



INFORMATION COMMUNICATION TECHNOLOGIES AND PERFORMANCE OF REVENUE COLLECTION IN UASIN GISHU COUNTY, KENYA

¹ Kirui Serah Chepkoech, ² Dr. Mose Thomas, phd

¹ Masters Student, School of Business and Entrepreneurship, Jomo Kenyatta University of Agriculture and Technology, Kenya

² Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

ABSTRACT

Information Communication Technology (ICT) has come to be an essential integral component in revenue collection in the world today. The performance of revenue collection in Uasin Gishu County has faced numerous challenges that have raised concerns about the efficiency of revenue collection. This research aimed at establishing the role of ICT in performance of revenue collection in Uasin Gishu County Government. Specifically, the study focused on assessing the influence of ICT infrastructure and ICT technical capacity on performance of revenue collection in Uasin Gishu County. The study employed descriptive survey design. The target populations of this study were 250 employees of the four department of the Uasin Gishu County. Stratified random sampling technique was used to select a sample size of 153 respondents from the departments in Uasin Gishu County. A questionnaire was used to gather primary data from the respondents. The information gathered from the completed questionnaires was compiled, coded, tabulated, and reviewed for any mistakes or omissions. To present the results, frequency tables, percentages, and means was used. The Statistical Package for Social Science (SPSS) version 28.0 program was used to process the questionnaire responses and analyze the data. Key findings derived from the analysis of the data that was collected and recommendations for action and or further research was made. The results of the multiple regression analysis revealed that for every use of ICT infrastructures in revenue collection there is an increase in revenue collection by 0.368 units ($\beta = 0.368$, $P = 0.000$). Also results showed that in every adaptation of ICT technical capacity of there is an increase in the revenue collection in Uasin Gishu County by 0.555-unit currencies ($\beta = 0.555$, $P = 0.000$). Results indicate that ICT has greatly improved the performance of revenue collection in Uasin Gishu County, Kenya. The conclusions drawn from these findings underscore the importance of Information Communication and Technologies (ICTs) in performance of revenue collection. Building upon these conclusions, there is need for often update of ICT infrastructures to preserve optimal accessibility features and functioning while keeping up with the ever-changing tech world. It's also crucial for the county government to invest in focused ICT technical capability. Implementing these suggestions can increase revenue collection performance, opening up countless opportunities to enhance countywide service delivery.

Keywords: ICT, ICT infrastructure, ICT technical capacity, performance of revenue collection

Background

Revenue collection is one of the main sources of funding for all governments. A government or other legal body may impose financial charges and other levies on businesses and individuals. The Ataro group (2016) a tax is any contribution imposed by government; it is not a voluntary payment or donation, but an enforced contribution exacted in accordance with legislative authority" (Akrani, 2010; Ngugi, 2016). According to Tetteh (2012), the level of revenue collected is determined by the type of revenue collection systems in place. Awitta (2010) and Gachanja (2012) noted that the lack of commitment and supervision in automated revenue collections hinder the achievement of effective revenue collection.

Until 1998, Kenya relied on manual systems for revenue collection until the emergence of IT in public service provision (Moyi & Ronge, 2006). Uasin Gishu County replaced its manual revenue collection system with an ICT system. In Kenya, many government agencies have adopted ICT systems for revenue collection and monitoring to ensure effective administration of revenue (Amin, 2013). This automation has brought about efficiency and consistency in revenue collection. Institutions worldwide set revenue targets either monthly or annually, and the success of achieving these targets depends on the efficiency and effectiveness of the organization's revenue collection system (Kamolo, 2009). Consolidating tax collection functions reduces redundancy, increases collections significantly, and standardizes the collection process (KRA, 2016). Governments, as suggested by Moore (2004) and Isaac and Lilian (2010), need to increase their fiscal depth without incurring costly recurring overheads (Marti, Wanjohi, Magutu, & Mokoro, 2010). ICT systems have the potential to enhance revenue collection levels for governments, resulting in higher revenue amounts (Maisiba & Atambo, 2016). This, in turn, supports and sustains government projects, leading to poverty reduction and wealth creation.

Statement of the problem

The performance of revenue collection in Uasin Gishu County has faced numerous challenges that have raised concerns about the efficiency of revenue collection. One of the major challenges is the lack of adequate ICT infrastructure and systems to support revenue collection (Kemei, 2018). For instance, the manual revenue collection system has been found to be slow and prone to errors, leading to revenue leakages and loss of revenue (Ndemo & Owuor, 2015). Despite efforts to digitize the revenue collection system, some revenue streams, such as parking fees, are still collected manually, leading to inefficiencies and revenue losses (Chepkwony, 2018). The use of ICTs has been found to improve revenue collection in various counties in Kenya. However, despite the implementation of ICT systems, revenue collection targets are still not being met. For example, in the 2019/2020 financial year, Uasin Gishu County collected only 83% of its revenue collection target, indicating a significant gap (Republic of Kenya, 2019). The problem is further compounded by issues such as poor ICT infrastructure, inadequate technical expertise, low levels of public awareness, and limited integration of ICT systems.

