

**OPERATIONAL DETERMINANTS AND REVENUE COLLECTION
EFFICIENCY IN COUNTY GOVERNMENT OF NANDI, KENYA**

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DECLARATION

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ABSTRACT

The purpose of revenue collection is to lessen inequalities in the distribution of income and wealth, in modern economics taxes are the most important sources of revenue. Since the introduction of devolved system of Government counties have witness increased cases of financial deficit in their budget. The main objective of this study was to establish the operational determinants of revenue collection efficiency in County Government of Nandi. The specific objectives were as follows: to assess the effect of competence, determine the effect of revenue automation, and establish the effect of internal control and to establish the effect of level of awareness on the efficiency of revenue collection of County Government of Nandi government. The study was guided by the new public management theory. The study adopted a descriptive survey research design. The study was carried out in County Government of Nandi. The targeted population was 183 respondents comprising of management and directors of revenue staff, revenue collecting and reporting staff as well as small and medium enterprises' owners in Kapsabet Town Central Business District. The study used stratified random sampling to select 126 respondents. The study adopted descriptive and inferential statistical analyses and explanatory design, it utilized both qualitative and quantitative research method. A self-administered questionnaire was administered to collect information from the respondent. Reliability and Validity of the data collection instrument was tested using Cronbach alpha and Average Variance Extracted (AVE) respectively. Descriptive and inferential statistical analyses was carried out on the quantitative data using the Pearsons correlation coefficient which was used to determine the relationship between the independent variables and the dependent variables, while regression analysis was used to predict the effect of operational determinants of revenue collection efficiency. The study found all the four determinants of revenue efficiency; staff competency ($\beta = .193, \rho < .05$), automation ($\beta = .180, \rho < .05$), internal control ($\beta = .311, \rho < .05$) and public awareness($\beta = .259, \rho < .05$) had a positive and significant effect on revenue collection efficiency. The study recommended that staff ought to be equipped with the necessary skills; automation which will provides counties with the opportunity to acquaint themselves with new strategies for effective delivery of services to citizens. Human resource should enhance human capital, while the ICT department ensures the adaptation and use of latest technologies.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	xi
LIST OF APPENDICES	xii
LIST OF ABBREVIATION AND ACRONYMS	xiii
OPERATIONAL DEFINITION OF KEY TERMS	xiv
CHAPTER ONE	1
INTRODUCTION	1
1.1 Introduction.....	1
1.2 Background of the Study	1
1.3Statement of the Research Problem	7
1.4 Research Objectives	8
1.5 Research Hypothesis	8
1.6 Scope of the Study	9
1.7 Significance of the Study	10
1.8 Limitations of the Study.....	10
1.9 Conceptual Framework	12
CHAPTER TWO	14

LITERATURE REVIEW	14
2.1 Introduction.....	14
2.2 Theoretical Framework.....	14
2.2.1The New Public Management Theory	14
2.2.2 Resource Based View Theory.....	16
2.3Empirical Literature Review.....	18
2.3.1 Effect of Revenue staff Competence on Revenue Collection.....	20
2.3.2 Effect of Automation on Revenue Collection.....	22
2.3.3 Effect of Internal Control on Revenue Collection	30
2.3.4 Effect of Public Awareness on Revenue Collection Efficiency	33
2.5 Summary of Research Gaps from Empirical Literature.....	34
CHAPTER THREE	38
RESEARCH METHODOLOGY	38
3.1Introduction.....	38
3.2 Research Design.....	38
3.3 Study Area	39
3.4 Population of the Study.....	40
3.5 Sampling Technique and Sample Size.....	40
3.5.1 Sample Size.....	40
3.5.2 Sampling Procedure	41
3.6 Data Collection Instruments	42
3.6.1 Types and Sources of Data.....	42
3.6.2 Data Collection Instruments	43

3.6.3 Data Collection Procedures.....	44
3.7 Pre-testing of Research Instruments	44
3.7.1 Validity of the Research Instrument	45
3.7.2 Reliability of the Research Instrument.....	46
3.8 Data Collection Procedures.....	47
3.9 Data Analysis and Presentations	47
3.9.1 Hypothesis Testing.....	52
3.10 Ethical Issues	52
CHAPTER FOUR.....	54
RESULTS AND DISCUSSION	54
4.1 Introduction.....	54
4.2 Response Rate.....	54
4.3 Demographic Characteristics of the Respondents	55
4.3.1 Gender of Respondents	55
4.3.2 Academic qualifications of the respondents	56
4.3.3 Distribution of the respondent according to their age bracket	56
4.3.4 Distribution of the respondent according to length of service	57
4.4 Correlation analysis	58
4.5 Regression Analysis Assumption Tests	59
4.5.1 Linearity Test for operational determinants and revenue collection efficiency.....	59
4.5.2 Tests of Normality	60
4.5.3 Multicollinearity Test.....	61
4.5.4 Principal Component Analysis	62

4.6 Effect of competence on revenue collection efficiency	62
4.6.1 Hypothesis testing	65
4.7 Effect of automation on revenue collection efficiency ot	68
4.7.1 Hypothesis on effect of automation on revenue collection efficiency	69
4.8 Influence of internal controls on revenue collection efficiency	73
4.8.1 Hypothesis on internal controls and revenue collection efficiency	74
4.9 Influence of Level of awareness and revenue collection efficiency	77
4.9.1 Hypothesis test on level of awareness and revenue collection efficiency	78
4.10 Revenue collection efficiency	81
4.10.1 Model Summary of Operational Determinants and Revenue Collection	81
CHAPTER FIVE	87
SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS	87
5.1 Introduction	87
5.2 Summary of Findings	87
5.3 Conclusions of the Study	89
5.4 Recommendations	90
5.5 Suggestions for Further Research	91
REFERENCES	92
APPENDICES	97

LIST OF TABLES

Table 2.1: Summary of Research Gaps from Empirical Literature	35
Table 3.1: Sample Distribution Table	42
Table 3.3: Summary of Hypotheses Testing	52
Table 4.2: Questionnaire Return Rate	54
Table 4.3: Gender of the respondent	55
Table 4.4: Education level of the respondent	56
Table 4.5: Age bracket of the respondents	57
Table 4.6: Experience of the respondents.....	57
Table 4.7: Correlation analysis of the study variables	59
Table 4.8: Linearity Test	60
Table 4.9: Tests for normality	61
Table 4.10: Multicollinearity Test	61
Table 4.11: KMO and Bartlett's Test for operational determinants	62
Table 4.12: Descriptive statistics on competence.....	64
Table 4.13: Model Summary	65
Table 4.14: ANOVA test.....	65
Table 4.15: Coefficients of the Model.....	66
Table 4.16: Descriptive statistics on Automation.....	68
Table 4.17: Model Summary	70
Table 4.18: ANOVA test.....	70
Table 4.19: Coefficients of the Model.....	71
Table 4.20: Descriptive statistics on internal controls.....	73
Table 4.21: Model Summary	74

Table 4.22: ANOVA test.....	75
Table 4.23: Coefficients of the Model.....	75
Table 4.24: Descriptive statistics on level of awareness	77
Table 4.25: Model Summary	79
Table 4.26: ANOVA test.....	79
Table 4.27: Coefficients of the Model.....	80
Table 4.28: Descriptive statistics on revenue collection efficiency	81
Table 4.29: ANOVA Table	81
Table 4.30: Coefficientsa.....	82

LIST OF FIGURES

Fig: 1.1 Conceptual Framework.....	12
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LIST OF APPENDICES

Appendix I: Data Collection Introductory Letter	97
Appendix II: Questionnaire.....	98
Appendix III: Data Sheet	102
Appendix IV: Factor Analysis (Pilot Results)	103

LIST OF ABBREVIATION AND ACRONYMS

- GOK - Government of Kenya
- KRA - Kenya Revenue Authority
- SPSS - Statistical Package for Social Scientists

OPERATIONAL DEFINITION OF KEY TERMS

- Automation:** Refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes (Bailleti, 2014). In this study it refers to the automated systems that the County Government uses to assist to collect revenue.
- Public awareness Level:** is either a state of being in knowing or having information about a certain entity (Linden, 2018). In this study, it refers to the extent to which businesses in County Government of Nandi Government know and adhere to County's By-laws relating to revenue collection.
- Competency:** Is the ability of staff who are recruited to meet organizational goals consistently based on their abilities (Maldonado, 2013). In this study, revenue staff competence refers to the ability of the county revenue staff to collect revenue effectively using pre-defined procedures.
- Internal Controls:** Is a process for assuring of an organization's objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations and policies (Page, 2014). In this study, this are the measures put in place by the County Government of Nandi government to check financial management aspects.
- Operational Determinants:** These are the day to day factors that affect the outcome of a process. In this case they refer to the attributes that could impact the revenue collection at the county government (Adams, 2014). Operational determinants in this study are the consideration all aspects that the County considers in its day to day running to enhance its revenue collection.

Revenue Collection: The amount of is the process of collecting county levys from trader and other assets levied by regulation. This includes amount in taxes and licenses (Cholletes, 2017). According to this study, it refers to the taxes that the County Government of Nandi Collects.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The chapter presents details of the background to the study, statement of the problem, objectives of the study, research questions, significance, limitations, and scope of the study, theoretical framework and the conceptual framework.

1.2 Background of the Study

Revenue collection is a very important element for every government globally since it enables governments to run their activities and enhances the development of economies. Therefore revenue collection performance and efficiency is vital in promoting efficiency in the service delivery and economic development of in the public sector (Balunywa, Nangoli, Mugerwa, Teko and Mayoka 2014). Most of the governments all over the world are operating under the confines of public finance. According to Kayaga (2015) public finance entails effects of government on macroeconomic stabilization, efficient sharing of resources and distribution of income. It is distinguished further that, the government expenses comprise of government operations and income distribution. Globally, the revenue collection systems have been faced with a lot of challenges such as corruption that has led to various reforms on taxation (Aghion, Akcigit, Cage, and Kerr, 2016). Hence, Entrepreneur's face the bigger burden and expect infrastructure development by counties hampered by corruption where the vice increases welfare gains.

According to Ling and Ahamad Nawawi (2015) Asian and Pacific countries have shown that countries like Australia , New Zealand, Papua New Guinea and Singapore have autonomous tax systems. But a major reason for preparation, high integrity and performance management of workers is the demand for responsibilities in the provision of services and tax regulation that lead to profitability in countries such as India, Indonesia, the Philippines and Cambodia. The autonomy of the human resources , budget and organization, thus flexibility, protects against political interference (Bird, 2015). Robert (2014) also notes the advantage of autonomy to avoid policy interference, which preserves tax structures. Further, certain income agencies, for example Malaysia's Cambodia, India, Indonesia , the Philippines, and ICT development, are key predictors of high compliance and low tax cost (Musya, 2014).

The accumulation of income is an essential means of fiscal policies within the African Government in Africa or in developing countries, since they promote budgetary spending (OECD, 2014). In order to optimize social and economic development, governments have to play a different role in the areas of political , social and economic activities. Governments require vast amounts of capital to fulfill these functions and duties. The sum collected by all dependent federal departments, commissions and other bodies shall be included in the Government's revenue. In terms of the accounting procedures from which these data are generated, this revenue is classified as revenue receivable from all public accounting funds (other than intra-government (revolving) systems, associations and private trust funds). Receipts from Ghana and Uganda are transferred though centralized in Liberia.

It is, however, warned that significant remittances to subnational jurisdictions of income and expenses by the government will likely impact on the capacity of the central government to make stabilization and macroeconomic changes through the budget (Karimi Maina and Kinyua 2017). In Kenya, the County Governments are getting tax income, permit fees, discontinuances, license fees and more. County government activities may cease, programs could fail, and workers may even go slowly and strike in some counties as they have historically been (Muriithi, 2015). The 2010 Kenya Constitution stipulates that a county government will be formed. In Kenya there are 47 county governments whose constitutional framework, control and mandate is the same. Each county must produce its own revenue and a certain percentage of the national government revenue is allocated to it.

County governments are expected to raise mandatory taxes from the public in an efficient manner in order to provide essential services to its citizens. Moreover, the national government is overburdened by the financial demands of the county governments, which eventually negate the national economy (Muriithi, 2015). According to the Government of Kenya Report (2015), county governments in Kenya have been formed as stipulated in County Governments Act No. 17 of 2018. The Act stipulates that the County Government shall be responsible for any role given to it in compliance with the Constitution or the Act of Parliament. The Act also notes that any other role that may be delegated to county governments by national governments is, inter alia, the responsibility of the county government for the performance of executive functions, of the functions set out in Article 186 of the Constitution (Waema & Bowman 2014).

The county governments will usually be in a stronger position than national governments in the spirit of decentralization if they recognise local needs and boost service quality in public services (Beekes & Brown, 2014). In view of this insight, the county government of Nandi is obliged to recognize and collect incomes from local sources in the form of tariffs, tolls, real estate taxes, fees and fines to expand its financial base for local growth. The county government is therefore expecting to establish projects and programs that contribute to the reduction of poverty in its local regions (Aketch & Karanja 2013), in addition to the Internal Generated Funds (IGFs). The Public Finance act 2018 Article 207 also establishes County Revenue Funds and provides for setting up of other funds at the county level.

The County revenue earnings are split into tax income and non-tax income, which includes property taxes and individual business licenses, among other items. Revenue from business is revenue from companies which are common for a specific business, company, partnership or sole-owner company. Kenya's counties receipt municipal income, including parking and single business license charges, from two key sources describing in Article 209 of constitutional property and entertaining taxes. It demonstrates that any new income sources can only be given by the act of the Parliament for county governments. Revenues are vital for the performance of the county's infrastructure and service delivery and long-term sustainability. In particular for Nandi, where the revenues are used for employee emoluments, co-funding of investment development projects, bourses supply, building administrative headquarters among other things, the importance of these County revenues cannot be emphasized.

Gaku (2014) sought to examine the relationship between internal controls and revenue collection efficiency in water services providers in Athi Water Services Board. The study design was cross sectional and quantitative data was collected from 12 respondents from water services providers in Athi water services board. The study concluded that internal controls do function although with hiccups and that there is effect between internal controls and revenue collection in water services providers. From the findings, there was variation of revenue collection efficiency and internal control components. However, the study sampled only 12 respondents which are inadequate to draw conclusions and recommendations as well as generalization of the findings.

Ligeyo (2019) using longitudinal study sought to examine system automation and revenue collection in Siaya County Government, Kenya. Secondary data showing the annual revenue targets and collections is used for analysis. The study establishes that 21.74% of the revenue streams are fully automated with 30.43% being non- automated. Revenue streams which are fully automated show stability in collection by being non-volatile to external factors unlike the semi-automated and non-automated revenue streams. However, the study did not the influence of automation on revenue collection but rather reported the difference between automation, semi-automated and non-automated revenue streams.

Ndonye (2018) analyzed factors affecting revenue collection in the ministry of state for immigration and registration of persons in Nigeria. The findings also revealed that lack of knowledge and skills on the use of ICT in the collection of revenue among the revenue collection staff, resistance to change by the employees, inadequate of ICT

infrastructure and the incorporation of the non- automated system of revenue collection as some of the challenges facing revenue collection. The study did not reveal which factors affected revenue collection but rather focused on challenges that affected revenue collection.

