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Internal Control Initiatives and Revenue Collection Efficiency in the County Government of Nyeri, Kenya: Moderating Role of Information Technology Initiatives

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ABSTRACT: *Public revenue collection is an integral component of fiscal policy and administration in any economy because of its influence on government operations. It is the fuel of every government as it is the main instrument through which government funding is ensured. However, many counties in Kenya including Nyeri County Government have not been meeting their revenue collection targets in the past three years. The purpose of this study was to establish the influence of internal control initiatives on revenue collection efficiency in Nyeri County Government, Kenya. Further, the study sought to determine the moderating role of information technology initiatives on the relationship between internal control initiatives and revenue collection efficiency. The study was anchored on Rational Decision Making Theory and Technology Acceptance Model. A survey design was employed. The target population for this study was 65 senior county officers. Since the target population was fairly small, the study undertook a census study. The study used a self-administered questionnaire with closed-ended questions. The questionnaire was piloted in Nakuru County amongst similar revenue officers. The data collected from the questionnaires was analyzed using both descriptive (means and standard deviations) and inferential statistics (correlation and regression) with the aid of the Statistical Package for Social Sciences (SPSS). The results of the survey were presented in tables. The study established internal control initiatives ($r=0.612^{**}$) and information technology initiatives ($r=.678^{**}$) all positively correlated with revenue collection efficiency. The study further established an R-square of 0.375 implied that internal control initiatives explained 37.5 of variation in revenue collection efficiency. Furthermore, the overall model was found to be statistically significant ($F = 28.807$, $p=.000$). Furthermore, information technology initiatives were found to have a moderating role on the relationship between internal control and revenue collection efficiency. The study concluded that internal control initiatives and information technology initiatives were significant predictors of revenue collection efficiency. The study recommended the enhancement of these initiatives so as to build on the growth of revenue collection efficiency attained so far.*

KEYWORDS: *Revenue Collection Efficiency, Information Technology, Internal Control*

I. INTRODUCTION

Public revenue collection plays an important role in fiscal policy and administration in any economy because of it directly influences government operations. It is the fuel of every government as it is the main instrument through which government funding is ensured. According to Fishlow and Friedman (2014), revenue collection should comply with best practices of equity, ability to pay, economic efficiency, convenience and certainty. Interest in enhancing revenue mobilization in developing countries is increasing day by day. Most developing countries such as Kenya are emerging from the COVID crisis with serious financial challenges but the need to raise more revenue from their own revenue bases. Furthermore, these financing gaps have directly affected service delivery among county governments. For good governance and effective delivery of service, county governments require sufficient and reliable sources of revenue and the Constitution of Kenya 2010 provides a framework for county funding through own revenue. Scholarly interest in revenue mobilization enhancement in developing countries has been increasing day by day. Most of these countries are emerging from the crisis with their fiscal prospects broadly intact, but with many still facing a fundamental need to raise more revenue from their own revenue bases (Mitullah &Kiura, 2014). Therefore, enhancing of revenue collection performance will ensure that counties collect all the projected revenue and thereby increasing the revenue collection performance. As Fishlow and Friedman (2014) note, revenue collection should comply with best practices of equity, ability to pay, economic efficiency, convenience and certainty. Furthermore, for a government to match its performance with the needs and expectations of its citizens, it should increase its fiscal depth without incurring costly recurring overheads. For good governance and effective delivery of service, county governments require sufficient and reliable sources of revenue and the Constitution of Kenya 2010 provides a framework for county funding through own revenue.

Globally, numerous studies have investigated the concept of revenue collection. For example, De Vries, Bekkers and Tummers (2016) investigated automation of revenue collection in the US and found that the adoption of technology on online receipting process has showed a positive impact on organization performance in developed countries. Compared to the traditional receipting process, an online receipting is a value added service that allows a reliable online communication between the sender and the recipients. Another study by Nielsen (2016) on innovative business strategies; innovation is seen as an outcome of a collision between technological opportunities and user needs. Innovation does not only mean inventing. Innovation can mean changing your business model and adapting to changes in the environment to deliver better products or services. Successful innovation should be an in-built part of a business strategy, where a firm create a culture of innovation and lead the way in innovative thinking and creative problem solving. Innovation can increase the likelihood of your business succeeding. Businesses that innovate create more efficient work processes and have better productivity and performance. They noted that employing innovative strategies leads to enhanced business performance.