Moreover, the low level of compliance among taxpayers has been a major challenge to revenue collection in the county. The public awareness on the importance of paying taxes and fees is low, resulting in low revenue collection. In addition, the COVID-19 pandemic has affected revenue collection from some revenue streams, such as market fees and parking fees, leading to a decline in revenue collections. Another challenge is the inadequate training of revenue collection officials on the use of ICT systems. This has resulted in a lack of technical skills among revenue collection officials, leading to inefficiencies in the revenue collection process. For example, revenue officials may fail to update the revenue collection system promptly, leading to delays in revenue reporting and revenue leakages.

Studies conducted in other counties in Kenya, such as Nairobi and Mombasa, have demonstrated the positive impact of ICTs on revenue collection. The introduction of an online payment system in Nairobi County increased revenue collections by 25% within six months (Otieno, 2020). In Mombasa County, the implementation of an ICT-based revenue collection system resulted in a 37% increase in revenue collections within one year (Masinde & Makau, 2010). These studies demonstrate the potential benefits of ICTs in improving revenue collection in Uasin Gishu County. Lastly, limited integration of ICT systems within different departments in the county has led to a fragmented revenue collection system. For example, the county government may use different ICT systems in various departments, leading to a lack of coordination and efficiency in revenue collection.

As noted by Kemei (2018), a lack of integration of revenue collection systems in Uasin Gishu County has led to a reduction in revenue collection efficiency. In summary, the problem of revenue collection efficiency in Uasin Gishu County despite the implementation of ICT systems is multifaceted. Poor ICT infrastructure, inadequate technical expertise, low levels of public awareness, and limited integration of ICT systems were some of the key factors hindering the effectiveness of ICT systems in revenue collection. Addressing these issues was crucial in improving revenue collection efficiency and achieving revenue collection targets.

Objectives of the study

- i. To establish the role of ICT infrastructure in revenue collection performance in Uasin Gishu County, Kenya
- ii. To establish how ICT technical capacity affect performance of revenue collection in Uasin Gishu county, Kenya

LITERATURE REVIEW

Theoretical review

Systems Theory

Kat and Kahn (1966) were the first who utilized this theory by adapting it to organizational upgrade of needs. This method analyzes organizational needs by mapping the recurring cycles of input, throughput, output, and feedback between an organization and its external environment, and then implement a single system. The systems approach is an external standard that measures effectiveness based on long-term growth or sustainability of any designed ICTs. To achieve these especially in systems upgrade, hardware, software and network is needed towards support of ICT services. Effective systems are characterized by a steady state that systems theorists call homeostasis in order to avoid the static connotations of equilibrium and to bring out the dynamic, processual, potential-maintaining properties of unstable systems (Buckley, 1967). In the context of revenue collection, this theory helped us understand the system and ICT infrastructure laid for revenue collection processes and its sustainability to deliver ICT services.

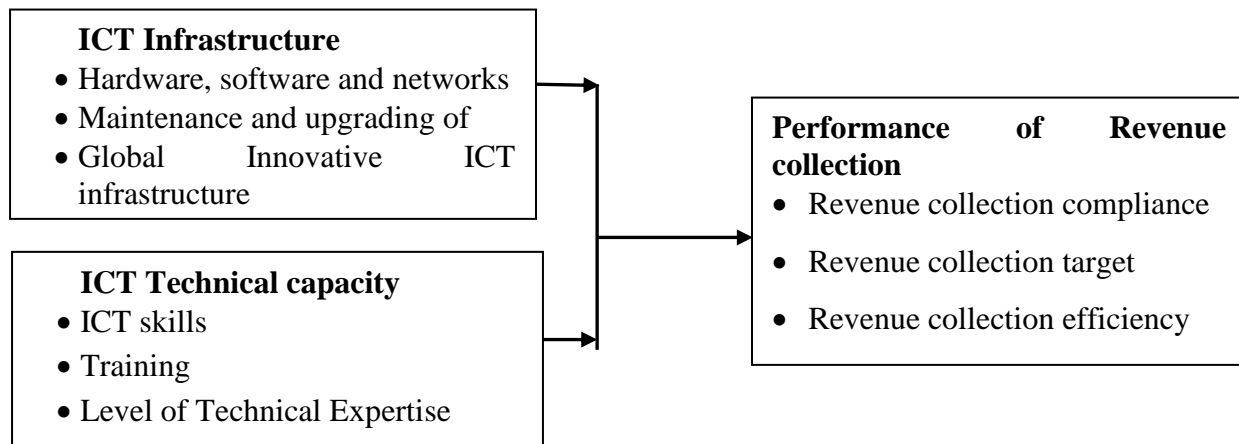
The Technology Acceptance Model

The technology acceptance model is a typical model in information security, according to Bagozzi (2007) (TAM). Adoption studies claim that whether people would accept an innovation as a technology depends on how valuable and usable, they consider it to be. Perceived usability is also influenced by perceived usage simplicity. Both perceived utility and perceived usability are influenced by a variety of external factors, such as system characteristics, organizational influences, and the characteristics of the development process. According to Davis (1989), perceived utility is the degree to which a person believes that using a certain system would enhance the quality of their work, whereas perceived ease of use is the degree to which they believe that

using a particular system would be completely effortless. Performance expectation is a measure of how much someone thinks using a new innovation will make it simpler for them to perform better. The degree to which a person expects it to be easy to use the invention is evaluated by their effort expectancy.

