Journal of Economics, Business and Market Research (JEBMR) 2020
SciTech Central Inc., USA Vol. 1 (1)
54-69

EFFECTS OF TAX AUDIT ON REVENUE COLLECTION IN RWANDA

Jean Bosco Harelimana[1]

Institutd'EnseignementSuperieur de Ruhengeri, Musanze, Rwanda.

Blaise Nyabirande

Institutd'EnseignementSuperieur de Ruhengeri, Musanze, Rwanda.

Received 01 April 2020; Accepted 04 May 2020; Published 29 June 2020

ABSTRACT

Taxation is the main source of government revenues in Rwanda. Rwanda's tax revenues have been increasing rapidly due to the country's rapid economic development. Therefore, Government has invested time and money in an integrated online tax filing system for tax administration to improve the efficiency of its tax system. Government started massive tax reforms from the year 2002 through tax modernization programme, tax rates adjustment and modification of tax penalties in its efforts to create a sustainable tax system that could harness adequate tax revenue to finance public expenditures. The purpose of this study was to determine the effects of tax audit on revenue collection in Rwanda. This study adopted a descriptive approach. Data analysis involved statistical computations for correlation and regression analysis. Ordinary least squares (OLS) regression method of analysis was adopted to determine the inferential statistics. The findings revealed that holding Tax administration, tax revenue performance, revenue protection system, tax automation to a constant zero, revenue collection would be at 0.347. A unit increase on Tax administration would lead to increase in revenue collection by a factor of 0.162, a unit increase in revenue protection system would lead to increase in revenue collection by a factor of 0.194 and unit increase in tax automation would lead to increase in revenue collection by a factor of 0.211. Tax audit actually has an effect to revenue collection. This clearly indicates that tax audit increases revenue collection. The study recommends that there is need for a study on how the size of a company influences the auditing as there is variation for various organizations based on the size.

Keywords: Tax audit, Revenue collection

INTRODUCTION

For most developing countries, taxation goes hand-in-hand with economic growth and taxes are lifeblood for governments to deliver essential services and to make long-term investments in public goods (OECD, 2010; Paepe & Dickinson, 2014). Some of the countries in Latin America region that are on a fiscally sustainable path, revenues appear inadequate to fund a socially sustainable level of provision of public services (Ter-Minassian, 2012). The United Nations considers that achieving the Millennium Development Goals (MDGs) requires developing countries to raise at least 20% of their gross domestic product (GDP) in taxes. Several

[1]Correspondence to: Jean Bosco Harelimana, Institutd'EnseignementSuperieur de Ruhengeri, Musanze, Rwanda, E-mail: jbosco.harelimana@gmail.com

Asian and Latin American countries and some of sub-Saharan African countries still mobilize less than 17% of their GDP in tax revenues hence making it difficult to finance public projects (Paepe & Dickinson, 2014).Very low tax to gross domestic product (GDP) ratio is a common characteristic of most of the developing countries (Ter-Minassian, 2012). For example, over the past few years, lower than projected tax revenue has forced the government of Tanzania to cut its ambitious plans which reduced its capacity to finance public projects. Similarly, Despite the fast economic growth of Uganda, its tax to GDP ratio is still low (11% in 1997 to 13% now) (Mwenda M., 2015); and even Kenya the leading country in East-Africa, the tax to GDP ratio is still lower than the East African region ratio target of about 25% (African Economic Outlook, 2015).

Kircher (2008) stated that tax audit is the examination of an individual or organization's tax report by the relevant tax authorities in order to ascertain compliance with applicable tax laws and regulations of state. He further reported that tax audit is a process where the internal revenue service tries to confirm the numbers that you have put on your tax return. Ola (2001) stated that the process of tax audit involves tax returns that are selected for audit using some selection criteria. Thereafter, the underlying books and records of the taxpayers are examined critically to relate them to the tax return filed. Tax audit is important because it assist the government in collecting appropriate tax revenue necessary for budget, maintaining economic and financial order and stability, to ensure that satisfactory returns are submitted by the tax payers, to organize the degree of tax avoidance and tax evasion, to ensure strict compliance with tax laws by tax payers, to improve the degree of voluntary compliance by tax payers and to ensure that the amount due is collected and remitted to government. In more formal usage, revenue is a calculation or estimation of periodic income based on a particular standard accounting practice or the rules established by a government or government agency. Two common accounting methods, cash basis accounting and accrual basis accounting, do not use the same process for measuring revenue. Corporations that offer shares for sale to the public are usually required by law to report revenue based on generally accepted accounting principles or International Financial Reporting Standards.

Government revenue includes all amounts of money (i.e. taxes and/or fees) received from sources outside the government entity. Large governments usually have an agency or department responsible for collecting government revenue from companies and individuals. Government revenue may also include reserve bank currency which is printed. This is recorded as an advance to the retail bank together with a corresponding currency in circulation expense entry, that is, the income derived from the Official Cash rate payable by the retail banks for instruments such as 90-day bills. There is a question as to whether using generic business-based accounting standards can give a fair and acc0urate picture of government accounts, in that with a monetary policy statement to the reserve bank directing a positive inflation rate, the expense provision for the return of currency to the reserve bank is largely symbolic, such that to totally cancel the currency in circulation provision, all currency would have to be returned to the reserve bank and cancelled, (Beekes & Brown, 2008).Tax audit affects revenue collection in that it promotes voluntary compliance of taxpayers which increases revenue. It also determines the accuracy of returns so as to ensure the right taxes are submitted. With tax audit tax liability can be easily declared and matters that need adjustment are identified. It also helps in collecting tax interests and penalties which thereby increase revenue collection. Tax audit also helps to implement changes to eradicate evasion. Thus, tax audit is positively related to Revenue collection.