Across the region, various studies have investigated revenue collection with diverse findings. For example, in South Africa, Dare, Du Plessis and Jansen (2019) in their study on tax revenue mobilization noted that tax revenue plays an integral role in the fiscal space to ensure the provision of public goods and services. They assert that it is a major source of public revenue for most countries including South Africa since it is also a finance redistribution initiative. Hence, an efficient tax system is a precursor for inclusive and sustainable growth. However, they note that while taxes are crucial to mobilize public revenue, they generally place a burden on taxpayers. The study reported that even though efforts to improve tax compliance are mounting, the extent of taxpayers' non-compliance and the nature thereof remain fairly unknown in many developing countries. In Ethiopia, Mesele, Patnaik and Ipseeta (2019) in their study on revenue collection efficiency concluded that the factors concerned with weak revenue collection efficiency and administration in local government authorities were, low revenue collection efficiency level, weak administration system, the effect of tax evasion and weak enforcement mechanism. Therefore, the study recommended for the local government authorities to improve the revenue collection and administration efficiency by ensuring all eligible tax payers file returns, have tax education programs, register and upgrade individual business, audit, and receivable administer them fairly and manage the associated risk, enforcement existing law and in this Local government authorities must produce an enforcement procedure and practice manual.

Locally, a number of studies have attempted to investigate revenue collection performance. For example, Gituma (2017) carried out a study on the determinants of effective revenue collection by Embu County, Kenya and found that that government policy, rules and regulations had the greatest effect on the optimal revenue collection, followed by corruption, then employee qualification, skills; training while technology; information systems had the least effect to the optimal revenue collection. The study recommended that the counties undertake continuous periodical training of all existing staff to ensure that all employees are in line with the county vision and work within acceptable standards. In addressing revenue deficits needs the study recommended legislative reforms to reinforce the rule of law in order to enhance the revenue collection process by considering optimum rate structure, appropriate rules; regulations and human capacity. Similarly, Adenya and Muturi (2017) undertook a study on factors affecting revenue collection efficiency by county governments in Kenya with a focus on Kiambu County and found that revenue collection personnel capacity, technology, internal controls, and enforcement of laws significantly influenced revenue collection efficiency. The study concluded that there were sufficient revenue collection personnel with skills relevant to their tasks, in order to cover a wider revenue collection base. The technology used was only limited to capture transactions after revenue collection thus was not efficient for capturing individual records and transactions. The internal controls involved submission of revenue collected as per the rules as well as auditing the records which helps secure the revenue collected. However, their study noted that enforcement of laws is not strong and lack adequate external support from law enforcement agencies.

II. STATEMENT OF THE PROBLEM

County governments are expected to collect their own revenue to mitigate between the difference in allocation of revenue from the National Government and their own budget. However, many counties in Kenya including Nyeri County Government have not been meeting their revenue collection targets in the past three years. According to various Auditor General's Report, in the financial year 2018/2019, the county collected 108 million against a target of 200 million representing a 46% shortfall. Similarly, in the financial year 2019/2020, the county collected 85 million against a target of 200 million representing a 57.5% shortfall. In the last financial year 2020/2021, the county collected 98 million against a target of 220 million representing a 55.5% shortfall. These shortfalls in revenue collection directly affect budgeted programs by the county and thus hamper service delivery. In order to enhance their revenue, Nyeri County Government developed various initiative to enhance revenue collection including enhanced enforcement through legislating and empowering revenue collection personnel, capacity building to enhance human resource efficiency, increased automation of revenue collection, enhancing internal control systems, enhancing public awareness and diversifying revenue sources. These strategic initiatives were geared toward enhancing revenue collection efficiency which would translate into enhanced service delivery. However, there is little or no evidence that the influence of some of these strategic initiatives on revenue collection efficiency in Nyeri County government, Kenya has been investigated. The present study seeks to fill this knowledge gap.

III. OBJECTIVES OF THE STUDY

The main objective of the study was to establish the influence of internal strategic initiatives on revenue collection efficiency in Nyeri County Government, Kenya. The study specifically sought:

(i) To evaluate the influence of internal control initiatives on revenue collection efficiency in Nyeri County Government, Kenya.
(ii) To examine the moderating role of information technology initiatives on the relationship between internal strategic initiatives and revenue collection efficiency in Nyeri County Government, Kenya.

IV. THEORETICAL REVIEW

The present study was anchored on Rational Decision Making Theory and The Technology Acceptance Model.