Kibaara (2018) sought to determine the influence of ICT adoption on successful revenue collection process by the County Government of Nairobi. The target population of the study was employees County Government of Nairobi from which a stratified sample was chosen for the study. The findings show that some of the electronic payment platforms were not accessible to the poor. The study was conducted in Nairobi County; hence, it was difficult to generalize the findings to other rural counties in Kenya. Further, the study focused on ICT adoption, ignoring other factors that may have influence of successful revenue collection such as staff competence and internal controls.

According to Adenya and Muturi (2017) counties have collected on average just about 50% of the revenues in their budgets. Ideally, counties in Kenya are expected to identify and raise revenue from local sources in form of rates, tolls, property tax, fees and fines among others to boost their financial base for development of the locality as empowered by the constitution. However, the trends in revenue collection show over reliance on National Government Funding. Even though counties have adequate revenue bases to finance the current level of services, but revenue collection levels are often low (Karimi, Maina & Kinyua 2017). In addition, most of the county governments face serious gap between financial resources and County expenditure needs. This fiscal gap is widening as County population expand, increasing the demand for infrastructure development and

other services. The fact that the growth of revenue does not match the increase in economic activities is affecting service delivery (ICPAK Devolution Baseline Survey 2014).

1.3 Statement of the Research Problem

Since the establishment of the County Governments in Kenya in April, 2013, they have been depending largely on the National Treasury for financial support. However, their over-reliance on the National Government for funds to a point of calling for a national referendum to have their allocation increased implies that there exists a major challenge in revenue collection at County level.

According to the Controller of Budget, County Government of Nandi has failed to meet its target for revenue collection in the last three financial years. This can be attributed to the county governments' insufficient capacity to mobilize revenues within their jurisdictions. The revelation that County Government of Nandi Government was able to collect 51.3% of own Source revenue against annual revenue target in financial year 2017/2018 while the county government collected 45.4% in financial year 2017/2018 and 45.0% in financial year 2018/2019. Therefore, a sound revenue collection system for county government is an essential pre-condition for the success of fiscal decentralization (Bird 2015).

According to Adenya and Muturi (2017) revenue collection performance is attributed to various challenges where counties are not able to collect sufficient funds to cover their budget expectations and thereby causing huge local revenue collection gaps. The study opines that personnel capacity, information technology, revenue compliance and

corruption in the devolved governments are some of the challenges facing counties. There are various aspects that determine the collection of revenue at the counties requiring investigation. This study seeks to establish the operational determinants of revenue collection efficiency in County Government of Nandi government.

1.4 Research Objectives

The objectives of the study were divided into two general and specific objectives as follows;

1.4.1 General Objectives

To establish the operational determinants of revenue collection efficiency in County Government of Nandi, Kenya.

1.4.2 Specific Objectives

- i. Determine the effect between staff competence and revenue collection efficiency of County Government of Nandi government.
- ii. Establish the effect between automation and revenue collection efficiency of County Government of Nandi government.
- iii. Establish the effect of internal control systems on revenue Collection efficiency of County Government of Nandi government.
- iv. Determine the relationship between level of public awareness and efficiency of Revenue collection of County Government of Nandi government.

1.5 Research Hypothesis

The study was guided by the following research hypothesis

H₀₁; There is no significant effect of staff competence on revenue collection efficiency in County Government of Nandi government.

H₀₂; There is no significant effect of automation on revenue collection efficiency in County Government of Nandi government.

H₀₃; There is no significant effect of internal control on revenue collection efficiency in County Government of Nandi government.

H₀₄; There is no significant effect level of public awareness on revenue collection efficiency in County Government of Nandi government.

1.6 Scope of the Study

The scope of a study refers to the boundaries or limits within which the study needs to be kept. The scope of the study is a disclaimer that limits the generalizations of the findings outside the set boundaries of a given scope. The study sought to assess the effects of staff competence, automation of revenue collection, internal control system and level of public awareness on revenue collection efficiency in County Government of Nandi government. The study was conducted in County Government of Nandi for the period of three months July to September 2019. The study was guided by the resource based view theories. The variables to be investigated include the effects of revenue staff competency, automation, internal controls and level of public awareness against revenue collection efficiency. The study employed the use of a correlation research design. The study used primary and secondary data which was collected using 5 point Likert scale questionnaires.

1.7 Significance of the Study

The study identifies the determinants which affect revenue collection efficiency in County Government of Nandi hence enabling the policy makers to establish and development effective policies that can enable revenue collection. The study would also help decision makers to make decisions which would enhance revenue collection in County Government of Nandi. The study would significantly provide up to date empirical evidence on revenue collection from a Kenyan perspective. Thus, literature would be updated by the empirical data provided. Therefore, the study would make an important contribution to literature body of knowledge by providing in-depth understanding of complexities prevailing in revenue collection. Of Significance would be the foundation in which the study would form for further studies to be conducted on revenue collection and it deter The study findings would be important to governments and private stakeholders in establishing and formulating policies to guide the decisions in operations of county governments. Thus, forming the basis on which future studies would rely on.

1.8 Limitations of the Study

There were several anticipated limitations in the course of this study. Firstly, there were challenges in obtaining information from the top management of the County Government of Nandi where some were having busy schedule to participate in the study or simply choose not to answer the questionnaires. To mitigate this, the researcher made follow up after adopting drop and pick technique so as to give respondents ample time to fill the questionnaire at their own time. Secondly, there was resistance from some respondents primarily because they were suspicious of the study intentions. An introduction letter from the university assured them of their anonymity and the fact that

the findings would be used purely for academic purposes. The accuracy of the results was dependent on the honesty of the respondents, though with the assurance given to the respondents it was the hope of the researcher that honest responses were given.

1.9 Conceptual Framework

The study was guided by the following conceptual framework:

Independent Variables

Dependent Variable

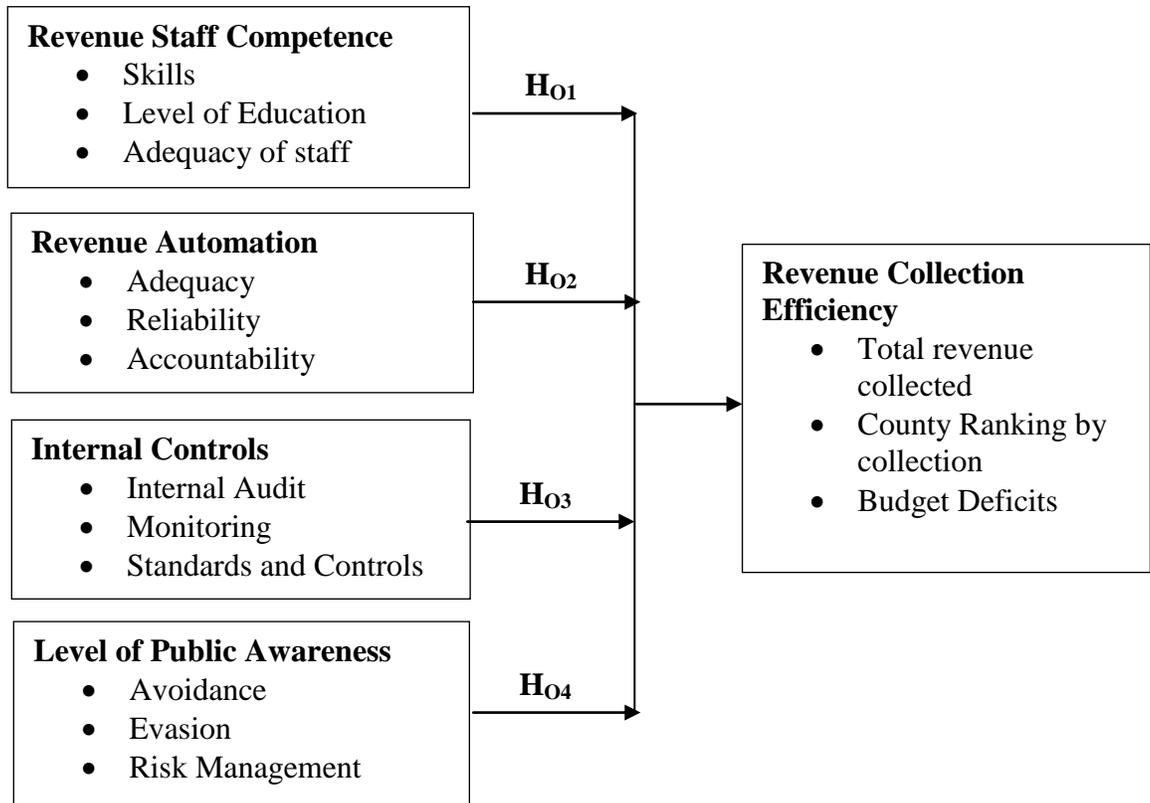


Fig: 1.1 Conceptual Framework

Source; Researcher 2019

The conceptual framework sets out the theoretical association between predictor variables and the outcome variables (Eriksson and Kovalainen, 2015). The outcome variable revenue collection efficiency in this study was proxied by the variable budget deficit and total revenue collected. While the independent variables included Revenue staff competence which is a key in enhancing the revenue collection process.

The Staff member ought to be equipped with the necessary skills so as to enhance service delivery. Therefore revenue staff competence was measured using the level of human resource plans that address training and development of employees, inadequate staffs as well as empowering the staffs on the ethical behaviours free from fraud and corruption will enhance optimal revenue collection. Effective training can minimize learning cost; improve individual, team and corporate performance speed and overall productivity, upgrade operational flexibility by extending the range of skills possessed by employees, attract high quality employees by giving them learning and development opportunity. It increases the job knowledge and enhances their skill thus enabling them to be more competent in the collection of the revenue.

Automation also increases revenue collection process performance. With the use of technology, a tax collection agency will achieve its revenue collection goals, as tax avoidance and evasion would be minimized. In the tax system, Technology is a part of the Public Administration, and its goal is to increase both domestic and local competitiveness and viability. In the recent debate on policy, electronic income collection in developed countries has become more and more popular. In order to ensure efficient collection of sales, internal controls play a major role. The nature of internal controls has a direct effect on the attitude of the employees towards fraud, which avoids employee fraud by direct internal control systems, while the weak exposes the system to fraud and gives people the ability to commit fraud. At the end of the day, the level of public awareness was reflected by prevention and risk management.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the previous studies on the related field acknowledging the contributions made by the scholars' seminar papers, conference proceedings and business journals, text books and periodicals. It identifies the gap and provides the way forward.

2.2 Theoretical Framework

This section presents a discussion of theories which form a basis for the conceptualized relationship between determinants of revenue collection and revenue collection. The theories are; new public management theory and resource based view theory.

2.2.1 The New Public Management Theory

The New Public Management Theory was advanced by Manning (2001). According to Manning (2001) the New Public Management Theory (NPM) advocates for public performance effectiveness. There has also been the introduction of private practices in public affairs management which are similar to those applied in the private sector hence the New Public Management. The New Public Management Theory victory was very partial. According to Rainey and Chun (2005) transporting a technique across sectors raises much-discussed questions about whether one can apply a business technique in a public organization. However, comparing public to private management the NPMT consists of a set of complex ideas which prone almost the market elements in the public sector arena (Mackey, 2008).

There have been public sector reforms in many countries, both developed and developing countries, including Kenya and specifically in the County Finance. In the County Finance, this theory helps to understand the issues of policy enforcement in the tax reform process. Those who are charged with this responsibility are mainly low-level workers. They are considered as their attitude towards the new policies may hinder policy implementation, given the nature of their work and the position they occupy within an organization. New Public Management Theory is relevant to the study as it explains why public reforms fail in most places for example there is a very big shortage of the staff necessary to carry out the required jobs implies that the job will be substandard. This is a necessary consideration given that the impact of operational determinants on revenue collection is directly affected by how County Finance manages the process of revenue collection.

Furthermore, the operational determinants have brought in the public relations arena the concept of the public market, which was unlikely to deliver all the desired results. In public organisations, providing goods and services at least cost can not always thrive as it is for private entities. Therefore, the determinants of performance and service delivery in public sectors that may affect the efficiency of revenue collection in county governments are taken into account. According to Crook (2010), worst of all, most observers seem to agree that two main goals of the reform of public service aimed at improving the management of government budgets and initiatives and improving the capacity to give improved services have not been achieved (Osborne, 2009).

The theory focuses on restructuring to enhance revenue collection efficiency owing to a mixture of techniques and strategies found in the private sector which can be found in

public sector. In view of this, there is commonality between this theory and automation, staff competence and public awareness on how to collect revenue efficiently. As a strong theoretical foundation, the concept of new public management is used to strengthen the need and importance of staff competence, automation, internal control systems and level of public awareness to influence efficiency of Revenue collection of County Government of Nandi government. If management does not understand the importance and value of the determinants then it can lead to inefficiency in revenue collection.

2.2.2 Resource Based View Theory

The strategy's resource-based view (RBV) has emerged as the most popular competitive advantage theory (Furrer et al., 2008). The RBV's roots go back to Penrose (1959), who claimed that organizations' resources are very important rather than their structure of the industry. Wernerfelt, who regarded the business as a collection of assets or resources that are semi-permanently attached to the corporation, coined the term "resource-based view" (Wernerfelt , 1984). Researchers subscribing to RBV claim that the competitive advantage can only be considered as a source of strategically valuable and usable tools and skills (Barney 1991).The resource-based view (RBV) as a foundation for a firm's competitive advantage lies primarily in the use of important tangible or intangible resources at the company's disposal (Wernerfelt , 1984; Rumelt, 1984; Penrose, 1959 as Kiema & Ali, 2017 cited).

Several researchers have challenged the resource-based view theory (RBV). Some criticisms rose indirectly and introduced RBV modifications (Foss, Klein, Kor & Mahoney, 2008; Makadok, 2001b). Polemical articles also explicitly contradict the RBV

(Foss & Knudsen, 2003; Spender, 2006). The analysis will therefore evaluate the RBV criticism of its RBV generalization. RBV is only applicable to large corporations with substantial market control according to Connor (2002). He believes that the competitive advantage of smaller and slimmer companies can not be focused on their static resources and fall beyond the RBV limits. According to Connor (2002), whenever non-tangible resources are admitted—small firms may have unique competitive advantage generating capabilities.

Hence the study viewed staff competency and automation of revenue collection as a source of competitive advantage among county governments in enhancing revenue collection efficiency. Therefore, administration Control, or simply "Control", is characterized as, formal, data based schedules; frameworks and structures that administration uses to keep or change designs in the different exercises of the of the association, fundamentally those exercises that bolster administration choice procedures and activities while actualizing business strategy (Wade & Hulland, 2014).

In relation to the first objective on revenue staff competence the RBV notes the importance on providing rare resources. In relation to the second objective on automation, the RBV theory notes the importance of creating value amongst operations of a firm. For the third objective on internal controls, the RBV notes the importance of creating imperfect Imitability of a product. Finally the theory is relevant to the last objective on level of awareness as the RBV theory notes the importance of creating non-Substitutability. These can only be achieved if the level of awareness among stakeholders is high.

