue collection. It will also shed some light on the importance of discounting of revenue and monitoring and evaluation in optimization of revenue collection in a country. The country is also able to know the importance of ranking the counties, provinces in terms of the amount of revenue collected.

1.6 Scope of the Study

The study was carried out in Counties in Western Kenya. The study focused on how automation; Outsourcing; discounting; and monitoring and evaluation influence optimization of revenue collection. A survey research design was used in the study. The target population consisted of all revenue officers in the 4 identified counties. A census inquiry was used to pick all the revenue officers. Data was collected using questionnaires. This data was then analyzed using descriptive and inferential statistics.

1.7 Limitations of the Study

The following were the drawbacks the researcher may experience on conducting this study: The respondents refused to cooperate in answering all the questions as required and they thought the researcher wants to get information from them about their county. The findings and conclusions did not give as expected from the researcher since they did not give clear information on what the researcher expects.

The respondents did not return all the questionnaires making it hard to construct other questionnaires and also making it hard for the researcher to find all the information he/she wanted.

The researcher was able to overcome the limitation factors through introduction of letter from the learning institution as a show it was for academic purposes. Also the researcher provided more information from past studies conducted by different researchers in the same field of the study from the internet, text books and journals.

1.8 Assumptions of the Study

The participants answered the both closed and open questions in a tool in an honest and candid manner, the inclusion criteria of the census is appropriate and therefore, assure that the participants had all experienced the same or similar phenomenon of the study, Participants had a sincere interest in participating in the research and do not have any ill motives, such as getting a better grade in a course if they are college students or impressing their supervisor because they agreed to be in the study.

1.9 Operational Definition of Terms

Automation: It is the use of technology and gadgets in the process of revenue collection so as to optimize revenue collection efficiently and effectively. It is based on accuracy in revenue records, prediction of future revenue levels and predictive fraud detection.

Discounting: It is the process of determining the present value of a payment or a stream of payments that is to be received in the future or paid out or reducing, concession, allowance, rebate, of certain amount of money from a charge (Bigelow 2011). This will be adopted to mean the process of reduction of owed amounts of revenue from customers so as to ultimately attract more compliance from customers. In terms of the study, discounting is measured based on discounting prepaid revenues, differential pricing and discounting high revenues.

Monitoring and Evaluation: is the systematic, evidence-based inquiry which assess and describe aspect of policy, project or program (Preker, Langenbrunner, & Jakab, 2002 and Monitoring is tracking progress with respect to identified objectives using measured and easily captured data on ongoing basis (Engela, & Ajam, 2010). This definition will be adopted to mean the processes of ensuring revenue collection if on course with regard to timelines agreed versus amounts of revenue collected at the time. Based on the study, monitoring and evaluation is measured in terms of budget execution, revenue collection supervision and periodical audits.

Optimization:

Is finding highest achievable/ effective performance under the given constraint through maximizing the desired factors and minimizing undesired ones by trying to attain maximum/highest results without expenses (Gill, Murray & Wright, (1981).In this study, this implies processes of ensuring as much revenue is collected as possible by the county governments as per laws, regulations and contractual agreements.

Outsourcing:

Is a business practice in which a company or individual to perform tasks, handles operations or provide services that are either usually executed or subletting an assignment to the professionals to perform the contract on the behalf of another fir or an agreement which company contracts-out part of the existing internal activity to another independent company (Katera, & Ngalewa, 2008). In this study, outsourcing implies the process of assigning revenue collection procedures to a third party through contractual agreement. Based on the study outsourcing is measured in terms of efficiency and effectiveness in revenue collection; revenue collection levels; and costs of revenue collection.

Strategic innovation:

Is helping the organization achieve transformational growth and competitive advantage through systems approach to optimizing revenue portfolio (Markides, 2007). Based on the study, strategic innovations is determined by: automation; outsourcing; discounting; and monitoring and evaluation

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Review

The following theories were adopted in the study.

2.1.1 Technology Acceptance Theory

The study employed the technology acceptance model (TAM) by Davis (1989). According to Davis (1989), technology acceptance theory involves how users accept the use of technology in running the operations of an organization or a firm in terms of perceived usefulness, perceived ease of use, attitude towards using, behavioral intention to use and actual system use. The theory explains that when new system is introduced in the organization, there are factors which need to be focused such as when to be used, how I will be used and what impact it will bring in the organization (Venkatesh & Bala, 2008).

The theory is based on two assumptions which are perceived ease-of-use and perceived usefulness. Bagozzi, Davis and Warshaw (1992) stated that introducing a new technology, the company asks questions how will impact the business operations? or will it bring improve the fir operations or increasing profit volume?. Also, the staff in the organization when they are introduced with new system, are they able to use the system or technology without any hindrance or drawbacks. In addition, the staff need to familiarize with the system (Venkatesh & Bala, 2008).

Segards and Grover (1993) revealed that public firms when introducing a new software they focus on perceived ease-of-use and perceived usefulness. The new software was determined by how employees are able to use the technology and also how it affects the firm operations. Also, the organization makes sure the software is working properly where it enhance effectiveness and efficiency of firm operations.

Technology acceptance theory is based on information communication technology department of the firm where by it enhances flow of communication from one department to another especially in government organizations, hospitals, manufacturing companies and so forth. In this 21st century, technology has enhance effectiveness and efficiency of firm operations in the global world where a company in Unite States of America can communicate with another company in Africa by doing transactions and this is through these firms adopting technology acceptance theory (Venkatesh et al., 2003).

Based on the study, the theory helped the county governments in Western Kenya by making them to adopt strategic innovations such as automation, outsourcing, discounting and monitoring and evaluation in order to improve the efficiency and effectiveness of revenue collection in the counties thus increasing fir performance.

2.1.2 Diffusion of Innovation Theory

Also, the research used diffusion innovation theory by Rodgers (2003). The theory asserts that innovation involves the increase and decrease of a new idea, product or practice that will be implemented and adopted by members or firms (Lazarsfeld et al., 2003). Rogers (2003) explained that leaders in organization may adopt or reject an innovation of a particular system needed to be introduced in an organization in order to bring change in a firm (Rogers, 1962).

Diffusion of Innovation Theory works by evaluating and monitoring how technology or system or innovation passes through some stages until it is useful or impacts an organization Littlejohn (1996). According to Rogers (3003), the theory has five assumptions which include: there is need or reason or factor prompting the organization to introduce new innovation; it needs to be align or compatible to the firm operations or system; it needs to be clear and simple to be used by both the

firm and customers; the innovation needs to be evaluated and monitored before implemented; and lastly it needs to be implemented and controlled (Infante et al., 1997).

Rogers and Shoemaker (1971) explains how employees' beliefs and norms in organization perceive the introducing of new innovation or technology where by the innovation has an impact over the existing technology or system, it needs to be align and compatible to the firm operations and employee norms and values, and the adopters must be familiar with the innovation. Also, the fir needs to know if the employees accept or reject the new innovation that is the transition from using the old system and using the new system (Swasy, 2016). The firm passes the employees a training of introducing the new innovation by making them to be aware of the reasons of introducing the new innovation, how it will help the firm operations, and how it will be used and maintained. This helps the firm to reduce change resistance and helps the staff to have positive attitude towards the introduction of new innovation (Rogers & Shoemaker, 1971).

The theory is deemed relevant for this study because when one county adapt the new innovation such as outsourcing of revenue collection, discounting and automation the idea spread and as a result all the other counties in Kenya adapted. This however optimized revenue collection in the county and the country in general.

2.2 Empirical Review

Variables of the study have been empirically examined to provide constructs that form basis of the study.

2.2.1 Automation and Optimization of Revenue Collection

Chatama (2013) revealed automation of revenue collection is the application of computerization in collection of revenue in a country. Technology shift and other factors helped in recording higher gross domestic product (GDP) in Tanzania. Reduction of interaction of taxpayers and revenue staff which is an area of corruption and reduce in cost of revenue collection is by automation (Masese, 2011). It has enhanced a seamless flow of information between Central Bank, revenue authority, and other departments of government in cargo clearance, both on sea and air (Markides, 2008).

Machine-sensible record is electronic format data intended to be used by computer (Taliercio, 2004). It does not include paper or paper records which have been converted into electronic storage medium. According to Bigelow (2011) machine-sensible record is responsible for recording machine taxpayers' records and also provides information to verify and support entries on taxpayers return and also to determine correct tax liability. It will meet the requirement only by reconciliation with tax payers' return and tax payers' book. This relation is established by demonstrating the relationship between account total in tax payers' book and total amount the taxpayers' machine-sensible record by account. Skupsky (2010) asserts it is ensured by the taxpayers that machine-sensible records contain transaction-level detail so that source document and on machine-sensible records are identified. Automation of revenue recording enables identification of sources and easy estimation of the revenue that will be collected (Tan, & Pan 2003).

Taliercio (2004) stated forecasting revenue practices is essential in assessing budget planning and management processes. Revenue forecasts is the basis of medium-term planning (Dellarocas, Awad, & Zhang, 2014). Revenue forecasting serves as resource constraint and when integrated in budget preparation it facilitates allocation of expenditure across users. In addition, it is key in

creating accountability in revenue collecting process because manipulated forecast may conceal problems of the government (Danninger, Cangiano, & Kyobe, 2004). Computerized revenue collection enables risk prediction by the revenue authority because decline in revenue collection in a county indicates future shortage of fund in the country since countries depend on revenue to meet financial demands. According to Lin, Pai, Lu, and Chang (2013) risk predictive is crucial in every because when risk are identified earlier it will be easy to be avoided. Inflation is a risk that must be identified by every county because it will affect the monetary value of the revenue that is collected in the county. According to Tanzi (2008) when the cost of goods and services increase in a given county there is also a need to increase the amount of revenue collection from an individual so that the amount of fund collected from revenue will meet the county's budget.

Taliercio (2004) stated that predictive fraud detection ensures optimum revenue collection in a country because when the frauds are identified the government will do a follow up and identify the individuals who fail to pay the revenue. These individuals will face a disciplinary action depending on the county laws and regulations. This however will scare any other individual who may be planning to evade revenue payment in a county. As a result the revenue collection will be optimized since there will be minimal or no revenue evasion in the country (Taliercio, 2004).

Booze et al. (2011) investigated automation of revenue collection in Washington DC. A total of sixty three factories out of the sixty five managed participated in this study. Primary data was collected from production managers inquiring into the impact of online receipting process on customer satisfaction. The study found that the adoption of technology on online receipting process has showed a positive impact on organization performance in developed countries. Compared to the traditional receipting process, an online receipting is a value-added service that allows a reliable online communication between the sender and the recipients. The study

recommended that the validity of the origin and the receipt exchange must not be denied and both the sender and Impeding Mechanisms for Adopting a New Technology the recipient receive a confirmation in case the receipt is delivered successfully or if the delivery fails.