The low tax to GDP ratio for Rwanda shows that a lot of tax remains uncollected, despite the fact that the government has put in place a number of interventions to increase the ratio and reduce the aid dependency. These measures include Taxpayer education in form of dialogues with stakeholders, seminars, and others to mobilize tax, to reduce tax evasion and to increase tax compliance; and also online facilities like e-filing and e-payment, e-clearance, e-billing machine and online registration were farther introduced to simplify the process of paying taxes, reduce costs, reduce time taken by taxpayers for declaration and payment of tax, and to increase domestic revenue (Kagarama, 2013). Developing countries across the world typically suffer from insufficient supply of internal resources. Despite much effort, many countries fail to raise sufficient revenues to finance the government budgets and to support the development needs of the country. This incapability is a major hindrance for the government's regular operations and for the capacity to accelerate economic growth initiatives (Haque, 2012).

According to the report by Rwanda Auditor general's (2015), the failure to collect all potential revenue, could be linked to Tax Administration system characterized by lack of proper tracking of registered taxpayers for domestic taxes and gaps in existing databases of taxpayers; failure to register some taxpayers and yet RRA was aware of their existence; failure to verify majority of declarations and to follow up taxpayers who had not filed their returns or remained inactive since the time of their tax registration; capacity challenges in tax audits leading to low tax audit coverage and many contested audit results which resulted in reduction in amounts of tax assessed in 145 cases by RRA appeals committee (43% of all contested cases); and weak revenue protection system which is highly dependent on informers instead of generating and reviewing exceptional reports from existing systems to provide more preventive revenue protection strategies.

Low tax to GDP has been linked to poorly administered tax system characterized by low tax audits, complicated tax system and thereby discouraging compliance and contributes to difficulties in raising tax revenues in Latin American region (Aggrey, 2011; Ter-Minassian, 2012). In Nigeria and Zimbabwe, the research findings show that those working in informal sector do not find the need of paying tax whereas it is the largest and growing component in economy and this leads to the revenue loss (Abiola & Asiweh, 2012; Dube, 2014). Could the tax revenue performance in Rwanda be due to the above stated inadequacy in other countries? This research was relevant since sought to establish the relationship between Tax audit and Revenue collection in Rwanda Revenue Authority.

OBJECTIVES

The general objective of the study was to establish the effect of tax audit on revenue collection in Rwanda. The following specific objectives guided the study:

1. To measure the effectiveness of Tax Administration in RRA
2. To determine the level of Tax Revenue Performance of RRA.

To establish the relationship between Tax Administration and Tax Revenue collection of RRA.

LITERATURE REVIEW

There are several theoretical and empirical studies on tax audit and tax compliance. These studies provide mix reactions on the relationship between tax audit and tax compliance. (Alm & McKee, 2006) investigates the application of experimental methods to examine the individual compliance responses to a "certain" probability of audit and conclude that the compliance rate rises if an individual knows he will be audited and the rate falls if he knows he will not be audited. (Slemrod, Blumenthal, & Christian, 2011) examines randomly selected taxpayers and inform them that their filling will be "closely examined' and found evidence of taxpayers' behavior changes in response to an increased probability of audit, although the responses are not uniform among different groups of taxpayers. (Mittone, 2006) investigates that early experience of audits in taxpayers' "tax life" is a more effective way to increase compliance than later audits. Also, (Kastlunger, Kirchler, Mittone & Pitters, 2009) study of experimental research also suggests that, although the effectiveness of audits and fines cannot be completely confirmed, early audits in taxpayers' "tax life" have a positive impact on compliance.

In a study by (Wahyuni, 2013), the data used are 789 firms of observation years during 2000-2010 in Indonesia. From this amount, 291 samples are high profile industry. Consistent with expectation, the results of this study find that (1) auditor specializations are factored into the firm's bond rating by credit rating agencies; (2) auditor specialization is negatively and significantly related to the cost of debt financing; (3) the relation between auditor specialization and the cost of debt financing is most pronounced in a high-profile industry. Overall, their result suggests that auditor specialization matters to bond market investor in Indonesia.

A study conducted by (Dhaliwal et al., 2008) investigated the link between the fees of auditors and the cost of debt, and the impact of the fees on the association between information on the financial statements and the cost of debt. It was found that non-audit fees are related directly to the cost of debt for issuers of investment grade. The findings are dynamic in controlling the tenure of the auditor and corporate governance, and evidence was found that the relation between earnings and the cost of debt declined as audit fees went up. No evidence was found that auditor fees have a direct effect on the cost of debt for the noninvestment-grade companies, but it was discovered that the relation between earnings and the cost of debt declined as non-audit fees went up.

