CHALLENGES OF ELECTRONICS TAX REGISTER MACHINE (ETRS) TO BUSINESSES AND ITS IMPACT IN IMPROVING TAX REVENUE

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ABSTRACT

This study was conducted to assess Problems faced by traders during using ETRs the Case of Addis Ababa City. The paper has identified problems related to the use of ETRs from the perspective of tax payers. The study has used both primary and secondary sources of data. Using random sampling method 363 tax payers were selected from the total population of 6794 with 85% return rate. The major findings are: The use of ETRs improved timely filling of the monthly VAT returns. The major problems faced by the tax payers are unallowable expenses due to the problem of ETRs suppliers and the lack of consistency and transparency in imposing penalty for tax personnel. Maintenance cost and time, higher compliance costs are also fund to be among the major problem of the tax payers.

Keywords: Value Added Tax (VAT), Electronics Tax register Machine (ETRs), Ethiopian Revenue and Customs Authority (ERCA)

1. INTRODUCTION

Tax is compulsory payment to government without expectation of direct return or benefit to tax payers. It imposes a personal obligation on the tax payer. Taxes received from the tax payers, may not be incurred for their benefit alone. Tax revenue is one of the most important sources of government income. Taxation is the powerful instrument in the hands of the government for transferring purchasing power from individuals to government (Gebre, 2006).

Ethiopia improves tax collection methods to increase government revenue and decrease evasion. The current information communication technologies are now modernizing tax collections. The Ethiopia Revenue and Custom Authority (ERCA) adopted the Electronic Tax Register (ETRs) Automated system for Customers data management. The use of sales register machine in Ethiopia across the country keeps on increasing. In Ethiopia Electronics Tax Register machine has been began in Addis Ababa, in February, 2008 and its use has expanded significantly during the past 5 years. Until January, 2013 the total number of 53,241 tax payers purchase 59,876 ETRs. The tax payers who use the machine can quickly process their customer’s transactions and accurately keeps records. ERCA also obtains information regarding total sales and this would enable the authority to levy tax based on information (ERCA, 2013).

The modernization of the tax collection system using ETRs is expected to assist traders in such ways as to save their time in perusing of records and reduction in tax preparation costs that used to be paid to tax agencies. Tax refund claims can also be easily handled and as result reduces costs of businesses. This study has been therefore ascertained if this is really the case and to what extent this has been possible (IMF, 2005).

The implementation of electronic tax registers by traders as a means of processing VAT returns has been inviting conflict for a long time. Traders claim that there were punitive operating expenses that the ERCA is willing to bear besides the actual cost of the machine. On the other side ERCA is of the view that the ETR machines will help to increase the efficiencies in operations as well as in VAT processing. Therefore, it is important to assess the challenges of ETR by taxpayers in processing of tax returns.

1.1 Statement of the Problem

As ETRs had been recently introduced by the Ethiopian Revenue and Custom Authority, there could be problems related to the skill of handling the machines, the affordability of installation costs, maintenance cost and annual checkup cost that could be linked to the tax payers. Hence, the study is assessing the challenge of ETR on tax
collection by comparing before automation and after automation. In general, the study will attempt to provide answer to the basic research questions.

✔ What are the problems faced by traders in using ETRs?
✔ What is the effect of ETRs in increasing tax revenue
✔ How ETRs affect timely filing of VAT return

1.3 Objectives of the Study
The specific objectives of the study are:
✔ To measure the effect of ETRs on timely filing of the monthly VAT returns.
✔ To identify the problems faced by the traders in using ETRs.
✔ To assess the effect of ETRs in increasing tax revenue to the authority

1.4 Literature Review
ETRs have been used for sales register since long time ago in developed countries. However, the introduction of ETRs in developing countries such as Ethiopia is a recent phenomenon. Hence, there are very few reports related to ETRs effect on tax collection in developing countries. Thus, the review is limited to few literature sources from the current publications.

Nkote, N Isaac and Luwugge Lilian (2010) studied the effect of automation and customs tax administration in the case of Uganda. The researchers investigated the adoption of automation in URA in achieving efficiency and increase revenue. Some of the results they have reported showed inconsistency of the automation in improving efficiency in tax administration. The result generally showed that automation predicted the cost of tax administration and effectiveness of revenue collection though predicted clearance time negatively. This means that the cost of tax administration was increased with increasing automation and the time taken to clear tax declarations reduced with increased computerization of tax administration at URA. The implications were that URA achieved the computerization of customs tax administration at an increasing rate of costs due to incomplete automation of all the systems.