Mwachiro (2013) established that proper database systems help to ensure that the organization is not unnecessarily exposed to avoidable financial risks. The research was conducted using both qualitative and quantitative approaches. Questionnaires were used on a population of 38 respondents in gathering primary data for the study. The data collected was then analyzed and findings revealed that the five components of control environment, risk assessment, control activities, information and communication, and monitoring must be available for revenue database system to work. The study established that weak revenue database system have encouraged collusion to fraud, loss of revenue and embezzlement of collected revenue.

Kariuki (2012) investigated the impact of automation as a structural change strategy on customs clearing procedures at Kenya Revenue Authority. The basis of the problem regarding the impact of automation on processes that the research study aimed to explore is discussed based on the following research objectives: to establish whether automation has resulted to efficient service delivery at the customs service department, to establish if automation has led to skills improvement of staff working at Kenya Revenue Authority and other stakeholders; what impact the improved skills have had on performance at the customs department, to establish if automation has brought about improvement in effectiveness of customs clearance procedures, to establish if automation of customs clearance procedures has resulted in cost saving, to establish if automation has improved governance in the customs department. The target population of the study consisted of licensed customs clearing agents. Respondents of the study involved 57 licensed customs

clearing agents based in Nairobi and Mombasa. Interview guides were used to collect data from the agents. Quantitative and qualitative analysis techniques were used to analyze the data. The findings emerging from the analysis were used to compile this report. The research study concluded that with the introduction of the Trade X-Simba system in the customs department, there has been improved efficiency, improved effectiveness, improved staff skills, reduced costs and improved governance. Recommendations based on the findings of this study propose that the management of KRA consider the security of the system from manipulation, which is a major threat.

2.2.2 Outsourcing and Optimization of Revenue Collection

Many government authorities have reformed the tax collection system in order to increase their revenue. Privatization of revenue collection in rural and urban councils is aimed at outsourcing revenue collection. According to Fjeldstad et al. (2008) outsourcing of revenue collection in most nations is as a result of complaints by the citizen on the revenue collectors and that the money collected from the revenues does not benefit them. In addition, government officials intervene in the revenue collection process and also in recruitment of revenue collectors. Local government tax collection in general transaction is intensive and often involves direct interaction between tax collectors and taxpayers which often facilitate corruption at the point of collection. Also political interference is another reason for outsourcing of revenue collection in most nations worldwide (Chatama, 2013).

Fjeldstad et al. (2009) asserts outsourcing of revenue sources is when the sources of revenue are identified and a specific private sector will be given tender to collect revenue in their respective sources. Outsourcing of revenue sources includes collection of property tax, parking and bus stand (Fjeldstad et al., 2008). This will ensure specialization of tax collection according to the source of

tax therefore it ensures maximum collection of each source of revenue. When revenue is collected maximally an optimum tax collection will be achieved (Stockamp, 2016).

Willcocks and Kern (2008) states revenue varies with types many revenue sources such as tax on agricultural products are seasonal as a result the input required for their collection fluctuates also. Employment of council staff is permanent basis and fixed cost throughout on the other hand market association have flexible labor input and therefore reduces operational cost on collection. Secondly private revenue collection facilitate predictive budgeting and planning because revenue are given as specified in the contract (Fjeldstad et al., 2009). This will optimize revenue collected due to use the expense on collection is minimal and therefore more profit to the government (Taliercio, 2004).

In Malaysia, Ling and Nawawi (2010) carried out a survey on Integrating ICT Skills and tax software in tax education. The respondents were the tax practitioners and the study aimed at establishing the necessary skills required by taxpayers to fully utilize a tax online system. The study found that three skills are needed by a taxpayer to interact well with technology based tax system namely, spread sheet software, word-processing software and e-mail. The findings of this study has got implications on the current study in that in analyzing the effectiveness of electronic filing system, one must not ignore the mandatory skills that would be users of the system need to have.

Kamolo (2014) conducted an analysis of risks that affect value added tax revenue collection by Kenya Revenue Authority. The purpose of the study was to analyze the risks that impact on Value Added Tax (VAT) revenue collection by the Kenya Revenue Authority (KRA). The study was necessitated by the declining VAT revenue despite KRA implementing several innovative

strategies to maximize revenue collection. The study was to identify the risks that affect revenue collection and secondly to analyze the impact of those risks as to whether they are high, moderate or low. The sampling technique applied was probability sampling which used stratified sampling. This was important as all elements responsible for identifying risks at every level was captured. The semi structured questionnaires has been administered to the staff. As this is a policy oriented research, the qualitative data analysis method has been used. The study found out that the risks are well understood and identified by the tax managers and some tax auditors. However, the revenue officers who are the majority did not identify the risks adequately as the other groups. The risks do affect revenue collection. The study found out the most of the identified when analyzed has high rate occurrence and high impact on the revenue receivable by the Authority.

Okiro (2015) did a study on the effect of e-payment system on revenue collection by the Nairobi City County Government. This study used a descriptive research in soliciting information in the area of research and its target population was selected 18 Nairobi government departments, which were operational between 2013 and 2015. Data was collected from secondary sources and analyzed, with respect to the study objectives using both descriptive and inferential statistics. The study found that revealed that the revenue collection performance in Nairobi City County increased considerably after introduction of e-payment system in revenue collection. The study concludes that the adoption e-payment system positively influences the revenue collection performance in Nairobi City County.

Owino (2017) assessed effect of innovation in revenue collection processes on organizational performance of Nairobi City County. The design of this research was a descriptive survey research. The population for this study composed of 13 top level managers, 41 middle level

managers and 102 low level managers. Stratified proportionate random sampling technique was used to select the sample of 111 respondents. The study used a semi structured self-administered questionnaire to collect data from the respondents. Quantitative data was analyzed by descriptive analysis using SPSS and presented in form of frequency tables. The study also conducted a multiple regression analysis to establish the relationship between the variables. The study found that that online billing process had very great extent on organizational performance. Also, the research also found that established that online payment greatly affected organizational performance in Nairobi County. In addition, the result of the findings showed that online responses affect the organizational performance to a very great extent. Moreover, the study found that automation of revenue collection processes enables fairer and less corrupt tax systems.

2.2.3 Discounting and Optimization of Revenue Collection

Levi (2009) asserts discounting is the reducing of the amount to be paid by an individual as a result of buying goods or services in bulge. It is also a way of motivating individuals or consumers of a certain product to buy in large quantities. This however will ensure that there is maximum purchase of the product because when it is discounted it is similar to reducing the cost of that particular goods and services (Singh & Wheeler, 2012).

Revenue payers who pre-pay on revenues are likely to be given discounts as a way of rewarding them because of their willingness and ability to pay (Markides, 2007). When these revenue payers are given discount it is a motivation to many of them to make payment before the due dates. Prepayment is of great benefit the revenue collecting authorities because it reduces cost spend on follow up of revenue payers (Krishnamoorthy, Labuda, & Haddock, 2012). In additional pre-payment is important to the revenue authority and also government because it will enable easy budgeting of the available funds. Pre-payment is important when the government is budgeting for

what they already have at hand as compared to budgeting for what it still requires hunting in the field.

Zhang and Bell (2012) states in revenue collection revenue payment vary with business size example is a person selling fruits cannot pay the same as someone owning a school. Revenue authorities should ensure that the amount of profit that an individual receives from their respective businesses is directly proportion to the amount of revenue that they pay. This will encourage small investors to invest in the country because of the satisfaction on revenue collection (Cooper, 2010). In addition this will increase the amount of revenue collection because any investor even with small capital can start a business anytime because they can easily raise revenue. An increase on small scale investors means that there will be a rise in revenue collection in a country (Topp-Jørgensen, Poulsen, Lund, & Massao, 2005).

Revenue payers who pay a large quantity of revenue in a country are likely to be given discount on the amount of revenue that they pay (Kempton & Tomić, 2005) This will not only encourage large scale investment but also optimize the revenue collection. Individual who pays more revenue are likely to evade at some point because of the changes in demands and supplies of their product. Discounting will encourage payment because it is another way of reducing the amount to pay by an individual the more the discounting the less cost of revenue. This will encourage large investors and thus increase revenue collection (Cooper, 2010).

Ojha, Sahu and Gupta (2009) did a study on the antecedents of paperless income tax filing by young professionals in India. The objective of this study was to study how young Indian professionals will adopt or behave towards paperless or online filing of tax returns with the aim of enhancing compliance. The regression analysis carried out found that the antecedents of young

Indian professionals depended on the perceived ease of the tax system, personal innovativeness in information technology, relative advantage, performance of filing service, and compatibility.

Wasao (2014) conducted a study on the effect of online tax system on tax compliance among small taxpayers in East of Nairobi tax district. The findings of the study were that online system do affect tax compliance level among small taxpayers in East of Nairobi as far as registration, filing and payments were concerned, From the regression analysis, it was revealed that holding online tax registration, filing and payment to a constant zero, tax compliance would stand at 3.663. A unit increase in online tax registration would lead to increase in tax compliance among small tax payers in East of Nairobi by factor of 0.051 and a unit increase in online tax filing would lead to an increase in tax compliance by factors of 0.161 while a unit increase of online tax payment would result to increase in tax compliance by factor of 0.086.

Cheruiyot, (2015) did a study on the adoption of technology as a strategic tool for enhancing tax compliance in Kenya. The case study was based on Large Taxpayers which included companies with a turn over of Kshs. 750 million and above, or government ministries and corporations. The objective of the study was to evaluate the role of Technology. The study examined the skills required by the users of e-filing, the technology required and the tax authority's preparedness in enhancing the adoption of tax compliance based technology. The study found that for e-filing to effectively take off in Kenya skills, infrastructure and a good business environment are needed.

2.2.4 Monitoring and Evaluation and Optimization of Revenue Collection

Engela and Ajam (2010) asserts monitoring and evaluation plays a role in identifying when and the circumstances possible and appropriate to undertake impact evaluation. Additionally it contributes important data for conducting impact evaluation and baseline data for various

information on the intervention. Monitoring involves tracking progress with previously identified objectives or plans using data which is easily measured and captured on. On the other hand, monitoring makes frequently use of quantitative data, monitoring qualitative data which is done regularly by some agencies is possible. The frequent reasons for monitoring include internal use staff and project managers. Instate of focusing on the work of the organization (Preker, Langenbrunner, & Jakab, 2002).

Preker et al. (2002) states systematic, evidence-based inquiry which describes and assess aspect of a policy and project is evaluation. It uses variety of quantitative and qualitative methods in providing comprehensive information in what is taking place if it is appropriate, why and provide guidance for directions. According to Mackay (2006) evaluation is the assessment of problem situation prior to development of the project design also these assessments identify ways that the needs can be addressed. Evaluation of the organization looks at effectiveness of an organizational unit as noted by (Seasons,2013).

Gidisu (2012) states the budget must include all money that a county will spend and must follow a fiscal year of Impact of the Economic Recession. The responsibility of budgeting is annual preparation and submission of budget for approval by the Board of County Commissioners. This division is responsible throughout the year for controlling and monitoring budgetary compliance and expenditures. In preparation of the budget it is responsible for preparing and also submitting the County's five-year Capital Improvement Plan (CIP). Additionally this division assists county management in fiscal impact and special impact determination and is responsible for county's short and long term financial planning and guideline for operation (Engela & Ajam, 2010).