2.3 Empirical Literature Review

This section presents significant empirical research findings from related literature on the effect of the expertise, technology and creativity of staff revenue staff, internal control structures and enforcement levels on revenue collection in the government of County Government of Nandi. In order to ensure that government functions are running properly, revenues in the form of taxation, excise duties, customs, licences or other sources are very significant. Taxation is one of the world's leading ways for governments to raise taxes. It is reiterated that advanced and efficient fiscal policies have improved income collection in developing countries. Despite this, developed countries also have inadequate tax structures that hamper their attempts to raise taxes (Kayaga, 2015). The higher overall budget deficits in the countries south of the Sahara represent an insignificant increase in domestic revenue mobilization growth following various reforms.

Chaudhry and Munir (2015) researched Pakistan's low-tax determinants. One of the important concerns about economic growth is the collection of tax revenue, according to the report. The results obtained indicate that, with the expected signs of the projected coefficients, transparency, large capital, external debt, foreign aid and political stability are the significant determinants of fiscal efforts. Agriculture shares, manufacturing shares and service sector shares turn out to be negligible and the sign of the agricultural share coefficient deviates from expectations and is the same as the per capita GDP and urbanization sign. Pakistan 's low tax revenue was shown to be influenced by a small tax base, greater reliance on the agricultural sector, devaluation, foreign assistance, the informal economy and a low level of literacy.

Edward (2016) conducted a study on revenue collection. It was established that revenue collection is a major challenge facing many countries worldwide but the challenges are more in developing countries. Established countries such as the United States and Canada have robust tax collection mechanisms, thus mitigating the problems of revenue collection (Beekes & Brown, 2014). The government revenue in the United States, including federal, state, and local governments, is estimated to exceed \$5.98 trillion in 2015, according to the US Treasury Department (2015). Nearly all revenue comes from individual and corporate income taxes, at 57 per cent of total federal income; and social security taxes, at 34 per cent of total federal income. This would be around 33 percent of the sales of the Gross Domestic Product. The federal government will collect about 17.5 percent of GDP, the states will collect about 9 percent of GDP, and local governments about 6.5 percent of GDP in 2015.

The existence in developing countries of a large black economy reveals leads to loss of revenue to governments as a result of tax evasion, a loss of useful productivity due to the non-use of black money and the creation of a large number of problems arising from illegal economic activities, including drug trafficking, terrorist attacks and other activities, and IMF (2014) has revealed Because governments are unable to avoid revenue leaks, they are introducing more taxes on goods and services in order to meet their revenue needs. A regressive tax system is thus placing more pressure on honest taxpayers and promoting social inequality. In addition, it contributes to funds transfer from developed countries abroad, a paradox for countries with insufficient foreign exchange and resources.

2.3.1 Effect of Revenue staff Competence on Revenue Collection

Employee competency and training enhance worker's execution by helping them to understand the mandatory level of comprehension through the impartation of data (Weru, Kamaara, & Weru, 2013). In addition, training as an application of the formal process to impart knowledge and skills that are pivotal to the realization of high output levels. It is the process of increasing knowledge and skills of employees required for the efficient performance of a particular job. Conversely, development involves the assistance of discovering that endeavors to expand the worker's ability and learning for future duties and assignments.

Therefore training are critical parts of support to tax mobilization in developing nations and they are for all intents and purposes constantly incorporated into aid programs to influence service delivery in the public sector. The fundamental objective of these exercises is to unwind limiting imperatives inside general society organization, while in the meantime illuminating government strategy, supporting trade of data between nations and invigorating level headed discussion around tax issues (Maisiba,& Atambo, 2016). According to Collins, Quick, Musau, Kraushaar, & Hussein, (2016) deficiencies are risk to financial development.

Therefore, along these lines, it is essential for business, government, public and private sector stakeholders to address this basic section of worker retention for enhanced competitiveness and service delivery. Further Awitta, (2015) carried out an empirical study to determine the effect of staff training in pecuniary collection and service delivery in various cities in the UK. The study used regression analysis among 70 respondents from 10 different cities. The results of the study revealed that tax collection was

improved with improved staff training by the various governments. The improvement was attributed to the highly trained staff thus ensuring collection of revenues is done.

Odneyo, Moses, John, Aila, Ojera, & Siringi, (2013) carried out a study on the influence of training on revenue mobilization in the tax collection sector from the survey on 185 individual tax officials in Zonguldak city. In line with the assumptions, the outcomes showed that the central aspects of remuneration impact key results like occupation fulfillment, attraction, retention, execution, skill acquisition, co-operation, inspiration and turnover expectation of workers among staff that are utilized to help with accumulation of income. However, the study did not indicate how training was measured in the study. Further, the study did not indicate how 185 individual tax officials were sampled and which data was collected, secondary or primary.

Further, Collins, *et al*, (2016) analyzed the relationship between staff training and tax collection on a random sample of 20 parking attendants in China. The results of the study revealed that job performance in the tax collection sector was determined directly by extrinsic elements such as fairness of the latest training practices and ability for training. However, the local authorities in Kenya have a tendency to have a substantial staff supplement, they likewise encounter a high turnover of experts and specialized staff. This is because of the absence of motivators, inspiration and struggle between local authorities and the Public Service Commission (Muriithi, & Moyi, 2013).

The high turnover of the most qualified experts in the local authorities is both a cause and a side effect of the level of corruption and wasteful aspects that they are confronted with. Other than the inability to give administrations to tax payers and inhabitants of

urban centers, the other property of most local authorities is their intermittent inability to pay their laborers expeditiously (Henry, Yongsheng, & Jun, 2016). Some council employees have turned to industrial action including boycott of duties to guarantee that they are paid back wages. In this circumstance, the employees' morale does endure as well as the tax payers are unduly hindered since administration conveyance is upset, deferred and underprovided.

Henry (2016) did a study on performance management activities in the Kenya local government sector in the City Council of Nairobi and found out that organizations have to build up strong culture in the organization for success, arrangement of the performance management framework and the current frameworks and techniques of the association (Nzuve and Njeru, 2013). Therefore organization leadership has to be committed to performance management.

2.3.2 Effect of Automation on Revenue Collection

Automation has been an important matter in tax and revenue collection. The advent of new instruments to help businesses work more efficiently affects the way taxes and revenues are collected. Information Technology (IT) changes at a rapid pace that the existing fiscal systems become obsolete in a short period of time. The necessity to integrate former existing structures is becoming more demanding since new applications need to be created to assist the dynamics of financial processes (Adams, 2013). Information Communication Technology provides counties with the opportunity to acquaint themselves with new strategies for effective lobbying, advocacy, design, implementation, and delivery of services to citizens by using those management information systems that meet local, national, regional, and international trends. The

computerization of all the processes steps plays an important role in minimizing the errors, standardization of the operational procedures and reducing costs.

Ndonye (2018) analyzed factors affecting revenue collection in the ministry of state for immigration and registration of persons in Nigeria. The study established that 65% of the respondents strongly agreed that making online applications is challenging among the people seeking the service due to lack of technological knowledge making it a challenge to revenue collection in the ministry. The findings also revealed that lack of knowledge and skills on the use of ICT in the collection of revenue among the revenue collection staff, resistance to change by the employees in the ministry, inadequate of ICT infrastructure in the ministry and the incorporation of the non- automated system of revenue collection as some of the challenges facing revenue collection. However, the study focused on factors that affect revenue collection. The study reporting had some biased since it did not use factor analysis to isolate individual factors like technological know-how.

Maisiba, Atambo, (2016) have conducted a study into the impact on income produced and productivity of organizations in cost reduction from 1992 to 2013 of the advancement of modern information and communication technology. From the results the execution of technical tools, the profits gained and the cost reduction have been noticeably associated. This ICT transition improves dramatically in companies around the world. For example, global network growth has dramatically reduced costs for moving foreign funds.

Ling and Nawawi (2015) did an advanced Information and communications technology integration skills study and fiscal education applications in Malaysia. The study focused

on tax-makers, and aimed at developing the fundamental skills that taxpayers need to use an online tax system effectively. The study found that the best interaction between a person and a computer-based tax system involves three specific capabilities. These results can be seen in the present study as in the evaluation of the efficacy of ICT in revenue collection. Waema & Bowman (2014) admits that "despite the heavy investment placed into the new online system by the Malaysian tax authority, after three years of implementation, only 20 percent of the targeted taxpayers were able to use it." This was partly due to the lack of user skills such as computer literacy.

The link between the information systems (IS) and quality and efficiency in Homabay's revenue collection was established by Otieno et al . (2013). The analysis found a good relation between the ICS and the collection of revenue. The study would be useful for the complete integration of IS in income collection, and more precisely, the electronic payment system.

Maisiba and Atambo (2016) looked at the impact of e-tax on revenue collection in Uasin Gishu County. The study used a case study and data were gathered by means of questionnaires from a survey of 102 respondents. Despite the successful training in e-filing systems in Kenya, the study found that iTax in Kenya still has inherent challenges. These challenges centered on taxpayers' easiness to use the system and on the low levels of computer education in the country, which preceded the complete adoption in Kenya of electronic revenue collection systems. They proposed that the KRA undertake civic education in order to improve the effectiveness of the scheme. The study did not provide

which respondents were target and their roles in achieving study objectives. Further, the conclusion and the findings indicated that there are two studies in one.

The implementation of technology is important to increase productivity and efficiency in production of revenue. There is no question that conventional styles of paper will still be an integral part of the income system (Karimi, Maina, & Kinyua 2017). With the use of technology, a tax collection agency will achieve its revenue collection goals, as tax avoidance and evasion would be minimized. Technology in the tax system falls under the part of the Public Administration and its aim is to increase efficiency and profitability at both national and local levels. In the recent debate on policy, electronic income collection in developed countries has become more and more popular. For example, Owino, Senaji and Ntara, 2017, argued that recent public tax patterns highlight the need for implementation of an internet services tax assessment and collection system. Several reasons explain this, including the possible advantages of state-building taxation; freedom from international aid; the fiscal impact of trade liberalization; the financial and debt crisis in the West; and the severe financial needs of developing countries.

Governments in developing countries face significant difficulties in raising tax revenues, resulting in a disparity between what they should collect and what they actually collect. Automation of the revenue collection system requires investing in new technology , for example: ICT, to update the revenue system to achieve convergence and knowledge exchange in order to increase the quality and performance of the system (Kira, 2016).

In order to track the process that ensures proper control of the budgeted services and project activities, all sectors of the county should put in place effective and efficient revenue collection mechanism that improves transparency and resource absorption (Amin 2013). Automation of revenue collection processes and structures is instrumental in developing and simplifying the administration of taxation through the use of new technologies such as ICT (Mugambi & Wanjohi 2018).

In light of this, Foster & Hope (2017) conducted an empirical study with the main objective of evaluating the impact on revenue mobilization in India by adopting technology. In a random sample of 20 local government in the world, he used regression analysis. The results of the research showed that the government could substantially improve its financial depth in comparison with the growth and wishes of its citizens without costly overheads. Foster & Hope (2017) used the 120 questionnaires provided to country revenue employees in his research on using revenue technology in Malaysia collections. He also pointed out that technology implementation by automating systems has been seen as necessary for the acquisition of road parking fees that may increase the revenues. Implementation of technological arrangements for key government priorities is a key step in ensuring the efficiency of collecting fees on road parking.

According to Henry, *et al*(2016) for the achievement of effective and efficient retail payment systems in Thailand, the following considerations that shape the choice payment method for consumers and businesses should be taken into account; the convenience, reliability and security of the payment method, the quality services,

involving such features as the speed with which payment are processed; the level and structure of fees charged by financial institutions; taste and demographic; and technological advances which have improved the speed, convenience and flexibility of different payment systems.

Tax payment automation was first coined in the US. Australia is one of the countries in the administration of their municipalities that adopted the system (Owino, et al , 2017). The goal of the tax strategy in Turkey, however, is to simplify tax laws and regulations, and to harmonize tax law with EU law. Every nation, especially developing countries, has become a critical feature of the creation and use of modern technology in revenue mobilization. This is due to the various service modern technology offers in municipal growth.

Weru et al (2017) analyzed the structure of economic growth and taxation by contrasting the case of Brazil and Japan. Japan 's experience has shown that a country does not need to delay a real shift in the tax system until it has reached a high stage of growth. Rather, a new system will boost economic growth and improve the domestic market. According to a study conducted in Ghana by Collins (2016) on the Automation System Procedure of the Ghana Revenue Authority on the Effectiveness of Revenue Collection, the Ghana Revenue Authority (GRA) adopted the UNCTAD Automated System for Customs Data and Management, which is completely integrated and covers the complete tax clearance process. The system handles customs declarations,

accounting procedures, transit and other suspense procedures, generation of trade data that can be used for statistical and economic analysis.

According to Condo (2015), Zimbabwe has had a positive impact on organisation's success in developing countries through the implementation of online receipt technologies. Compared to the conventional receipt process, an online receipt is a value-added service that enables secure online contact between the sender and the recipients. The following aspects must be assured by a certified receipt process. First, it is important not to deny the validity of origin and the receipt exchange and, if the receipt is successfully transmitted or the delivery fails, to obtain confirmation both of the sender and the impeding mechanisms for the implementation of a new technology (Kondo, 2015)

A research on automation and customs collection was carried out in Uganda by Omwono, John and Kevin (2016). The findings indicate a positive association between automation and revenue collection, automation and productivity collection while automation is linked to time for tax clearance in a negative and important manner. The paper contributes significantly to evaluating tax automation and administration, time efficiency and revenue collection efficiency.

In Kenya, Odoyo(2013) study found the relationship between IS and efficiency and efficiency in income collection and the relationship between Internal Control Systems and income collection to be solid. The complete IS implementation was, however,

hampered by the resistance to reform by the Council workers. The research is helpful in this analysis for the completion of IS and, in particular, e-paid method, in the collection of revenues. The implementation of e-payment using mobile technology in mobile parking has been shown to increase parking rates in Kenya in another study conducted Awita et al . (2015). It proposed designing a traffic control application, allocation and availability of parking space in the streets of Nairobi, but fails to deal with the penalty payment scheme.

Maisiba & Atambo, (2016) studied the mobile car parking management system vocal agitation of e-payment in Nairobi County and the parking industry, but they were aware of barriers that could be overcome. The study failed to define the particular barrier regulation mechanisms that are being applied in the present study. The Awita survey (2015) found that the use of the tax collection automation system would increase the income collection considerably. However, it was unclear how e-payment would impact revenue collection. In fact the study recommends that the County Government of Mombasa needs to automate its revenue collection without specifying the system to use. The constitution of Kenya 2010 was adopted and approved in 2010 and the County Governments were transferred to several public service agencies (Muriithi & Moyi 2013). including the collection of revenue for financing their operations and/or functions by these governments. The County Governments earn their revenues from taxes such as permit fees, cessation charges, license fees, parking charges and other sources. If the county governments struggle to raise necessary taxes in an optimal way, the public would suffer as a result of deprived essential services, which could have a dramatic impact on the transition process.

On the contrary, a sound revenue framework for devolved governments sets the pace for fiscal decentralization 's success (Masaiba et al, 2016), as it is the road to administrative transparency through empowering communities. Modern e-payment systems, such as smart parking systems, provide convenience in revenue collection by the use of devices such as mobile de de devices (2015), according to Muema Awita (2015), However, there is a rising challenge as far as adoption of e-payment adoption by County Governments in Kenya is concerned. Since this is a new technology in Kenya and there are limited studies and information about online banking in our country.