4.1 Rational Decision Making Theory

The rational decision making theory provides a structured and sequenced approach to decision making. Rational decision making is a method for systematically selecting among possible choices that is based on reason and facts. In a rational decision making process, a business manager will often employ a series of analytical steps to review relevant facts, observations and possible outcomes before choosing a particular course of action. Rational decision making is a multi-step process, from problem identification through solution, for making logically sound decisions (Grune-Yanoff, 2012). A study to establish the relationship between individual and collective rationality found that rational managers will decide in favor of organizations and institutions that serve their respective individual interests, with competition among individuals also evident in this process. According to Grayling (2011), a good rationale must be independent of emotions, personal feelings or any kind of instincts. Any process of evaluation, that may be called rational, is expected to be highly objective, logical and mechanical. If these minimum requirements are not satisfied that is if a person has been, even slightly, influenced by personal emotions, feelings, instincts or culturally specific, moral codes and norms, then the analysis may be termed irrational, due to the injection of subjective bias. Rational decision making models involve a cognitive process where each ach step follows in a logical order from the one before. Cognitive, means it is based on thinking through and weighing up the alternatives to come up with the best potential result (Spohn, 2002). The present study therefore borrowed heavily from the rational decision making model since senior managers in county governments in Kenya are bound to make important decisions concerning development, resource utilization and governance.

4.2 The Technology Acceptance Model

This theory was developed by Davis in 1989. This is an information systems model that prototypes how users come to accept and use a technology. According to Benbasat and Barki (2014), the model proposes that when users are offered a new technology, a number of aspects influence their choice about how and when they will use it, remarkably, seeming use and apparent usefulness. The model states that the apparent usefulness is the degree to which a person considers that a particular system would improve his or her work performance. The theory defined apparent ease-of-use as the extent to which a person trusts that using a particular method would be free of physical and mental effort. It can thus be suggested that use of information technologies such mobile payments, and internet payments would lead to efficient revenue collection if the users trust these systems. According to Zaineldeen, Hongbo, Koffi and Hassan (2020) the Technology Acceptance Model (TAM) consists of different variables: attitude towards behavior, behavioral intention, actual system use, perceived usefulness as well as perceived ease of use. Therefore, actual system usage is affected by behavioral intention, which is impacted by an equal attitude towards behavior and perceived usefulness. Attitude towards behavior is straightly impacted by perceived ease of use in addition to perceived usefulness of the related technology. Alambaigi and Ahangari(2016) noted that TAM principally relies on two factors; perceived usefulness in addition to perceived ease of use; and to inspect peoples' beliefs in addition to attitude toward the technology approval. Thus county staff would be expected to effectively adopt new technologies if these variables are internalized. Criticisms of TAM include that it is doubtful heuristic value, narrow explanatory and prognostic power, inconsequence, and lack of any real value. Chang, Hajiyev and Su (2017) suggested that TAM Model has diverted researchers' consideration away from other important research matters and has shaped an impression of progress in knowledge growth.

V. EMPIRICAL REVIEW

5.1 Internal Control Initiatives and Revenue Collection Efficiency

Studies have also reported diverse findings on internal controls in different contextual settings. For example, Cherono, Nyangau and Akuku (2020) sought to establish the effects of internal control systems on revenue collection performance in Uasin Gishu County, Kenya. The study adopted explanatory research design and targeted all the 108 staff of Uasin Gishu County attached to the finance/accounts and revenue collections departments. A sample of 94 respondents was selected using stratified random sampling and questionnaires were used to collect data. The study findings indicated that control environment, risk assessment, monitoring activities and control activities had a positive significant effect on revenue collection. The study however focused only on internal control systems and did not investigate the influence of other initiatives on revenue collection efficiency. Njagi and Mwangi (2019) investigated the effect of internal control practices adopted by Kiambu County Level Five Hospitals on revenue collection. The study utilized descriptive research design and targeted 3 level five hospitals in the county. Data was collected using structured questionnaires. The descriptive analysis indicated a decreasing trend in revenue collected by level five hospitals in Kiambu County since 2013 except in 2015 when there was a slight increase which was followed by a decline in 2016. The study found that environment of controls, internal audit function and risk assessment significantly influenced revenue collection. The study however focused only on internal control practices and did not investigate the influence of other initiatives on revenue collection efficiency.