According to Kusek and Rist (2004) monitoring and evaluation also involve close supervision of revenue collection in the country. When revenue collection is closely supervised it will optimize the revenue collected in a country. This is because some agents does not comply with the tax collection by failing to submit collected revenue or summiting less than the stipulated. Another problem is that agents targets only accessible ones to reduce collection cost. When revenue collection is closely supervised it will ensure maximum collection and thus optimization of revenue collection (Kusek & Rist, 2004).

Monitoring and evaluation is interested with the outcome of some set strategies to improve performance of revenue collection (Kusek & Rist, 2004). Monitoring and evaluation of revenue collection ensures that there is feedback to the expectation of the country. In every organization that is results oriented in their activities is always the best because every individual responsible for production will work maximally to ensure that results is presentable. According Seasons (2013) in this case the organization responsible for revenue collection will work maximally and their workers will comply with each other in ensuring that there is a maximum feedback as expected.

Prichard (2010) conducted a study on taxation and state building. The study aimed to compare none automated systems and automated systems in identifying fraud or rogue revenue collectors in United Kingdom. Primary data was collected using structured interview guides with the managers of revenue authorities. Content analysis was used to perform data analysis where the interview responses were structured based on various themes as espoused by objectives of the study. Secondary data were also used to corroborate the results of the interviews by looking at the documents for the reforms and modernization program. The study established that none automated systems of revenue were attributable to problems of tracking and identifying fraud or rogue revenue collectors since they are only compounded by the usage of manual or centralized systems

due to the resources and overheads needed to monitor and control such problems. Manual collection of payments at several service points lead to delayed customer service with built-in Risk Of manual cash management Minimal payment channels.

Nyaga (2016) examined effect of revenue collection processes innovations on the financial performance of selected county governments in Kenya. The study adopted a descriptive research design. The target population consisted of all the employees in the county revenue collection department. Simple random sampling technique was used in this study to select the respondents. The total sample in this study was 124 respondents. Primary data was gathered by use of a semi-structured questionnaire and captured through a 5-point type Likert scale. Data was analyzed using Statistical Package for Social Science (SPSS) version 20. A linear regression analysis was conducted on the data set. The Pearson Product Moment was used to analyze the data in which correlation coefficient (r) and the coefficient of determination (r^2) of the variables was established. In relation to the study findings, the study concluded that, training on revenue collection, mobile money payment, online tax remittances and revenue database system influences financial performance of selected county government in Kenya.

Kondo (2015) examined the effect of revenue enhancement strategies on financial performance of Kenya Revenue Authority. The data was analyzed using descriptive statistics including frequencies, mean scores and correlation analysis. Regression models were used to determine the existence, if any, of the relationship between financial performance and the strategies adopted to enhance financial performance by KRA. In addition, regression model were used to measure the quantitative data to establish the extent to which independent variables affect the dependent variable as shown by the size of the beta coefficients. It was established that tax payer education

and revenue collection points have strong, positive and significant effect financial performance of KRA while computerized operations and staff training have strong, negative and significant effect on financial performance of KRA.

Otieno et al. (2013) studied effect of information systems on revenue collection by local authorities in Homa Bay County, Kenya. A structured cross-section survey was used to collect data from 2,007 individuals, of which 165 were Local Authorities staff and 1,842 were traders in Homa Bay Municipality. The study found that there is a relationship between information systems and both efficiency and effectiveness in revenue collection. Also it was revealed that there is a strong positive relationship between internal control systems and revenue collection.

2.2.5 Optimization of Revenue Collection

According to Markides (2008) the strategic management of inventory demand, pricing, and distribution channels to increase revenue over long period of time is revenue optimization. It uses modeling and forecasting of demand, optimization of price and predicting behaviors of consumers to ensure that correct revenue is paid by the right person. Strives by countries in increasing have different strategies which drives profitable growth and drives faster disposal. These strategies are referred to levers which the country needs to know the ones and when to dramatically pull to increase margins (Willcocks & Kern, 2008). Primary levers is on maximizing revenue and pricing optimization as the possible strategies. The indicator of optimum revenue collection is indicated by; amount of revenue collected, growth of revenue collection and county ranking.

The amount of revenue collected in a given year in a country is an indicator of how revenue is collected in that country (Fjeldstad et al., 2008). When the amount of revenue collected is high it means that there is an optimum revenue collection and, in the situation, where the amount of

revenue is low it indicates that there is a limited revenue collection. Most countries depend on the amount of revenue collected in funding development projects in the country. According to Optimum revenue collection however ensures maximum service provision to the citizens.

Growth of revenue in a country is a clear indication that there is optimum revenue collection and therefore there is minimal loss of revenue (Brill & Hassett, 2007). The growth of revenue is of great benefit to the government because it indicates that the country is likely to meet their objective of development projects. This is because the growth of revenue collection means that there is enough financial resources to fund the country's budget that majorly depends on the revenue collected (Kempton & Tomić, 2015)

Some countries rank their counties, district or province depending on the amount of revenue they collect in a given year. The county, district or county that is ranked the top indicates that it optimizes its revenue collection but the one that is ranked last indicates that there is less optimal revenue collection. Ranking in revenue collection is important because it encourages competition between the counties, districts or provinces (Kirsch & Chang, 2009). Competitions however increases the gross revenue collected in a country because each district, province or county is striving to collect maximum revenue collection in order to improve in their ranking.

2.3 Chapter Summary

According to Terkper (2009) strategic innovation is crucial in the optimization of revenue collection in a nation. Optimization of local revenue collection according to the source of the revenue there will be enough fund to solve county's financial needs this have been achieved automation of revenue collection. Technology shift helps in recording high gross domestic product (GDP). Increase in is an indicator of optimum collection of revenue. Computerized revenue collection reduce collection cost and the interaction of revenue staff and tax payers which

increases cases of corruption (Masese, 2011). Automation enhances information flow between central bank, revenue authority and other department of the government cargo clearance. Outsourcing of revenue collection is another way in which nations optimize revenue collection (Markides, 2008). Outsourcing ensures maximum collection of revenue in a country and also reduces complaints by the citizen on the revenue collectors and that the money collected from the revenues does not benefit the citizens (Fjeldstad et al., 2009).

Discounting also optimizes revenue collection because it motivates individuals who pay more revenue and also those who make pre-payment (Singh & Wheeler, 2012). Discounting and price differential on revenue payment encourages more investors either small- or large-scale investors in the country this will increase the amount of revenue collected in a country. Finally monitoring and evaluation optimizes revenue collection because it ensures that the revenue collected meets the country's budget, also close supervision of revenue collection and it will ensure results-oriented revenue collection this optimizes revenue collection in a country (Krishnamoorthy, Labuda, & Haddock, 2012).

2.4 Research Gap

Researchers have studied the factors how outsourcing of revenue collection affect the amount of revenue collection in a country and how to maximize revenue collection in the country. Few studies have focused generally on how the strategic innovation affects optimization of revenue collection. According to Kamolo (2014) automation of revenue collection increases revenue collected in a county in a given year. Gidisu (2012) recommended that automation is an effective way of revenue collection as it minimizes political interference and corruption. Karori, Muturi and Mogwambo, (2016) studied influence of revenue collection authority on operational performance of county government in Kenya and recommended that future studies should be done on how to

improve revenue authority's performance. From the above studies there were no studies which have been done on how strategic innovations affect optimization of revenue collection in county government. It is against this that the study bridged the gap by examining the effect of strategic innovation in optimization of revenue collection in Western Counties of Kenya.

2.5 Conceptual Framework

The Concept Framework illustrates conceptualization of research. It defines the relevant variables for the study and maps out how they might relate to each other (Gahie, 1980). The independent variable is a variable that changes or controls its outcomes. The dependent variable is predicted by the independent variable and as the experimenter changes the independent variable, the change in the dependent variable is observed and recorded and depends on other factors that are measured.

In this study, the independent variable constructs shall include; automation, outsourcing, discounting, monitoring and evaluation while the dependent variable constructs shall be optimization of revenue collection. Figure 2.1 illustrates the conceptual framework.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

Survey research design was adapted in the study. A survey research design is preferred because of the large number of revenue officials within the study area. This design accommodates valuable and unique argument different from using other approaches as it studies things in detail and discover what would be impossible to find if other designs were used. The descriptive design adopted because descriptive studies are not only useful for fact finding but often result in the formulation of important principles of knowledge and solution to significant problems. This ensured that the researcher is able to visit the various revenue offices in Western Counties that were sampled to participate in the study and sought the opinions of the respondents about how strategic innovations affect optimization of revenue collection. The survey research design therefore allowed the researcher to manage the study population size thus ensuring that the information collected is sufficient (Kombo & Tromp, 2006).

3.2 Study Area

The study will conducted in county governments in Western Kenya. Through devolvement of government in counties through the constitution of 2010, it has help the county government in Kenya to improve their revenue collection through adoption of computerized systems in collecting of revenue in the public. However, the introduction of computerized systems in the county government, the revenue collection department has not reach to its level in revenue collection thus influencing the county government operations. This is the same case in county governments in Western Kenya.

3.3 Target Population

According to Mugenda and Mugenda (2003) population is object or case or individuals with similar characteristics. The target population in this case was from revenue department in counties in western Kenya. Revenue officials from Busia county are 32. Respondents from Kakamega County are 29 respondents from Bungoma county are 24 and respondent from Vihiga County are 25 respondents as shown in table 3.1.

Table 3.1 Target Population

Counties	REVENUE DEPARTMENT						Total
	Director	Billing	Examination	Finance	Audit	Revenue Collectors	
Busia	2	6	2	2	1	19	32
Kakamega	2	4	3	3	2	15	29
Bungoma	2	3	2	3	2	12	24
Vihiga	2	3	1	2	1	16	25
Total	8	16	8	10	6	62	110

Source: (Western Kenya County Governments – Human Resource Offices)

3.4 Sample and the Sampling Design

Census inquiry entails studying the entire target population by complete enumeration of subjects (Kothari, 2008). This study employed census inquiry because the study population was small enough to allow for complete enumeration. Sampling error was therefore eliminated and study results reflected actual population parameters. A study population of 110 revenue officials was used in the study.

Table 3.2: Sample Size

S/n	County Governments	Target Population(Revenue Collectors)	Sample size
1	Busia	32	32
2	Kakamega	29	29
3	Bungoma	24	24
4	Vihiga	25	25
	Total	110	110

Source: Author, (2021)

3.5 Instrument of Data Collection

3.5.1 Data Collection Instrument

An instrument of data collection is a tool that is used to gather information from the target population (Kothari, 2008). In this study, questionnaire was designed and used to collect data from revenue collectors. Questionnaires a tool that the respondent reacts on by responding to both open and close questions in writing. Questions in the questionnaire are designed words and are distributed to respondents to answer the questions. Questionnaire can collect more information in a short time. During the study respondents were given time to complete filling the questionnaire and then returned for analysis. The questions in the questionnaire were closed or open ended which allows respondents to freely give their opinion without interference. The questionnaire was structured in quantitative method of research, which was advocated by Emile Durkheim (1858-1917) it includes the low level of involvement of the researcher and high number of respondents “(the individual who answers the questions).”

