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REVENUE SYSTEMS AUTOMATION AND REVENUE COLLECTION PERFORMANCE OF COUNTY GOVERNMENTS IN KENYA

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INTRODUCTION

Revenue systems automation entails investing in modern technologies such as ameliorating the revenue systems and investing in new technologies for integration and information sharing to enhance the efficiency and effectiveness of the system. Governments and organizations automate revenue collection for efficiency and effectiveness in revenue collection and the Kenyan government is no exception. Kenya has a two-tier government comprising of the National Government and the County Governments. There are 47 county governments which receive a percentage of revenue from national government allocation and are also required to raise local revenue. However, according to the reports by the controller of Budgets, county governments have been struggling to meet the own-source revenue collection targets thus necessitating the need for this study to find out the relationship between revenue systems automation and revenue collection since numerous scholars have in different contexts evaluated the aspects of automation of revenue collection systems as a measure used by governments to maximize revenue collection. The dimension of revenue systems automation is important in explaining the revenue collection performance of county governments in Kenya and it is in this view that this study sought to establish the relationship between revenue system automation and revenue collection performance of county governments in Kenya.

Key words: *Revenue Systems Automation, Revenue Collection*

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Objective of the Study

This study established the relationship between revenue systems automation and revenue collection of county governments in Kenya. The study was guided by the following research hypothesis;

- **Ho_1:** There is no statistically significant relationship between revenue systems automation and revenue collection of county governments in Kenya

LITERATURE REVIEW

Theoretical Review

This study used the Diffusion of Innovation Theory which provided insight into revenue systems automation and revenue collection of County Governments in Kenya. Everett Rogers developed the diffusion of innovation theory in the year 1962. In his theory of diffusion of technology, Rogers (1962) notes that there are different categories of adopters categorized under; the early adopters, the early majority, the late majority and the laggards. This theory is premised on the idea that innovation takes different phases to diffuse or to be adopted by different segments of society (Littlejohn and Foss, 2009). Developed nations have access to more innovations than their developing countries counterparts and social system is one of the factors that contributes to the diffusion of innovations in society. Rogers holds that the well off in society are the ones that gain access to innovations way before the lower social classes can have access to the same.

Innovation itself is also a factor that affects diffusion of technology and it has to be new knowledge that improves on a specific aspect of life with its level of newness determining whether the society will adopt it or not. The second element is the adopters. These are social clusters such as consumers, businesses or governments (Littlejohn and Foss, 2009). When the adopters get wind of an innovation that can improve their lives, it sets in motion the process of diffusion of a new technology. Overall, good innovations diffuse faster than insignificant ones, and social structures have a lot to do with the diffusion of new innovations.

Oyugi (2014) linked diffusion theory to automated services and posits in the study that SACCOs need to adapt new use of automated services. The researcher further asserts that automation tends to be a process that is supposed to be communicated and a good approach taken to succeed as stipulated by the diffusion theory of innovation. Njeru (2017) used the diffusion of innovation theory in a study which found out that automation significantly influenced revenue collection and consequently recommended that the management of the National Transport and Safety Authority (NTSA) Kenya ought to automate services to enhance revenue generation. In this study, diffusion of innovation theory was relevant and was linked to the objective on establishing the relationship between revenue systems automation and revenue collection of county governments in Kenya.

Conceptual Framework

After the literature review, a conceptual framework was developed as presented in the figure below. It conceptualized how the dependent variable which was Revenue Collection Performance of County Governments of Kenya was influenced by the independent variables which was Revenue Systems Automation as presented below;-

