International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

Effects of Electronic Tax Collection System on the Performance of Rwanda Revenue Authority

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Abstract: ***This study aimed to show the effects of electronic tax system on the performance of Rwanda revenue authority .Not only that it added value to the extensive literature, but it also contributed more in terms and to examine the tax collection performance by Rwanda Revenue Authority, to examine the efficiency of electronic tax collection system used by Rwanda Revenue Authority, to determine the level of tax compliance by Rwanda Revenue Authority. Research design is descriptive and comparative, a sample of 71 Respondents were drawn from the target population of 250 employees by using Slovan formula, the researcher used SPSS for analysing and questionnaire for data collection and the 4 point scale answers were assigned a number beginning 1–4, where 1 indicated, strongly agree (SA), 2. Agree (A), 3.Disagree (D), 4. Strongly disagree (SD). Encoded data was checked to ensure there will no encoding errors-missing data and outliers. From the findings it revealed that tax collection performance whereby in fiscal year of 2014/2015 was performance at 97.85%, in 2015/2016 tax collection performance stood at 103.95% in 2016/2017 tax collection performance stood at 100.53% and in 2017/2018 tax collection performance stood at102.81%, due to the enforcement that have been done and unplanned tax revenues, tax collection performance boosted after 2014/2015. it revealed that 80.3% of respondents said that electronic tax collection system is efficiency at great extent and 19.7% of respondents said that electronic tax collection system is efficiency at moderate extent.It revealed that 69% of respondents said that tax compliance is at great extent and 31% of respondents said that tax compliance is efficiency at moderate extent. The variation of Spearman Coefficient correlation is between -1 and 1. Spearman Coefficient correlation has significance when it is equal or greater than 0.05. According to the research, the correlation of 0.882 (i.e. 0.882%) is located in the interval [0.75 - 1.00] categorized as positive and very high correlation. This leads to accept that there is a relationship between Electronic tax collection system and tax performance.***

Keywords: Electronic tax system, Tax collection compliance, Electronic tax filling, Electronic tax payment, Electronic Billing Machines

1. Introduction

Electronic tax collection in developing countries has gained increasing prominence in the policy debate recently. For instance Nisar (2013) argued that the recent trends in the public taxation stress the need of developing a system of tax assessment that and collection that involves internet services. Several factors explain this, including the potential benefits of taxation for the state building, independence from foreign aid,the fiscal effects of trade liberalization, the financial and debt crisis in the "West", and the acute financial needs of developing countries. The government in developing countries faces great challenges in collecting tax revenues, which result in a gap between what they could collect and what they actually collect. One of this challenges according (Muriithi, 2011) is the embracing of emerging technologies and tax payment methods that are more efficient so as they can reduce wastage. One of the technologies he argues is electronic tax management system which so far has been embraced by the Rwanda Revenue authority.

2. Statement of the Problem

Electronic tax system was introduced by Rwanda Revenue Authority to increase financial collection, administration , avail services to the tax payers all the time from anywhere , reduce costs of compliance and improve tax compliance. However, tax compliance levels remain low and tax collections are below the targets set by Rwanda Revenue Authority. Despite the increasing need to increase revenue collection and enforcement so as to provide public services, and the introduction of electronic tax systems in the most countries across the global divide, developing countries like Rwanda, still face the challenges of low level tax compliance and tax administration Diamond (2009), argued that online tax systems are rapidly replacing paper-based tax reporting systems. Promising many advantages over traditional method of hard copy tax filing, these system promise faster process, lower costs and increased efficiency.

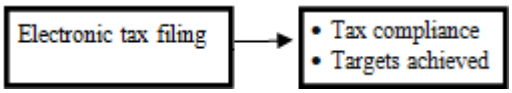
An electronic system for filing and paying taxes, like the one introduced by RRA, if implemented well and used by the most taxpayers, benefits both tax authorities and taxpayers. For tax authorities, electronic filing lightens the workload and reduces operational costs such as the costs of processing, storing and handling tax returns. In the previous Years according its reports, Rwanda Revenue authority has missed its key tax collection targets whereby in the year of 2013/2014 the target of tax collection was 782,400 billion , the realization was 763,425.3 billion in this year the realization I percentage stood at 97.6% while 2.4% which is equal to 18,975 billion was not collected. In year 2014/2015 the target was 878,025.7% billion, the realization 859,026.4 billion the tax collected stood at 97.8% whilst 2.2% which is equal to 18,999 billion was collected. During the period of two years Rwanda Revenue Authority has missed 37,974 billion. This has induced the researcher to identify the challenges that hinder electronic tax performance by Rwanda Authority.

3. Objectives of the Study

The general objective of this study was todetermine the influence of electronic tax collection system on the performance. Its second specific objective was to examine

the efficiency of electronic tax collection system used by Rwanda Revenue Authority.