Questionnaire is series of questions asked to individual to obtain statistically useful information about a given topic. When properly constructed and responsibly administered, questionnaires become a vital instrument by which statements can be made about specific groups. The study

questionnaire shall be structured as per the study variables. The questionnaire shall have six sections.

3.5.2 Data Collection Procedure

Before collecting the data, the researcher sent a letter to the respondents requesting to be allowed to collect the data. This letter was obtained from the School of Business and Economics, Kisii University. In addition a permit was obtained from NACOSTI. These letters were sent three weeks before the actual day of data collection. It enabled the respondents to be prepared for participation in the research. The researcher carried out the study in the counties in Western Kenya and hand in the questionnaires to the respondents. Some of the questionnaires were filled on the same day when the researcher visited the study area while others were left to be filled. After a week the researcher then returned to the counties to collect the questionnaires that had been left to be filled by the respondents on the first day visit in the counties (Kumar, 2011).

3.5.3 Validity of Research Instrument

According to Paton (2000) validity is quality measure of degree to which instruments conform to establish truth. The validity of the questionnaire was examined using both content and face validity. The content validity was assessed by the experts in assessing that the content in the questionnaire is according to the study objectives. Face validity refers to the checking and evaluating the content is related to the structured and unstructured questionnaire questions.

3.5.4 Reliability of Research Instrument

Reliability of research instruments is measurement of consistency of the instruments when administered from respondent a measure of consistency of the research instrument if and when administered to respondents from different population with similar characteristic (Kumar, 2011). Reliability of instruments of data collection was determined through pilot study. This is where the researcher administers instruments to respondents in the organization which was not included in

the study. In ensuring reliability of the instrument, pilot study was conducted in Uasin Gishu County which was not included in the study. To obtain respondents in Uasin Gishu County to be used to carry out pilot survey, the 10% rule by Mugenda and Mugenda (2003) was applied to arrive at 11 respondents. The results of pilot test were subjected to Cronbach’s reliability coefficient Formula or reliability coefficient computation. The pilot study tested internal consistency and reliability of questionnaire, which sets the rating scale using Cronbach’s Alpha-Coefficient:

$$\alpha = \frac{n-1}{n-1 + \sum V_i}$$

Where :

α = Reliability

n = Number of questions in questionnaire

V_i = Variability of each of question score

V-test = Variability of each of overall questions’ score

Table 3.3: Reliability Analysis

	Before Factor Analysis		After Factor Analysis		Reliable >.7/not reliable <.7
	Cronbach's Alpha	No of Items	Cronbach's Alpha	No of Items	
Automation	.743	3	.743	3	Reliable
Outsourcing	.844	3	.844	3	Reliable
Discounting	.747	3	.747	3	Reliable
Monitoring and evaluation	.866	3	.866	3	Reliable
Optimization of revenue collection	.745	3	.745	3	Reliable

Source: Research Data (2021).

The reliability test in table 3.2 indicates that automation was $\alpha=.743>.7$, outsourcing $\alpha=.844>.7$, discounting $\alpha=.747>.7$, monitoring and evaluation $\alpha=.866>.7$ and optimization of revenue

collection in Western Kenya $\alpha=.745>.7$. This means that research instrument was reliable for data collection under this study.

3.6 Data Analysis

Data analysis entails organizing and ordering raw data into useful information (Mugenda, 2009).

Data that was collected was checked for consistency with data obtained from questionnaire copies in order to eliminate misleading data which could arise from misrepresentation of answered questions in the questionnaire. Both descriptive and inferential data analysis were employed.

3.6.1 Descriptive Analysis

Data was analyzed and presented through descriptive and inferential statistics with the help of SPSS (Version 25). The descriptive statistics method involved the use of frequencies; percentages; means; standard deviations; maximum and minimum range; skewness and kurtosis. The results were presented by tables and figures.

3.6.2 Inferential Analysis

Inferential statistics are statistics used to draw inferences about a given phenomenon in a population. Inferential analysis was adopted for the study because study results were applicable to the other county governments not in Western Kenya and therefore applicable to more revenue collectors not enumerated in the study. More so, results of this study were applicable to future administration if revenue collection and therefore the need to extrapolate results. In this study, regression model was employed. Data was analyzed using a four-point liker scale while the relationship between variables was determined using a regression model analysis.

The regression equation was as illustrated

$$Y=b_0+b_1X_1+b_2X_2+b_3X_3+b_4X_4+e$$

Where:

Y represents dependent variable - Optimization of revenue collection

b represents the constant when the value of independent variables is zero

b represents independent variable Coefficients

X represents the independent variables – Strategic innovations

X₁ represents Automation

X₂ represents Outsourcing

X₃ represents Discounting

X₄ represents Monitoring and Evaluation

e represents error term

The multivariate regression analysis was based on the assumptions that; First multivariate analysis assumes that the data from group *i* has common mean vector μ_i . This assumption says that there are no subpopulations with different mean vectors. Here, this assumption might be violated if data collected from a given site was imported from multiple sites. Secondly multivariate analysis assumes that the subjects are independently sampled. This assumption was satisfied if the assayed pottery is obtained by randomly sampling the pottery collected from each site. This assumption would be violated if, samples were collected in clusters. Thirdly multivariate analysis assumes normality: Multivariate analysis assumes that there were multivariate normally distributed.

3.7 Ethical Considerations

The study adopted the following ethical considerations. Absolutely voluntary participation was sought as no one was coerced to answer questions they do not want to. Secondly, the respondents' information was treated with high confidentiality through introduction of a letter from the learning institution. The respondents of the study were selected randomly and participate in the research voluntary.

Informed consent of all participants were assured by asking them to use, where necessary coding instead of using their names or any other personal information in questionnaires. In order to achieve this, the respondents were allowed to only tick where appropriate. There was a letter indicating the reason as to why the research was being conducted and how he intends to protect the information of the respondents in order to avoid worries and thus making the respondents to freely participate in filling questionnaires.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Response Rate

The study targeted 110 respondents being revenue collectors from western counties in Kenya. From the total sample size of 110 respondents, 100% positively responded to the case request. From 110 questionnaires administered, all questionnaires were returned. The response rate is indicated in Table 4.1.

Table 4.1: Response Rate

Counties	Questionnaires administered	Questionnaire responded	Percentage rate (%)
Busia county	32	32	100
Kakamega county	29	29	100
Bungoma county	24	24	100
Vihiga county	25	25	100
Total	110	110	100

Source: Research Data (2021).

4.2 Background Information of Respondents

The study sought to determine the background information of respondents based on gender, academic level and duration served by the employees in the counties.

4.2.1 Gender of the Respondents

The study sought to determine gender distribution in the study as shown in table 4.2 below.

Table 4.2: Gender of the Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	49	44.5	44.5	44.5
Female	61	55.5	55.5	100.0
Total	110	100.0	100.0	

Source: Research Data (2021)

From the study 44.5% of the respondents were male and 55.5% were female. The findings revealed that majority of the employees working in the counties were female. This indicates that most of the females are competent in strategic innovations in optimization of revenue collection in county government. The variation in male and female was near even.

4.2.2 Education Level of the Respondents

The researcher sought to determine the education level among the respondents in the study as indicated in table 4.3 below.

Table 4.3: Education Level of the Respondents

Education level	Frequency	Percent	Valid Percent	Cumulative Percent
O'level	1	.9	.9	.9
Certificate	9	8.2	8.2	9.1
Diploma	55	50.0	50.0	59.1
Under graduate	43	39.1	39.1	98.2
Masters	2	1.8	1.8	100.0
Total	110	100.0	100.0	

Source: Research Data (2021)

Table 4.3 showed 0.9% of the employees had reached O'level, 8.2% had reached certificate level, 50% had reached diploma level, 39.1% had reached under graduate level and 1.8% had reached masters level. The results reported that majority of employees working at western counties had reached diploma level implying the counties had a stronger working force with high academic

qualifications. Hence most employees are educated and informed indicating that they can make sound accounting and managerial decisions on the subject of the study.

4.2.3 Duration Served by Employees in the County

The study sought to determine the duration served by the employees at the county as shown in table 4.4 below.

Table 4.4: Duration Served by Employees in the County

Work experience	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 10 years	106	96.4	96.4	96.4
11-20 years	3	2.7	2.7	99.1
More than 20 years	1	.9	.9	100.0
Total	110	100.0	100.0	

Source: Research Data (2021)

From the results 94.4% of the respondents had served for less than 10 years revealing that they had experience of more than 7 years, 2.7% had served between 11 years and 20 years meaning they had been working as revenue collectors for more than 15 years and 0.9% had served more than 20 years in the county implying they had been working in revenue collection section for more than 18 years. From the findings majority of the employees had worked for less than 10 years thus they had adequate experience in using strategic innovations and how it affects optimization of revenue collection in county government.

4.3 Descriptive Analysis

The research sought to present the research objectives in terms of descriptive statistics.

4.3.1 Automation and Optimization of Revenue Collection

The study sought to determine the effect of automation on optimization of revenue collection in Western Counties of Kenya.

Table 4.5: Automation and Optimization of Revenue Collection

Statements	1	2	3	4	5	Mn	Std	Min	Max	Skw	Kurt
Taxpayer's machine-sensible record ensures revenue collected is recorded accurately and precisely	0	1	0	36	73	4.65	0.53	2	5	-0.49	-0.98
Through automation of revenue collection, we can easily predict future revenue collection levels	0.9	14.5	15.5	38.2	30.9	3.84	1.05	1	5	-0.37	-0.70
Automation enables predictive fraud detection	5.5	33.6	17.3	27.3	16.4	3.15	1.21	1	5	-0.23	-1.46

Source: Research Data (2021).

The findings indicated that taxpayer's machine-sensible record ensures revenue collected is recorded accurately and precisely thus enhancing optimization of revenue collection in the counties as evidenced by a mean of 4.65, standard deviation of 0.53, skewness of -0.49 and kurtosis of -0.98. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.0.

From the findings through automation of revenue collection, we can easily predict future revenue collection levels therefore increasing revenue collection level within the county as shown by a mean of 3.84, standard deviation of 1.05, skewness of -0.37 and kurtosis of -0.70. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.0.

Also, the study showed that automation enables predictive fraud detection whereby it minimizes occurrence of fraud with the revenue collection department thus enhancing optimization of revenue collection in the counties as evidenced by a mean of 3.15, standard deviation of 1.21 skewness of -0.23 and kurtosis of -1.46. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.0.

From the results optimization of revenue collection in western counties as far as automation was concerned was relatively high. This is an implication that western counties in Kenya are working towards enhancing optimization of revenue collection by adopting automation as strategic innovations.