Dennis & Emmanuel, 2014 investigated the impact of taxation on revenue generation in Nigeria: A Study of Federal Capital Territory and Selected States, the study discovered among others that, taxation has a significant contribution to revenue generation and taxation has a significant contribution on Gross Domestic Product (GDP). The researcher therefore recommends among others that Well-Equipped Data Base (WEDB) on all taxpayers should be established by the Federal, State and Local Governments with the aim of identifying all possible sources of income of tax payers for tax purpose, the tax collection processes must be free from corruption. In addition, the Federal Government, States and Local Governments should urgently fully modernize and automate all its tax system, improve taxpayers' convenience in the assessment and payment process whilst at the same time entrenching effective and modern human resources management practice in the tax authorities.

Brian (2011) examined the effects of internal controls on revenue collection: A case of Kenya revenue authority. The study through primary and secondary data found out that the organization has put in place good internal control systems to aid in collection and fraud control. KRA has acquired the Simba system for use by the Customs service and ITMS for use in collecting domestic taxes. It was recommended that the top management hierarchy to be reviewed to curb duplication of duties which has been evidenced by the study.

Otieno et al. (2013) examined the Effect of Information Systems on Revenue Collection by Local Authorities in Homa Bay County, Kenya. A structured cross-section survey was used to collect data; the study adopted a survey research design where primary data were collected from selected sample through questionnaires. The study found that there is a relationship between Information Systems and both efficiency and effectiveness in revenue collection. The finding shows a strong positive relationship between Internal Control Systems and revenue collection as reported by 97% of the respondents, and that resistance to change by the council staff was derailing the full implementation of Information Systems. The more attention should be given on direct taxes otherwise the rich and poor increasing gap would be harmful for the country. The corrective action must also be taken to reduce the tax evasion, tax base should be increased to generate more revenue, and the major problem of corruption should be given high attention. The study was recommended to be useful in reviewing the institutions' Act and statutes to cater fully for the integration of IS in the management activities of Homa Bay Municipal Council, to managers at all levels, public sector, policy makers and scholars.

Okoye & Ezejiofor, 2014 investigated the impact of e-taxation on revenue generation in Enugu, Nigeria; Data were collected from both primary and secondary sources, using frequency counts, mean score. The ordinary least square method was adopted using the multiple regression analysis and panel data regression method to test the fixed and random effects and test for level of significance at 1%. The finding was that e-taxation can enhance internally generated revenue and reduce the issue of tax evasion in Enugu state. Another finding is that Etaxation can prevent corrupt practices of tax officials. It was recommending that the Government should support the establishment of e-tax administration so as to start ripping the benefit of high rate of compliance among taxpayers and e-taxation should be implemented to reduce the diversion of government funds to private pockets.

Aamir et al. (2011) investigated the determinants of tax revenue: A comparative study of direct taxes and indirect taxes of Pakistan and India. The results show that Pakistan is generating more tax revenue through indirect taxes whereas India is from direct taxes. By comparing the two regression equations and the standardized betas, the researchers understood that in Pakistan, more revenue is charged by levying indirect taxes whereas India it was the opposite. The results of the two types of fiscal policies can be very different and the more the indirect taxes in country, the more will be increasing gap between rich and poor and thus the more will be the exploitation of labour class. The researchers recommended that more attention should be given to direct taxes in order to reduce the increasing gap between the rich and the poor which would be harmful for the country. Also, to reduce tax evasion, the corrective action must be taken, and tax base should be increased to generate more revenue as well.

Niu (2010) in a study found a positive association between the audit and the voluntary compliance. The finding suggests that the audit productivity may be underestimated in many studies in the literature. It reminds us that when considering the productivity of the audit work. Besides the direct audit collections, we should also take the audit impact on the voluntary compliance into consideration. For this reason, the finding may provide tax professionals and tax authorities with incentives to strengthen the audit power and to better structure their audit organization to generate more revenue for the state (Niu, 2010). Historical population data of a New York State economic sector were used in this study instead of experimental data or randomly selected sample data often used in the literature. The results of both Ordinary Least Squares (OLS) and Time Series Cross Section (TSCS) autoregressive modeling methods. The results of both methods suggest that after an audit, a firm would report a higher sales growth rate.

Fati (2014) carried out a study to eliminate or reduce to minimum the challenges in the process of revenue collection in Ghana property rate collection. The study used the interpretative case study approach to obtain study individuals in their natural settings and also obtain deeper understanding of the event. It was discovered that revenue trend has not been stable in revenue collection since the government did not have a full or comprehensive register of all taxable activities or levies in their jurisdiction. There existed no system to track invoices and payments. Data on services, facilities, levies were handled manually and consequently subject to fraud, abuse and significant revenue loss.

Zhou (2013) carried out a study on systems, processes and challenges of public revenue Collection in Zimbabwe. Research findings indicated that the revenue collection sector has over the decades gone through milestone reforms, notable ones being the establishment of a sole national revenue authority in 2001, the shifting from cumbersome Income Tax Return Forms to Final Deduction Systems, the adoption of VAT in 2004 and Toll Gate systems in 2009.

Franzen (2007) study conducted in Dar es Salaam, Tanzania indicated that, public officials are more effective as revenue collectors that their private counterparts. (Fjeldstad & Haggstad, 2012) concluded that, measures are required to improve the accountability of revenue collectors and elected officials. The foregoing, according to the scholars, can only be achieved through political goodwill from the national government. Kayaga (2010) in her study of tax policy challenges in Uganda as one of developing countries opined that, new technology alone is not sufficient if the government does not recognize the need for skilled tax officials. The scholar further avers that, effective tax administration requires qualified tax personnel with requisite skills to maintain these systems and operate them to their fullest potential.