Cheruiyot, Namusonge and Sakwa (2018) sought to examine the effect of internal control practices on performance of county governments in Kenya. The study targeted top 10 counties in terms of revenue collection and used a descriptive research design. The study used purposive sampling to access the sample and questionnaires were used to collect data. The study found that internal control practices such as control activities, control environment and internal audits had significant effect on performance of county governments. The study concluded that those counties that had invested in effective internal control systems had more improved performance compared to those counties that had a weak internal control system. The study however focused only on internal control practices and performance did not investigate the influence of other initiatives on revenue collection efficiency. Lerno (2016) sought to establish impact of internal control practices on performance in county governments in Kenya. The study was a descriptive research design and targeted 47 county administrators in the 47 counties in Kenya. Primary data was obtained through questionnaires. The findings indicated that counties had adopted internal control practices but the adoption of such practices had not fully led to improvement of performance in these counties. Furthermore, the study established that adoption of internal control practices had not led to an increase in collection of levies, enhanced recognition of county accounting processes nor led to an improved level of performance. The study however focused only on internal control practices and performance did not investigate the influence of other initiatives on revenue collection efficiency.

5.2 Information Technology Initiatives and Revenue Collection Efficiency

Studies have also investigated information technology and its link to revenue collection. For example, Nyangito, Momanyi and Omari (2022) sought to determine the influence of modern technology on organizational performance in Nairobi City County, Kenya. The study adopted a descriptive research design and targeted 819 staff comprising chief officers, directors, accountants and revenue officers. A sample of 382 was used through both stratified random sampling and simple random sampling and data was collected using questionnaires. The findings indicated that training had a positive and significant effect in organizational performance. The study concluded that technology contribute significantly to the organizational performance. The study however focused only on modern technology and did not seek to assess the effects of other initiatives on revenue collection efficiency. Sechero and Otinga (2020) investigated the influence automation of revenue collection, revenue mapping, financial partnerships and revenue legislation on revenue generation in Busia county government, Kenya. The study used descriptive research design and targeted 103 staff in the county. A sample of 82 respondents was drawn using proportional sampling and structured questionnaires were used to collect data. Their findings indicated that automated revenue collections, revenue mapping, financial partnerships and revenue legislations significantly influence revenue generation. The study however focused only on automation and did not seek to investigate the influence of other initiatives on revenue collection efficiency.

Njeri, Mukulu and Waititu (2018) sought to determine the effect of innovation on performance of county governments in Kenya. Their study employed a correlational research design and targeted a sample of seven counties. Questionnaire was used to collect data. The findings revealed that innovation significantly influenced performance of counties. The study concluded that the counties should improve on planning in order to enhance the benefit of planning on their performance. The study revealed that counties are handling innovation obstacles through the integrated systems which are enhancing efficiency in planning, budgeting, procurement, expenditure management and reporting. The study however focused only on automation and did not seek to investigate the influence of other initiatives on revenue collection efficiency. Owino (2017) assessed the influence of automation of revenue collection process on organizational performance of Nairobi County, Kenya. The study employed a descriptive survey research and targeted 13 top level managers, 41 middle level managers and 102 low level managers. Stratified proportionate random sampling technique was used to select the sample of 111 respondents and semi-structured questionnaire were used to collect data. The study concluded that online billing, automation of revenue collection, online payment and online responses significantly influenced organizational performance. The study however focused only on automation and its influence on performance and did not investigate the influence of other initiatives such as human capital, internal control and revenue diversification on revenue collection efficiency.

5.3 Research Gaps

From the reviewed studies (Cherono *et al.*, 2020; Njagi & Mwangi, 2019; Cheruiyot *et al.*, 2018; Lerno, 2016), it is reported that internal control such as control environment, risk assessment, monitoring activities and control activities positive affected revenue collection. Furthermore, studies (Nyangito *et al.*, 2022; Sechero & Otinga, 2020; Njeri *et al.*, 2018; Owino, 2017) have also investigated innovation and its link to revenue collection and found that innovation and the related technologies significantly influenced various performance measures. However, there is no evidence in literature that have simultaneously investigated the moderating role of information technology initiatives on the relationship between internal control initiatives and revenue collection efficiency in county governments in Kenya. This study seeks to fill this research gap.