The results of this finding are in consonance with Mwachiro (2013) who revealed that proper database systems help to ensure that the organization is not unnecessarily exposed to avoidable financial risks. Also, Ojha, Sahu and Gupta (2009) concurred with the findings where they revealed that revenue database systems have encouraged collusion to fraud, loss of revenue and embezzlement of collected revenue.

4.3.2 Outsourcing and Optimization of Revenue Collection

The research sought to examine the influence of outsourcing on optimization of revenue collection in Western Counties of Kenya.

Table 4.6: Outsourcing and Optimization of Revenue Collection

Statements	1	2	3	4	5	Mn	Std	Min	Max	Skw	Kut
Privatized revenue collection has enhanced efficiency and effectiveness in revenue collection	1 0.9	9 8.2	5 4.5	42 38.2	53 48.2	4.25	0.94	1	5	-0.22	-1.09
Outsourced revenue collection has increased collected revenue	5 4.5	21 19.1	14 12.7	42 38.2	28 25.5	3.61	1.19	1	5	-0.16	-1.10
Third party management of revenue collection has decreased costs of revenue collection to the county government	12 10.9	26 23.6	18 16.4	28 25.5	26 23.6	3.27	1.35	1	5	-0.34	-0.76

Source: Research Data (2021)

The findings indicated that privatized revenue collection has enhanced efficiency and effectiveness in revenue collection thus increasing level of revenue collection within the counties as evidenced by a mean of 4.25, standard deviation of 0.94, skewness of -0.22 and kurtosis of -1.09. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the findings through outsourced revenue collection has increased collected revenue therefore enhancing optimization of revenue collection within the western counties as shown by a mean of 3.61, standard deviation of 1.19, skewness of -0.16 and kurtosis of -1.10. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

Also, the study showed that third party management of revenue collection has decreased costs of revenue collection to the county government thus enhancing optimization of revenue collection in

the counties as evidenced by a mean of 3.27, standard deviation of 1.35, skewness of -0.34 and kurtosis of -0.76. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the results optimization of revenue collection in western counties as far as outsourcing was concerned was very high. This is an implication that western counties in Kenya are working towards enhancing optimization of revenue collection by adopting outsourcing as strategic innovations.

The study findings is in line with Wasao (2014) who revealed that online tax registration leads an increase in tax compliance among small tax payers in East of Nairobi. Also, Mitullah, Odhiambo and Kichamu (2005) supports that study where they revealed that contracting collections to a private collection agency helps in increasing revenues collection.

4.3.3 Discounting and Optimization of Revenue Collection

The researcher sought to examine the effect of discounting on optimization of revenue collection in Western Counties of Kenya.

Table 4.7: Discounting and Optimization of Revenue Collection

Statements	1	2	3	4	5	Mn	Std	Min	Max	Skw	Kut
Discounting pre-payments has increased revenue	1 0.9	15 13.6	12 10.9	34 30.9	48 43.6	4.03	1.09	1	5	-0.49	-0.13
Price differential in revenue collection has improved collected revenue	6 5.5	17 15.5	18 16.4	36 32.7	33 30	3.66	1.21	1	5	-1.73	2.66
Discount to entities paying significantly higher revenue has encouraged more entities to pay revenue on time	6 5.5	15 13.6	19 17.3	38 34.5	32 29.1	3.68	1.89	1	5	-0.49	-1.28

Source: Research Data (2021)

The findings indicated that discounting pre-payments has increased revenue level thus increasing level of revenue collection within the counties as evidenced by a mean of 4.03, standard deviation of 1.09, skewness of -0.48 and kurtosis of -0.13. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the findings through price differential in revenue collection has improved collection of revenue therefore enhancing optimization of revenue collection within the western counties as shown by a mean of 3.66, standard deviation of 1.21, skewness of -1.73 and kurtosis of 2.66. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

Also, the study showed that employing discount to entities paying significantly higher revenue has encouraged more entities to pay revenue on time thus enhancing optimization of revenue collection in the counties as evidenced by a mean of 3.68, standard deviation of 1.89, skewness of -0.49 and kurtosis of -1.28. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the results optimization of revenue collection in western counties as far as discounting was concerned was relatively high. This is an implication that western counties in Kenya are working towards enhancing optimization of revenue collection by adopting discounting as strategic innovations.

Ochieng, Wawire, Manyasa and Thuku, (2014) concurs with the study where they found out that tax reforms such as reducing tax charges in their enhance tax buoyancy and elasticity. Also, Otieno et al, (2013) supports the study where they revealed that discounting has a positive effect on revenue collection.

4.3.4 Monitoring and Evaluation on Optimization of Revenue Collection

The study sought to determine the influence of monitoring and evaluation on optimization of revenue collection in Western Kenya.

Table 4.8: Monitoring and Evaluation on Optimization of Revenue Collection

Statements	1	2	3	4	5	Mn	Std	Min	Max	Skw	Kut
There is a close relationship between the county's budget execution and revenue collection	2 1.8	1 0.9	2 1.8	27 24.5	78 70.9	4.62	0.74	1	5	-0.90	0.035
There is close supervision of revenue collection process	0 0	0 0	1 0.9	44 40	65 59.1	4.58	0.51	3	5	-0.06	-1.47
The revenue authority conducts periodical audits of revenue collected	1 0.9	1 0.9	1 0.9	41 37.3	66 60	4.55	0.66	1	5	0.37	-1.07

Source: Research Data (2021).

The findings indicated that there is a close relationship between the county's budget execution and revenue collection thus increasing level of revenue collection within the counties as evidenced by a mean of 4.62, standard deviation of 0.74, skewness of -0.90 and kurtosis of -0.04. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the findings there is close supervision of revenue collection process therefore enhancing optimization of revenue collection within the western counties as shown by a mean of 4.58, standard deviation of 0.51, skewness of -0.06 and kurtosis of -1.47. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

Also, the study showed that the revenue authority conducts periodical audits of revenue collected making the revenue collection department accountable in their revenue records thus enhancing optimization of revenue collection in the counties as evidenced by a mean of 4.55, standard deviation of 0.66, skewness of 0.37 and kurtosis of -1.07. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the results optimization of revenue collection in western counties as far as monitoring and evaluation was concerned was very high. This is an implication that western counties in Kenya are working towards enhancing optimization of revenue collection by adopting monitoring and evaluation as strategic innovations.

The results of this finding are in consonance with Kusek and Rist (2004) who revealed that when revenue collection is closely supervised it will optimize the revenue collected in a country. Also, Seasons (2013) supports that study where the study found out that revenue collection will work maximally and their workers will comply with each other in ensuring that there is a maximum feedback as expected.

4.3.5 Indicators of Optimization of Revenue Collection

The research sought to assess the indicators of optimization of revenue collection in Western Kenya.

Table 4.9: Indicators of Optimization of Revenue Collection

Statements	1	2	3	4	5	Mn	Std	Min	Max	Skw	Kut
Revenue collection levels have increased as a results of strategic innovations	0	3	3	39	65	4.51	0.69	2	5	-1.44	-0.47
	0	2.7	2.7	35.5	59.1						
There has been Growth in revenue collection streams across the county	0	1	8	55	46	4.33	0.65	2	5	0.89	0.17
	0	0.9	7.3	50	41.8						
The County government rankings on revenue collection has improved over time	0	1	4	34	71	4.59	0.61	2	5	-0.14	-1.10
	0	0.9	3.6	30.9	64.5						

Source: Research Data (2021)

The findings indicated that revenue collection levels in the counties have increased as a result of strategic innovations thus increasing level of revenue collection within the counties as evidenced by a mean of 4.51, standard deviation of 0.69, skweness of -1.44 and kurtosis of 0.47. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skweness and kurtosis values ranging between -3.0 and +3.

From the findings there has been growth in revenue collection streams across the counties due to adoption of strategic innovations in the revenue collection department of the counties as shown by a mean of 4.33, standard deviation of 0.65, skweness of 0.89 and kurtosis of 0.17. The data was normally distributed and had high dispersion since it had high range. The data was normally

distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

Also, the study showed that the County government rankings on revenue collection has improved over time since the adoption of strategic innovations in the revenue collection department of the western counties as evidenced by a mean of 4.59, standard deviation of 0.61, skewness of -0.14 and kurtosis of -1.10. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression with skewness and kurtosis values ranging between -3.0 and +3.

From the results optimization of revenue collection in western counties as far as strategic innovations was concerned was very high. This is an implication that western counties in Kenya are working towards enhancing optimization of revenue collection by adopting automation, outsourcing, discounting and monitoring and evaluation as strategic innovations.

The study findings is in line with Terkper (2009) who revealed that strategic innovation is crucial in the optimization of revenue collection in a nation. Also, Masese (2011) supports the study where the research revealed that computerized revenue collection reduce collection cost.

4.4 Inferential Analysis

The inferential analysis involves correlation, assumptions of multiple regression analysis and multiple regression analysis.

4.4.1 Correlation Analysis

The research attempted to determine the independent variable's correlation.

Table 4.10: Results of Correlation Analysis

Correlations		Optimization of revenue collection in Western Kenya
Automation	Pearson Correlation	.303**
	Sig. (2-tailed)	.001
	N	110
Outsourcing	Pearson Correlation	.850**
	Sig. (2-tailed)	.000
	N	110
Discounting	Pearson Correlation	.764**
	Sig. (2-tailed)	.000
	N	110
Monitoring and evaluation	Pearson Correlation	-.089
	Sig. (2-tailed)	.357
	N	110

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

Source: Research Data (2021).

The research showed there was no significant correlation between monitoring and evaluation and optimization of revenue collection in Western Kenya since there was weak negative association between the two variables with r of $-.089$. Monitoring and evaluation is negatively related to optimization of revenue collection in Western Kenya based on revenue collection levels and growth in revenue collection streams.

The research showed there was a significant correlation between automation and optimization of revenue collection in Western Kenya since there was strong positive association between the two variables with r of 0.303^{**} .

Also the study indicated there was a significant correlation between outsourcing and optimization of revenue collection in Western Kenya since there was strong positive association between the two variables with r of $.850^{**}$.

In addition, the study indicated there was a significant correlation between discounting and optimization of revenue collection in Western Kenya since there was strong positive association between the two variables with r of .764**.

The findings stated that correlation exists within western counties ($p < 0.001$) between automation and optimization of revenue collection in Western Kenya. This implies that findings through automation of revenue collection, we can easily predict future revenue collection levels therefore increasing revenue collection level within the county.

The research showed that a correlation exists within western counties ($p < 0.000$) between outsourcing and optimization of revenue collection in Western Kenya. This implies that outsourced revenue collection has increased collected revenue therefore enhancing optimization of revenue collection within the western counties.

The findings stated that correlation exists within western counties ($p < 0.000$) between discounting and optimization of revenue collection in Western Kenya. This implies that through price differential in revenue collection has improved collection of revenue therefore enhancing optimization of revenue collection within the western counties.

4.4.2 Assumptions of Multiple Regression Analysis

This section explains the results of multiple regression analysis assumptions.

4.4.2.1 Normality of Residual Test

The study sought to determine the assumptions of normal distribution of data in multiple regression analysis.