2.3.3 Effect of Internal Control on Revenue Collection

Robert, (2014) conducted a study on internal controls in place at the Kenya Revenue Authority to assess if such internal controls have yielded any positive results in increased revenue collected. The research was carried out using quantitative as well as qualitative methods. The data collected were analyzed and results showed that the five components of the control setting, risk evaluation, control operations, information and communication and monitoring have to be accessible for internal controls to function. The study found that lax internal controls promote collusion in favour of fraud, loss of revenue and embezzlement of the revenue collected. The study therefore concluded that internal controls do function although with hiccups and that there is a significant effect between internal controls and revenue collection in KRA. There was no triangulation of results from quantitative and qualitative sources to strengthen the study discussions and arguments.

A study by Ewa and Udoayang (2018) in Nigeria sought to determine the effect of internal control design on the ability of banks to investigate staff fraud and the lifestyle of employees and the detection of fraud in Nigeria. Data was gathered using a Four Point Likert Scale questionnaire from 13 Nigerian banks and analyzed using percentages and ratios. The study found that the nature of internal control affects the attitude of employees towards fraud in such a way that a good internal control mechanism deters employee fraud, while a weak one exposes the system to fraud and provides opportunities for employees to commit fraud. The study also found that many Nigerian banks don't give any serious attention to the way their employees live, and that most employees feel the potential to detect fraud schemes by employees within the banking sector. The study found that the malaise in the banking sector requires an effective and reliable control system. The study therefore suggested that banks in Nigeria update their designs for internal controls and take the life style of their employees very serious account, as that could be a red flag for fraud detection.

The importance of the control setting in the study of internal auditing activities are illustrated by case studies of Belgian internal controls. Sarens and De Beelde (2006) found that certain environmental controls, such as tone-in-the-top, risk level and control awareness, are significantly linked to the role of internal auditing and fraud detection within the company and to the degree to which roles for the management of risk and the internal control are clearly defined and communicated.

Mwachiro (2013) found that internal controls played a significant role in ensuring successful collection of revenue. Both qualitative and quantitative methods were employed. In order to collect primary data for the study, questionnaires for a population of 38 were used. The data collected were then analyzed and results revealed that internal controls must have five components of a management setting, risk assessment, management, information , communication and monitoring. The study found that poor internal controls fostered complicity with bribery, loss of income and abuse of income. There was no triangulation of results from quantitative and qualitative sources to strengthen the study discussions and arguments. Further, the study did not indicate which respondents were sampled and therefore, it is difficult to generalize the findings.

Ewa and Udoayang (2012) conducted an impact analysis on the capacity of banks to investigate staff fraud and staff lifestyles and fraud detection in Nigeria from internal control design. Thirteen Nigerian banks gathered data with a questionnaire on the four-point likert scale, measuring it using percentages and ratios. The study showed that the internally built controls affect the attitude of the workers towards fraud to the extent that a good internal control system dissuades employee fraud. .Moreover, most Nigerian banks are not serious about the way in which employees live and most workers consider that efficient and successful design of internal controls could detect fraud in the banking sector for employees. The study found that the malaise in the banking sector requires an effective and efficient internal control system. This study recommended that Nigerian banks redesign their internal inspection designs and take the way of life of their employees seriously into account, as it could be a red flag for fraud detection

Spira and Page (2003) examined the improvements in internal control using sociological risk insights and conceptualization to resolve the debate in the UK corporate governance arena on internal control and risk management. Through this approach, the paper was able to show that progress on the reporting criteria for Corporate Governance provides opportunities for risk misappropriation and group management at the same time, allowing for the review of the reforms currently under way in the internal audit.

2.3.4 Effect of Public Awareness on Revenue Collection Efficiency

Silvani (2013) says that if revenue collection emphasizes the commitment of taxpayers to performing their duties, the degree of knowledge of taxpayers will be more efficient and successful. The effective and efficient provision of income collection services, technical advice regarding payment obligations and the ability of tax payers to file and pay in ways which reduce costs of enforcement. Although the revenue collection absorbed some of the costs of collecting taxes, it is important to remember that taxpayers have a large share because of their time and resources they spend attempting to grasp and file the necessary returns with the tax laws that apply to them. Compliance costs apply therefore to "the expense of the time spent on tax return filing activities and any spending on goods and products and services for the same purpose" (Blumentahal & Slemrod, 2013).

Therefore, it will minimize enforcement costs substantially by simplifying the tax system or offering other types of taxpayer support, which would in turn improve revenue collection. A study by Kariuki (2013) on 'Local Authorities' Revenue Enhancement Strategies Survey' found that political will, changes, taxpayer training and incentives for

those affected are required to improve revenue mobilization efforts in a public institution to enhance income collection by local authorities. The study proposed that attention be paid to the reasoning, processes, responsibilities and duties relating to the taxes raised by local authorities in informing local authorities, as well as taxpayers. An awareness of the legislation regulations and procedures was required in order to enable the government to gain the legitimacy of the openness and accountability of taxes and fees.

Further Mwambingu (2013) conducted Kenya Revenue Authority 's report on the effect of transition on revenue collection. This research found an important impact on the revenues generated by Kenya 's Revenue Authority, including the implementation of goals , performance reviews, taxpayer education and the knowledge initiative, administrative framework automation, and corporate culture change. Public knowledge is also an important factor in growing the accumulation of profits. In addition, Obara and Nangih (2017) carried out a compliance analysis in small and medium-sized businesses in the porthar court city on tax barriers and domestic revenue generation in Nigeria. The study shows that Nigeria does not have a stable tax baseline and that the prevalence of cash transactions affects domestic revenue generation. The report suggested effective automation, daily training of players on tax benefits , training of income workers and providing sufficient logistics for efficient collection of income, which were among the steps to ensure enhanced income generation.

2.5 Summary of Research Gaps from Empirical Literature

From the review, the study identified the following research gaps from the various studies reviewed.

Table 2.1: Summary of Research Gaps from Empirical Literature

Researcher	Title	Research Design	Findings	Gaps
Kolibáčová (2014)	Relationship between the competencies of employees and their performance in one particular company	Qualitative as well quantitative method was used	There is a relationship Between competency and employee's performance.	The study failed to look at the influence of Technology
Ngugi and Kagiri (2016)	Factors Influencing Optimal Revenue Collection in County Governments in Kenya: A Case of Kiambu County Government	Descriptive research design	Skills level in the county staff strongly influence revenue collection.	The study failed to do analyse role of technology
Ndung'u, 2013	challenges facing collection of revenue and the effect of the same on service delivery in Naivasha municipal council, Kenya	Exploratory research design	The employees were also alleged to lack requisite revenue staff competences for collecting revenue.	The study did not look at the influence of compliance and ICT

Ndonye (2018)	Factors affecting revenue collection in the ministry of state for immigration and registration of persons in Nigeria	Descriptive	Lack of knowledge and skills on the use of ICT in the collection of revenue among the revenue collection staff.	The study did not look at compliance
Kozak (2014)	Effect of Modern information and communication technology development on income generated and effectiveness in cost reduction by organizations over a period of twelve years between 1992 and 2013	Descriptive	ICT transformation enhances great improvement in organizations operations all over the world.	The study did not look at Competency of the staff
Ling and Nawawi (2015)	Advanced Information and Communications systems and tax software in tax education in Malaysia	Quantitative and qualitative	ICT influence performance in Malaysia	Researcher did not look at the role of Revenue staff competence
Otieno et al., (2013)	relationship between Information Systems (IS) and efficiency and effectiveness in revenue collection in Homabay	Descriptive	Positive correlation between ICS implemented and revenue collection.	Researcher did not look at the role of Revenue staff competence
Maisiba and Atambo (2016)	Effects of e-tax in revenue collection in Uasin Gishu County	Qualitative	E-tax influence revenue collection	Researchers failed to look at the role of revenue staff

				competence
Mwachiro (2013)	Internal controls in operation at Kenya Revenue	Quantitative and qualitative approaches	Weak internal controls encourage collusion to fraud, loss of revenue and embezzlement of collected revenue	The study did not look at revenue staff competence and ICT
Ewa and Udoayang (2018)	Impact of internal control design on banks' ability to investigate staff fraud and staff life style and fraud detection in Nigeria.	Qualitative and quantitative	Study established that Internal control design influences staff attitude towards fraud such that a strong internal control mechanism is deterrence to staff fraud while a weak one exposes the system to fraud and creates opportunity for staff to commit fraud	Researchers did not look at the role of revenue staff competence compliance
Kariuki (2013)	"A Survey of Revenue Enhancement Strategies by Local Authorities."	Qualitative and quantitative	"A Survey of Revenue Enhancement Strategies by Local Authorities."	Study did not consider ICT and Competitiveness of the staff
Obara and Nangih (2017)	Revenue compliance barriers and internally generated revenue in nigeria in small and medium enterprises in	Qualitative and quantitative	Lack of reliable tax database and the prevalence of cash transactions impede government's internal revenue generation in	The Study did not consider ICT and Competitiveness of the staff

	portharcourt metropolis		Nigeria	
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Source: Authors Data (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology of the study. It present an overview of the, research design, study area, target population and sampling techniques which were used. Data collection methods and data analysis has been discussed, measurement of variables, reliability, validity, ethical considerations, limitations and expected outcomes of the study.

3.2 Research Design

According to Sekaran and Roger (2011), research design is a master plan that specifies the methods and procedures for collecting and analyzing needed information. The study adopted explanatory research design which explores cause effect relationships. The main aim of explanatory research is to identify any causal links between the factors or variables that pertain to the research problem. It tries to verify formulated hypotheses that refer to the present situation in order to elucidate it (Bechhofer & Paterson, 2008). An explanatory research design is fitting for this study as it helped in ascertain not only the relationship between the different variables, but measure the effect and strength of each independent variable on the dependent variable which in this case is the revenue collection efficiency in County Government of Nandi. Against this background, explanatory research design provided the current study with appropriate procedure for

establishing the operational determinants of revenue collection efficiency in County Government of Nandi, Kenya.

3.3 Study Area

The study was conducted in Nandi County. Nandi County is located in the North Rift region of Kenya. It lies between latitude 0034N and longitude 34045E to the West while the Eastern boundary reaches Longitude 35025E. It covers an area of 2,884.4 Km²; and borders Kakamega County to the West, Uasin Gishu County to the North East, Kericho County to the South East, Kisumu County to the South and Vihiga County to the South West. The county has 5 administrative Sub-Counties (Districts) and 11 Divisions. Nandi County has a total of 99 locations and 299 sub-locations. The County has a total population of 1,022,380 people comprising of 510,351 males and 512,029 females. The County's inter-censal growth rate is 2.9 percent which is slightly lower than the National growth rate of 3.1 percent (County Government of Nandi, 2021).

Revenue collection in Nandi County has been below expectation with the county collecting paltry Sh4.6 million between July and September 2020 (Controller of Budget, 2020). The total own source revenue generated in FY 2017/18 amounted to Kshs.197.89 million, representing a decline of 19.1 per cent compared to Kshs.244.74 million generated in FY 2016/17 and was 51.3 per cent of the annual target. The County generated a total of Kshs.286.33 million from own revenue sources in FY 2018/19. During FY 2019/20, the County generated a total of Kshs.283.19 million as own-source revenue. This amount represented a drop of 1.1 per cent when compared to Kshs.286.33 million realised in FY 2018/19, and represented 45 per cent of the annual target (Controller of Budget, 2020).

3.4 Population of the Study

Copper and Schindler (2014) define population as the total collection of elements about which the researcher wishes to make inferences. According to Saunders *et al.*, (2014) target population is complete collection of individuals or objects with homogeneous characteristics under investigation by the researcher. The population of the study consisted of 183 respondents of which 11 were management and directors of revenue staff, 43 were revenue collecting and reporting staff and 129 business owners of registered small and medium enterprises in Kapsabet town Central Business District as indicted by ministry of Trade, Investment and Industrialization, County Government of Nandi. The town was selected because it is the administrative center of the county and more than 50% of revenue is collected from small and medium enterprises.

3.5 Sampling Technique and Sample Size

In determining the sample size and selecting the respondent the study utilized the following sampling technique:

3.5.1 Sample Size

The study followed the following sampling design in selecting the sample size that was used to test the study hypothesis. The larger the samples size the lower the likely error in generalizing the population (Saunders, Lewis and Thornhill, 2003; Creswell, 2009). The study used Yamane (1967:886) and modified by Saunders *et al.*, (2003) and adopted by Israel 2013 was used to calculate sample sizes.

$$n = \frac{N}{1+N(e^2)} \dots \dots \dots \text{Equation (3.1)}$$

Where, n=sample size,
 N=population size,
 e=the error of sampling.

While the sampling error of 0.05.

Therefore, using Saunders *et al.*, (2003) formula the sample size of the study was 126 employees and business owners.

The sample size is calculated as shown below.

$$\dots\dots n = \frac{183}{1+183(0.05^2)} = 126 \dots\dots\dots \text{Equation}$$

(3.2)

3.5.2 Sampling Procedure

The determination of the sample size involved giving due recognition of the fact that it should be large enough for statistical analysis. The study used stratified sampling design because it allowed the researcher to segregate the population into several mutually exclusive sub-populations or strata which aided in increasing the sample statistical efficiency by providing adequate data for analyzing sub populations and allowing the researcher to use different research methods and procedures in different strata. Then the study also used simple random sampling method to choose the members within the strata. The study used Neyman allocation formula to distribute the respondents into the two selected strata. The purpose of the method is to maximize survey precision, given a fixed sample size. With Neyman allocation, the best sample size for stratum h would be:

$$n_h = \left(\frac{N_h}{N}\right)n$$

Where,

n_h - The sample size for stratum h,

n - Total sample size,

N_h -The population size for stratum h,

N - The total population

Hence, distribution was as follows;

Table 3.1: Sample Distribution Table

Population Category	Target Population	Sample Size=$n_h = \left(\frac{N_h}{N}\right)n$
Management and Directors of Revenue staff	11	8
Revenue Collecting and Reporting Staff	43	30
SME Business owners	129	88
Total	183	126

Source: Survey Data, (2019)

3.6 Data Collection Instruments

3.6.1 Types and Sources of Data

The study employed primary and secondary data. The primary data are data obtained directly by a research researcher for a research mission. In other words, basic data is information that an investigation has to obtain, and no one in a publicly available platform has collected and released the information. Investigators typically only take the time to devote the required resources to collect basic data if a problem, query or concern

arises that is severe enough or that is special to guarantee the necessary expenses for collecting the primary data.

Primary information is initial and specifically relevant to the problem or problem as well as current data. Primary data is being collected by various methods such as interviewing, surveying, questionnaires, etc., whereas secondary data are collected by a different individual, who are not relevant to the research study. When a researcher uses these data, the existing users provide secondary data. This may be printed, typed or electronically accessible. The researchers are able to collect data on a sector, future product applications and the marketplace from many secondary sources of knowledge. Initial insight into the research issue was also gained through secondary information. Secondary data are catered for internally or externally as regards its source. External or internal data is secondary knowledge that the company acquires as analysis is conducted. Secondary external data from external sources is collected.