Conceptual framework

Creswell (2014) defines a conceptual framework as a set of assumptions, concepts, values, and practices that constitutes a way of viewing reality. A conceptual framework has been used in this research study to explain the key concepts or variables and the relationships between them. The independent variables are ICT infrastructure and ICT technical capacity. Performance of revenue collection is the dependent variable in the study.



Independent Variables (IV)

Dependent Variables (DV)

ICT Infrastructure

ICT infrastructure encompasses all the devices, hardware and software, networks, protocols and procedures that are employed in the ICT fields to foster interaction amongst different stakeholders. In this study, the availability, accessibility, reliability, ease of use of ICT infrastructure such as Hardware (computers, servers, storage devices, tablets, laptops), software (application Software, Operating Systems, Anti-Virus) and Network infrastructure (LAN, WAN, Routers, Wireless Access) has been determined by the researcher. The study also looked into the frequency of maintenance and upgrading of the existing infrastructure in support of the provision of the revenue collection services to the county.

Global universal innovative ICT infrastructure is a comprehensive network of hardware, software, and telecommunications systems that provide access to the latest technological innovations such as 5G, artificial intelligence, blockchain, and the Internet of Things (IoT), to provide faster, more reliable, and more secure connectivity and advancements to people all over the world. Such an infrastructure enables individuals, businesses, and governments to communicate, collaborate, and conduct transactions seamlessly across borders and cultures. Global universal innovative ICT infrastructure also incorporate advanced data analytics and machine learning capabilities to enable real-time decision making and insights. This study looked into whether the infrastructure has been designed to be accessible to all, regardless of geographical location or economic status, prioritizing inclusivity and diversity, with multilingual interfaces and support for people with disabilities.

ICT Technical capacity

The effectiveness of an organization's revenue collecting system, consumers' use of ICT platforms, and their level of expertise all affect revenue collection success (Mburugu & Gekara, 2016). The

revenue's overall performance is impacted by the clerks' and those who submit revenue through manual methods' lack of knowledge and training (Ndunda et al., 2015). Building and enhancing ICT technical capacity is pivotal for modernizing revenue collection systems. By adopting advanced technologies and innovative solutions, Uasin Gishu County can improve efficiency, enhance compliance, and ultimately increase revenue collection. This study established if the officers in charge of revenue collection have the appropriate ICT skills, training, and technical capacity to carry out day-to-day operations. This included computer literacy rates, proficiency in using financial management software, e-payment adoption rates, frequency and quality of training programs and the ability to use the advanced data analytics tools.

Empirical review

Revenue collection process has been defined as a new technology-based based on ICTs that does not necessitate for tax payers to go to tax authorities to pay their taxes due (Gidisu, 2012). Previous research results show that ICT infrastructure plays a critical positive role on economic growth (Hong, 2017; Salahuddin & Alam, 2016; Pradhan *et al.*, 2015; and Sassi & Goaid, 2013). System is composed of turning in tax declaration forms that defines tax owned to tax authorities in an electronic format and pay taxes due via electronic environments based on Internet. Automation of tax payment was first coined in USA. Australia is among the countries that had implemented the system in the management of their municipalities (Turner *et al.*, 2014). This is achieved in international organizations such as United Nations Conference on Trade, UNDP, Development Gateway of World Bank Group and the World Trade Organization (WTO). These organizations help governments of developing countries by raising awareness about e-commerce, providing policy, consultancy on technology transfer know-how and infrastructural support (Sandmo, 2004).

The business sector may face issues if corrupt tax administration staff are not dealt with, as noted by Baurer (2005). According to Bird (2003), insufficient tax revenues are caused by flaws in revenue collection. The professor claims that ineffective tax administration is an issue for developing nations. The aforementioned issue is linked to a high rate of illiteracy among taxpayers and tax collectors, as well as a shortage of administrative personnel with the necessary abilities. Kayaga (2010) adds that insufficient funds have resulted in the employment of tax authorities who are ignorant of the tax laws they are enforcing as well as the accounting principles necessary for return analysis. The researcher goes on to suggest that a dearth of training resources and opportunities exacerbates the issue of underqualified and inexperienced workers. The effectiveness of an organization's revenue collecting system, consumers' use of ICT platforms, and their level of expertise all affect revenue collection success (Mburugu & Gekara, 2016). Both the people who submit the revenue and those who collect it conspire and engage in corruption. The revenue's overall performance is impacted by the clerks' and those who submit revenue through manual methods' lack of knowledge and training (Ndunda et al., 2015).