Lumumba, et al., (2010) studied the effectiveness of Electronic Tax Registers in Processing of Value Added Tax Returns in Kisii Town, Kenya. Their finding shows that ETR has significantly positive impact on timely filling of the monthly VAT returns. Further the introduction of ETR has assisted in cutting costs that the business used to incur in processing VAT. Moreover, it was found that ETRs have enhanced the revenue collection resulting from stock sales and stock audits. The Kenyan’s experiences showed that ETRs did not break down too often. The challenges faced by KRA as identified by the authors were: Problems related to the cost and classification of the business which need to use ETRs.

2. RESEARCH DESIGN AND APPROACH
The study employed a mixed (both qualitative and quantitative) survey to assess challenges faced by traders during ETRs Implementation. The reason of using a mixed methods approach is to gather data that could not be obtained by adopting a single method (Creswell, 2003). Using random sampling method 363 tax payers were selected from the total population of 6794 with 85% return rate.

2.1 Sources Data and Methods Data Collection
In this study, the researcher used primary source of data. The primary data has been obtained from the Value Added Tax registered organizations. In order to obtain data from this population the researcher used structured questionnaire. The questionnaires have been designed as open ended and closed ended types of questions. And it also distributed after seeking approval and clearance from the ERCA and the consent of the respondents, who was requested returning the questionnaires within two weeks.

3. Data Presentation and Result Analysis
The background of the tax payers (businesses) has been determined to assess the experience of the businesses in filling its tax returns and also used to evaluate the VAT collection system before and after using ETRs. The respondents were asked to give the age of their businesses, and the starting date of using ETRs. There are three categories of VAT registered taxpayers; service providers; merchandise enterprises and Manufacturing enterprises.

55.4% of businesses included in the study are merchandising enterprises, 28.8% are service giving enterprises, and 15.8% were manufacturing enterprises.

The respondents were asked to indicate for how long they were running their businesses. It was found that most of the businesses have been in operation for more than five years indicating that the information provided for this study was obtained from more experienced businesses.

37.8% of the respondents indicate that they acquired and were using ETRs machines for five years. This may
mean, they started using the ETRS since the system was introduced by ERCA to collect VAT in Ethiopia. Some of the respondents (34.6%) indicated that they acquired the machine four years ago and the remaining 27.6% respondents indicated that they acquired the machine three years ago. This is an indication that the information presented in this study was given by more experienced businesses in using ETRs.

3.1 Problems Faced By Traders while Using ETRs

3.1.1 Maintenance of ETRs

ETR machines are electronic equipments that are susceptible for damage and hence require proper and timely maintenance to register sales transaction without interruption. For this reason, the respondents were asked whether the suppliers of ETRs have maintained the ETRs machine when they encounter technical problem within a short period of time and given you adequate maintenance. 64.4% of the respondents reported that the supplier of ETRs has maintained the ETRs in short period of time. But one third of the respondents that is 35.6% reported that they did not get maintenance service in short period of time, which is not in accordance with the time period stipulated by the law (within 48 hrs as stipulated in Regulation N° 46/99). The respondents were also asked about their satisfaction about the maintenance service provided by the suppliers. Majority (69.8%) of the respondents were not satisfied by the service provided.

3.1.2 Compliance Costs

Tax compliance costs are those costs “incurred by taxpayers, or third parties such as businesses, in meeting the requirements laid upon them in complying with a given structure and level of tax” (Stanford, et al., 1989). There is uncertainty about what should be included in the measurement of taxation compliance costs. Whilst this is an area in which there will always be debate, it is possible to identify a “hard core” of costs that are indisputably part of the costs of complying with taxation requirements (Ibid). Normally these will include: the cost of labor/time consumed in completion of tax activities, cost of expertise purchased to assist with completion of tax activities and incidental expenses incurred in completion of tax activities including computer software, postage, travel, and cost incurred due to using Electronic Tax Registers (ETRs) machines in completion of tax activities.

In this study, respondents were asked to reflect their views on the costs of compliance with the use of ETRs. All of the respondents stated that, there is additional cost incurred to their organization in completion of tax activities by using ETRs.