VI. RESEARCH METHODOLOGY

The study employed a descriptive research design using quantitative approaches. The design is appropriate as survey design entails the collection of data on more than one case and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables, which are then examined to detect patterns of association (Bryman, 2016). The target population of the study comprised all chief officers, directors and deputy directors of the various county government departments totaling 65 individuals. The target population was chosen as the said individuals develop, implement, monitor and appraise all county revenue collection processes. Since the target population is fairly small, a census survey was undertaken. Purposive sampling was then used in targeting the said county staff in each of the county departments. This study used questionnaires in collecting data from the target group. The questionnaire was used to collect data because it is straight forward and less time consuming for both the researcher and the respondents and it enables reaching a representative number of respondents with ease (Bryman, 2016). Pilot testing was thus done on 7 individuals (10% of target population) who are in managerial positions within the County Government of Nakuru, Kenya. Before commencing data collection, the researcher sought a research permit from the National Council of Science, Technology and Innovation (NACOSTI) as legally required to all researchers conducting studies in Kenya. Upon receipt of the research permit, the researcher sought permission from the County Government of Nyeri after outlining to the relevant authorities the objectives of the current research. The researcher then administered the questionnaires to the individual population members within the County Government of Nyeri, Kenya. Before embarking on data analysis, the researcher carried out data cleaning to ensure unfilled or incorrectly filled questionnaires are identified and isolated. The collected data was analyzed quantitatively by first coding and then analyzing them using Statistical Package for Social Science (SPSS). Before analysis, the data was tested ascertain it meets the various assumptions of Ordinary Least Squares (OLS). Specifically, tests for linearity, normality, multicollinearity and homoscedasticity were carried out.

VII. RESEARCH FINDINGS AND DISCUSSIONS

The researcher issued 65 questionnaires, of which 52 were returned. However, of the returned questionnaires, 2 were incorrectly filled and were thus not used in the final analysis. Therefore, 50 were correctly filled and were used for analysis representing a response rate of 76.9%. Majority of the respondents (52%) were male while the female were 48%. This was attributed to counties being equal opportunity employers to all genders on senior management levels where qualification and experience are considered more. Majority of the respondents were of the age group 45-55 years (76%) while the least age group were of the age group 36-45 years (4%). Cumulatively, 96% of the respondents were aged above 45 years. The study attributed the trend to the general of absorption of mature individuals to senior positions in the county government system. Majority of the respondents (70%) had a masters degree level qualification. Furthermore, 98% of the respondents had at least a university degree. This trend was attributed to the professionalization of most sectors in Kenya and the increase in advancement opportunities across the counties. Majority of the respondents (74%) had between 5-10 years working experience. All the respondents had at least 5 years of work experience. The fact that all respondents had sufficient work experience implied that they were knowledgeable on revenue collection issues in the county.

7.1 Internal Control Initiatives and Revenue Collection Efficiency

The descriptive findings on propositions on internal control initiatives and revenue collection efficiency are shown in Table 1.

Table 1: Internal Control Initiatives and Revenue Collection Efficiency

	SD	D	N	A	SA	Mean	StdDev
Our county has a well-staffed internal audit department that appraises revenue collection	0 (0%)	0 (0%)	3 (6%)	16 (32%)	31 (62%)	4.56	.611
Internal audit appraises the various weaknesses which are the appropriately addressed	0 (0%)	0 (0%)	8 (16%)	34 (68%)	8 (16%)	4.00	.571
We have a robust reporting system that links all relevant stakeholders	0 (0%)	0 (0%)	7 (14%)	35 (70%)	8 (16%)	4.02	.553
Timely feedback on revenue collection challenges are often given to all staff	0 (0%)	0 (0%)	13 (26%)	27 (54%)	10 (20%)	3.94	.682
Our county has accountable procedures for all employees whose roles are well defined	0 (0%)	1 (2%)	9 (18%)	28 (56%)	12 (24%)	4.02	.714
We have free access to all accounting information necessary for effective revenue collection	0 (0%)	0 (0%)	18 (36%)	21 (42%)	11 (22%)	3.86	.756
Internal control initiatives play a significant role in enhancing revenue collection in our county	0 (0%)	1 (2%)	11 (22%)	24 (48%)	14 (28%)	4.02	.769