RESEARCH METHODOLOGY

The research study utilized a descriptive survey design. The choice of a descriptive survey design is recommended by Kothari (2014) because it enables the production of statistical information that is valuable to policy makers and researchers in the field of education. The study focused on employees of the Uasin Gishu County Government who are specifically assigned to the finance, Planning, ICT and revenue collections departments. The target populations of the study were 250 employees of the four departments of the Uasin Gishu County. Stratified random sampling technique was used to select a sample size of 153 respondents from the departments in Uasin Gishu County. A questionnaire was used to gather primary data from the respondents. The researcher conducted a pilot on the research instruments first with 10% of the respondents from an anticipated sample size of 153 giving a total of 15 respondents. The data gathered from the completed

questionnaires was compiled, coded, tabulated, and fed into the Package for Social Sciences (SPSS) for analysis. Descriptive statistics such as mean, frequencies and percentages were computed from SPSS. Inferential statistical analysis, correlation and multiple regression analysis was also computed using SPSS. The results are presented in the form of tables, pie charts and graphs. Key findings were derived from the analysis of the data collected and recommendations for action and or further research were made.

RESEARCH FINDINGS

The sample size for this study was 153 employees drawn from ICT, Finance, Planning and revenue collection departments in Uasin County. All selected respondents were issued with questionnaires for data collection. Out of the 153 questionnaires distributed, 138 questionnaires were returned resulting in a response rate of 90.2%. Mugenda & Mugenda (2016) state that for analysis and reporting, a response rate of 50% or more is good, a rate of 60% is adequate, and a rate of 70% or above is exceptional. Because the response rate was higher than 70%, it was deemed exceptional and was used for additional reporting and analysis.

Descriptive Data Analysis

In this section, the study presents descriptive statistics analysis based on the data collected for the study. The analysis includes measures such as mean, percentages and standard deviation to describe the data comprehensively. The study requested respondents to indicate the extent to which they agreed or disagreed with various statements that established the role of ICT in performance of revenue collection. They used the scale of 1-5 where 1= Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree

ICT Infrastructure

Respondents were asked to indicate the extent to which they agreed with the statements on the role of ICT infrastructure in the revenue collection performance in Uasin Gishu County. Table 1 presents the findings obtained.

Table 1 Descriptive Statistics on ICT Infrastructure

Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)
The county government has invested heavily on computer hardware, software and internet connectivity to enhance payment of the services they provide to citizens.	39.1	23.9	15.9	21.0	0.0
The county government has realized that ICT infrastructure plays a crucial role in performance of revenue collection in Uasin Gishu county.	31.9	44.2	5.1	10.9	8.0
The county government uses ICT and other systems infrastructure to carry on the business.	34.1	38.4	0.0	21.7	5.8
Our County carries out routine maintenance and upgrading of ICT infrastructure.	46.4	40.6	0.0	13.0	0.0
The county has allocated budget for upgrading of the ICT Infrastructure.	20.3	55.1	0.0	7.2	17.4
Individuals, businesses, and governments can conduct transactions seamlessly globally.	34.8	33.3	0.0	18.8	13.0
The system has multilingual interfaces and can support people with disabilities.	8.00	15.9	10.9	38.4	26.8
Reliable ICT infrastructure improves performance of revenue collection.	39.9	31.2	0.0	5.1	23.9

The findings in Table 1 revealed that 63% of respondents agreed that the county government has invested heavily in computer hardware, software and internet connectivity to enhance payment of

the services they provide to citizens. However, 21.0% disagreed and 15.9% were undecided. Moreover, 76.1% indicated that the county government recognizes that ICT infrastructure plays a crucial role in performance of revenue collection, while 18.9% disagreed. Furthermore, 72.5% confirmed that the county government uses ICT and other systems infrastructure effectively to carry on its business and 27.5% disagreed. Additionally, 87% agreed that the county carries out routine maintenance and upgrading of its ICT infrastructure, while 13.0% disagreed. 75.4% revealed that county has allocated a budget for upgrading ICT infrastructure while 24.6% disagreed. In addition, 68.1% agreed that individuals, businesses, and governments are able to conduct transactions seamlessly on a global scale while 31.8% disagreed. Moreover, 23.9% agreed that the system has multilingual interfaces and can support individuals with disabilities while 65.2% disagreed. This level of disagreement highlights significant concerns about the inclusivity and accessibility features of the ICT system. The implications for the study suggest that there are considerable deficiencies in the system's ability to cater to diverse linguistic needs and accommodate individuals with disabilities. Lastly 68.1% agreed that reliable ICT infrastructure improves performance of revenue collection while 29.0% disagreed. These finding implies that majority reflects a strong consensus on the critical role that dependable ICT Infrastructure play in optimizing revenue collection processes. The results of the study concurred with the findings of (Kirimi et al., 2017), (Githinji et al., 2014) and (Maisiba & Atambo, 2016) who found out that the used of ICT on revenue collection increased the quantity of revenue collection since the ICT system sealed the loop holes of corruptions.