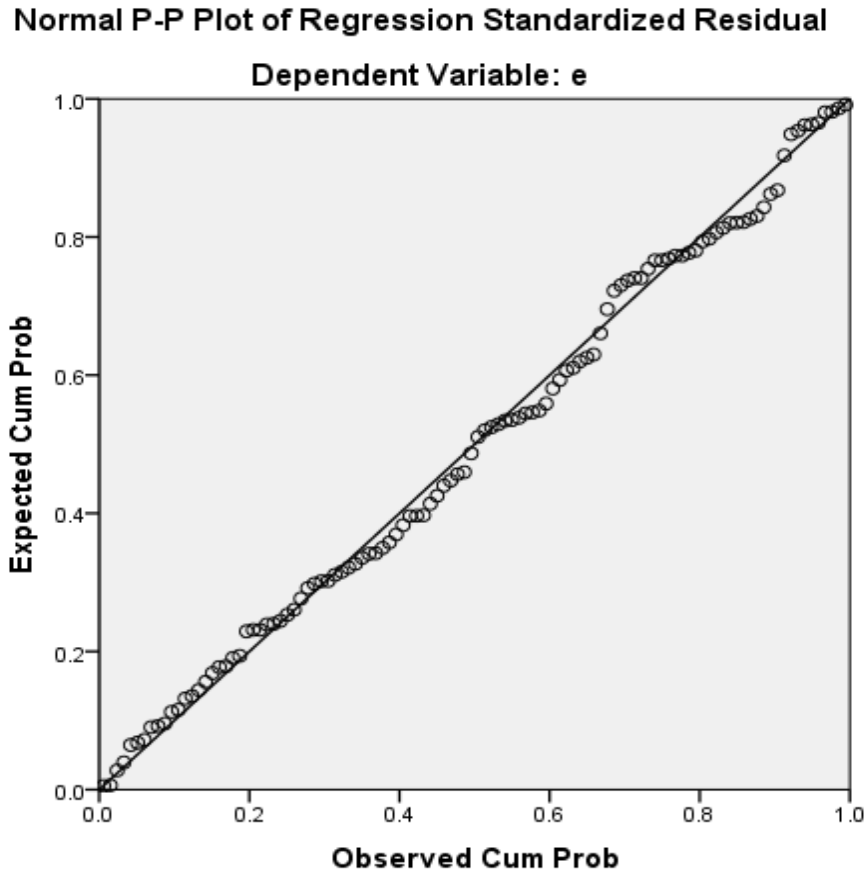


Figure 4.1: Results of Normality of Residuals Test

Source: Research Data (2021).

The plot showed that, the points generally follow the normal (diagonal) line. This suggested normal distribution of the residuals. It also showed the normal distribution of dependent and independent variables.

4.4.2.2 Multicollinearity of Data Test

The study sought to determine the assumptions of no multicollinearity of data.

Table 4.11: Multicollinearity Test Results

Model	Coefficients ^a	Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Automation	.745	1.342
	Outsourcing	.294	3.400
	Discounting	.271	3.691
	Monitoring and evaluation	.981	1.019

a. Dependent Variable: Optimization of revenue collection in Western Kenya

Source: Research Data (2021).

There was no multicollinearity of data where the Variance Inflation Factor (VIF) of independent variables was < 10 and tolerance of was >0.1.

4.4.2.3 Homoscedasticity of Residuals Test

The research sought to determine the homoscedasticity of residuals.

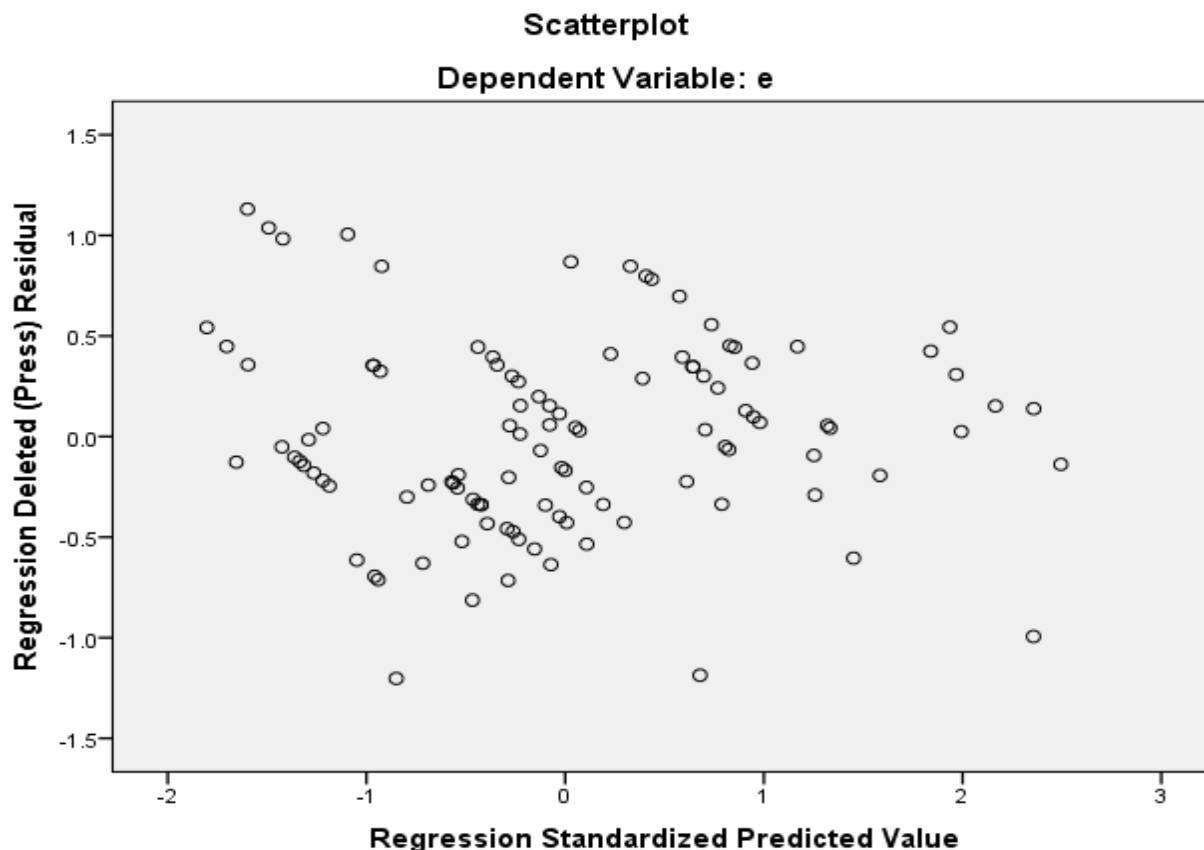


Figure 4.2: Homoscedasticity of Residuals

Source: Research Data (2021).

The figure above showed that the standardized residuals were constant to each point of standardized predicted values implying the residuals were homoscedasticity.

4.4.2.4 Independence of Residuals Test Results

The researcher sought to examine if the residual values are independent.

Table 4.12: Independence of Residuals Test Results

Model	R	R Square	Model Summary ^b		
			Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.869 ^a	.754	.745	.45529	1.949

a. Predictors: (Constant), Monitoring and evaluation, Discounting, Automation, Outsourcing

b. Dependent Variable: Optimization of revenue collection in Western Kenya

Source: Research Data (2021).

From the findings the residual values were independent since Durbin Watson was 1.949 where they were close to 2.

The R-Squared was used to establish the predictive power of the model, which showed that all the variables combined explained 75.4% (R-Squared = 0.0754) of the variability of optimization of revenue collection of Western Kenya. The study found that independent variables selected for the study (monitoring and evaluation, discounting, automation, outsourcing) accounted for 75.4% of the variations in optimization of revenue collection of Western Kenya. According to the test model, 24.6% of the variation in optimization of revenue collection in Western Kenya could not be explained by the model.

4.4.3 Overall Linear Regression Analysis

The research sought to determine the relationship between variables using linear regression.

Table 4.13: Overall Regression Model Summary of Automation

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.303 ^a	.092	.083	.86318

a. Predictors: (Constant), Automation

Source: Research Data (2021).

The R-Squared is the proportion of variance in the dependent variable which can be explained by the independent variable. The R-squared in this research was 0.092 which shows that the independent variable [Automation] can explain 9.2% of the change in dependent variable (Optimization of revenue collection in county government of Western Kenya). This shows that the other factors not studied in this research explain 90.8% of the dependent variable (Optimization of revenue collection in county government of Western Kenya).

Table 4.14: Results of Goodness of Fit of Linear Regression Model

		ANOVA ^a				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.132	1	8.132	10.914	.001 ^b
	Residual	80.469	108	.745		
	Total	88.601	109			

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

b. Predictors: (Constant), Automation

Source: Research Data (2021).

Based on the study results obtained F-calculated value was 10.914 greater the F-critical value 2.7 ($F_c = 10.914 > F_o = 2.7$) significance of 0.001^b. Since the significance level of .001^b < 0.05, the study concludes that the set of independent variable influence the optimization of revenue collection in county government of Western Kenya (Y-dependent variable) and this shows that the overall model was significant. Thus automation play a significant role in optimization of revenue collection in county government of Western Kenya.

Table 4.15: Results of Overall Regression Model Coefficients

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.122	.254		8.358	.000
	Automation	.336	.102	.303	3.304	.001

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya.

Source: Research Data (2021).

The regression equation was modeled as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \epsilon$$

The regression equation computed was:

$$Y = 2.122 + 0.336X_1 + 0.254$$

Y (Optimization of revenue collection in county government of Western Kenya) = 2.122 + 0.336(Automation) + 0.254 (Standard Error).

The data findings analyzed also shows that taking all indicators of automation at zero, a unit increase in automation would lead to a 0.336 decrease in optimization of revenue collection in county government of Western Kenya.

Table 4.16: Overall Regression Model Summary of Outsourcing

Model	Model Summary			
	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.850 ^a	.723	.720	.47671

a. Predictors: (Constant), Outsourcing

Source: Research Data (2021).

The R-Squared is the proportion of variance in the dependent variable which can be explained by the independent variable. The R-squared in this research was 0.723 which shows that the independent variable [Outsourcing] can explain 72.3% of the change in dependent variable (Optimization of revenue collection in county government of Western Kenya). This shows that the other factors not studied in this research explain 27.7% of the dependent variable (Optimization of revenue collection in county government of Western Kenya).

Table 4.17: Results of Goodness of Fit of Linear Regression Model

Model		ANOVA ^a				
		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.058	1	64.058	281.878	.000 ^b
	Residual	24.543	108	.227		
	Total	88.601	109			

a. Dependent Variable: optimization of revenue collection in county government of Western Kenya
b. Predictors: (Constant), Outsourcing

Source: Research Data (2021).