From the findings, majority of the respondents (94%) agreed that their county had a well-staffed internal audit department that appraised revenue collection. Further, 84% agreed that internal audit appraised the various weaknesses which were the appropriately addressed. The findings on internal audit department executing its mandate on revenue collection issues implied that the collection process was a transparent and accountable. Similarly, 86% agreed that they had a robust reporting system that linked all relevant stakeholders. Further, 74% agreed that timely feedback on revenue collection challenges were often given to all staff. The findings on reporting system and the sharing of feedback implied that counties have robust systems that address real-time challenges. Similarly, 80% agreed that their county had accountable procedures for all employees whose roles were well defined while 2% disagreed. Further, 64% agreed that they had free access to all accounting information necessary for effective revenue collection. Finally, majority (76%) agreed that internal control initiatives played a significant role in enhancing revenue collection while only 2% disagreed. The study further undertook an analysis of the means of the responses and established that all were in agreement towards the positive influence of internal control initiatives on revenue collection efficiency. The findings agree with those of Cherono, Nyangau and Akuku (2020) who sought to establish the effects of internal control systems on revenue collection performance in Uasin Gishu County, Kenya and found that control environment, risk assessment, monitoring activities and control activities had a positive significant effect on revenue collection. Similar findings were reported by Cheruiyot, Namusonge and Sakwa (2018) who sought to examine the effect of internal control practices on performance of county governments in Kenya and found that internal control practices such as control activities, control environment and internal audits had significant effect on performance.

7.2 Information Technology Initiatives and Revenue Collection Efficiency

The descriptive findings on various propositions on innovative technology initiatives and revenue collection efficiency are shown in Table 2.

Table 2: Information Technology Initiatives and Revenue Collection Efficiency

	SD	D	N	A	SA	Mean	StdDev
Our county has adopted mobile phone payments as a way of enhancing revenue collection	0 (0%)	0 (0%)	5 (10%)	21 (42%)	24 (48%)	4.38	.667
Mobile phone payments have enhanced our capacity to collect revenues	0 (0%)	0 (0%)	3 (6%)	32 (64%)	15 (30%)	4.24	.555
We have also adopted e-based payments where individuals pay through the internet	0 (0%)	0 (0%)	9 (18%)	24 (48%)	17 (34%)	4.16	.710
Use of information technologies has reduced our staff workloads in revenue collection	0 (0%)	1 (2%)	4 (8%)	33 (66%)	12 (24%)	4.12	.627
Adoption of information technologies has enhanced our revenue collection	0 (0%)	1 (2%)	11 (22%)	22 (44%)	16 (32%)	4.06	.793
Use of information technologies has widened the scope of our revenue collection agents	0 (0%)	0 (0%)	13 (26%)	22 (44%)	15 (30%)	4.04	.755

From Table 2, majority of the respondents (90%) agreed that their county had adopted mobile phone payments as a way of enhancing revenue collection. Similarly, 94% agreed that mobile phone payments had enhanced their capacity to collect revenues. It can thus be suggested that mobile phone payments play a critical role in enhancing revenue collection. Further, 82% agreed that they had adopted e-based payments where individuals pay through the internet. Similarly, 90% agreed that use of information technologies had reduced their staff workloads in revenue collection while only 2% disagreed. The finding suggests that use of information technologies lessens workloads, eases work processes and reduces staff duties which enhance their performance. Further, 76% agreed that adoption of information technologies had enhanced their revenue collection while only 2% disagreed. Finally, 74% agreed that use of information technologies had widened the scope of their revenue collection agents. It can be suggested that use of information technologies has not only widened revenue scope not only for counties but also for the national government as it has widened the revenue scope and enhanced new revenue sources. The study further undertook an analysis of the means of the responses which showed a general agreement to the propositions thus the study deduced a positive influence of information technologies on revenue collection efficiency. The findings concur with those of Sechero and Otinga (2020) who investigated the influence automation of revenue collection, revenue mapping, financial partnerships and revenue legislation on revenue generation in Busia county government, Kenya and found that automated revenue collections, revenue mapping, financial partnerships and revenue legislations significantly influence revenue generation. Similar findings were reported by Nyangito, Momanyi and Omari (2022) who sought to determine the influence of modern technology on organizational performance in Nairobi City County, Kenya and found that technology contributed significantly to the organizational performance of the county.

7.3 Revenue Collection Efficiency

The findings on the measurement of the propositions on the dependent variable; revenue collection efficiency are shown in Table 3.