3.6.2 Data Collection Instruments

Data collection instrument refers to the tools employed in collection of data for the study (Oso & Onen, 2008). Creswell and Designm (2013) define data collection as a means by which information is obtained from selected subjects of investigation. The researcher developed research questions for collecting primary data. The study used structured and semi structured questionnaires as a tool for data collection in regard to information on revenue collection. Questionnaires eliminate interviewer bias and ensure that the respondent has adequate to respond meaningfully (Kothari, 2004). The questionnaire was close ended questions because they are easier to administer and analyze since each

item is followed by an alternative answer. The closed- ended questions ensure that the respondent stay focus within the study objectives (Saunders *et al.*, 2014).

The study utilized questionnaires for data collection since it considered being economical method and it provides standardized and structural questions into variables for data analysis. The questions for the variables of interest in the study were adopted from previous studies that have been developed and tested. However the wording and style of presentation were modified to fit the context and scope of study. The instrument was simplified to make it easy for the target respondents to comprehend the questions thus enabling them to give reliable information.

3.6.3 Data Collection Procedures

Before the actual data collection exercise takes place, the researcher undertook preliminary survey within the Kapsabet Town and County Government of Nandi so as to ascertain and familiarize with the study area and also make appointments with the identified persons. During the appointment day, the researcher and the research assistant distributed the questionnaires to the selected individual from County Government of Nandi and collect them once they had filled them on the same day. The self-administered questionnaire was accompanied by a covering letter, which explains the purpose of the study and assures respondents strict confidentiality. Closed ended offer the respondent a list of responses, any of which they can choose. The list of responses must be defined clearly and meaningfully by research assistants.

3.7 Pre-testing of Research Instruments

Pilot study refers to a study conducted before main study in order to test reliability of the research instruments (Sreevidya & Sunitha, 2011).

A pilot test was carried out in order to identify whether the developed instruments or items or test really agreed with the contents of the research questions. For this study a pilot study was conducted in Uasin-Gishu County Government. It involved 10% of the size of the sample population (Kothari, 2014). This means that 21 respondents drawn from finance department in Uasin-Gishu County government participated in pilot study.

3.7.1 Validity of the Research Instrument

Validity is the extent to which an instrument measures what it asserts to measure (Blumberg, Blumberg, Cooper & Schindler, 2005; Oliver, 2010). The validity of the research instrument assesses the extent to which the instrument measures what it is designed to measure (Robson, 2011). The validity of a research is focused on the included measurements and that the research instrument is actually measuring what it is supposed to measure (Saunders, Lewis & Thornhill, 2009).

In quantitative research validity is the extent to which any measuring instrument measures what it is intended to measure (Thatcher, 2010). But, in qualitative research it is when a researcher uses certain procedures to check for the accuracy of the research findings (Creswell, 2014). According to Houston (2004), there are four criteria validity measurement; face validity, content validity, criterion-related validity, and construct validity. Included in these criteria are the issues of internal validity and external validity. The study ensured content validity of research questionnaire by consulting the university

supervisors and panel of expert. This help to improve the questionnaire before proceeding to the field to carry out the main study.

3.7.2 Reliability of the Research Instrument

Reliability refers to a measurement that supplies consistent results with equal values (Blumberg, Cooper, & Schindler, 2005). It measures consistency, precision, repeatability, and trustworthiness of a research (Chakrabartty, 2013). According to Bryman and Bell (2011), reliability in research is related to whether the results of the study would be consistent if the study would be repeated with the same data and method. Reliability is extent to which variables is consistent in what was supposed to measure (Hair *et al.* 2006). The coefficient of reliability falls between 0 and 1, with perfect reliability equaling 1, and no reliability equaling 0. The test-retest and alternate forms are usually calculated reliability by using statistical tests of correlation (Traub & Rowley, 1991). For high-stakes settings reliability should be greater than 0.9, whereas for less important situations values of 0.8 or 0.7 may be acceptable. The general rule is that reliability greater than 0.8 are considered as high (Downing, 2004).

Table 3.2: Reliability Test

	N of Items	Cronbach's Alpha
Staff Competence	6	0.904
Automation	6	0.853
Internal Control	6	0.867
Public Awareness	8	0.917

Source: Survey Data, 2019

The study findings indicated a Cronbach's Alpha of 0.904 for revenue staff competence, 0.888 for automation after factor analysis, 0.867 for internal control and 0.917 for public awareness. All this Cronbach's Alpha were above 0.7 and hence the research instrument was considered reliable for use in the study.

3.8 Data Collection Procedures

After testing the validity and reliability of the research questionnaire, the researcher sought the consent of Masinde Muliro University of Science and Technology to proceed to the field. The researcher then went to NACOSTI to get a go head to conduct research. The research administered the questionnaires to the sampled respondents.

3.9 Data Analysis and Presentations

Data obtained from the field coded, cleaned, and entered into the computer for analysis using the Statistical Package for Social Scientists (SPSS). The data was summarized in order to see emerging trends and issues around specific themes, which are dependent on the variables and objectives. The study compounded scores from indicators for the variables to obtain the scores respectively. According to Parveen and Leonhauser (2004) the compounding of scores from various indicators into indices is based on an integration of both qualitative and quantitative methods depending on collected data.

Descriptive statistical procedures including cross-tabulations and frequency distributions were used to provide comparisons and contrasts between the factors influencing public participation during budgetary allocation. This is in addition multiple regression analysis was employed to test the study hypotheses. Multiple regression analysis is applied to analyze the relationship between a single dependent variable and several independent variables (Hair *et al.*, 2005). The study utilized variable inflation factor (VIF) to handle the issue of Multi-Collinearity. The beta (β) coefficients for each independent variable were generated from the model, subjected to a t –test, in order to test each of the hypotheses under study. The regression model that was used to test the study hypotheses is shown below:

Model Specification

$$Y_1 = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots \dots \dots \text{Equation (3.3)}$$

Where Y_1 = Revenue collection (dependent variable)

X_1 – staff competence

X_2 – Automation

X_3 –Internal Controls

X_4 –Level of Public awareness

α – regression constant

$\beta_1, \beta_2, \beta_3$ and β_4 , – Coefficient factors

ε – Error term assumed to be randomly distributed

The following are the assumptions that the data had to meet in order to conduct a linear regression analysis.

1. **Normality:** It is assumed that the residuals of variables are normally distributed.

That is, the errors in the prediction of value Y (the dependent variable) are

distributed in a way that approaches the normal curve. The assumption of normality is especially critical when constructing reference intervals for variables and when this assumption does not hold, it is impossible to draw accurate and reliable conclusions about reality (Bryman, 2017). The study therefore, used the Shapiro-Wilk test for testing the normality of data in line with the recommendation of Brannen, (2017). The Shapiro-Wilk test is based on the correlation between the data and the corresponding normal scores and provides better power than the K-S test even after the Lilliefors correction.

2. **Linearity:** When the variables X and Y are linearly correlated, it is meaningless to fit a linear regression model between them. Therefore, *t*-Test is used to examine whether there is some significant linear relationship between the independent and dependent variables or not (Morse, 2016). The decision about the null hypothesis in a two-tailed test was taken by comparing the computed value and critical value of *t* distribution. The null hypothesis is rejected at $\alpha \times 100\%$ level of significance when the computed value and critical value T_r is lower than $-t_{\alpha/2}$ or larger than $t_{\alpha/2}$. Rejecting a null hypothesis means there is a significant linear relationship between the variables. It is assumed that the relationship between the independent and dependent variables is linear. Scatter plots of the variables can help make this determination.
3. **Homoscedasticity:** In this study heteroscedasticity shall be minimized or eliminated where possible by ensuring that the data used in hypothesis testing is approximately normal and is accurately transformed and that the right functional forms of regression model are selected and variables presented by scatter plot

diagrams of the dependent variable (DV) will widen or narrowed as the value of the independent variable (IV) increases. The inverse of heteroscedasticity is homoscedasticity, which indicates that a DV's variability is equal across values of an IV. At each level of the predictor variables(s), the variance of the residual terms should be constant. This was tested using qq plots

4. **Multicollinearity:** Multicollinearity exists when two or more of the predictors in a regression model are moderately or highly correlated. Unfortunately, when it exists, it can wreak havoc on analysis and thereby limit research conclusions in this study it were detected when the t -tests for each of individual slopes are non-significant ($P > 0.05$), but the overall F -test for testing all of the slopes are simultaneously 0 is significant ($P < 0.05$); hence relying on variance inflation factor (VIF) quantifies how much the variance is inflated; the variances of the estimated coefficients are inflated when multicollinearity exists. Hence a variance inflation factor exists for *each of the k predictors* in a multiple regression model by detecting the presence of multicollinearity in this study. Heteroscedasticity is the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it. There should be no perfect linear relationship between two or more of the predictors. So, the predictor variables should not correlate too highly this was tested using variance inflation factor (VIF) and tolerance
5. **The assumption of independence Statistical tests** that was used in the research study include the t -Test, ANOVA (F -Test), Shapiro-Wilk test (test for normality) and Durbin-Watson test. Durbin-Watson statistic was obtained to examine the

independence of errors. The assumption of independence is given by

$$D = \frac{\sum_{i=2}^n (e_i - e_{i-1})^2}{\sum_{i=2}^n e_i^2}$$
 where $e_i = y_i - a - bx_i$ ($i = 1, 2, \dots, n$) are residuals. The

value D lies between 0 and 4. When it is correlated residuals, it approaches 4. A

value of D between 1 and 3 is usually considered to be accepted (Morse, 2016).

F -test was used to test the overall validity of the model or to test if any of the explanatory variables is having a linear relationship with the response variable.

Serial correlation was tested using Durbin Watson test.

3.9.1 Hypothesis Testing

The study adopted the criteria presented in table 3.3 for testing the hypothesis

Table 3.3: Summary of Hypotheses Testing

H₀	Statement	Test Statistics	Critical values/Decision Point
H₀₁	There is no significant effect of revenue staff competence on revenue collection efficiency of County Government of Nandi government.	β_1, p_1, F, R^2	$P \leq .05$ significant
H₀₂	There is no significant effect of automation on revenue collection efficiency of County Government of Nandi government.	β_2, p_2, F, R^2	$P \leq .05$ significant
H₀₃	There is no significant effect of internal controls on revenue collection efficiency of County Government of Nandi government.	β_3, p_3, F, R^2	$P \leq .05$ significant
H₀₄	There is no significant effect of level of public awareness on revenue collection efficiency of County Government of Nandi government.	β_4, p_4, F, R^2	$P \leq .05$ significant

Source: Researcher, 2019

3.10 Ethical Issues

Before the research was undertaken permission was sought from the relevant authorities; first, a letter of introduction was obtained from the dean, School of Business and Economics, Masinde Muliro University of Science and Technology. The research permit from the National commission of science and Technology [NACOSTI] was applied for and attached (Appendix VI).

Finally permission from the selected department in County Government of Nandi was sought from the relevant authorities so as to allow the study to be carried out. To ensure the confidence of the respondents and to ascertain high response rate the cover letter was attached (Appendix V) so as to explain to the respondents further on the importance and reasons for carrying out the study.

According to Johnstone (2006) the importance of choosing an instrument of an anonymous nature is low risk, easy to understand and does not ask for personal information increases the response rate. The researcher purely used the information collected for the purpose of this study and was not forward to any other party. The information from any individual were treated with high degree of confidentiality without disclosing the respondents identity, and being open minded as possible and express opinions as they were given. The researcher did not modify anything and also was very appreciative of all the literature that was contributed in any way to this research.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents findings from the study conducted on “operational determinants and revenue collection efficiency in County Government of Nandi”. The demographic characteristics of the respondents in this study are presented. It also presents analysis, interpretation and discussion of findings of the study. The objectives of the study were; to determine the effect of competence on revenue collection efficiency of County Government of Nandi government, to determine the effect of automation on revenue collection efficiency of County Government of Nandi government, to determine the effect of internal control systems on revenue Collection efficiency of County Government of Nandi government, to assess the effect of level of awareness on the efficiency of Revenue collection of County Government of Nandi government.

4.2 Response Rate

A total of hundred and twenty six (126) respondents participated in the study. In this study, out of 126 questionnaires that were distributed to the sampled respondents, 101 of them were filled and returned. The summary of the questionnaire return rate is as shown in Table 4.2 below.

Table 4.2: Questionnaire Return Rate

		Frequency	Percent
Valid	Returned	101	80.2
	Not Returned	25	19.8
	Total	126	100.0

Source: (Researcher, 2020)

Therefore, 101 of the questionnaires were correctly filled and were used for the analysis in this study. This represented a questionnaire return rate of 80.2% of the sample size and falls within the confines of a large sample size Mugenda & Mugenda, (2009).

4.3 Demographic Characteristics of the Respondents

The study sought to establish general information regarding the following aspects of the respondents: Gender, highest level of education, age bracket, and current position of the organization and length of time worked in the County.

4.3.1 Gender of Respondents

The study sought to correct information on gender of respondents in this study. It was aimed at establishing gender disparities of the employees in revenue department of County Government of Nandi government. Table 4.4 shows the distribution of the respondents according to their gender.

Table 4.3: Gender of the respondent

	Frequency	Percent
Male	61	60.4
Female	40	39.6
Total	101	100.0

Source: Researcher (2020)

Results in table 4.4 illustrate that 61 (60.4%) and 40 (39.6%) of the respondents were male and female respectively. This implies that both sexes were represented in the study therefore there was no biasness. The study attributed this to the existing gender gap in the employment in the private and public sector in Kenya which is predominantly by the male gender.

4.3.2 Academic qualifications of the respondents

The study sought to establish the academic qualifications of the respondents used in this study. This aimed to link between their qualifications and their ability to perform properly. The summary of the findings is as indicated in Table 4.4.

Table 4.4: Education level of the respondent

	Frequency	Percent
Diploma	34	33.7
Graduate	63	62.4
Masters	4	4.0
Total	101	100.0

Source: Researcher (2020)

The study findings in Table 4.2 shows that 34 (33.7%) of the respondents were diploma holders, 63 (62.4%) of the respondents were graduates, and 4(4.0%) of the respondent were masters holders. These study findings also indicated that varied responses were collected from respondents of different educational backgrounds. This was important as it ensured that all opinions were reflected in the study.

4.3.3 Distribution of the respondent according to their age bracket

The study also sought to establish the age bracket of the respondents. This is to establish the relationship between the experience and employee performance. Table 4.5 shows the findings:

Table 4.5: Age bracket of the respondents

	Frequency	Percent
18-30 years	10	9.9
30-40 years	54	53.5
40-50 years	37	36.6
Above 50 years	0	0.0
Total	101	100.0

Source: Researcher (2020)

The study finding in Table 4.9, majority of the respondent, 54(53.5%) were aged between 30-40 years. The study also indicated that 37 (36.6%) of the respondents were aged between 40-50 years. Lastly, 10 (9.9%) of the respondents were aged between 18-30 years. These results reveal that there was no bias based on the aged of the respondents as both genders participated in the study.