Based on the study results obtained F-calculated value was 28.878 greater the F-critical value 2.7 ($F_c = 281.878 > F_o = 2.7$) significance of 0.000^b. Since the significance level of .000^b < 0.05, the study concludes that the set of independent variable influence the optimization of revenue collection in county government of Western Kenya (Y-dependent variable) and this shows that the overall model was significant. Thus outsourcing play a significant role in optimization of revenue collection in county government of Western Kenya.

Table 4.18: Results of Overall Regression Model Coefficients

Model		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.736	.138		5.349	.000
	Outsourcing	.769	.046	.850	16.789	.000

a. Dependent Variable: optimization of revenue collection in county government of Western Kenya

Source: Research Data (2021).

The regression equation was modeled as follows:

$$Y = \alpha_0 + \beta_2 X_2 + \epsilon$$

The regression equation computed was:

$$Y = 0.736 + 0.769X_2 + 0.138$$

Y (Optimization of revenue collection in county government of Western Kenya) = 0.736 + 0.769(Outsourcing) + 0.138 (Standard Error).

The data findings analyzed also shows that taking all indicators of outsourcing at zero, a unit increase in outsourcing would lead to a 0.138 decrease in optimization of revenue collection in county government of Western Kenya.

Table 4.19: Overall Regression Model Summary of Discounting

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.764 ^a	.584	.581	.58393

a. Predictors: (Constant), Discounting

Source: Research Data (2021).

The R-Squared is the proportion of variance in the dependent variable which can be explained by the independent variable. The R-squared in this research was 0.584 which shows that the independent variable [Discounting] can explain 58.4% of the change in dependent variable (Optimization of revenue collection in county government of Western Kenya). This shows that the other factors not studied in this research explain 41.6% of the dependent variable (Optimization of revenue collection in county government of Western Kenya).

Table 4.20: Results of Goodness of Fit of Linear Regression Model

Model		ANOVA ^a			F	Sig.
		Sum of Squares	Df	Mean Square		
1	Regression	51.776	1	51.776	151.845	.000 ^b
	Residual	36.825	108	.341		
	Total	88.601	109			

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

b. Predictors: (Constant), Discounting

Source: Research Data (2021).

Based on the study results obtained F-calculated value was 151.845 greater the F-critical value 2.7 ($F_c = 151.845 > F_o = 2.7$) significance of 0.000^b. Since the significance level of .000^b < 0.05, the study concludes that the set of independent variable influence the optimization of revenue collection in county government of Western Kenya (Y-dependent variable) and this shows that the overall model was significant. Thus discounting play a significant role in optimization of revenue collection in county government of Western Kenya.

Table 4.21: Results of Overall Regression Model Coefficients

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	1.140	.154		7.384	.000
	C	.654	.053	.764	12.323	.000

a. Dependent Variable: e

Source: Research Data (2021).

The regression equation was modeled as follows:

$$Y = \alpha_0 + \beta_3 X_3 + \varepsilon$$

The regression equation computed was:

$$Y = 1.140 + 0.654X_3 + 0.154$$

Y (Optimization of revenue collection in county government of Western Kenya) = 1.140 + 0.654(Discounting) + 0.154 (Standard Error).

The data findings analyzed also shows that taking all indicators of discounting at zero, a unit increase in discounting would lead to a 0.654 decrease in optimization of revenue collection in county government of Western Kenya.

Table 4.22: Overall Regression Model Summary of Monitoring and Evaluation

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.272 ^a	.074	.065	.87163

a. Predictors: (Constant), Monitoring and evaluation

Source: Research Data (2021).

The R-Squared is the proportion of variance in the dependent variable which can be explained by the independent variable. The R-squared in this research was 0.074 which shows that the independent variable [Monitoring and evaluation] can explain 7.4% of the change in dependent variable (Optimization of revenue collection in county government of Western Kenya). This shows that the other factors not studied in this research explain 92.6% of the dependent variable (Optimization of revenue collection in county government of Western Kenya).

Table 4.23: Results of Goodness of Fit of Linear Regression Model

Model		ANOVA ^a			F	Sig.
		Sum of Squares	df	Mean Square		
1	Regression	6.549	1	6.549	8.621	.004 ^b
	Residual	82.051	108	.760		
	Total	88.601	109			

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

b. Predictors: (Constant), Monitoring and evaluation

Source: Research Data (2021).

Based on the study results obtained F-calculated value was 8.621 greater the F-critical value 2.7 ($F_c = 8.621 > F_o = 2.7$) significance of 0.004^b. Since the significance level of .004^b < 0.05, the study concludes that the set of independent variable influence the optimization of revenue collection in county government of Western Kenya (Y-dependent variable) and this shows that the overall model was significant. Thus monitoring and evaluation play a significant role in optimization of revenue collection in county government of Western Kenya.

Table 4.24: Results of Overall Regression Model Coefficients

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients		Standardized Coefficients Beta		
		B	Std. Error			
1	(Constant)	2.213	.253		8.734	.000
	Monitoring and evaluation	.295	.101	.272	2.936	.004

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

Source: Research Data (2021).

The regression equation was modeled as follows:

$$Y = \alpha_0 + \beta_4 X_4 + \varepsilon$$

The regression equation computed was:

$$Y = 2.213 + 0.295X_4 + 0.253$$

Y (Optimization of revenue collection in county government of Western Kenya) = 2.213 + 0.295(Monitoring and evaluation) + 0.253 (Standard Error).

The data findings analyzed also shows that taking all indicators of monitoring and evaluation at zero, a unit increase in monitoring and evaluation would lead to a 0.295 decrease in optimization of revenue collection in county government of Western Kenya.

4.4.4 Overall Multiple Regression Analysis

The research sought to determine the relationship between variables using multiple liner regression.

Table 4.25: Overall Regression Model Summary of Strategic Innovations

Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.869 ^a	.754	.745	.45529

a. Predictors: (Constant), Monitoring and evaluation, Discounting, Automation, Outsourcing
 b. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

Source: Research Data (2021).

The R-Squared is the proportion of variance in the dependent variable which can be explained by the independent variables. The R-squared in this research was 0.754, which shows that the independent variables [Monitoring and evaluation, Discounting, Automation, Outsourcing] can explain 75.4% of the change in dependent variable (Optimization of revenue collection in county government of Western Kenya). This shows that the other factors not studied in this research

explain 24.6% of the dependent variable (Optimization of revenue collection in county government of Western Kenya).

Table 4.26: Results of Goodness of Fit of Multiple Regression Model

Model		ANOVA ^a				Sig.
		Sum of Squares	Df	Mean Square	F	
1	Regression	66.835	4	16.709	80.606	.000 ^b
	Residual	21.765	105	.207		
	Total	88.601	109			

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

b. Predictors: (Constant), Monitoring and evaluation, Discounting, Automation, Outsourcing

Source: Research Data (2021).

Based on the study results obtained F-calculated value was 80.606 greater the F-critical value 2.7 ($F_c = 80.606 > F_o = 2.7$) significance of 0.000^b. Since the significance level of .000^b < 0.05, the study concludes that the set of independent variables influence the optimization of revenue collection in county government of Western Kenya (Y-dependent variable) and this shows that the overall model was significant. Thus monitoring and evaluation, discounting, automation and outsourcing play a significant role in optimization of revenue collection in county government of Western Kenya.

Table 4.27: Results of Overall Regression Model Coefficients

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients		Standardized		
		B	Std. Error	Coefficients Beta		
1	(Constant)	1.158	.201		5.766	.000
	Automation	-.127	.062	-.114	-2.038	.044
	Outsourcing	.663	.081	.733	8.215	.000
	Discounting	.175	.079	.205	2.204	.030
	Monitoring and evaluation	-.098	.045	-.106	-2.176	.032

a. Dependent Variable: Optimization of revenue collection in county government of Western Kenya

Source: Research Data (2021).

The regression equation was modeled as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

The regression equation computed was:

$$Y = 1.158 - 0.127X_1 + 0.663X_2 + 0.175X_3 - 0.098X_4 + 0.201$$

Y (Optimization of revenue collection in county government of Western Kenya) = 1.158 - 0.127 (Automation) + 0.663 (Outsourcing) + 0.175 (Discounting) - 0.098 (Monitoring and Evaluation) + 0.201 (Standard Error).

The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in automation would lead to a 0.127 decrease in optimization of revenue collection in county government of Western Kenya; a unit increase in outsourcing would lead to a 0.663 increase in optimization of revenue collection in county government of Western Kenya, a unit increase in discounting would lead to 0.175 increase in optimization of revenue collection in county government of Western Kenya and lastly a unit increase in monitoring and evaluation

would lead to 0.098 decrease in optimization of revenue collection in county government of Western Kenya.

Outsourcing (X_2) and discounting (X_3) are positively related to optimization of revenue collection in county government of Western Kenya while automation (X_1) and monitoring and evaluation (X_4) are negatively related to optimization of revenue collection in county government of Western Kenya as shown by their unstandardized coefficient values. Automation and monitoring and evaluation are negatively related to optimization of revenue collection in county government of Western Kenya considering they were negatively related to growth in revenue collection streams and county government ranking on revenue collection.

4.4.5 Hypotheses Testing

The study sought to test the research hypotheses.

Table 4.28: Results of Hypotheses Testing

Hypotheses	P-Value	Decision Rule
H₀₁. There is no statistically significant effect of automation on optimization of revenue collection in county government of Western Kenya.	P=0.044<0.05	Reject H ₀₁
H₀₂. There is no statistically significant influence of outsourcing on optimization of revenue collection in county government of Western Kenya.	P=0.000<0.05	Reject H ₀₂
H₀₃. There is no statistically significant effect of discounting on optimization of revenue collection in county government of Western Kenya.	P=0.030<0.05	Reject H ₀₃
H₀₄. There is no statistically significant influence of monitoring and evaluation on optimization of revenue collection in county government of Western Kenya.	P=0.032<0.05	Reject H ₀₄

Source: Research Data (2021).

H₀₁: There is no statistically significant effect of automation on optimization of revenue collection in county government of Western Kenya.

From table 4.28, a probability value of ($p=0.044 < 0.05$) was obtained implying that the hypothesis (there is no statistically significant effect of automation on optimization of revenue collection in county government of Western Kenya) is rejected and therefore indicating existence of statistically significant relationship between automation and optimization of revenue collection in county government of Western Kenya.

The findings is concurred by Markides (2008) who revealed that automation enhances information flow between central bank, revenue authority and other department of the government cargo clearance. Also, Nyaga (2016) is in line with the study where the study revealed that adoption of revenue database system influences financial performance of selected county government in Kenya.

H₀₂: There is no statistically significant influence of outsourcing on optimization of revenue collection in county government of Western Kenya.

Table 4.28 showed a probability value of ($p=0.000 < 0.05$) was obtained implying that the hypothesis (there is no statistically significant influence of outsourcing on optimization of revenue collection in county government of Western Kenya) is rejected and therefore indicating existence of statistically significant relationship between outsourcing and optimization of revenue collection in county government of Western Kenya.

Fjeldstad, Katera and Ngalewa (2009) supports the study where they revealed that private revenue collection facilitate predictive budgeting and planning thus increasing revenue collection. Also, the study is concurred by Taliercio (2004) who found out that outsourcing enhance optimal revenue collection in government.