4. Conceptual Framework



5. Research Methodology

- **Research Design**: The researcher used descriptive research design
- **Target Population:** Population of the study for this research was employees of RRA at headquarter who are amounted to 250 in total.
- **Sample Size**: A sample size of 71 Employees was selected
- **Data Collection tools:** Questionnaires and interviews were used as main data collection instruments and secondary data were used in this study.

6. Summary of Research Findings

6.1 Perceptions of respondents on tax collection efficiency

Table 1: Tax collection performance from 2014 to 2018

Fiscal Year	Target	Actual collections	Performance in percentages
2014/15	8,78,02,56,53,185	8,59,14,18,40,311	97.85
2015/16	9,49,19,52,20,477	9,86,67,22,45,445	103.95
2016/17	10,81,44,49,53,925	10,87,19,52,48,654	100.53
2017/18	12,00,32,55,42,005	12,34,10,61,16,497	102.81

Source: Planning of RRA from 2014 to 2018

The table above shows the tax collection performance of RRA from 2014 to 2018, it revealed that previous years until in 2014/2015 RRA failed the target, due to the enforcement that have been done in tax collection , the performance boosted.

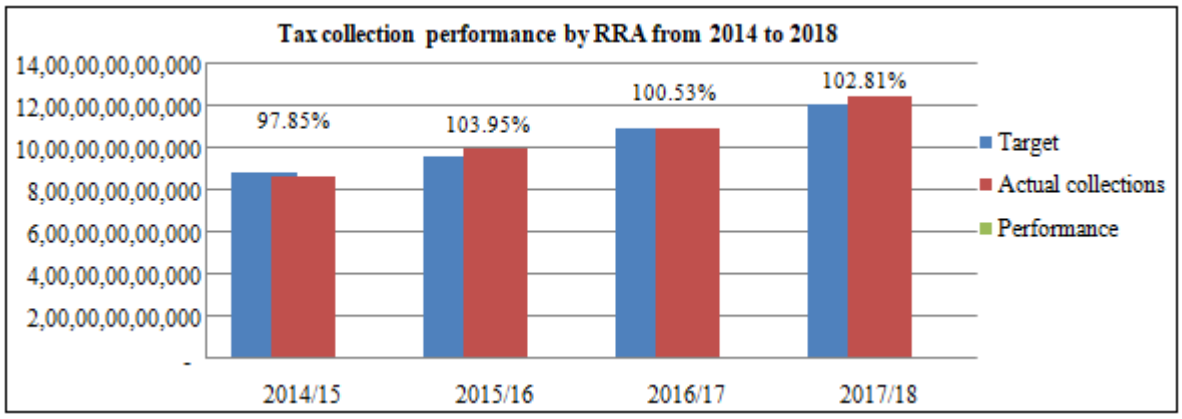


Figure 1: Tax collection performance
Source: Planning of RRA from 2014 to 2018

Figure 1 Shows the tax collection performance whereby in fiscal year of 2014/2015 was performance at 97.85%, in 2015/2016 tax collection performance stood at 103.95% in 2016/2017 tax collection performance stood at 100.53% and in 2017/2018 tax collection performance stood at102.81%, due to the enforcement that have been done and unplanned tax revenues, tax collection performance boosted after 2014/2015.

Table 2: Extent at electronic tax collection system is efficiency

		Frequency	*Percent*
Valid	Great Extent	57	80.3
	Moderate Extent	14	19.7
	Total	71	100.0

Source: Primary data, 2019

The table 2 required to show extent at electronic tax collection system is efficiency, it revealed that 80.3% of respondents said that electronic tax collection system is efficiency at great extent and 19.7% of respondents said that electronic tax collection system is efficiency at moderate extent.

6.2 Inferential Statistics

In determining the relationship between electronic tax collection system on tax performance by RRRA. The study conducted a multiple regression analysis to determine the relationship between the variables. The regression model specification was as follows;

$$Y=\alpha+\beta 1X1 + \beta 2X2 + \beta 3X3 +\varepsilon.$$

Where; Y= Tax Performance
X_1= E-Filing
X_2= E-payment,
X_3=Electronic billing machine.
ε = error term,
β=coefficient of independent variable
α = constant.