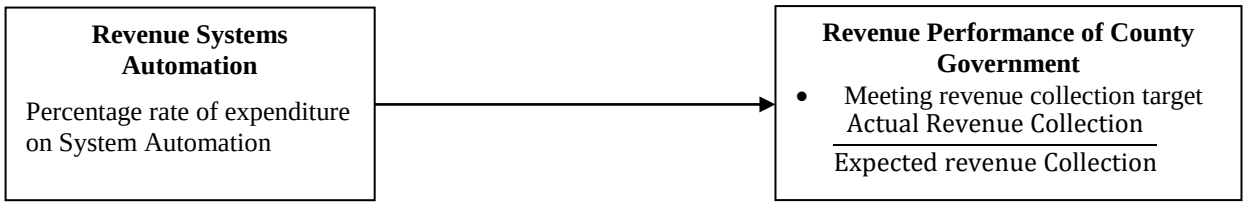

Figure 1: Conceptual Framework

Revenue System Automation and Revenue Collection of County Government in Kenya

With respect to county governments, (Lelei & Ombui, 2018) carried out a study to find out on top other factors, the role of revenue collection methods on the optimal revenue collection. The study revealed that automation of revenue collection process enabled easier monitoring of the revenue collection by the county governments and found a statistically significant relationship linking the automation of revenue collection and the optimal revenue collection of the county government. The study recommended full automation of the revenue collection system to facilitate revenue collection improvement and curb tax evasion cases. Focusing on innovations in revenue collection, (Owino, Senaji, & Ntara, 2017), found that online receipting process, online billing process, online payment process and the online response was responsible for 87.7% of variation in the county government's performance level and recommended proper online communication as a supportive element of online revenue collection process with a focus of improving efficiency of the revenue collection in the county government. (Henry & Bogonko, 2018) conducted a study that aimed at investigating the role of revenue collection system automation in improving the amount of revenue collected by the county Government of Nakuru. The study established that revenue systems automation improved the accuracy of revenue collection, the number of people paying taxes increased, monitoring of revenue was enhanced and there was timely recording of revenue. The study thereafter concluded that there was a statistically significant relationship linking automation of revenue collection and efficiency of the revenue collection process.

In Nigerian context, (Egwali & Otokiti, 2018) conducted a research study that sought to examine the influence of revenue collection automated systems on efficiency of revenue collection by Edo State and revealed that automating the revenue collection systems by having taxpayers 'database increased the level of tax compliance in the local governments since the governments were able to identify the tax paying citizens. The study further revealed that automation of revenue collection enabled daily data collection with regard to revenues which reduced cases of fraud. (Egwali & Otokiti, 2018) also established that the implementation of automated revenue collection system enabled revenue declarations by customers at their own comfort and this increased the level of compliance to taxation laws. The study recommended automation of customer feedback in matters regarding revenues to improve compliance levels.

Focusing on the transport sector in Tanzania, (Rweshobora, 2017) conducted a study aimed at examining the effect of revenue collection automation on the revenue collected in mini-bus terminus. The study established that automation of revenue collection in transport sector in Tanzania has diverse advantages including a reduction of fraud cases and reduction of time taken to collect revenues in bus terminus. The study revealed a statistically significant connection between the use of automated revenue collection and the revenue collection amount.

In Ghana, (Gidisu, 2016) conducted a research study that sought to identify the advantages of revenue collection automation by the revenue collection authority. The study revealed that revenue collection automation process improved the performance of the collection process by the revenue collection authority with a margin of 38%. It was also identified that by automating the revenue collection, the revenue collection authority was able to increase the level of revenue collection by 50%. (Gidisu, 2016) further revealed that

automation of revenue collection improved revenue monitoring with margin of 12%. However, the study revealed that through the automation process, there was a loss of data and that most revenue collectors did not have competencies needed in the use of the technology. With respect to this, the study recommended training staff in using the technological innovations in revenue collection. The use of technology is also considered more efficient compared to the manual revenue collection system (Kimutai, 2017). Most county governments in Kenya are embracing revenue systems automation. Though Kenyan County Governments are about a decade old, some have adopted revenue systems automation as a means of enhancing revenues and this has consequently resulted to a huge progress in revenue collection. The county government of Kiambu for instance is one of the county governments that embraced technology as a means of enhancing revenue collection evidenced by awards in adoption of information, Technology & Communication (CFSP, 2017).

METHODOLOGY

This study adopted a descriptive research design to find out the relationship between revenue systems automation and revenue collection performance of county governments in Kenya with a target population of all the 47 county governments stipulated in the Kenyan 2010 constitution. Secondary data was used and to test the hypotheses of the research study, the P-value was utilized to give guidance on making the decision on whether to either reject or fail to reject the null hypotheses. When the P-value is ≤ 0.05, the research study's null hypotheses was rejected and the alternate hypotheses failed to be rejected and when P-value was ≥ 0.05, then the study failed to reject the null hypotheses and rejected the alternate hypotheses

FINDINGS

The results presented below formed the basis for discussion on the relationship between the independent variable (revenue systems automation) and the dependent variable, (revenue collection performance of county governments in Kenya).