H03: There is no statistically significant effect of discounting on optimization of revenue collection in county government of Western Kenya.

From the findings a probability value of ($p=0.030 < 0.05$) was obtained implying that the hypothesis (there is no statistically significant effect of discounting on optimization of revenue collection in county government of Western Kenya) is rejected and therefore indicating existence of statistically significant relationship between discounting and optimization of revenue collection in county government of Western Kenya.

The results of this finding are in consonance with Markides (2007) who revealed that Revenue payers who pre-pay on revenues are likely to be given discounts as a way of rewarding them because of their willingness and ability to pay thus increasing revenue collection. Also, Krishnamoorthy, Labuda and Haddock (2012) who found out that prepayment is of great benefit to revenue collecting authorities because it reduces cost spend on follow up of revenue payers.

H04: There is no statistically significant influence of monitoring and evaluation on optimization of revenue collection in county government of Western Kenya.

The study indicated a probability value of ($p=0.032 < 0.05$) was obtained implying that the hypothesis (there is no statistically significant influence of monitoring and evaluation on optimization of revenue collection in county government of Western Kenya) is rejected and therefore indicating existence of statistically significant relationship between monitoring and evaluation and optimization of revenue collection in county government of Western Kenya.

Kondo (2015) concurs with the study where it was found that effective monitoring and evaluation on revenue collection in Kenya Revenue Authority enhance high level of revenue collection. Also,

the study is in line with Awitta (2010) effectiveness of revenue collection strategies at Kenya Revenue Authority in Nairobi enhance high level of revenue collection.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter describes summary of the findings, conclusions based on the findings of the objectives and recommendations and areas of further research.

5.2 Summary of the Findings

5.2.1 Automation and Optimization of Revenue Collection

From the study majority of the respondents were of the opinion that effect of automation on optimization of revenue collection in county government of Western Kenya were that taxpayer's machine-sensible record ensures revenue collected is recorded accurately and precisely thus enhancing optimization of revenue collection in the counties; automation of revenue collection, we can easily predict future revenue collection levels therefore increasing revenue collection level within the county; and automation enables predictive fraud detection whereby it minimizes occurrence of fraud with the revenue collection department thus enhancing optimization of revenue collection in the counties.

5.2.2 Outsourcing and Optimization of Revenue Collection

The research revealed that outsourcing affects optimization of revenue collection in county government of Western Kenya where privatized revenue collection has enhanced efficiency and effectiveness in revenue collection thus increasing level of revenue collection within the counties; through outsourced revenue collection has increased collected revenue therefore enhancing optimization of revenue collection within the western counties; and third party management of revenue collection has decreased costs of revenue collection to the county government thus enhancing optimization of revenue collection in the counties.

5.2.3 Discounting and Optimization of Revenue Collection

From the results majority of the participants were of the opinion that effect of discounting on optimization of revenue collection in county government of Western Kenya were discounting pre-payments has increased revenue level thus increasing level of revenue collection within the counties; through price differential in revenue collection has improved collection of revenue therefore enhancing optimization of revenue collection within the western counties; and employing discount to entities paying significantly higher revenue has encouraged more entities to pay revenue on time thus enhancing optimization of revenue collection in the counties.

5.2.4 Monitoring and Evaluation on Optimization of Revenue Collection

Monitoring and evaluation affects optimization of revenue collection in county government of Western Kenya since there is a close relationship between the county's budget execution and revenue collection thus increasing level of revenue collection within the counties; there is close supervision of revenue collection process therefore enhancing optimization of revenue collection within the western counties; and the revenue authority conducts periodical audits of revenue collected making the revenue collection department accountable in their revenue records thus enhancing optimization of revenue collection in the counties.

5.3 Conclusions

The study found out that automation affects optimization of revenue collection in county government of Western Kenya. Through technology acceptance theory, adoption of taxpayer's machine-sensible record ensures revenue collected is recorded accurately and precisely thus enhancing optimization of revenue collection in the counties.

From the study, it was revealed that outsourcing affects optimization of revenue collection in county government of Western Kenya. This is described by diffusion of innovation theory, through outsourced revenue collection has increased collected revenue therefore enhancing optimization of revenue collection within the western counties.

The research revealed that discounting affects optimization of revenue collection in county government of Western Kenya. This is through technology acceptance theory, through price differential in revenue collection has improved collection of revenue therefore enhancing optimization of revenue collection within the western counties.

From the results, monitoring and evaluation affects optimization of revenue collection in county government of Western Kenya. This is described by diffusion of innovation theory, there is close supervision of revenue collection process therefore enhancing optimization of revenue collection within the western counties.

5.4 Recommendations

From the findings and conclusions, the following recommendations were made:

5.4.1 Policy Recommendations

The study established that strategic innovations play an important role in increasing optimization of revenue collection in county government. Based on this, the study recommends that county governments in western Kenya need to take strategic innovations seriously if they are to collect high revenue from the public. The study revealed that automation affects optimization of revenue collection in Western Counties. This research therefore recommends that the revenue collection department needs to adopt effective computerized revenue collection database systems in order to enhance high level of revenue collection from the public.

5.3.2 Practice Recommendations

The research findings established that outsourcing affects optimization of revenue collection in Western Counties. This study therefore recommends that the revenue collection department of the county government need to adopt proper contract reforms which set precisely in the Public Procurement and Disposal Act (2015) and Regulation (2020), Public Finance Management Act (2012) and Regulation (2015) to explain the responsibilities that the private revenue collectors to comply with collection of revenue in the counties.

5.3.3 Theory Recommendations

The study further established that discounting affects optimization of revenue collection in Western Counties. This study therefore recommends that the revenue collection department in the county government need to set the discount prices offered to the public in terms of car parking fees, business permit among others in order, for the public to pay revenue. Also, the revenue collection department needs to use effective and efficient monitoring and evaluation system on supervising the revenue collection process in the county in order to reduce cases of fraud and corruption.

5.5 Recommendations for Further Studies

This research was done in western counties in Kenya; similar studies can be done in other counties in Kenya in order to compare the findings from these counties since the study has not been done in other counties. Also, a study can also be done on factors affecting adoption of strategic innovations on optimization of revenue collection in Western counties others within the Republic of Kenya since there is need to know the challenges faced by county governments in Kenya in using different strategic innovations in running revenue collection operations.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

Questionnaire number _____

Name of County _____

My name is **ISAIAH SIFUNA WALUBENGO**. I am studying at Kisii University undertaking a Master's degree in Strategic Management. I am carrying out a research study on *Effect of Strategic Innovations on Optimization of Revenue Collection in County Government of Western Kenya*. This questionnaire is meant to aid data collection for my study. Kindly assist in the filling of the questionnaire to help in successful completion of the studies. All the information provided will be treated with utmost confidentiality and will be used for the purpose of this research only.

Instructions

- a. Please read each item carefully before answering them.
- b. All information given will be treated with confidence

Section A: General Information

Please tick where applicable

1. Indicate your gender : male () Female ()
2. Kindly indicate your highest educational Qualification
 - a. O level ()
 - b. Certificate ()
 - c. Diploma ()
 - d. Under graduate ()

- e. Masters ()
 - f. Any other qualification_____
3. How many years have you worked in county
- a. Less than 10 years ()
 - b. 11-20 years ()
 - c. More than 20 years ()
 - d. Any other_____

Kindly rate the following statement according to the extent to which you agree

Section B: Effect of automation on optimization of revenue collection

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Undecided (UD), 2=Disagree (D), 1=Strongly Disagree (SD).

Statement	SD	D	UD	A	SA
Taxpayer's machine-sensible record ensures revenue collected is recorded accurately and precisely					
Through automation of revenue collection, we can easily predict future revenue collection levels					
Automation enables predictive fraud detection					

Section C: Effect of outsourcing in optimization of revenue collection

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Undecided (UD), 2=Disagree (D), 1=Strongly Disagree (SD).

Statement	SD	D	UD	A	SA
Privatized revenue collection has enhanced efficiency and effectiveness in revenue collection					
Outsourced revenue collection has increased collected revenue					
Third party management of revenue collection has decreased costs of revenue collection to the county government					

Section D: Effect of discounting in optimization of revenue collection

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Undecided (UD), 2=Disagree (D), 1=Strongly Disagree (SD).

Discounting	SD	D	UD	A	SA
Discounting pre-payments has increased revenue					
Price differential in revenue collection has improved collected revenue					
Discount to entities paying significantly higher revenue has encouraged more entities to pay revenue on time					

Section E: Effect of monitoring and evaluation on optimization of revenue collection

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Undecided (UD), 2=Disagree (D), 1=Strongly Disagree (SD).

Statement	SD	D	UD	A	SD
There is a close relationship between the county's budget execution and revenue collection					
There is close supervision of revenue collection process					
The revenue authority conducts periodical audits of revenue collected					

Section F: Optimization of Revenue Collection

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Undecided (UD), 2=Disagree (D), 1=Strongly Disagree (SD).

Statement	SD	D	UD	A	SD
Revenue collection levels have increased as a results of strategic innovations					
There has been Growth in revenue collection streams across the county					
The County government rankings on revenue collection has improved over time					

APPENDIX II: INTRODUCTION LETTER



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SCHOOL OF BUSINESS AND ECONOMICS

OFFICE OF THE COORDINATOR, POST-GRADUATE PROGRAMMES

Ref: KSU/SBE/CBM12/10576/14

Monday, 25th October, 2021

The Director,
National Commission for Science, Technology &
Innovation (NACOSTI)
NAIROBI.

Dear Sir,

REF: APPLICATION FOR A RESEARCH PERMIT FOR
ISAIAH SIFUNA WALUBENGO REG. NO. CBM12/10576/14

The above named is An MBA student in our institution who intends to carry out a Research. The intended study is titled; "Effect Of Strategic Innovations In Optimization Of Revenue Collection In County Governments Of Western Kenya"

The purpose of this letter is to request you to give him a research permit to enable him conduct the research.

Thank you.


Dr. Joshua Wafula, PhD
COORDINATOR, POST-GRADUATE PROGRAMMES

JW/ab

KISII UNIVERSITY IS ISO 9001:2008 CERTIFIED



APPENDIX III: NACOSTI PERMIT



REPUBLIC OF KENYA



NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

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RESEARCH LICENSE



This is to Certify that Mr.. ISALIAH SIFUNA WALUBENGO of Kisii University, has been licensed to conduct research in Bungoma, Busia, Kakamega, Vihiga on the topic: EFFECT OF STRATEGIC INNOVATIONS IN OPTIMIZATION OF REVENUE COLLECTION IN COUNTY GOVERNMENTS OF WESTERN KENYA for the period ending : 15/November/2022.

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APPENDIX IV PLAGIARISM REPORT

EFFECT OF STRATEGIC INNOVATIONS IN OPTIMIZATION OF REVENUE COLLECTION IN COUNTY GOVERNMENTS OF WESTERN KENYA

ORIGINALITY REPORT

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