Table 3: Measurement of Revenue Collection Efficiency

	SD	D	N	A	SA	Mean	StdDev
Collected revenues in our county have increased in the past few years	0 (0%)	0 (0%)	3 (6%)	30 (60%)	17 (34%)	4.28	.573
We have reduced defaults in payments related to county revenues in the past few years	0 (0%)	1 (2%)	7 (14%)	30 (60%)	12 (24%)	4.06	.682
There has been increased timely payments of revenues due to the county	0 (0%)	0 (0%)	13 (26%)	31 (62%)	6 (12%)	3.86	.606
We have had minimum budgetary deficits arising from our enhanced revenue collection	0 (0%)	0 (0%)	11 (22%)	19 (38%)	20 (40%)	4.18	.774
Our revenue staff have met their revenue targets in the past few years	0 (0%)	0 (0%)	3 (6%)	33 (66%)	14 (28%)	4.22	.545
Our revenue collection capacity as a county has also increased in the past few years	0 (0%)	0 (0%)	13 (26%)	27 (54%)	10 (20%)	3.94	.682
Our revenue collection systems are operating optimally thus enhancing revenue collection	0 (0%)	0 (0%)	10 (20%)	36 (72%)	4 (8%)	3.88	.521

From the findings, 94% agreed that collected revenues in their county had increased in the past few years. Similarly, 84% agreed that they had reduced defaults in payments related to county revenues in the past few years while only 2% disagreed. Furthermore, 84% agreed that there had been increased timely payments of revenues due to the county. Similarly, 78% agreed that they had minimum budgetary deficits arising from their enhanced revenue collection. Further, 94% agreed that their revenue staff had met their revenue targets in the past few years. Similarly, 74% agreed that their revenue collection capacity as a county had also increased in the past few years. Finally, 80% agreed that their revenue collection systems were operating optimally thus enhancing revenue collection. Further, the study analyzed the means of the responses on revenue collection and established that majority tended towards an agreement on all the propositions on revenue collection efficiency.

VIII. CORRELATION ANALYSIS

Before undertaking correlation analysis, the responses on the propositions related to each variable were cumulated to obtain a composite score. The composite scores were then correlated to determine the strength and direction of the relationship between each independent variable and the dependent variable.

8.1 Internal Control Initiatives and Revenue Collection Efficiency

This section presents correlation analysis findings on internal control initiatives and revenue collection efficiency as shown in Table 4.

Table 4: Internal Control Initiatives and Revenue Collection Efficiency

		Revenue Collection Efficiency
Internal Control Initiatives	Pearson Correlation	.612**
	Sig. (2-tailed)	.000
	N	50

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

From the correlation analysis in Table 4, it was established that there was a strong positive correlation between internal control initiatives and revenue collection efficiency (r=0.612**, p=.000). The strong and positive correlation implied that higher levels of revenue collection efficiency can be attained with efficient and effective deployment internal control initiatives. The findings agree with those of Cherono *et al.*, (2020) who found that control environment, risk assessment, monitoring activities and control activities had a positive significant effect on revenue collection. Similar findings were reported by Cheruiyot *et al.*, (2018) who found that internal control practices such as control activities, control environment and internal audits had significant effect on performance of county governments.

8.2 Information Technology Initiatives and Revenue Collection Efficiency

The correlation analysis findings between innovative technology initiatives and revenue collection efficiency are shown in Table 5.

Table 5: Information Technology Initiatives and Revenue Collection Efficiency

		Revenue Collection Efficiency
Information Technology Initiatives	Pearson Correlation	.678**
	Sig. (2-tailed)	.000
	N	50

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

From Table 5, it was established that there was a strong positive correlation between information technology initiatives and revenue collection efficiency (r=.678*, p=.000). The strong positive correlation implied that higher levels of revenue collection efficiency can be achieved depending on how well counties deploy their information technology initiatives. The findings concur with those of Sechero and Otinga (2020) who found that automated revenue collections, revenue mapping, financial partnerships and revenue legislations positively correlated with revenue generation. Similar findings were reported by Nyangito *et al.,* (2022) who found that technology correlated significantly county performance.

IX. REGRESSION ANALYSIS

Regression analysis is usually used to estimate the average relationship between a dependent variable and one or more predictor variables and it aids establishing the individual and combined effect of the independent variables on the dependent variable. Since the collected data met all the regression assumptions, regression analysis was undertaken and the results are presented in the tables below.