Revenue Collection Trend Analysis

The research study sought to find out the revenue collection performance of county governments in Kenya from 2013/2014 financial year to 2019/2020 financial year and the results were presented as figure 2 below.

County Governments ability to meet the set Revenue Targets

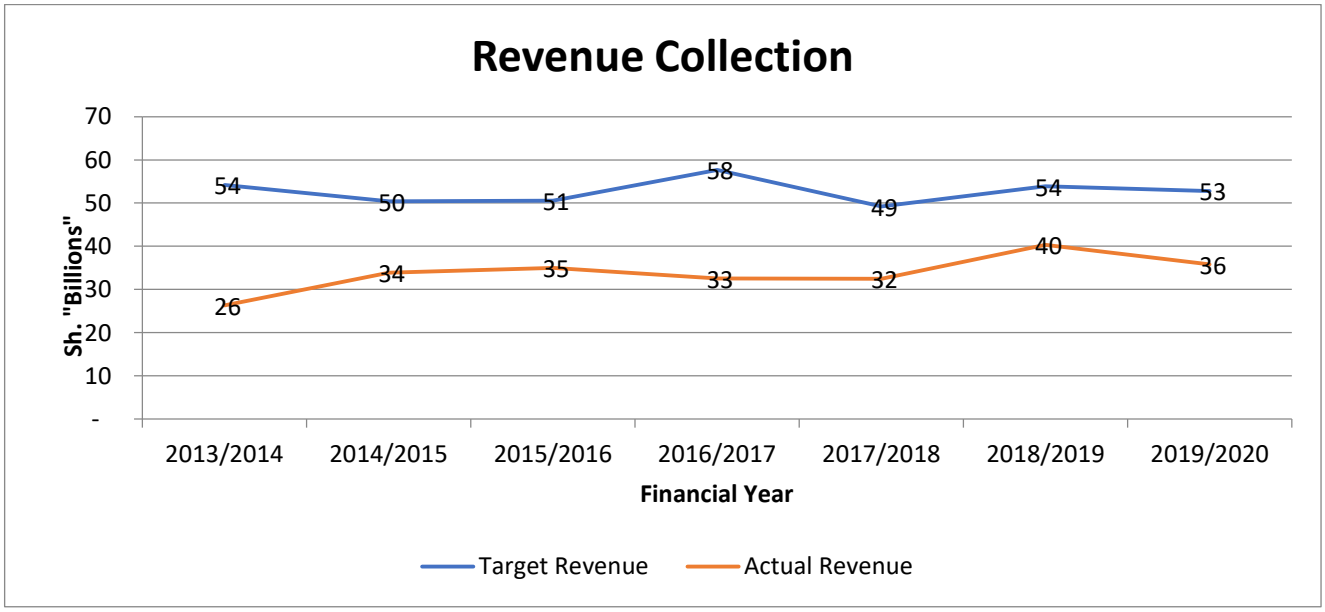

Figure 2: Own source revenue collection Target versus Actual Total Revenue Collection Trend

Figure 2 shows the trend of revenue collection for the county governments over seven financial years. For the period 2013/2014 and 2014/2015 financial year, the trend shows an increase in revenue collection from Ksh.26.3 Billion to Ksh.33.8 Billion in 2014/2015 financial year. This is followed by a further increase in revenue collection to about Ksh.35Billion in 2015/2016 financial year. The trend however indicates a sudden decline from Ksh.35 Billion to Ksh.32.5 Billion in 2016/2017 FY followed by a further decline to 32.5 Billion in 2017/2018 FY.

Figure 4.1 further indicates that overall, the county governments in Kenya have not been able to meet the set revenue targets. The set revenue targets were reduced in 2014/2015 FY from Ksh.54.2 Billion in 2013/2014 FY to 50.4 Billion in 2014/2015 FY but the targets were not met. In 2015/2016 FY, the targets were set to Ksh.50.4 Billion but still the County Governments did not meet the set revenue target. In 2016/2017 FY, the set target was increased to Ksh.57.7 Billion, but still the targets were not met. In the 2017/2018 FY, the target was reduced to Ksh.49.2 Billion but the actual revenue collection slightly reduced from Ksh. 32.52 Billion to Ksh.32.49 Billion in 2017/2018 FY. During the 2018/2019 financial year, county governments generated Sh. 40.3 Billion falling short of the revenue collection target by 25.2%. The actual own source revenue collection later fell from 40.3 Billion to 35.8 Billion in 2019/2020 financial year and in the same period, the revenue collection target fell by 34.8% which was a further decline by 9.6% from 2018/2019 financial year.