Ochieng (2013) undertook a study to establish the effects of outsourcing strategies to an organization while focusing on The Kenya revenue authority. The study adopted a descriptive research design. The study revealed that, the decision to outsource part of KRA functions or activities was prompted by Potential cost savings, access to technological innovations and strategic considerations. The study found that compliance, counterparty, access and contractual risk were perceived before the organization undertakes an outsourcing decision. The study also revealed that KRA adopted varying outsourcing strategies to access to specialized vendor through single supplier, multiple suppliers. The study concluded that benefits perceived before the organization undertakes an outsourcing decision were accessibility of free resources and improved services access to specialized vendor and cost reduction.

Musya (2014) undertook a study to examine the part played by internal control system in the collection of revenue by county governments in Kenya. The research was conducted using both qualitative and quantitative approaches. The study established that weak internal controls activities and lack of proper information and communication systems have encouraged collusion to fraud, loss of revenue and embezzlement of collected revenue. The study therefore concludes that internal controls do function although with hiccups and that there is a significant effect between internal controls and revenue collection in county governments in Kenya.

A study conducted by Okoth (2009) sought to find out, the extent to which revenue is collected and utilized at Kakamega Municipal council with a view to suggesting corrective measures. Twenty-nine employees of KMC were randomly picked and interviewed. The data was analyzed using simple descriptive statistics such as tables, charts and graphs. The findings of the study indicate that the challenges affecting revenue collection and utilization in KMC include, over employment leading to supervision problems and budget constraints, non-payment of taxes by local community, administrative problems like corruption, lack of enforcement on revenue collection by local authorities, lack of administrative capacity to fully tap revenue sources among others. In view of these findings, it is recommended that the council and ministry of local government take urgent corrective measures.

METHODOLOGY

This study employed both quantitative and qualitative approaches. The study engaged a descriptive, cross sectional and correlational research designs. It was descriptive because it used descriptive statistics to describe the two variables of the study; and it was cross sectional since it was carried out over a short period of time and data was collected as a one stop event. It engaged correlation design to establish the relationship between Tax Audit and Revenue collection in RRA.

The population of the study consisted of 110 RRA tax audit staff reported by the Human Resource department. This population consisted of RRA staff involved in day-to-day Tax auditing. The purpose of choosing them as the respondent was that they are usually the personnel who interface with taxpayers and enforce the legal framework promoted by legislators to administer and safeguard government revenue by using Slovin's formula **(Table 1)**.

Table 1. Sample size.

Category	Number	%	Sample size(n)
Heads of Division	10	9	8
Group Leaders	20	18	16
Officers	80	73	63
Total	**110**	**100**	**87**

Source: *Primary data, 2020*

RESULTS AND DISCUSSION

Analysis of tax administration in RRA

The results indicate that 11% of the study participant agreed with the statement. Every taxpayer identified is always registered while majority (89%) disagreed with the statement. Majority (61%) strongly agreed with the statement that a quick check is done on taxpayers to establish if they are correctly registered while 39% only agreed with the statement. The findings also indicated that 20% of the respondents strongly agreed with the statement the ranking of eligible tax payable is based on taxpayer's income, 50% just agreed while 30% disagreed with the statement. Majority (59%) agreed with the statement that tax offices are effective in identifying and registering all potential taxpayers, while 41% strongly agreed with the statement. Majority (59%) of the study participant agreed with the statement that identification methods are effective in registering all potential taxpayers while 8% disagreed with the statement. Most (67%) of participants agreed with the statement that all registered taxpayers are followed up to find out if they are active while 33% strongly agreed with the statement. Majority (76%) of the study participant strongly agreed with the statement that all taxpayers' basic information is collected and recorded on a timely basis while 24% just agreed with the statement. Lastly the findings also indicated that 19% of the respondents strongly agreed with the statement that taxpayers are able to register without intervention of tax officials, 67% just agreed while 14% disagreed with the statement.

Tax stands as a major source of government revenue not only for developed countries but also for developing countries. For countries to benefit from the opportunities afforded by globalization they must be able to mobilize adequate fiscal revenues and the most reliable way to get it is with an effective tax administration, (Jamala et al., 2013) noted that, tax revenues guide national development and also are used to finance a substantial part of government operations including provision of public social services.

By applying the correlation coefficient, the results indicate that tax administration is significantly correlated to the revenue performance ($r=0.518$, $p<0.01$). There is a positive relationship between Tax administration and Revenue collection at RRA as indicated by correlation of 0.518. This shows that the sampled data can be applied to the general population across RRA at 95% confidence level.

Tax administration and revenue collection

Regression analysis was conducted to empirically determine whether tax administration was a significant determinant of revenue collection. Regression results in **Table 2** indicate the goodness of fit for the regression between tax administration and revenue collection was satisfactory in the linear regression. An R squared of 0.312 indicates that 31.2% of the variances in revenue collection of RRA are explained by the variances in tax administration in the linear model. The correlation coefficient of 51.8% indicates that the combined effect of the predictor variables has a positive correlation with Revenue collection.

Table 2. Model summary**.**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.442[a]	.301	.312	.65724
a. Predictors: (Constant), Tax administration				

***Source**: Primary data, 2020*

Results indicate that tax administration is statistically significant in explaining revenue collection of RRA. An F statistic of 5.020 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This implies that the simple linear model with tax administration as the only independent variable is significant (**Table 3**).