Furthermore, the respondents who agreed that there is additional cost incurred to their organization as a result of using Tax register machine were asked to mention the sources of additional costs. The main sources of additional costs identified were: cost related to installation of machine, ETRs maintenance cost, payment for ETRs operators, purchase of stationeries and cost of annual machine checkup.

3.2 ETRs and VAT Filling of Return

The preparation of VAT returns at the end of the month may take different time ranges. The respondents were asked to indicate the time needed to prepare their VAT returns at the end of the month. For some of the traders (34.3%), it took less than 2 days to prepare their VAT returns at the end of the month, while 42.9% indicated 2 to 3 days, and 14.1% indicated from 4 to 5 days and 8.7% of the respondents indicated above 5 days. This is an indication that by using ETRs the businesses prepare and file their VAT returns in good time to beat the ERCA deadlines without the involvement of tax agents’ services in filling tax returns and also the machine help to most businesses can file their returns on their own and it minimize the payments to the tax agents to prepare the monthly VAT returns.

The preparation of VAT returns may be a boring exercise. It might lead to delays with a consequence of penalty. The respondents were asked to compare whether the time to calculate their business monthly VAT returns have decreased or not after they started using ETRs. 92.3% of the respondents stated that the use of ETRs significantly reduces the time needed for calculating VAT return payment. The results indicate that, using ETRs shorten time taken for preparation of VAT returns as compared to previous time were they used to prepare VAT return on manual bases. The timely filling of the monthly VAT returns as seen above can be attributed to the adoption of the ETR machine.

Many of tax payers responded that the use of ETRs is better than manual system in recording sales transactions. But the ETRs may not function properly due to electric power interruption or due to susceptible damage. When these problems occur, the traders have to communicate to the suppliers and the problem has to be fixed in 48 hrs. The suppliers do not maintain the machines within the specified time. This has indicated that the ETRs suppliers didn’t give adequate service as they are required to be as stated in the legislation. Fixing the technical problems bears high maintenance cost for the traders. Due to this, the traders face unallowable expense (Expenses which will not be deductible for tax purpose).
3.3 The trend tax revenue collection in Ethiopia

This study uses three indexes of tax revenue, which are used to examine the trend of revenue collection by Revenue Authority in Ethiopia for the past eight years.

These are: (a) direct tax revenue, which refers to the corporate income tax (CIT) paid by business firms; (b) indirect tax revenue, which is the sum total of VAT and turnover tax revenues; and (c) total domestic tax revenue from business firms in Ethiopia. Mainly, the trend of indirect domestic tax revenue indicates clearly how VAT and turnover tax revenue collection has improved after the introduction of ETRs in 2008/09.

Throughout the process of development, the amount of direct tax, indirect tax domestic, and total tax revenue have shown a trend to rise, as the revenue authority began undertaking improved mechanisms of tax revenue collection mainly the introduction of ETRs.

![Graph showing trend in tax revenue collection](image)

Figures 1 and 2 indicate that during the pre-ETRs and Post-ETRs total Revenue collected by ERCA increased from 1112.17 million USD in 2004/05 to 3953.36 million USD in 2011/12, indicating about 55.47 percent increment.

![Graph showing trend in tax revenue collection](image)

The results are summarized in Table 1 below. The result reveals that there is statistical significance improvement (t = 6.3111) in the amount of direct tax collected during the ETRs period at 1 percent significance level. This implies that the amount of direct tax revenue collected has increased during the ETRs period (2008/09 to 2011/12) compared to the pre-ETRs period (2004/05 to 2007/08).

**Table 1:** Statistical test for the mean difference of Direct tax revenue during ETRs and pre-ETRs periods in Ethiopia
The result in Table 2 reveals that there is a statistical significant improvement ($t = 5.5656$) in the amount of indirect tax collected during the ETRs period at 1 percent significance level. This implies that the mean of indirect tax revenue collected has increased to 538.825 during the ETRs period (2008/09 to 2011/12) from an average of 251.8825 in the pre-ETRs period (2004/05 to 2007/08). According to ERCA officials this significant improvement in VAT and turnover tax revenue attributed mainly due to the merging of sales tax to VAT in 2003 and increasing the number of VAT payers from time to time as well as massive implementation of ETRs.