4.3.4 Distribution of the respondent according to length of service

The study also sought to establish the length of time the respondents have worked in the County. Table 4.6 shows the findings:

Table 4.6: Experience of the respondents

	Frequency	Percent
0-1 years	4	4.0
Above 1-5 years	53	52.5
Above 5-10 years	33	32.7
Above 11 years	11	10.8
Total	101	100.0

Source: Researcher (2020)

The study finding in Table 4.9, majority of the respondent, 53(52.5%) had stayed in the County between 1- 5 years. The study also observed that 33 (32.7%) of the respondents had an experience of between 5-10 years. Lastly, 11 (10.8%) of the respondents had an experience of above 11 years in the County. This showed that the opinions of the respondents were collected from an array of persons with different experiences.

4.4 Correlation analysis

The results of correlation analysis are as shown in Table 4.7. The findings indicated that there was a strong positive and significant relationship between competence and efficiency of revenue collection. This is depicted by a Pearson correlation coefficient $r=0.304$, $p\text{-value} =0.036 < 0.05$ which was significant at 0.05 level of significance. This implies that competence results in increase of efficiency of revenue collection.

There was positive and significant relationship between automation and efficiency of revenue collection with a Pearson correlation coefficient $r=0.226$, $p\text{-value}=0.000 < 0.05$ which was significant at 0.05 level of significance. This implies that increased automation results in an increase of efficiency of revenue collection. The results indicated that there was a weak positive and significant relationship between internal control and efficiency of revenue collection. This is depicted by a Pearson correlation coefficient $r=0.057$, $p\text{-value} =0.001 < 0.05$ which was significant at 0.05 level of significance. This implies that improved internal control results in an increase in efficiency of revenue collection. Lastly, Table 4.7 results indicated that there was a strong positive and significant relationship between level of awareness and efficiency of revenue collection. This is depicted by a Pearson correlation coefficient $r=0.452$ $p\text{-value}$

=0.008 < 0.05 which was significant at 0.05 level of significance. This implies that improved level of awareness results in an increase in efficiency of revenue collection

Table 4.7: Correlation analysis of the study variables

		Efficiency of revenue collection	Competence	Automation	Internal control	Level of awareness
Efficiency of revenue collection	Pearson Correlation	1				
	Sig. (1-tailed)					
Competence	Pearson Correlation	.304	1			
	Sig. (1-tailed)	.036				
Automation	Pearson Correlation	.226*	.100*	1		
	Sig. (1-tailed)	.000	.036			
Internal control	Pearson Correlation	.057*	.006	-.359*	1	
	Sig. (1-tailed)	.001	.456	.000		
Level of awareness	Pearson Correlation	.452*	.271*	.009	.021	1
	Sig. (1-tailed)	.008	.282	.302	.017	
	N	101	101	101	101	101

*. Correlation is significant at the 0.05 level (1-tailed).

Source: (Researcher, 2020)

4.5 Regression Analysis Assumption Tests

Before regression analysis is conducted, various statistical assumptions must be met. In this study, the following tests were conducted and presented as below: Linearity, Homoscedasticity Test, Shapiro-Wilk Test of Normality, and Multi-Collinearity Test.

4.5.1 Linearity Test for operational determinants and revenue collection efficiency

The study conducted linearity test to determine whether the relationship between operational determinants and revenue collection efficiency of County Government of

Nandi was linear or not. If from the analysis, the significant deviation from linearity is greater than 0.05, then the relationship between the independent variable is linearly dependent. If the significant deviation from linearity is less than 0.05, then the relationship between the independent variable and the dependent variable is not linear.

Table 4.8: Linearity Test

			Sum of Squares	Df	Mean Square	F	Sig
Operational determinants* revenue collection efficiency	Between groups	(Combine d)	1320.774	124	4.627	9.34	.997
		Linearity Deviation from linearity	0.73	1	.0731	7.05	.942
	Within groups		1634.207		4.802	4.35	.995
	Totals		1592.410	101	13.502		
			4548.121	226			

Source: Researcher (2020)

According to the results shown in Table 4.9, the significant deviation from linearity is 0.995 which is greater than 0.05 implying evidence of a linear relationship between operational determinants and revenue collection efficiency of County Government of Nandi.

4.5.2 Tests of Normality

Further, the study conducted the Shapiro-Wilk test to test for normality in the study. Normality test was done at 95% confidence interval. If the p-value is less than 0.05, then the null hypothesis is rejected and there is evidence that the data tested is not from a normally distributed population. In other words, under such circumstances, the data is not normally distributed. If the p-value is greater than 0.05, then the null hypothesis

stating that the data came from a normally distributed population is accepted. The results in the study indicate that the p value was 0.012 which implies that data tested is not from a normally distributed population. The findings are as shown in Table 4.9 below.

Table 4.9: Tests for normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Staff competence	.099	101	.066	.960	101	.064
Automation	.082	101	.091	.967	101	.113
Internal control systems	.082	101	.093	.981	101	.165
Public awareness	.110	101	.094	.951	101	.091
Efficiency of Revenue Collection	.145	101	.300	.925	101	.312

Source: Researcher (2020)

4.5.3 Multicollinearity Test

Multicollinearity test was also done in the study to determine whether the variables of the study were highly correlated, thus implying that one variable may be linearly predicted from the other with high levels of accuracy. Findings are as shown in Table 4.10. If the VIF value lies between 1 and 10, then there is no multicollinearity. If the VIF value is less than 1 or more than 10, then there is multicollinearity.

Table 4.10: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Staff Competence	.267	3.748
Automation	.281	3.564
Internal Control Systems	.631	1.586
Public Awareness	.259	3.867

Source: Researcher (2020)

As shown in Table 4.10, the VIF value was 1.023 which indicates that there were no multicollinearity issues in the study.

4.5.4 Principal Component Analysis

Principal component analysis statistic is a determinant of the variance proportionality amongst variables that may be common variance. The lower the value of proportionality, the better the data is to Factor Analysis. KMO returns values between 0 and 1. KMO values between 0.8 and 1 indicate the sampling is adequate. KMO values less than 0.6 indicate the sampling is not adequate and that remedial action should be taken.

KMO values close to zero means that there are large partial correlations compared to the sum of correlations. The study found that KMO had a value of 0.834 and Bartlett's test, $\chi^2(4, N =256) =709.330, p=.000$. This implies that sampling was adequate for operational determinants. The findings are as in Table 4.11 below.

Table 4.11: KMO and Bartlett's Test for operational determinants

Factors	KMO test	Barlett's test of sphericity		
		Chi-Square	Df	Sig.
Staff Competence	0.840	213.523	15	0.000
Automation	0.790	171.361	15	0.000
Internal Control Systems	0.700	103.120	15	0.000
Public Awareness	0.756	218.950	28	0.000

Source: Researcher (2020)

4.6 Effect of competence on revenue collection efficiency

This section will focus on the effect of competence on revenue collection efficiency in County Government of Nandi. The summary of the descriptive is as shown in Table 4.13. The findings indicate that 32(31.7%) of the respondents agreed that they were employed because of their high qualifications, while 54(53.5%) of the respondent agreed that the county has provided training for them on their job description strongly agreed. On the other hand, 31(28.6%) of the respondents agreed that there are enough of them working for the revenue department at the county.

With reference to the performance appraisal, 32(32.7%) strongly agreed that performance appraisals is done to enhance employee performance. Conversely, 34(34.1%) of the respondents were undecided on the idea that revenue staff are some of the most recognized employees due to their competence, and lastly, though 34(33.6%) of the respondents were undecided that revenue staff have a budget for revenue staff training, 34(33.6%) strongly disagreed on it.

The study findings were interpreted to mean that revenue staff competence is key in revenue collection. Therefore they ought to be equipped with the necessary skills. Effective training can minimize learning cost; improve individual, team and corporate performance speed and overall productivity, upgrade operational flexibility by extending the range of skills possessed by employees, attract high quality employees by giving them learning and development opportunity. It increases the job knowledge and enhances their skill thus enabling them to be more competent in the collection of the revenue.

In the scale of 1-5(where 1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5 = Strongly agree)

Table 4.12: Descriptive statistics on competence

Description	N	SD	D	U	A	SA	Mean	S.D
		(%)	(%)	(%)	(%)	(%)		
I was employed because of my high qualifications	101	3 (3.0)	23 (22.8)	23 (22.8)	32 (31.7)	20 (19.8)	4.01	1.21
The county has provided training for me on my job description	101	1 (1.0)	4 (4.0)	18 (17.8)	54 (53.5)	24 (23.8)	4.25	1.132
There are enough of us working for the revenue department at the county	101	8 (7.9)	4 (4.0)	28 (27.7)	31 (30.7)	30 (29.7)	4.06	1.220
Performance appraisal are done to enhance employee performance	101	6 (6.0)	9 (8.8)	20 (28.5)	24 (24.0)	32 (32.7)	4.01	1.120
Revenue staff are some of the most recognized employees due to their competence	101	25 (24.4)	11 (10.6)	34 (34.1)	22 (22.1)	9 (8.8)	3.2	1.274
Revenue staff has a budget for revenue staff training	101	34 (33.6)	20 (19.8)	34 (33.6)	10 (9.7)	3 (3.2)	3.71	1.118

Source: Researcher (2020)

4.6.1 Hypothesis testing

This section of the research provides information about testing of the research hypotheses.

H_{01} : *There is no significant effect of competence on revenue collection efficiency of County Government of Nandi government.*

Table 4.13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657 ^a	.431	.437	5.03507

Source: Researcher (2020)

From the study findings in Table 4.13, the value of R-square is 0.431. This implies that, 43.1% of variation of revenue collection efficiency of County Government of Nandi government was explained by competence.

Table 4.14: ANOVA test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4320.7741	1	4320.741	170.431	.002 ^b
	Residual	5704.176	100	25.352		
	Total	10024.916	101			

a. Dependent Variable: revenue collection efficiency

b. Predictors: (Constant), competence

Source: Researcher (2020)

From the findings in Table 4.14, at 0.05 level of significance the ANOVA test indicated that in this model the independent variable namely; competence is important in predicting of revenue collection efficiency of County Government of Nandi government

as indicated by significance value=0.002 which is less than 0.05 level of significance (p=0.002 < 0.05).

Table 4.15: Coefficients of the Model

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	3.049	1.592		11.915	.057
Competence	.693	.053	.657	43.055	.002

a. Dependent Variable: Revenue collection efficiency

Source: Researcher (2020)

From Table 4.15, the study findings revealed that competence had significant influence on revenue collection efficiency of County Government of Nandi government (t-statistic=13.055, p-value=0.002 < 0.05). Therefore at 5% level of significance the null hypothesis was rejected, indicating that competence had significant relationship with revenue collection efficiency of County Government of Nandi government. Thus, for every unit increase in competence there was a corresponding increase on revenue collection efficiency of County Government of Nandi government by 0.693.

The findings are supported by Maisiba,& Atambo, (2016) who notes that Specialized help and training are critical parts of support to tax mobilization in developing nations and they are for all intents and purposes constantly incorporated into aid programs. They can be either given in kind or through financing for tax ventures/programs. The fundamental objective of these exercises is to unwind limiting imperatives inside general society organization, while in the meantime illuminating government strategy,

supporting trade of data between nations and invigorating level headed discussion around tax issues.

The findings are also supported by Collins, *et al*, (2016) in whose study revealed that job performance in the tax collection sector and hence collection of revenues was determined directly by extrinsic elements such as fairness of the latest training practices and ability for training. In spite of the acknowledgment of pay valence for workers when all is said in done dissatisfaction with training plans remains prominent in employee surveys.

4.7 Effect of automation on revenue collection efficiency of County Government of Nandi government

This section will consider effect of automation on revenue collection efficiency of County Government of Nandi government.

In the scale of 1-5 (where 1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5 = Strongly agree)

Table 4.16: Descriptive statistics on Automation

Description	N	SD (%)	D (%)	U (%)	A (%)	SA (%)	Mean	S.D
We use latest technological hand held systems in revenue collection	101	0 (0.0)	8 (7.9)	38 (37.6)	21 (20.8)	34 (33.7)	4.19	0.924
The county has an automated system for revenue collection	101	5 (5.0)	11 (10.9)	18 (17.8)	53 (53.5)	14 (13.9)	4.07	1.165
Technology for revenue collection is regularly changed	101	9 (8.9)	11 (10.9)	23 (22.8)	28 (27.7)	30 (29.7)	4.13	1.021
Mobile technology including mobile money is the most common mode of revenue collection	101	11 (10.9)	18 (17.8)	22 (21.8)	23 (22.8)	27 (26.7)	3.86	1.628
All documentation given for purposes of revenue acknowledgement including permits is system generated	101	8 (7.9)	9 (8.9)	18 (17.8)	39 (38.6)	27 (26.7)	4.02	1.280
County revenue systems are supported by latest hardware devices	101	3 (3.0)	9 (8.9)	18 (17.8)	46 (45.5)	25 (24.8)	4.06	1.102

Source: Researcher (2020)

The study findings (Table 4.16) indicated that 34 (33.7%) of the respondents strongly agreed that they use latest technological hand held systems in revenue collection, while 53(53.5%) of the respondents agreed that the county has an automated system for revenue collection. Another 30(29.7%) of the respondents strongly agreed that technology for revenue collection is regularly changed, and a total of 27(26.7%) of the respondents agreed that mobile technology including mobile money is the most common mode of revenue collection. Finally, 39(38.6%) of the respondents agreed that all documentation given for purposes of revenue acknowledgement including permits is system generated, while 46(45.5%) agreed that county revenue systems are supported by latest hardware devices.

These findings were interpreted to mean that Information Communication Technology provides counties with the opportunity to acquaint themselves with new strategies for effective lobbying, advocacy, design, implementation, and delivery of services to citizens by using those management information systems that meet local, national, regional, and international trends. The computerization of all the processes steps plays an important role in minimizing the errors, standardization of the operational procedures and reducing costs.

4.7.1 Hypothesis on effect of automation on revenue collection efficiency

H₀₂: There is no significant effect of automation on revenue collection efficiency of

County Government of Nandi government.

Table 4.17: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.722 ^a	.522	.520	4.93906

Source: Researcher (2020)

From the study findings in Table 4.17, the value of R-square is 0.522. This implies that, 52.2% of variation of revenue collection efficiency of County Government of Nandi government was explained by automation.

Table 4.18: ANOVA test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5988.640	1	5988.640	245.493	.013 ^b
	Residual	5488.725	100	24.394		
	Total	11477.366	101			

a. Dependent Variable: revenue collection efficiency

b. Predictors: (Constant), automation

Source: Researcher (2020)

From the findings in Table 4.19, at 0.05 level of significance the ANOVA test indicated that in this model the independent variable namely; automation is important in predicting of revenue collection efficiency of County Government of Nandi government as indicated by significance value=0.013 which is less than 0.05 level of significance ($p=0.002 < 0.05$).

Table 4.19: Coefficients of the Model

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	2.024	1.562		11.296	.196
Automation	.816	.052	.722	45.668	.013

a. Dependent Variable: revenue collection efficiency

Source: Researcher (2020)

From Table 4.219, the study findings revealed that automation had significant influence on revenue collection efficiency of County Government of Nandi government (t-statistic=13.055, p-value=0.013 < 0.05). Therefore at 5% level of significance the null hypothesis was rejected, indicating that automation had significant relationship with revenue collection efficiency of County Government of Nandi government. Thus, for every unit increase in automation there was a corresponding increase on revenue collection efficiency of County Government of Nandi government by 0.816.