Table 3. Tax administration on revenue performance ANOVAB**.**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.14	1	12.14	5.020	.000[a]
	Residual	28.684	49	.476		
	Total	40.824	50			
b. Dependent Variable: Revenue collection						
c. Predictors: (Constant), Tax administration						

Source*: Primary data, 2020*

From the model $Y= 2.487 + 0.342X_1$, it implies that one percent change in tax administration will bring about 34.2% change in the revenue collection. These findings correlate with (Gemmell & Morrissey, 2013) who found out that there is a significant but positive relationship between tax revenue in the US and the revenue collection.

Analysis on revenue protection system

The results show that majority (59%) of the study participant agreed with the statement that RRA system is able to detect and track frauds while 8% disagreed with the statement. Most (67%) of participants agreed with the statement that RRA system is able to track non-compliant tax payers while 33% strongly agreed with the statement. Majority (76%) of the study participant strongly agreed with the statement that RRA system is able to track non-registered taxpayers while 24% just agreed with the statement. The findings also indicated that 19% of the respondents strongly agreed with the statement that RRA system is able to keep all taxpayers' information, 67% just agreed while 14% disagreed with the statement. Majority (87%) agreed with the statement that the system is able to generate appropriate reports while 13% strongly agreed with the statement. Majority (59%) of the study participant strongly agreed with the statement that the system is able to ensure the accuracy and security of the information processed while 41% disagreed with the statement. Majority (59%) of the study participant strongly agreed with the statement that the system is able to ensure that a transaction is processed once. while 41% disagreed with the statement. Furthermore, the findings also indicated that 19% of the respondents strongly agreed with the statement that Preventive revenue protection strategies are provided by the system in place, 67% just agreed while 14% disagreed with the statement. Lastly (87%) agreed with the statement that the revenue collected are protected from any leakage while 13% strongly agreed with the statement.

By using the Correlation coefficient, the results indicate that Revenue protection system is significantly correlated to the revenue collection ($r=0.656$, $p<0.01$). There is a Strong positive relationship between Revenue protection system and revenue collection as indicated by correlation of 0.656. This shows that the sampled data can be applied to the general population across RRA at 95% confidence level.

Results indicate that Revenue protection systems statistically is explaining revenue collection at RRA. An F statistic of 4.85 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained.

From the model Y= 3.078 + 0.245X2, it implies that one percent change in revenue protection system will bring about 24.5% change in the revenue collection. According to (Gatara, 2010), "The subject of every state ought to contribute towards the support of the government as nearly as possible in proportion to their respective abilities that is in proportion to the revenue which they respectively enjoy under the protection of the state. Governments collect tax revenue to enable them offer public goods and services in a consistent and sustainable manner.

Tax automation

The results show that 20% of the respondents strongly agreed with the statement that All transactions are processed using automated system, 50% just agreed while 30% disagreed with the statement. Majority (59%) agreed with the statement that all registered taxpayers are able to file electronically, while 41% strongly agreed with the statement. Majority (59%) of the study participant agreed with the statement that E-tax system reduces time taken by taxpayers in declaration and tax payment while 8% disagreed with the statement. Most (67%) of participants agreed with the statement that Non-compliance cases decreased as a result of e- tax system while 33% strongly agreed with the statement. Majority (76%) of the study participant strongly agreed with the statement that an E-tax system increased revenue collection while 24% just agreed with the statement. Moreover, the findings also indicated that 19% of the respondents strongly agreed with the statement that all records are digitized with RRA, 67% just agreed while 14% disagreed with the statement. Lastly the findings also indicated that (67%) of participants agreed with the statement that Electronic records are able to be retrieved after an extended period for audit purposes while 33% strongly agreed with the statement.

The correlation coefficient indicate that tax automation is significantly correlated to the revenue collection ($r=0.789$, $p<0.01$). There is a Strong positive relationship between Tax automation and Revenue collection at RRA as indicated by correlation of 0.789. This shows that the sampled data can be applied to the general population across RRA at 95% confidence level.

An R squared of 0.402 indicates that 40.2% of the variances in revenue collection of RRA are explained by the variances in tax automation in the linear model. The correlation coefficient of 78.9% indicates that the combined effect of the predictor variables has a positive correlation with Revenue collection.

Results indicate that tax automation is statistically significant in explaining revenue collection of RRA. An F statistic of 7.658 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This implies that the simple linear model with tax automation as the only independent variable is significant.

Analysis on level of tax revenue performance

The results show that majority (59%) agreed with the statement that there are sufficient financial resources to audit all taxpayers, while 41% strongly agreed with the statement. Majority (59%) of the study participant agreed with the statement that the institution has sufficient staff to carry out audits while 8% disagreed with the statement. Most (67%) of participants agreed with the statement that RRA organizes training programs for auditors while 33% strongly agreed with the statement. Majority (76%) of the study participant strongly agreed with the statement that financial statements and records of all potential taxpayers are examined annually while 24% just agreed with the statement. The findings also indicated that 19% of the respondents strongly agreed with the statement that audits are conducted on a timely basis to verify if the taxpayer has correctly reported and assessed their obligations, 67% just agreed while 14% disagreed with the statement. Majority (87%) agreed with the statement that RRA has the capacity to identify tax evaders through audits while 13% strongly agreed with the statement. Majority (59%) of the study participant strongly agreed with the statement that RRA gives audit notifications to the taxpayers on time while 41% disagreed with the statement. Lastly Majority (59%) of the study participant strongly agreed with the statement that RRA gives audit notifications to the taxpayers on time while 41% disagreed with the statement.