ICT Technical Capacity

Respondents were asked to indicate the extent to which they agree with statements about the relationship between ICT Technical Capacity and performance of revenue collection in county Government of Uasin Gishu. The findings obtained were as presented in Table 2.

Table 2 Descriptive Statistics on ICT Technical Capacity

Statements	Mean	SD
The officers in charge have got ICT skills on the use of the ICT system for revenue collection in the County	3.87	1.001
The officers in charge of revenue collection are able to manage electronic payments made by the clients for the county	3.73	1.386
The officers in charge have the capability to train users on the use of the revenue collection system	3.70	1.181
The officers in charge receive adequate training on the ICT system for revenue collection	3.74	1.441
The officers in charge receive training whenever a new module on revenue collection is introduced into the system	3.43	1.489
Staff Training has enhanced ICT skills on revenue collection system	4.00	1.367
The officers have got technical expertise to troubleshoot hardware, software and network related issues.	3.56	1.404
The officers have got advanced analytics tools for analysis of revenue collection	2.50	0.959
Proficiency in ICT Technical Capacity improve performance in revenue collection in the county	4.46	1.003
Aggregate score	3.67	

Based on the findings in table 2, the respondent agreed that, the officers in charge possess ICT skills necessary for using the ICT system for revenue collection in the County (M =3.87, SD =

1.001), this indicates a general satisfaction with the ICT skills of the officers, as suggested by the high mean and relatively low standard deviation, reflecting same opinions among respondents. For the ability of the officers to manage electronic payments made by clients, (M=3.73, SD =1.386). Regarding the officers' capability to train other users on the revenue collection system (M=3.70, SD = 1.181). This mirrors the previous result, indicating similar satisfaction with training capabilities. On the adequacy of training received by officers on the ICT system, (M=3.74, SD =1.441). The statement about receiving training whenever a new module is introduced into the revenue collection system (M=3.43, SD = 1.489). The perception that staff training has enhanced ICT skills for the revenue collection system (M=4.00, SD = 1.367). Regarding the officers' technical expertise to troubleshoot hardware, software, and network issues, (M=3.56, SD = 1.404). On the availability of advanced analytics tools for analysis of revenue collection (M=2.50, SD = 0.959). This lower mean, combined with a relatively lower standard deviation, indicates the lack of advanced tools for analysis. Finally, that proficiency in ICT technical capacity improves revenue collection performance (M=4.46, SD = 1.373). From study finding the research agrees with (Mburugu & Gekara, 2016) who studied the effectiveness of an organization's revenue collecting system, consumers' use of ICT platforms, and their level of expertise all affect revenue collection success Both the people who submit the revenue and those who collect it conspire and engage in corruption. Also, according to (Ndunda et al., 2015) the revenue's overall performance is impacted by the clerks' and those who submit revenue through manual methods' lack of knowledge and training

Correlation Analysis

The study conducted Pearson moment correlation analysis. Using the correlation coefficient, the study tested whether interdependency existed between the independent variables and also whether there was any relationship between the dependent variable and independent variables and the direction of their relationship. The association was considered to be: small if $\pm 0.1 < r < \pm 0.29$; medium if $\pm 0.3 < r < \pm 0.49$; and strong if $r > \pm 0.5$. The correlation findings were as presented in Table 3

Table 3: Correlation Analyses

		Performance of revenue collection	ICT System	ICT Infrastru cture	ICT Policies	ICT Technical Capacity
Performance revenue collection	of Pearson Correlation Sig. (2-tailed) N	1 138				
ICT infrastructure	Pearson Correlation Sig. (2-tailed) N	.829** .000 138	.031 .720 138	1 138		
ICT technical capacity	Pearson Correlation Sig. (2-tailed) N	.815** .021 138	.315 .000 138	.016 .848 138	.218 .000 138	1 138

** . Correlation is significant at the 0.05 level (2-tailed).

ICT infrastructure and revenue collection performance in the Uasin Gishu County administration are shown to have a good correlation (r=0.829). Additionally, the significant association between the two variables was indicated by the p-value (0.000), which was smaller than the chosen level of significance (0.05). Additionally, it is observed that the performance of revenue collection in the County government of Uasin Gishu has a substantial positive association (r=0.815) with ICT

technical capacity. It can be observed that the relationship's p-value (0.000) is less than the chosen level of significance. From analysis, it shows that majority of the respondents agree that ICTs on revenue collections improves productivity. The results of the study concurred with the findings of (Kirimi et al., 2017), (Githinji et al., 2014) and (Maisiba & Atambo, 2016) who found out that the used of ICT on revenue collection increased the quantity of revenue collection since the ICT system sealed the loop holes of corruptions.