These findings are in agreement with Karimi, Maina, & Kinyua, (2017) who noted that technology adoption is key in improving the efficiency and effectiveness in revenue mobilization. No doubt, the traditional kinds of paper forms always will be an essential part of the revenue collection system. Through technology adoption, a tax collection agency will be able to meet their revenue collection targets, as there will be less tax avoidance and evasions. Technology in the tax framework falls under the Public Administration part and its target is to enhance the productivity and viability both at national and local level. Electronic revenue collection in developing countries has gained increasing prominence in the policy debate recently.

Amin, (2013) also supports this findings by noting that all Sectors of the County should put in place an effective and efficient revenue collection system in monitoring framework that ensures adequate supervision of the budgeted programs and project activities to enhance accountability and absorption of resources Automation of revenue collection systems and structures is instrumental in improving and simplifying administration of taxation through utilizing modern technologies for example ICT.

4.8 Influence of internal controls on revenue collection efficiency

This section will focus on internal controls on revenue collection efficiency of County Government of Nandi government. In the scale of 1-5 (where 1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5 = Strongly agree)

Table 4.20: Descriptive statistics on internal controls

Description	N	SD (%)	D (%)	U (%)	A (%)	SA (%)	Mean	S.D
The county has policy procedures to ensure effective revenue collection	101	2 (2.0)	8 (7.9)	15 (14.9)	56 (55.4)	20 (19.8)	4.10	1.112
The county has automated internal control systems	101	21 (20.8)	15 (14.9)	23 (22.8)	19 (18.8)	23 (22.8)	3.24	1.727
The county internal audit department is proactive in developing internal controls	101	6 (5.9)	5 (5.0)	15 (14.9)	45 (44.6)	30 (29.7)	4.26	1.029
There are sufficient physical controls to control protect from revenue fraud	101	36 (35.6)	2 (2.0)	9 (8.9)	6 (5.9)	48 (47.5)	3.15	1.724
Internal controls are reviewed and changed periodically	101	4 (4.0)	15 (14.9)	20 (19.8)	28 (27.7)	34 (33.7)	4.19	1.129
Internal controls are redundant in number for enhanced protection	101	22 (21.7)	15 (15.2)	39 (38.2)	18 (17.5)	7 (7.4)	3.8	1.352

Source: Researcher (2020)

The findings indicates that 56(55.4%) of the respondent strongly agreed that the county has policy procedures to ensure effective revenue collection, while 23(22.8%) of the respondent strongly agreed that the county has automated internal control system. On the hand, 45(44.6%) of the respondents agreed that the county internal audit department is proactive in developing internal controls, and 48 (47.5%) strongly agreed there are sufficient physical controls to control protect from revenue fraud. Further, 34(33.7%) of the respondents strongly agreed that internal controls are reviewed and changed periodically, while 39(38.2%) were undecided on whether Internal controls are redundant in number for enhanced protection.

The study findings are interpreted to imply that internal controls play an important role in ensuring revenue collection is carried out effectively. Internal control design influences staff attitude towards fraud such that a strong internal control mechanism is deterrence to staff fraud while a weak one exposes the system to fraud and creates opportunity for staff to commit fraud.

4.8.1 Hypothesis on internal controls and revenue collection efficiency

H₀₃: There is no significant effect of internal controls on revenue collection efficiency of County Government of Nandi government.

Table 4.21: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.790 ^a	.624	.623	4.51782

Source: Researcher (2020)

From the study findings in Table 4.21, the value of R-square is 0.624. This implies that, 62.4% of variation of revenue collection efficiency of County Government of Nandi government was explained by internal controls.

Table 4.22: ANOVA test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7634.207	1	7634.207	374.029	.000 ^b
	Residual	4592.410	100	20.411		
	Total	12226.617	101			

a. Dependent Variable: internal controls

b. Predictors: (Constant): revenue collection efficiency

Source: Researcher (2020)

From the findings in Table 4.22, at 0.05 level of significance the ANOVA test indicated that in this model the independent variable namely; internal controls is important in predicting of revenue collection efficiency of County Government of Nandi government as indicated by significance value=0.000 which is less than 0.05 level of significance ($p=0.000 < 0.05$).

Table 4.23: Coefficients of the Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.487	1.428		21.741	.083
Automation	.921	.048	.790	69.340	.000

a. Dependent Variable: revenue collection efficiency

Source: Researcher (2020)

From Table 4.23, the study findings revealed that automation had significant influence on revenue collection efficiency of County Government of Nandi government (t-statistic=19.340, p-value=0.000< 0.05). Therefore at 5% level of significance the null

hypothesis was rejected, indicating that automation had significant relationship with revenue collection efficiency of County Government of Nandi government. Thus, for every unit increase in automation practices there was a corresponding increase on revenue collection efficiency of County Government of Nandi government by 0.921.

These findings are supported by Ndungu (2013) who researched on effects of internal controls on revenue collection by Kenya Revenue Authority and concluded that internal controls played an important role in ensuring effective revenue collection. A study in Nigeria by Ewa and Udoayang (2018) sought to establish the impact of internal control design on banks' ability to investigate staff fraud and staff life style and fraud detection in Nigeria. The study established that Internal control design influences staff attitude towards fraud such that a strong internal control mechanism is deterrence to staff fraud while a weak one exposes the system to fraud and creates opportunity for staff to commit fraud. In addition, the study found out that most Nigerian banks do not pay serious attention to the life style of their staff members and that most staff members are of the view that effective and efficient internal control design could detect employee fraud schemes in the banking sector. The study concluded that effective and efficient internal control system is necessary to stem the malaise in the banking sector.

4.9 Influence of Level of awareness and revenue collection efficiency

This section will focus on internal controls on revenue collection efficiency of County Government of Nandi government. In the scale of 1-5 (where 1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5 = Strongly agree)

Table 4.24: Descriptive statistics on level of awareness

Description	N	SD (%)	D (%)	U (%)	A (%)	SA (%)	Mean	S.D
County residents know they should pay county taxes	101	1 (1.0)	4 (4.0)	18 (17.8)	8 (7.9)	70 (69.3)	4.31	0.914
County residents know the rates of county taxes	101	21 (20.8)	15 (14.9)	23 (22.8)	19 (18.8)	23 (22.8)	3.24	1.927
County residents know how to pay the county rates	101	6 (5.9)	5 (5.0)	15 (14.9)	45 (44.6)	30 (29.7)	4.26	.829
County residents know about county fines when they don't pay taxes	101	2 (2.0)	8 (7.9)	15 (14.9)	56 (55.4)	20 (19.8)	4.10	1.112
County residents know they how much revenue the county needs	101	15 (14.9)	10 (9.9)	31 (30.7)	11 (10.9)	34 (33.7)	3.94	1.324
County residents participate in finance public participations	101	22 (21.7)	15 (15.2)	39 (38.2)	18 (17.5)	7 (7.4)	3.8	1.752
County residents know which county office to visit when they have revenue queries	101	7 (6.9)	15 (14.9)	20 (19.8)	11 (10.9)	48 (47.5)	4.01	1.016

Source: Researcher (2020)

The study findings (Table 4.24) indicates that 70(69.3%) of the respondents strongly agreed that county residents know they should pay county taxes. Though, 23(22.8%) of the respondents strongly agreed that county residents know the rates of county taxes, 21(20.8%) strongly disagreed about it. This showed there are respondents who are not aware of tax rates used by the County. On the other hand, 45(44.6%) of the respondents agreed that county residents know how to pay the county rates, while 56 (55.4%) of the respondents agreed that county residents know about county fines when they don't pay taxes. The findings also noted that 34(33.7%) of the respondents strongly agreed that County residents know they how much revenue the county needs, while 39(38.2%) of the respondents were undecided that County residents participate in finance public participations. Finally 48(47.5%) of the respondents strongly agreed that county residents know which county office to visit when they have revenue queries.

The study findings are interpreted to mean that taxpayer education and incentives to those involved are required so as to enhance the revenue mobilization effort. Attention need to be given on educating the members of the county as well as taxpayers on the rationale, procedures, obligations and responsibilities related to taxes collected by the County Government. An understanding of laws regulations and procedures is also needed to help Government follow them to earn the credibility that tax and fees are administered in a transparent and accountable manner.

4.9.1 Hypothesis test on level of awareness and revenue collection efficiency

H₀₄: There is no significant effect of level of awareness on revenue collection efficiency of County Government of Nandi government.

Table 4.25: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725 ^a	.325	.323	5.84502

Source: Researcher (2020)

From the study findings in Table 4.25, the value of R-square is 0.325. This implies that, 32.5% of variation of There is no significant effect of level of awareness on revenue collection efficiency of County Government of Nandi government was explained by level of awareness.

Table 4.26: ANOVA test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8499.715	1	8499.715	248.790	.046 ^b
	Residual	7686.955	100	34.164		
	Total	16186.670	101			

a. Dependent Variable: revenue collection efficiency

b. Predictors: (Constant): level of awareness

Source: Researcher (2020)

From the findings in Table 4.26, at 0.05 level of significance the ANOVA test indicated that in this model the independent variable namely; level of awareness is important in predicting revenue collection efficiency of County Government of Nandi government as indicated by significance value=0.045 which is less than 0.05 level of significance ($p=0.045 < 0.05$).

Table 4.27: Coefficients of the Model

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	4.602	1.848		22.489	.014
Level of awareness	.372	.062	.725	75.773	.045

a. Dependent Variable: revenue collection efficiency

Source: Researcher (2020)

From Table 4.27, the study findings revealed that level of awareness had significant influence on revenue collection efficiency of County Government of Nandi government (t-statistic=15.773, p-value=0.045 < 0.05). Therefore at 5% level of significance the null hypothesis was rejected, indicating that level of awareness had significant effect on revenue collection efficiency of County Government of Nandi government. Thus, for every unit increase in level of awareness there was a corresponding increase on revenue collection efficiency of County Government of Nandi government by 0.372.

The findings are supported by Silvani (2013) who notes that level of awareness by tax payers would be more effective and efficient if the revenue collection put greater emphasis on assisting taxpayers in meeting their obligations. This is achieved by providing outreach services, technical advice on tax payment obligations and allowing tax payers to file and pay in ways that minimize compliance costs. Though a portion of tax collection costs is incurred by the revenue collection, it is important to note that taxpayers bear a substantial share by virtue of the time and money they spend trying to comprehend the tax laws applicable to them and filing the relevant returns.

4.10 Revenue collection efficiency

In the scale of 1-5 (where 1=not at all, 2=to a little extent, 3=to a moderate extent, 4=to a great extent, 5=to a Very Great Extent)

Table 4.28: Descriptive statistics on revenue collection efficiency

Description	N	Not at all (%)	To a little extent (%)	Moderate (%)	To a great Extent (%)	To very great extent (%)	Mean	S.D
Amount of revenue collected has been on the Rise in FY 2018 as compared to FY 2013	101	1 (1.0)	4 (4.0)	18 (17.8)	54 (53.5)	24 (23.8)	4.25	1.132
Revenue collection payment process takes a short time in FY 2018 as compared to FY 2013	101	8 (7.9)	9 (8.9)	18 (17.8)	39 (38.6)	27 (26.7)	4.02	1.280
Revenue collected meets the needs of the county in the FY 2018 as compared to FY 2013	101	3 (3.0)	23 (22.8)	23 (22.8)	32 (31.7)	20 (19.8)	4.14	1.213
There has been a reduction in fraud in the revenue collection process between the FY 2013-2018	101	3 (3.0)	9 (8.9)	18 (17.8)	46 (45.5)	25 (24.8)	4.06	1.102
The revenue collected exceeds budget in FY 2018 as compared to FY 2013	101	6 (5.9)	5 (5.0)	15 (14.9)	45 (44.6)	30 (29.7)	4.01	1.029

Source: Researcher (2020)

The study findings indicates that 54(53.5%) of the respondents to a great extent agreed that amount of revenue collected has been on the rise in FY 2018 as compared to FY 2013, while 39(38.6%) of the respondents to a great extent agreed that revenue collection payment process takes a short time in FY 2018 as compared to FY 2013. With reference to revenue collected, 32(31.7%) of the respondents to a great extent agreed that revenue collected in the FY 2018 meets the needs of the county as compared to revenue collected in FY 2013. Finally, 45(44.6%) of the respondents to a great extent agreed that the revenue collected exceeds budget in FY 2018 as compared to FY 2013 and 46(45.5%) agreed to a great extent that there has been a reduction in fraud in the revenue collection process between the FY 2013-2018.

4.10.1 Model Summary of Operational Determinants and Revenue Collection

Table 4.29: ANOVA Table

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.673 ^a	.453	.430	.71013		
a. Predictors: (Constant), Public Awareness, Internal Control Systems, Automation, Staff Competence						
b. Dependent Variable: Efficiency of Revenue Collection						
ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.100	4	10.025	19.879	.000 ^b
	Residual	48.412	96	.504		
	Total	88.511	100			
a. Dependent Variable: Efficiency of Revenue Collection						
b. Predictors: (Constant), Public Awareness, Internal Control Systems, Automation, Staff Competence						

Source: Researcher (2020)

In Table 4.29, the findings further established that the linear relationship between efficiency of revenue collection and the four predictor variables; public awareness, internal control systems, automation, staff competence is positive and linear. The coefficient of correlation was 0.673, ($r=0.673$). The coefficient of determination (r^2) was 0.453, and this shows that 45.3% of the variations in the efficiency of revenue collection can be explained by the four predictor variables in the study and the remaining 54.7% of the variations in efficiency of revenue collection is explained by other factors not captured in the model.

The ANOVA test is used to determine whether the model is important in predicting revenue collection efficiency. At 0.05 level of significance the ANOVA test indicated that in this model the independent variables namely; Competence, automation, internal controls, level of awareness were predictors of revenue collection efficiency of County Government of Nandi as indicated by significance value=0.000 which is less than 0.05 level of significance ($p=0.000<0.05$).

Table 4.30: Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	13.29	2.218		15.93	.002
Competence	.211	.065	.229	3.246	.017
Automation	.338	.083	.071	4.089	.001
Internal control systems	.198	.102	.156	1.176	.002
Public awareness	.142	.066	.377	2.515	.028

a. Dependent Variable: efficiency of revenue collection

Source: Researcher (2020)

From the findings in Table 4.30 above; at 5% level of significance, competence is a significant predictor of efficiency of revenue collection in County Government of Nandi where ($p=0.017 < 0.05$). Automation was a significant predictor of efficiency of revenue collection where ($p=0.001 < 0.05$). Internal control systems was a significant predictor of efficiency of revenue collection where ($p=0.002 < 0.05$). Level of awareness was a significant predictor of revenue collection where ($p=0.028 < 0.05$).

Letting Y be revenue collection, X_1 be competence, X_2 be automation, X_3 internal control systems, and X_4 be level of awareness, using the regression coefficients in Table 4.30, we have;

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

$$Y = 13.29 + 0.211 X_1 + 0.338 X_2 + 0.198 X_3 + 0.142 X_4$$

From the equation above when competence is increased by one unit efficiency of revenue collection will increase by 0.211, a unit increase in automation will result to 0.338 increase in efficiency of revenue collection, a unit increase in internal control systems will result in 0.198 increase in efficiency of revenue collection, a unit increase of level of awareness results in 0.012 increase in efficiency of Revenue collection of County Government of Nandi. This shows that for efficiency of revenue collection to be achieved, there should be increase of; competence of staff, automation of revenue collection, improvement of internal controls, and level of awareness amongst the residence of County Government of Nandi.