The correlation coefficient indicates that level of tax revenue performance of RRA is significantly correlated to the revenue collection ($r=0.681$, $p<0.01$). There is a Strong positive relationship between level of Tax Revenue Performance and revenue collection as indicated by correlation of 0.681. This shows that the sampled data can be applied to the general population across RRA at 95% confidence level. Teera (2002) examined the tax system and tax structure of Uganda to investigate the factors effecting tax revenue in the country. He used the time series data of the period 1970 to 2000 and estimated a model. His results showed that agriculture ratio, population density and tax evasion affect all type of taxes. GDP per capita showed the surprising negative sign. Tax evasion and openness (as measured by import ratio) showed the significant negative impact. Aid variable showed positive sign since aid in Uganda always supported imports especially raw material so not surprisingly.

The regression model results indicate that the level of Tax Revenue Performance of RRA is statistically significant in explaining revenue collection at RRA. An F statistic of 4.23 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This implies that the simple linear model with the level of Tax Revenue Performance as the only independent variable is significant.

The results show that the coefficient of determination R square is 0.294 and R is 0.542 at 0.05 significant levels. The coefficient of determination indicates that 29.4% of the variation in the bank's performance is explained by the tax administration, tax revenue performance, revenue protection system, tax automation.

The presents the results of Analysis of Variance (ANOVA) on tax audit on revenue collection. The ANOVA results for regression coefficient indicate that the significance of the F is 0.00 which is less than 0.05. This implies that there is a positive significant relationship between tax audits on revenue collection and that the model is a good fit for the data.

From the data in the above table the established regression equation was $Y = 0.347 + 0.162 X1 + 0.194 X2 + 0.211 X3$From the above regression equation, it was revealed that holding Tax administration, revenue protection system, tax automation to a constant zero, revenue collection would be at 0.347. A unit increase on Tax administration would lead to increase in revenue collection by a factor of 0.162, a unit increase in revenue protection system would lead to increase in revenue collection by a factor of 0.194 and unit increase in tax automation would lead to increase in revenue collection by a factor of 0.211.

As already indicated, the tax system is not an independent entity and imperfections in the tax system may have implications for the pattern of public expenditure.

CONCLUSION

Tax audit actually has an effect to revenue collection as according to the ANOVA analysis and model analysis on the four variables on tax audit with reference to revenue collection. This clearly indicates that tax audit increases revenue collection. That in essence means that the more the tax audit conducted the more revenue is collected. Thus, it is right to say that tax audit is directly related to revenue collection. All the tax audits are important because they add something to revenue and thus should be encouraged as it assists the government in collecting appropriate tax revenue necessary for budget, maintaining economic and financial order and stability, to ensure that satisfactory returns are submitted by the tax payers, to organize the degree of tax avoidance and tax evasion, to ensure strict compliance with tax laws by tax payers, to improve the degree of voluntary compliance by tax payers and to ensure that the amount due is collected and remitted to government.

Therefore, the following recommendations based on the findings of the respondents:

1. The study recommends that the tax audit reports be submitted to the public and a standard procedure to be found in choosing the companies that random audit is conducted. This is to assure the public that those audited randomly are not eyed or discriminated but at least they see the result and be aware of the procedure used in the selection. The public is also urged to submit their taxes fully and seek clarification wherever they are not sure of what to do.
2. The study suggested the following recommendations as a measure to improve on revenue collection performance at Rwanda Revenue Authority. The government should allocate the organization with more human and financial resources in order to strengthen the organization capacity in revenue collection. The employees should be regularly trained on modern revenue collection procedures and more staff should be recruited. The government should allocate the organization enough funds in order to make the organization expand its revenue collection operations in the country.
3. To ensure that tax automation adoption leads to an increase in revenue collection performance. The government should implement an effective ICT infrastructure in the country in order to allow easier accessibility of automated RRA revenue collection systems by customers. The organization on the other hand should also improve on ICT infrastructure in order to support effective implementation and use of 294 automated revenue collection systems. The organization should also conduct continuously employees training programs on use of ICT based revenue collection systems and also extend by training the customers on how to use the systems.
4. To ensure that tax regulatory framework leads to an increase in revenue collection performance. The government should improve on the level of tax regulations enforcement in order to increase on the level of tax regulations compliance. The tax administrative structure should also be improved. The study finally suggested further studies to be carried out in order to determine other determinants of revenue collection performance in Kenya and also to undertake similar study in other countries.

REFERENCES

Bernoulli, D. (1738). Specimen theoriae novae de mensura sortis (Exposition of a new theory on the measurement of risk). In Commentarii academiae scientiarum imperialis Petropolitanae 5: 175-192. Translated into English: L. Sommer. Econometrica 22: 23-36.

Aamir, M., Qayyum, A., Nasir, A., Hussain, S., Khan, I., et al. (2011). Determinants of tax

Revenue: Comparative study of direct taxes and indirect taxes of Pakistan and India. International Journal of Business and Social Science 2(19): 45-61.

Abiola,J. & Asiweh, M. (2012). Impact of tax administration on government revenue. International Journal of Business Social Science 3(8): 99-113.