Table 6: Model Summary for Linear Regression on Internal Control Initiatives

R	R Square	Adjusted R Square	Std. Error of the Estimate
.612[a]	.375	.362	.25576

Table 7: ANOVA for Linear Regression on Internal Control Initiatives

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.884	1	1.884	28.807	.000[b]
Residual	3.140	48	.065		
Total	5.024	49			

Table 8: Regression Coefficients for Linear Regression on Internal Control Initiatives

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.660	.449		3.699	.001
Internal Control Initiatives	.591	.110	.612	5.397	.000

From the findings, it was established that the R-square of 0.375 implied that internal control initiatives explained 37.5 of variation in revenue collection efficiency. Furthermore, the overall model was found to be statistically significant (F = 28.807, p=.000). Thus, the null hypothesis that stated: $\mathbf{H_{03}}$: Internal control initiatives have no significant influence on revenue collection efficiency in Nyeri County Government, Kenya was rejected (t = 5.397, p=.000<.05) and the study concluded that internal control initiatives significantly influences revenue collection efficiency.

X. MODERATING EFFECT OF INFORMATION TECHNOLOGY INITIATIVES

The study further sought to test the hypothesis: $\mathbf{H_{04}}$: Information technology initiatives have no significant influence on the relationship between internal strategic initiatives and revenue collection efficiency in Nyeri County Government, Kenya. The moderated regression analysis findings are shown in Table 9, Table 10 and Table 11.

Table 9: Moderated Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.375	.362	.25576
2	.738[b]	.544	.525	.22077

a. Predictors: (Constant), Internal Control Initiatives
b. Predictors: (Constant), Internal Control Initiatives , Information Technology Initiatives

From the findings in Table 9, since the R-square change (0.169), the null hypothesis was rejected and the study concluded that information technology initiatives moderates the relationship between internal strategic initiatives and revenue collection efficiency. The ANOVA findings are presented in Table 10.

Table 10: ANOVA for Moderated Regression

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	1.884	1	1.884	28.807	.000[b]
	Residual	3.140	48	.065		
	Total	5.024	49			
2	Regression	2.733	2	1.367	28.038	.000[c]
	Residual	2.291	47	.049		
	Total	5.024	49			

a. Dependent Variable: Revenue Collection Efficiency
b. Predictors: (Constant), Internal Control Initiatives
c. Predictors: (Constant), Internal Control Initiatives , Information Technology Initiatives

From the findings in Table 10, the F-statistic change (.769) was relatively small however the moderated model (F = 28.038, p=.000) was statistically significant. The regression coefficients are shown in Table 11.

Table 11: Regression Coefficients for the Moderated Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.660	.449		3.699	.001
	ICI	.591	.110	.612	5.367	.000
2	(Constant)	1.108	.409		2.707	.009
	ICI	.334	.113	.346	2.950	.005
	ITI	.383	.092	.490	4.173	.000

From the coefficients in Table 11, internal control initiatives (t=5.367, p=.000<.05) is significant in Model 1. With the introduction of the moderator, both internal control initiatives (t=2.950, p=.005<.05) and information technology initiatives (t=4.173, p=.000<.05) are significant in Model 2, thus both are significant predictors of revenue collection efficiency.

XI. CONCLUSIONS

On internal control initiatives, the study concluded that counties had a well-staffed internal audit department that appraised revenue collection and that internal audit appraised the various weaknesses which were appropriately addressed. The study also concluded that counties had a robust reporting system that linked all relevant stakeholders and that timely feedback on revenue collection challenges were often given to all staff. It was also concluded counties had accountable procedures for all employees whose roles were well defined and that county employees had free access to all accounting information necessary for effective revenue collection. Therefore, the study also concluded that internal control initiatives played a significant role in enhancing revenue collection. On information technology initiatives, the study concluded that counties had adopted mobile phone payments as a way of enhancing revenue collection and that the mobile phone payments had enhanced their capacity to collect revenues. It was also concluded that counties had adopted e-based payments where individuals pay through the internet and that use of information technologies had reduced their staff workloads in revenue collection and its adoption had enhanced revenue collection. Similarly, it was concluded that use of information technologies had widened the scope of their revenue collection agents. The study therefore concluded that information technology initiatives influenced revenue collection efficiency. The study recommends the institutionalization of control not only in the audit department but also in all departments so as to ensure internal controls are anchored across all departments. The study also recommends enhanced use of technology in county processes so as to enhance service delivery, lessen revenue collection costs and reduce financial misappropriation as it enhances accountability, reduces customer complaints and allows for controls in real-time.

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