It was revealed that staff competence had unique significant contribution to the model with $B=.211$, $p=.017$ suggesting that controlling of other variables (Automation, internal control system and Public awareness) in the model, a unit change in staff competence would result to significant change in performance by 21.1% in the same direction. Therefore, for county government of Nandi to realize efficiency in revenue collection, there is need to improve on skills of their revenue collection staff as well as level and adequacy of staff. The results are supported by the work of Maisiba & Atambo, (2016) who notes that Specialized help and training are critical parts of support to tax mobilization in developing nations and they are for all intents and purposes constantly incorporated into aid programs. The findings are also supported by Collins, *et al*, (2016) in whose study revealed that job performance in the tax collection sector and hence collection of revenues was determined directly by extrinsic elements such as fairness of the latest training practices and ability for training.

The coefficient of automation was 0.338, which was significant ($p=.001$) and also positive. When the variance explained by all other variables (staff competence, internal control and Public awareness) in the model is controlled, a unit change in automation would result to change in performance by 33.8% in the same direction. These findings compare favorably with Karimi, Maina, & Kinyua, (2017) who noted that technology adoption is key in improving the efficiency and effectiveness in revenue mobilization. Amin, (2013) also supports these findings by noting that all Sectors of the County should put in place an effective and efficient revenue collection system in monitoring

framework that ensures adequate supervision of the budgeted programs and project activities to enhance accountability and absorption of resources.

Another variable that also had a unique significant contribution to the model was the value for internal control ($B=.198$, $p=.002$). When other variables in the model are controlled (Automation, staff competence and Public awareness), a unit change in internal control would result to significant change in performance by 19.8% in the same direction. The results are supported by Ndungu (2013) who researched on effects of internal controls on revenue collection by Kenya Revenue Authority and concluded that internal controls played an important role in ensuring effective revenue collection. Mwachiro (2013) found that internal controls played a significant role in ensuring successful collection of revenue. The study found that poor internal controls fostered complicity with bribery, loss of income and abuse of income. The study thus concludes that internal controls operate with hiccups, and that the internal controls and income collection in KRA have a major impact.

Lastly, public awareness had also unique significant contribution to the model with $B=0.142$, $p=.028$ implying that when other variables in the model are controlled (Automation, internal control and staff competence) a unit change in public awareness would result to significant change in performance by 14.2% in the same direction. These findings are in agreement with Kariuki (2013) on 'Local Authorities' Revenue Enhancement Strategies Survey' found that political will, changes, taxpayer training and incentives for those affected are required to improve revenue mobilization efforts in a public institution to enhance income collection by local authorities. Mwambingu (2013) found an important impact on the revenues generated by Kenya 's Revenue Authority,

including the implementation of goals , performance reviews, taxpayer education and the knowledge initiative, administrative framework automation, and corporate culture change. Public knowledge is also an important factor in growing the accumulation of profits.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter sought to analyze the summary of the findings based on research objectives, the conclusion and the recommendations of the study.

5.2 Summary of Findings

On revenue staff competence, study findings indicated that a majority (mean=4.01, std = 1.21) of the respondents were of the opinion that the county employed the staff based on their high qualifications, while with a mean =4.25, std =1.132, the respondents the County has provided training on their job description. The respondents opined that there are enough of them working for the revenue department at the county (Mean =4.06, std=1.220) and performance appraisal is done to enhance employee performance (mean=4.01, std=1.120). On the other hand, the respondents neutrally responded that revenue staff are some of the most recognized employees due to their competence (Mean=3.20, std=1.274). And lastly, with a mean=3.71, std=1.318, respondents neutrally accepted that revenue staff have a budget for revenue staff training.

On automation, respondents agreed that they use latest technological hand held systems in revenue collection (mean=4.19, std=0.924) and the County has automated system of revenue collection (mean=4.07, std=1.165). They also agreed that technology for revenue collection is regularly changed (mean=4.13, std=1.021). On the other hand, the respondents neutrally agreed that mobile technology including mobile money is the most

common mode of revenue collection (mean=3.86, std=1.628). And lastly, with a mean of 4.02 and std 1.280, respondents agreed that all documentation given for purposes of revenue acknowledgement including permits is system generated.

Study findings indicated the respondents agreed that the county has policy procedures to ensure effective revenue collection (mean=4.10, Std = 1.112) and the County neutrally has automated internal control systems (mean=3.24, std=1.727). The respondents agreed (mean=4.26, std=1.029) that the county internal audit department is proactive in developing internal controls. On the other hand, the staff neutrally accepted (mean=3.15, std=1.724) that there are sufficient physical controls to control protect from revenue fraud. Though the respondents agreed that internal controls are reviewed and changed periodically (mean=4.19, std=1.129), they neutrally responded that internal controls are redundant in number for enhanced protection (mean=3.8, std=1.352).

With reference to level of awareness, respondents agreed that County residents know they should pay county taxes (mean 4.31, std=0.914) and County residents know how to pay the county rates (Mean=4.26, std=0.829). Respondents neutrally agreed that County residents know the rates of county taxes (mean=3.24, std=1.927) and County residents know they how much revenue the county needs (mean=3.94, std=1.324). Conversely, respondents agreed that County residents know about county fines when they don't pay taxes (mean=4.10, std=1.112) and County residents know which county office to visit when they have revenue queries (mean=4.01, std=1.016).

In summary, with the increase in automation use, increase in internal controls checks, level of awareness, study findings indicated that; amount of revenue collected has been on the rise in FY 2018 as compared to FY 2013 (mean=4.25, std=1.132), Revenue

collection payment process takes a short time in FY 2018 as compared to FY 2013 (mean=4.02, std=1.280), Revenue collected meets the needs of the county in the FY 2018 as compared to FY 2013(mean=4.14, std=1.213), and there has been a reduction in fraud in the revenue collection process between the FY 2013-2018 (mean=4.06, std=1.102).

In all the four operational determinants the study accepted the alternative hypothesis, that is; there is a significant effect of revenue staff competence on revenue collection efficiency of County Government of Nandi government ($p = 0.002$), there is a significant effect of automation on revenue collection efficiency of County Government of Nandi government ($p = 0.013$), there is a significant effect of internal controls on revenue collection efficiency of County Government of Nandi government (0.000) and that there is a significant effect of level of public awareness on revenue collection efficiency of County Government of Nandi government ($p = 0.045$).

5.3 Conclusions of the Study

The study concluded that revenue staff competence is important in revenue collection. Staff ought to be equipped with the necessary skills. Effective training can minimize learning cost; improve individual, team and corporate performance speed and overall productivity, upgrade operational flexibility by extending the range of skills possessed by employees, attract high quality employees by giving them learning and development opportunity. It increases the job knowledge and enhances their skill thus enabling them to be more competent in the collection of the revenue

The study concluded that automation has significant relationship with revenue collection efficiency of Nandi County government. The county has an automated system for

revenue collection for instance mobile technology including mobile money is the most common mode of revenue collection. The computerization of all the processes steps plays an important role in minimizing the errors, standardization of the operational procedures and reducing costs in the revenue collection process.

The study concludes that internal controls play an important role in ensuring revenue collection is carried out effectively. Internal control design influences staff attitude towards fraud such that a strong internal control mechanism is deterrence to staff fraud while a weak one exposes the system to fraud and creates opportunity for staff to commit fraud.

Finally the study concludes that taxpayer education and incentives to those involved are required so as to enhance the revenue mobilization effort. Attention need to be given on educating the members of the county as well as taxpayers on the rationale, procedures, obligations and responsibilities related to taxes collected by the County Government. An understanding of laws regulations and procedures is also needed to help Government follow them to earn the credibility that tax and fees are administered in a transparent and accountable manner.

5.4 Recommendations

The study made the following research recommendations;

1. The human resource department at the county should increase the numbers of revenue staff based on qualifications merit to ensure that they are able to address all issues related to physical revenue collection challenges

2. The ICT department at the county should ensure use latest technological hand held systems in revenue collection, Mobile technology use and County revenue systems should be supported by latest hardware devices
3. The finance department at the county should automate internal control systems, develop sufficient physical controls to control protect from revenue fraud and ensure redundant numbers for enhanced protection.
4. The county should ensure continuous education to the public to ensure that the residents know the need to pay taxes, understand taxation fines and incentives involved to timely payment of taxes.

5.5 Suggestions for Further Research

The researcher recommendations show that research should be carried out on determinants of tax revenue on a yearly basis after the review of National Budget. The reason being there are new reforms that affects tax revenue vary on yearly basis after every budget and mostly carry weight on the tax revenue for the Nation. If study takes longer period it will be absolute. The study period should not be longer than three years because it's the appropriate period for Government Planning. Areas for further studies should be; Determinants of tax revenue in Kenya power company. Determinants of tax revenue in service industries, Determinant of tax revenue in NHIF.

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APPENDICES

APPENDIX I: DATA COLLECTION INTRODUCTORY LETTER

Introductory Letter

I am a master's at Masinde Muliru University of Science and Technology undertaking a course in in business administration (finance), school of business and economics. I am undertaking research study on **Operational Determinants and Revenue Collection Efficiency in County Government of Nandi**. It is therefore my humble request that you accord me assistance by responding to the attached questions on the questionnaire form on surety that any information given will be treated with utmost confidentiality and used purposely for academics. Thank you in advance.

Yours faithfully,

Joyce Jepkoech

APPENDIX II: QUESTIONNAIRE

SECTION A: DEMOGRAPHIC DATA

1. What is your gender: Male Female

2. What is your highest level of education?

Secondary Form Four Certificate Diploma
Graduate Masters PHD

3. What is your age bracket?

i. 18-30 years

ii. Above 30 - 40 years

iii. Above 40 -50 years

iv. Above 50 years

4. How long have you worked for the county?

i. 0-1 years

ii. Above 1- 5 years

iii. Above 5-10years

iv. Above 11 years

5. What is your current position?

SECTION A: SPECIFIC INFORMATION

6. Kindly rate to which you agree with the following statements

Revenue staff competence

	Revenue staff competence	SA	A	U	D	SD
RSC1	I was employed because of my high qualifications					
RSC2	The county has provided training for me on my job description					
RSC3	There are enough of us working for the revenue department at the county					
RSC4	Performance appraisal are done to enhance employee performance					
RSC5	Revenue staff are some of the most recognized employees due to their competence					
RSC6	Revenue staff has a budget for revenue staff training					

Automation

	Automation	SA	A	U	D	SD
A1	We use latest technological hand held systems in revenue collection					
A2	The county has an automated system for revenue collection					
A3	Technology for revenue collection is regularly changed					
A4	Mobile technology including mobile money is the most common mode of revenue collection					
A5	All documentation given for purposes of revenue acknowledgement including permits is system generated					
A6	County revenue systems are supported by latest hardware devices					

Internal Control

	Internal Control	SA	A	U	D	SD
IC1	The county has policy procedures to ensure effective revenue collection					
IC2	The county has automated internal control systems					
IC3	The county internal audit department is proactive in developing internal controls					
IC4	There are sufficient physical controls to control protect from revenue fraud					
IC5	Internal controls are reviewed and changed periodically					
IC6	Internal controls are redundant in number for enhanced protection					

Level of Public awareness

	Level of Public awareness	SA	A	U	D	SD
PA1	County residents know they should pay county taxes					
PA2	County residents know the rates of county taxes					
PA3	County residents know how to pay the county rates					
PA4	County residents know have received education on county rates					
PA5	County residents know about county fines when they don't pay taxes					
PA6	County residents participate in finance public participations					
PA7	County residents know they how much revenue the county needs					
PA8	County residents know which county office to visit when they have revenue queries					

Revenue Collection Efficiency

	Revenue Collection Efficiency	SA	A	U	D	SD
RC1	Amount of revenue collected has been on the Rise					
RC2	Revenue collection payment process takes a short time					
RC3	Revenue collected meets the needs of the county					
RC4	There is no fraud in the revenue collection process					
RC5	The revenue collected exceeds budget					

APPENDIX III: DATA SHEET

	Revenue Collected	Budget Deficit	% Increase / Decrease
2013			
2014			
2015			
2016			
2017			
2018			

APPENDIX IV: FACTOR ANALYSIS (PILOT RESULTS)

Pilot Results

Factor Analysis Results on Revenue Staff Competence

Component Matrix^a		
Component		
	1	Comment
I was employed because of my high qualifications	0.981	Retain
Revenue staff are some of the most recognized employees due to their competence	0.887	Retain
The county has provided training for me on my job description	0.826	Retain
There are enough of us working for the revenue department at the county	0.768	Retain
Performance appraisal are done to enhance employee performance	0.768	Retain
Revenue staff has a budget for revenue staff training	0.727	Retain
Extraction Method: Principal Component Analysis.		
a. 1 components extracted.		

Reliability results for Revenue Staff Competence

Reliability Statisticsfor Revenue Staff Competence	
Cronbach's Alpha	N of Items
0.904	6

Pilot Results on Automation

Component Matrix^a		
Component		
	1	Comment
Mobile technology including mobile money is the most common mode of revenue collection	0.964	Retain
All documentation given for purposes of revenue acknowledgement including permits is system generated	0.909	Retain
Technology for revenue collection is regularly changed	0.9	Retain
We use latest technological hand held systems in revenue collection	0.786	Retain
The county has an automated system for revenue collection	0.595	Retain
County revenue systems are supported by latest hardware devices	0.429	Expunge
Extraction Method: Principal Component Analysis.		
a. 1 components extracted.		

Reliability Results for Automation

Reliability Statistics before Factor Analysis		Reliability Statistics Before and After Factor Analysis	
Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items
0.853	6	0.888	5

Pilot Results on Internal Controls

Rotated Component Matrix^a			
Component			
	1	2	Comment
The county has policy procedures to ensure effective revenue collection	0.927		Retain
There are sufficient physical controls to control protect from revenue fraud	0.868		Retain
Internal controls are redundant in number for enhanced protection	-0.078		Retain
Internal controls are reviewed and changed periodically	0.644		Retain
The county has automated internal control systems	0.570		Retain
The county internal audit department is proactive in developing internal controls		0.651	Retain
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 3 iterations.			

Reliability Results for Internal Control

Reliability Statistics for Internal Control	
Cronbach's Alpha	N of Items
0.867	6

Reliability Results for Public Awareness

Component Matrix^a		
Component		
	1	Comment
County residents know they should pay county taxes	0.945	Retain
County residents know the rates of county taxes	0.861	Retain
County residents know about county fines when they don't pay taxes	0.848	Retain
County residents know they how much revenue the county needs	0.821	Retain
County residents participate in finance public participations	0.814	Retain
County residents know which county office to visit when they have revenue queries	0.742	Retain
County residents know have received education on county rates	0.710	Retain
County residents know how to pay the county rates	0.665	Retain
Extraction Method: Principal Component Analysis.		
a. 1 components extracted.		

Reliability Results for Public Awareness

Reliability Statistics for Public Awareness	
Cronbach's Alpha	N of Items
0.917	8