Regression Analysis

The relationship between ICT and the performance of revenue collection in the Uasin Gishu County governance was evaluated using multiple regression analysis. Three tables presenting the results of the regression analysis were examined in the subsections that follow.

Model Summary

The study used model summary in analyzing the variation of the dependent variable due to changes in the independent variables as shown in table 4 The study analyzed the variation in performance of revenue collection in county government of Uasin Gishu as a result of change in ICT system, ICT infrastructure, ICT policies and ICT Technical Capacity

Table 4 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956 ^a	.914	.833	0.56554

a. Predictors: (Constant), performance in revenue collection, ICT system, ICT infrastructure, ICT policies and ICT Technical Capacity

According to Table 4 findings, the R² value was determined to be 0.914, meaning that changes to the ICT system, ICT infrastructure, ICT policies, and ICT technical capacity can account for 91.4% of the variance in revenue collection performance in Uasin Gishu County. The remaining 8.6% indicates that the model may have overlooked some important variables that have an impact on Uasin Gishu County's revenue collecting performance. The correlation coefficient, represented by R, illustrates the link between the variables under study. Based on the findings displayed in Table 4.11, the correlation coefficient value of 0.956 demonstrated a significant and positive relationship between the variables.

Analysis of Variance

To determine whether the data utilized in the study were significant, analysis of variance was performed. If the p-value was less than the chosen significance level of 0.05, the data was deemed eligible for investigation. This was the chosen level of significance. The outcomes were displayed in Table 5

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1621.865	4	405.466	11.432	.000 ^b
	Residual	4717.302	134	35.468		
	Total	6339.167	138			

a. Dependent Variable: Performance in revenue collection

b. Predictors: (Constant) ICT Technical Capacity, ICT policies, ICT infrastructure, ICT system,

The study found a significance value of 0.000 which was less than 0.05 at 95% confidence interval; which is an indication that the data is ideal for making conclusion. The F-critical value, obtained from the F-distribution tables, was less than F-calculated (2.461<11.432). This shows that ICT

system, ICT infrastructure, ICT policies and ICT Technical Capacity significantly influence performance in revenue collection in Uasin Gishu County government.

Beta Coefficients of the Study Variables

Multiple Linear regression model was employed to establish the influence among predictor variables and explain magnitude and course of relationship amongst the variables of the study utilizing coefficient of determination and the level of significance. The beta coefficients were used to illustrate the association between the variables using a model of the structure:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where: - Y_i = Performance of revenue collection; β_0 = Constant (Coefficient of intercept); X_1 = ICT Infrastructure; X_2 = ICT Technical capacity;

Table 6: Beta Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.429	.202		6.379	.000
	ICT infrastructure	0.585	.120	0.368	4.892	.000
	ICT technical capacity	0.671	.142	0.555	4.743	.000

a. Dependent Variable: Performance in revenue collection

The regression equation that was recovered is shown below in light of the findings in 6.

$$Y = 0.429 + 0.585 X_1 + 0.671 X_2$$

According to the aforementioned equation, ICT infrastructure and ICT technical capacity all have a substantial impact on how well the Uasin Gishu County government performs when it comes to revenue collection. With regard to the ICT infrastructure and technical capacity, the Uasin Gishu County government's performance in revenue collection remained consistent at 0.429.

The results demonstrated that ICT infrastructure is thought to be statistically significant in explaining Uasin Gishu County government revenue collection performance, as indicated by ($\beta = 0.368$, $P = 0.000$). Given that the p-value (0.000) is smaller than the chosen level of significance (0.05), the influence is significant. This suggests that the performance of revenue collection in the Uasin Gishu County administration is favorably and considerably influenced by the availability of ICT infrastructure. As a result, the Uasin Gishu county government will perform better in revenue collection by 0.585 units as a result of strengthening ICT infrastructure.

Additionally, the results demonstrate that ICT technical capacity is statistically significant in explaining Uasin Gishu County government revenue collection performance ($\beta = 0.555$, $P = 0.000$). Given that the p-value (0.000) is smaller than the chosen level of significance (0.05), the influence is significant. This suggests that the County government of Uasin Gishu's revenue collection performance is favorably and significantly impacted by ICT technical capacity. As a result, effective ICT technical capacity will result in a 0.671 unit increase in revenue collection performance for the Uasin Gishu County government. The result indicates that ICT technical capacity is key to the improved performance in revenue collection. The study agrees with Rehman, Nor, Taha, and Saad (2021) agreed that information technology capabilities have been shown to significantly affect the performance of businesses. However, King'oo, Kimencu, and Kinyua (2021) showed that IT capability had insignificant effect on organizational performance.