African Economic Outlook. (2015). Rwanda Economy. AFDB, OECD, UNDP.

African Economic Outlook. (2010). Uganda Economy. © AfDB, OECD, UNDP, UNECA.

Aggrey, J. (2011). Determinants of tax revenue: Evidence from Ghana. Accra: Cape Cost University.

Akrani, G., Katyani, M. & Patil, M. (2010). Adam Smith's Canons of Taxation. Kalyan City Life.

Alley, C. & Bentley, D. (2008). The increasing imperative of cross-displinary research in tax administration. eJournal of Tax Research 6(2): 122-144.

Annah, K. (2006). The quality of taxpayer services and the performance of income revenue collection. Kampala, Uganda: Makerere Press.

Arturo, J., Crawford, D., Murdoch, T., Yassiemine, H., & Lethbridge, C. (2013). Detailed guidelines for improved tax administration in Latin America and the Caribbean. Washington, DC, United States: United States Agency for International Development (USAID).

Atawodi, O.W. & Ojeka, S.A. (2012). Factors that affect tax compliance among small and medium in North Central Nigeria. International Journal of Business and Management 7(12): 87-97.

Auditor General of Rwanda. (2015). 2014/2015 Annual Report. Kigali: Government of Rwanda.

Baingana, E. (2011). Corporation tax administration and revenue performance Uganda Revenue Authority in Eastern Uganda. Kampala: Makerere University.

Beekes & Brown (2008) Do better governed Australian firms make more informative disclosures? Journal of Business Finance & Accounting 33(3-4): 422-50.

Bibe, E. & Cottarelli, C. (2010). Revenue administration: Taxpayer Audit. Washington, D.C., United States: International Monetary Fund.

Bird, R.M. (2015). Improving tax administration in developing countries. Journal of Tax Administration 1(1): 23.

Bird, R.M. (2010). Substantial taxation in developing countries. Policy Research Paper.

Bird, R.M. & Zolt, E.M. (2008). Technology and Taxation in Developing Columbia. Core business of Tax administration.

Bilquees, F. (2004). Elasticity and Buoyancy of the Tax system in Pakistan. The Pakistan Development Review 43(1): 73-93.

Brian (2011). Examined the effects of internal controls on revenue collection: A case of Kenya

Revenue authority, Department of Business Administration School of Business, University of Nairobi Cap C21, LFN, 2004.

Cohen, H.H. & Cleveland, R.J. (2013). Safety program practices in record-holding plants. Professional Safety 28(3): 26-33.

Crandall, W. (2010). Revenue Administration: Determinants of Revenue Performance. Ottawa: Fiscal Affairs department.

Dennis & Emmanuel (2014). Investigated the impact of taxation on revenue generation in Nigeria. A case study of Federal Capital Territory and Selected States, Research Centre for management and Social Studies.

Dube, G. (2014). Informal sector tax administration. Wiley online library 48-62.

ERCA. (2010). Tax and Post Clearance Audit Policy and Strategy. Addis Ababa, Ethiopia.

Egyin, K. B. (2011). Assessing the Challenges of Tax Revenue Mobilization in Ghana. Sunyani: Kwame Nkrumah University.

Fati, T., Agbesi, S. & Owusu, A.O. (2014). The challenges in revenue collection process: The case study of Ghana AMA property rate collection. International Journal of Innovation and Scientific Research 11(2): 566-576.

Franzen, P. (2007). Revenue Collection Challenge in Tanzania. The Journal of Finance 52.

Frederickson, H.G., Kevin, B.S., Christopher, W.L., & Michael, J.L. (2012). The Public Administration Theory Primer. United-States: Westview Press.

Gaalya, M.S. (2015). Trade Liberalization and Tax Revenue Performance in Uganda. Modern Economy (6): 228-244.

Gabrielle, A. (2009). Revenue Collection Methods. The Journal of Finance 55.

Gatara, T.H. (2010). Introduction to research methodology, (1st ed.). Kenya: The Olive Marketing and Publishing Company.

Gbadago, F.Y. (2015). Audit expectation gap and MBA accounting students' knowledge on auditor(s)'s responsibilities: Evidence from a public university in Kumasi Ashanti Region of Ghana. Journal of Accounting and Taxation 7(4): 53-61.

Gebre, M.A. (2010). Value Added Tax (VAT) Administration and Revenue Performance. Mekelle, Ethiopia: Mekelle Press.

Gemmell & Morrissey (2003). Tax structure and the incidence on the poor in developing countries. Centre for Research in Economic Development and International Trade. University of Nottingham.

Government of Serbia. (2015). Modernisation of Tax Administration. Belgrade: Serbia Government.

Government of Tanzania. (2015). Why should Tanzanians pay Tax? Samora, Tanzania: World Bank Group.

Gutierrez, N. (2008). Information technology in support of the tax.

Hadler, S. (2000). Improving tax administration in Sub-Saharan Africa. Montreal: Harvard University.

Haque, A.A. (2012). Determinants of low tax efforts of developing countries. Sydney: University of sydney.

Heiner, J. (2007). Measurement: Reliability and validity measure. United States: Johns Hopkins University publisher.

Holniker, D. (2005). Computerization of commercial tax system.

IMF. (2011). Revenue mobilization in developing countries. Policy Paper prepared by the Fiscal. Washington D.C.: International Monetary Fund: IMF.