This section presents a discussion of the results of the multiple regression analysis. The study conducted a multiple regression analysis to determine effects of electronic tax collection system on tax performance. The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study. The findings are presented in the following tables;

Table 2: Model Summary

Model	R	R square	Adjusted R Square	Std. Error of Estimate
1	.882(a)	.736	.701	.1467

a. Predictors-Filing, E-payment, Electronicbilling machine.
b. Dependent Variable: Tax Performance

The multiple linear regressions were used to examine the cumulative effect E-Filing, E-payment and Electronicbilling machine on tax Performance. The multiple correlation coefficient (R) was positive and of a value of 0.882 indicating that there was a strong and positive correlation between the three independent variables cumulatively and the dependent variable. On the other hand, the coefficient of determination (R Square) indicates the variance on tax compliance attributed to the three independent variables is 0.736 %

Table 4: ANOVA (Analysis of Variance)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.223	2	.223	7.45	.004a
Residual	4.507	3	.296		
Total	**5.73**	**5**			

a. Predictors-Filing, E-payment and Electronicbilling machine.
b. Dependent Variable: Tax Performance

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all 0 against the null hypothesis that = 0 (Weisberg, 2005). From the findings the significance value is .004 which is less that 0.05; thus the model is statistically significance in predicting how E-Filing, E-payment and Electronicbilling machine affect Tax Performance. The F critical at 5% level of significance was 2, 3. Since F calculated (value = 7.45) is greater than the F critical (2,3), this shows that the overall model was significant.

Table 5: Multiple Regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	B	
(Constant)	3.276	0.826		3.61	000
E-Filing	0.678	0.68	0.142	4.56	.0018
E-payment.	0.142	0.164	0.359	8.41	.0008
Electronic billing machine	0.855	0.312	0.218	1.81	.0012

From the regression findings, the substitution of the equation ($Y= \alpha+\beta 1X1 + \beta 2X2+ \beta 3X3++\varepsilon$) becomes:

$Y= 3.276 + 0.678\ X1 + 0.142\ X2 + 0.855X3 + \varepsilon$

Where; Y= is the dependent variable (tax Performance)

X_1=E-Filing X_2= E-payment X_3= Electronicbilling machine, ε = error term, β=coefficient of independent variable α = constant. Tax Performance stands at 3.276 if independent variables were constant. The data findings also show that a unit increase in e-Filing increases in tax performance to a 0.678; a unit increase in e-payment lead to a 0.142increases in tax performance, a unit increase in Electronicbilling machine leads to a 0.855increase in tax performance.

6.3: Correlations analysis

The study sought to establish whether there existed a relationship between electronic tax collection system on tax performance and tax Performance.

Table 6: Correlation between online taxation and tax compliance

			Electronic tax collection system	Tax performance
Spearman's rho	Electronic tax collection system	Correlation Coefficient	1	0.882
		Sig. (2-tailed)	.	0
		N	71	71
	Tax performance	Correlation Coefficient	0.882	1
		Sig. (2-tailed)	0	.
		N	71	71
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Primary data, 2019

[-1.00 - 0.00[: Negative correlation
[0.00 - 0.25 [: Positive and very low correlation
[0.25 - 0.50 [: Positive and low correlation
[0.50 - 0.75 [: Positive and high correlation
[0.75 - 1.00] : Positive and very high correlation

The variation of Spearman Coefficient correlation is between -1 and 1. Spearman Coefficient correlation has significance when it is equal or greater than 0.05. According to the research, the correlation of 0.882 (i.e. 0.882%) is located in the interval [0.75 - 1.00] categorized as positive and very high correlation. This leads to accept that there is a relationship between Electronic tax collection system and tax performance.

Table 7: Reliability Statistics

Cronbach's Alpha	N of Items
.790	36

Source: Primary data, 2019

According to Cronbach's Alpha coefficient the reliability of 36 questions, information given is reliable and acceptable as standards at 79%.

7. Conclusions and Recommendations

7.1 Conclusions

The study project intended to examine the efficiency of electronic tax collection system used by Rwanda Revenue Authority, to identify the challenges of that hinder tax

collection performance by Rwanda Revenue authority, to examine the tax collection performance by Rwanda Revenue Authority. The research design was undertaken in order to acquire new and oriented knowledge to find a solution to the research problem which has been identified at the beginning of this research. Questionnaire was used to collect primary data and SPSS 22 was used for data analysis. The study collected both primary and secondary data. Primary data was collected using questionnaire to collect quantitative and qualitative data. This was used in order to gain a better understanding and possibly enable a better and more insightful interpretation of the results from the study. Secondary data was collected using documentation technique; this refers to technique where any written materials can be used as a source of information about the subject matter.

This technique helped to exploit many written documents related to this topic; in this case, documentation consisted of consulting the legal texts, books, reports, dissertations and internet websites. It revealed that E-filling and electronic billing machine play a great role for boosting the tax collection performance.

7.2 Recommendations

The study determined that E-Filing and electronic billing machine have significant influence on tax collection performance. In the context online E-payment, the study determined that E-payment did not have significant influence tax collection performance. The study recommends that E-payment should be emphasized in order to improve on tax collection performance. On the other side there different challenges that hinder tax collection performance in RRA, among the challenges that are critical are as follows: Advanced tax planning by taxpayers, Insufficiency in training and communication between Taxpayers and RRA, Lack of harmonized tax systems, Less focused training to tax collectors Insufficient RRA means to equip tax collectors with transport means, small Number of tax collectors etc , it is recommended that needful to mitigate those challenges for boosting tax collection.

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