Conclusion

The performance of revenue collection in the Uasin Gishu County administration is favorably and considerably influenced by the availability of ICT infrastructure. As a result, the Uasin Gishu county government will perform better in revenue collection by strengthening ICT infrastructure. Additionally, respondents demonstrated a satisfactory level of awareness and appreciation for ICT infrastructure. To stay up with technological changes, accessibility features and ICT platforms must be continuously evaluated and improved. Furthermore, County government of Uasin Gishu revenue collection performance is favorably and significantly impacted by ICT technical capacity. As a result, effective ICT technical capacity increase in revenue collection performance for the Uasin Gishu County government. The result indicates that ICT technical capacity is key to the improved performance in revenue collection

Recommendation

This study examined how ICT is used by the Uasin Gishu County government to improve the performance of revenue collection. The primary focuses of the study were ICT infrastructure and ICT technical capacity, which served as the foundation for the inquiry. The main goal was to highlight each area's benefits, drawbacks, and room for development so that future plans to improve revenue collection via ICT can be informed. The results showed that participants valued the benefits of accessibility features and had reasonable access to ICT systems. Nonetheless, issues with ICT infrastructure surfaced, necessitating frequent updates to stay up with rapidly advancing technologies. Additionally, the technical ability of ICT appeared to be slightly weak, suggesting the necessity for focused activities aimed at teaching digital skills to the county's workforce. In the end, implementing these suggestions when using ICT can increase revenue collection performance, opening up countless opportunities to enhance countywide service delivery. Counties can catalyze significant change and move countless lives forward along paths of wealth and development by putting ICT at the forefront.

Areas for further research

The study recommends the following areas for additional investigation: A comparable study ought to be carried out to determine the obstacles preventing Kenyan county administrations from using ICT for tax collection. Research should be done to determine the impact of ICT literacy and how it affects county governments' revenue collecting performance.

REFERENCES

- Aizenman, J. (2015). The Eurocrisis: Muddling through, or on the way to a more perfect Euro union?. *Comparative Economic Studies*, 57, 205-221.
- Al-Rahmi, W. M., Alzahrani, A. I., Yahaya, N., Alalwan, N., & Kamin, Y. B. (2020). Digital communication: Information and communication technology (ICT) usage for education sustainability. *Sustainability*, 12(12), 5052.
- Amin, A. (2013). Equity, microeconomics and efficiency effects of revenue policy in Africa. Paper Presented at the Fourth AERC Senior Policy Seminar.
- Atika, G. (2012) *An Investigation of the Effect of Online Services on Revenue Collection*. Retrieved from ir.library.ku.ac.ke/handle.
- Arabadzhy, K., Zharnikova, V. and Sobolieva-Tereshchenko, O. (2021) "Transformation of cashless payments in the European payment card market", *Management and Entrepreneurship: Trends of Development*, 1(15), pp. 8-23. doi: <https://doi.org/10.26661/2522-1566/2021-1/15-01>.
- Awitta, M. (2010). *Effectiveness of Revenue Collection Strategies at Kenya Revenue Authority in Nairobi* (Doctoral dissertation).