IMF. (2014). Rwanda-IMF Country Report No. 14/185. Washington, D.C: IMF.

Kangave, J. (2014). Improving tax administration: A case study of the Uganda Revenue Authority. LL.M. Thesis. Kingston: Queen’s University, Faculty of Law.

Katamba, P., & Nsubuga, T. (2014). Basic Research. Kampala,Uganda: MK Publisher.

Keen, M., Toro, J., Baer, K., Perry, V., Norregaard, J., et al. (2015). Current challenges in revenue mobilization: Improving tax compliance. International Monetory Fund (2015): 1-79.

Kiringai, J. (2014). Decision time: Spend more or Spend Smart. Kenya Public Expenditure Review 4: 43-45.

Laffer, A., Winegarden, W. & Childs, J. (2011). The Economic burden caused by Tax code complexity. United States: The leffer center.

Land, A. (2014). Developing capacity for tax administration. Kigali, Rwanda: European Centre for development policy management (ECDPM).

Ling, L.M. & Fatt, C.K. (2008). Electronic tax filing system: Taxpayer's perspective. Seventh Wuhan International Conference on e-business: Unlocking the full potential of Global Technology, 1. Kuala Lumpur, Malasia: University Technology MARA, pp: 338-343.

Lutfunnahar, B. (2007). A panel study on tax effort and tax buoyancy with special reference to Bangladesh. Working Paper 715: Policy Analysis Unit (PAU) Research Department Bangladesh Bank.

Mahdavi, S. (2008). The level and composition of tax revenue in developing countries: Evidence from unbalanced panel data. International Review of Economics and Finance 17: 607-617.

Mark, L.P.S. (2003). Research methods for business. United Kingdom: Prentice Hall.

McCoon, M. (2013). Tax compliance in Latin America. Journal of Finance and Accounting 2-13.

Mihret, G. (2011). Tax audit practice in Ethiopia. Working paper.

Mittone, L. (2006). Dynamic behavior in tax evasion: An experimental approach. Journal of Socio-Economics 35(5): 813-835.

Moyi, E. & Ronge, E. (2006). Tax and taxation: Modernization in Kenya. Nairobi, Kenya: Institute of Economic Affairs.

Mulindwa, G.M. (2000). Tax policy, administration and management. Paper presented on the Pre-budget Taxation Seminar. ICPAU -March 2000.

Muriithi, M.K. & Moyi, E.D. (2003). Tax reforms and revenue mobilization in Kenya. AERC Research Paper 131 African Economic Research Consortium, Nairobi.

Musya, F. (2014). Part played by internal control system in the collection of revenue by county governments in Kenya. The Journal of Finance 44.

Mwenda M., A. (2015). Uganda fastest growing economy. New Vision 27.

Nasr, J. (2012). Implementing electronic tax filing and payment in Malaysia. Kuala Lumpur, Malaysia: Doing Business.

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 & Management 3(5).

Ndungu, A. (2013). The effect of internal controls on revenue generation. Nairobi: University of Nairobi.

Nkote, N.I. & Luwugge, L. (2010). Automation and tax customs administration: Empirical evidence from Uganda. African Journal of Business Management 4(11): 2241-2246.

Odero, W.O., Reeves, W.A. & Kipyego, N. (2015). Kenya Economy. African Economic Outlook.

OECD. (2010). Forum on tax administration: Guidance and specifications for tax compliance of business and accounting software. Paris: Centre for tax policy and administration.

OECD. (2013). Forum on tax administration, centre for tax policy and administration. Comparative Information on OECD and Other advanced Emerging economies.

OECD. (2011). Government at a Glance. Paris: OECD Publishing.

Okoye & Ezejiofor (2014). The impact of e-taxation on revenue generation in Enugu, Nigeria.

The Journal of Finance 2(2): 87-96.

Onoja, L.M. & Iwarere, H. (2015). Effects of tax audit on revenue generation. Journal of Good Governance and Sustainable development in Africa 67-80.

Palil, M.R. (2013). The perception of taxpayers on tax knowledge and tax education with level of tax compliance.

Plumley R., Schilder, A., Dassen, R. & Wallage, P. (2009). Principles of auditing: An international perspective. McGraw-Hill Publishing Company, London.

Rai, P.K. (2004). The challenges of tax collection in developing economies (with Special Reference to India). LLM Theses and Essays.

Said, K. & Khasharmeh, H. (2014). Auditors' perceptions on impact of mandatory audit firm rotation on auditor independence – Evidence from Bahrain. Journal of Accounting and Taxation 6(1): 1-18.

Simiyu (2010). On challenges affecting collection of turnover tax in Nairobi County, Kenya. Unpublished Thesis USA Treasury Department (2015) Federal Government Revenue.

Teera, J.M. (2003). Appraisal of Uganda's Tax performance Relative to Sub-Saharan Africa. Bath, United-Kingdom: University of Bath press.

The Government of Uganda. (2012). Uganda Vision 2040. Kampala, Uganda: The Government of Uganda.

The Rwanda Revenue Authority. (2013). Annual Activity Report. Kigali: RRA.

United Kingdom Revenue Protection Association. (2015) Available online at: http://www.ukrpa.co.uk/

Zhou, G. (2013). Systems, processes and challenges of public revenue collection in Zimbabwe. American International Journal of Contemporary Research 3(2).