Regression between revenue collection and revenue systems automation

The study sought to examine the relationship between revenue systems automation and revenue collection performance of county governments in Kenya. A regression analysis was done and the findings discussed in this section.

Table 1: Model summary of revenue collection and Revenue Systems Automation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.167[a]	.028	.024	.010029264174

a. Predictors: (Constant), Revenue System Automation

b. Dependent Variable: Revenue Collection

As presented in table 1, the coefficient of determination (R Square) is 0.028. This means that 2.8% (R^2) of the total variability in the dependent variable (revenue collection) can be explained by the independent variable (Revenue systems automation).

Table 2: ANOVA Table of Revenue Collection and Revenue Systems Automation

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.001	1	.001	6.701	.010[b]
	Residual	0.023	233	.000		
	Total	0.024	234			

a. Dependent Variable: Revenue Collection

b. Predictors: (Constant), Revenue System Automation

The ANOVA Table 2 indicates that the variability in the dependent variable (Revenue Collection) is because of the influence of Revenue systems automation. This is because the P-value which is ($P \leq 0.010$) was statistically significant because it is less than 0.05 ($P=0.010$). The F-statistics was 6.701 and statistically significant and thus the null hypothesis that revenue systems automation does not have a statistically significant effect on the revenue collection of county governments in Kenya was rejected and the alternative hypothesis was accepted.

Table 3: Coefficients of Revenue Collection and Revenue Systems Automation

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.004	.001		5.011	.000
	Revenue System Automation	.166	.064	.167	2.589	.010

a. Dependent Variable: Revenue Collection

The coefficient table 3 shows that revenue systems automation contributes a positive statistically significant value of 0.166 for every unit increase in the revenue collection of county governments. The model equation is presented as;- $Y=0.004+0.166X_1+\mu$

In summary from the results in tables 1, table 2 and table 3, revenue systems automation had a statistically significant effect on revenue collection of county governments in Kenya. This is explained by $\beta = 0.166$. t = 2.589, P $\leq$ 0.010. Further, revenue system automation also explained a significant portion of revenue collection, R^2 = .028, F = 6.701, $P \leq 0.010$. Thus the regression model connecting revenue systems automation and revenue collection is $Y=0.004+0.166X_1+\mu$. As a result, the null hypothesis H_{01} : There is no significant relationship between revenue system automation and revenue collection was rejected because there is a statistical evidence that revenue systems automation had a relationship on revenue collection of county governments in Kenya.

Summary of Findings

The study found a positive and statistically significant correlation relationship between revenue systems automation and revenue collection performance of county governments of Kenya. The simple regression before moderation show that the effect of revenue system automation was 0.167 meaning that revenue system automation had about 16.7% influence on revenue collection of performance of county governments. The regression model had P-value of 0.01 meaning that it was statistically significant at 0.05 level of significance. This was confirmed by F Statistical Value of 6.701 which was greater than F Critical Value of 3.84. The simple regression after moderation indicate that the influence of revenue system automation was 0.75 meaning that revenue system automation had about 75% influence on revenue collection performance of county governments. The regression model had P-value of 0.00 meaning that it was statistically significant at 0.05 level of significance.

CONCLUSION

Based on the findings, this study concluded that revenue systems automation is key to optimal revenue collection performance in county governments. Automating revenue collection systems has various benefits such as sealing revenue collection loopholes which include and not limited to the reduction of cash handling by rogue revenue collectors and the ease and convenience brought about by better systems. Like many other studies which posit that there are more pros than cons associated to the use of technology, this study concluded that revenue systems automation has a significant relationship to the revenue collection performance of county governments in Kenya and this was evidenced by the positive and significant relationship. The results of this study were analogous to many other results from researchers across the world that made similar conclusions and was evidenced by the regression results which revealed that a positive and significant relationship existed between revenue systems automation and revenue collection performance.

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