### Table 2: Statistical test for the mean difference of Indirect tax revenue during ETRs and pre-ETRs periods in Ethiopia

<table>
<thead>
<tr>
<th>Variable</th>
<th>Ob</th>
<th>Mean</th>
<th>SE</th>
<th>SD</th>
<th>[95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETRVAT</td>
<td>4</td>
<td>538.8</td>
<td>74.1</td>
<td>148.3</td>
<td>{302.8 774.8}</td>
</tr>
<tr>
<td>PETRVAT</td>
<td>4</td>
<td>251.8</td>
<td>33.7</td>
<td>67.53</td>
<td>{144.4 359.3}</td>
</tr>
<tr>
<td>DIFF</td>
<td>4</td>
<td>286.9</td>
<td>51.5</td>
<td>103.1</td>
<td>{122.8 451.1}</td>
</tr>
</tbody>
</table>

$\text{mean(diff)} = \text{mean(DETRVAT - PETRVAT)} = 5.5656$  
$\text{Ho: mean(diff) = 0}$  
$\text{degrees of freedom = 3}$  
$\text{Pr(T < t) = 0.9943}$  
$\text{Pr(T > t) = 0.0114}$  
$\text{Pr(T > t) = 0.0057}$  

Note: The variables DETRVAT and PETRVAT refers to the amount of VAT during ETRs and pre-ETRs period respectively.

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</tr>
</thead>
<tbody>
<tr>
<td>DERMCTT</td>
<td>4</td>
<td>499.7</td>
<td>80.9</td>
<td>161.9</td>
<td>{242.1 757.38}</td>
</tr>
<tr>
<td>PERMCIT</td>
<td>4</td>
<td>175.1</td>
<td>30.8</td>
<td>61.69</td>
<td>{76.91 273.26}</td>
</tr>
<tr>
<td>DIFF</td>
<td>4</td>
<td>324.6</td>
<td>51.4</td>
<td>102.8</td>
<td>{160.9 488.37}</td>
</tr>
</tbody>
</table>

$\text{mean(diff)} = \text{mean(DERMCTT - PERMCIT)} = 6.3111$  
$\text{Ho: mean(diff) = 0}$  
$\text{degrees of freedom = 3}$  
$\text{Pr(T < t) = 0.9960}$  
$\text{Pr(T > t) = 0.0080}$  
$\text{Pr(T > t) = 0.0040}$  

Note: The variables Trectt and Tpett refer to the amount of CIT(Corporate Income Tax) during ETRs and pre-ETRs period respectively.

3. Problems associated with the use of ETRs

The study has identified the major problems faced by the traders:

- The supplier of ETRs do not maintain the machine within short time (48 hrs since problem reported).
- The suppliers of ETRs charge high costs for maintenance of ETRs. In addition to this, for annual technical check-up of ETRs, the traders pay very high cost that result unallowable expense. This implies the cost of running the ETRs is influenced by the suppliers of ETRs.
- The maintenance service provided by the ETRs supplier to ETRs users was not adequate and satisfactory and hence improvement has to be made in this regard. This could force tax payers to make sales without using ETRs that may expose them to fraud and may result in opening door for tax evasion.
- If a mistake occurs at the time of using ETRs, to get correction at the ERCA takes very long and hectic process that needs lots of ups and down. The process has to be shortened to alleviate such complaints.
- If error occurs when using the ETRs, to correct the mistake at ERCA is very frustrating as one may considered putting oneself as a criminal. This is the result of the
way the tax collectors consider traders as tax evaders.

- The traders have to pass through long queue that took long time to pay the monthly VAT return. It may take more than one day. Hence, paying the monthly VAT return is taking the working time of the traders and hence creates burden to their business.

- In the case of refund claimed by traders, it could take more than 6 months to settle the case. This will take the working capital of the trader and hence creates burden to their business.

- The traders are not satisfied by the service given by ERCA as it is not adequate, doesn’t have well trained and experienced employees. To improve or solve this problem, ERCA should give training for its employee’s continuously.

- For some kind of business such as consultancy service, for construction etc, the rules and regulation for the use of ETR may not be applicable and need revision.

Reference


14. Obligatory Use of Sales Register Machines council of Ministers Regulations N°: 139/2.007 Register.


18. Wollela Abehodie (2008), Value Added Tax Administration in Ethiopia