- Brun JF., Chambas G., Tapsoba J., Wandaogo AA. (2020) “Are ICT’s boosting tax revenues? Evidence from developing countries”, *Études et Documents*, n°9, CERDI.
- Bahl, R., Smoke, P. & Solomon, D. (2003) *Overview of the Local Government Revenue System* (Chapter 3, pp.71–93), in R. Bahl & P. Smoke (eds) *Restructuring Local Government Finance in Developing Countries. Lessons from South Africa* (Cheltenham: Edward Elgar).
- Bana, W. M., & Mohamed, M. A. S (2010). Effect of Revenue Collection on Growth of Mombasa County. *International Journal of Education and Research* Vol. 6 No. 11 November 2018.
- Buckley, W. (1967). *Sociology and Modern Systems Theory*. Prentice-Hall.
- Bright, E., Vine, S., Wilson, M. R., Masters, R. S. W., & McGrath, J. S. (2012). Face validity, construct validity and training benefits of a virtual reality turp simulator. *International Journal of Surgery*, 10(3), 163–166. <https://doi.org/10.1016/j.ijsu.2012.02.012>
- Connelly, L. M. (2008). Pilot studies. *Medsurg nursing*, 17(6), 411.
- Chado, H.W. (2015). *Effect of Integrated Financial Management Information System on Financial Management on Public Sector in Kenya*. University of Nairobi.
- Chepkwony, K. (2018). *Effects of Internal Controls on Revenue Collection in Kenya Customs Administration*. KESRA/JKUAT - Unpublished research project.
- Cooper, D. R., & Schindler, P. S. (2006). Business research methods: Empirical investigation. *Journal of Service Research*, 1(2), 108-28.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
- Darren, G., & Mallery, P. (2019). *IBM SPSS Statistics 26 Step by Step A Simple Guide and Reference* (16th ed.). Routledge.
- EYGM Ltd (2015). *Integrated Financial Management Information Systems*. EYGM Ltd. United Kingdom.
- Kamolo, J., (2009), *Machakos Automates Tax Collection*, Retrieved from, <http://kenyanewsagency.go.ke>.
- Karimi, H., Maina, K. E., & Kinyua, J. M. (2017). Effect of Technology and Information Systems on Revenue Collection by the County Government of Embu, Kenya. *International Academic Journal of Procurement and Supply Chain Management*, Volume 1, (Issue 5,), 1–26. Retrieved from http://www.iajournals.org/articles/iajpscm_v1_i5_1_26.pdf.
- Kemei., D. (2018). *Effect of Budget Absorption on County Revenue Collection Amongst County Governments in Kenya*. [School of Business & Public Management](https://repository.kcau.ac.ke/handle/123456789/1340) [529] <https://repository.kcau.ac.ke/handle/123456789/1340>.
- Kenya Revenue Authority (2016): “*Statistical Bulletin* (July 2016-June 2016),” KRA, Nairobi, Kenya.
- Kothari, C. R. (2014). *Research Methodology: Methods and Techniques*. New Age
- Maisiba, G. J., & Atambo, W. (2016). Effects of Electronic-Tax System on the Revenue Collection Efficiency of Kenya Revenue Authority: A Case of Uasin Gishu County. *Imperial Journal of Interdisciplinary Research*, 2(4).
- Madegwa, B. L., Makokha, E. N., & Namusonge, G. (2018). Effects of automation of revenue collection on the performance of county government: a case study of Trans Nzoia, county government. Kenya. *European Journal of Business and Management*, 10(11), 118-124.
- Mccluskey, W., Franzsen, R., Kabinga, M., & Kasese, C. (2018). *The Role of Information Communication Technology to Enhance Property Tax Revenue in Africa: A Tale of Four Cities in Three Countries*.
- Mcluhan, M. (1962). *The Gutenberg Galaxy: The making of Typographic Man*. Toronto: University of Toronto Press.
- Moore, M., & Schneider, A. (2004). *Taxation, Governance and Poverty: Where do the Middle Revenue Countries Fit?* IDS Working Paper230. Institute of Development Studies, University of Sussex.
- Moyi, E., & Ronge, E. (2006). *Taxation and Tax Modernisation in Kenya: A Diagnosis of Performance and Options for Further Reform*. Institute of Economic Affairs, 25(3), 29-39.
- Mtasiwa, A. (2013). *The Hindering Factors to Achieve Full Potentiality on Tax Revenue Collection in Tanzania*, A Case of Tanzania Revenue Authority In Temeke Region (PhD Thesis). The Open University of Tanzania.
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research Methods: Qualitative and Method*. Nairobi: Masola Publishers.

- Ndunda, J. (2015). Analysis of factors influencing optimal revenue collection by county governments in Kenya: a case of Nakuru County. *International Journal of Economics, Commerce and Management*. United Kingdom vol. 3, issue 5, May 2015.
- Ngotho, J. & Kerongo, F. (2014), Determinants of Revenue Collection in Developing Countries: Kenya's Tax Collection Perspective, *Journal of Management and Business Administration*, Vol. 1, No. 1, Art.1, 2014
- Ngugi, S. K. (2015). Determinants of Accounts Receivables Management in the Hotel Industry in Kenya (Doctoral dissertation).
- Nyaga, J. N., & Omwenga, D. J. (2016). Factors Influencing Tax Revenue Growth at Kenya Revenue Authority: A Case of Meru County. *International Academic Journal of Economics and Finance*, Volume 2, Issue 1, Pp. 1-15, 2(1), 1–15. Retrieved from http://www.iajournals.org/articles/iajef_v2_i1_1_15.pdf.
- Orodho, A. J. (2003). Essentials of educational and social sciences research Quantitative Approaches. Nairobi: Acts Press.
- Opportunitydesk. (2019). Empirical Study vs. Literature Review. Retrieved September 29, 2020, from <https://opportunitydesk.org/2019/04/15/empirical-study-vs-literaturereview/>
- SID. (2017, March). DevolutionPolicyWorkingPaperwithinlayout.pdf. Retrieved from <https://www.kiambu.go.ke/images/docs/public-notices-andannouncements/4-3-2015-Final-Kiambu-County-strategy-Paper.pdf> (Accessed: 15 May 2016).
- Severine S. A. Kessy. (2020). Electronic Payment and Revenue Collection in Local Government Authorities in Tanzania: Evidence from Kinondoni Municipality. *Tanzania Economic Review*, 9(2).
- Tetteh, E. G. (2012). Automation system procedure of the Ghana Revenue Authority on the Effectiveness of Revenue Collection: A Case Study of Customs Division (Doctoral dissertation). Nairobi, Kenya: University of Nairobi.
- Wanjiru, K. (2014a). *Factors affecting revenue collection in Kenya Revenue authority* (PhD Thesis). United States International University-Africa.