

**IMPACT OF ELECTRONIC FISCAL DEVICES OF VALUE
ADDED TAX COLLECTION PROCESS:
THE CASE OF TANZANIA REVENUE AUTHORITY- TANGA
CITY**

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ADDED TAX COLLECTION PROCESS:
THE CASE OF TANZANIA REVENUE AUTHORITY- TANGA
CITY**

**By
Salim S. Bakar**

**A Dissertation Submitted in Partial Fulfilment of the Requirements for Award of
the Degree of Master of Business Administration (MBA) in Corporate
Management of Mzumbe University
2014**

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled **Impact of electronic fiscal devices on value added tax collection process, the case of Tanzania Revenue Authority-Tangacity** in fulfillment of the requirements for award of the Degree of Master of Business Administration of Mzumbe University.

Major Supervisor

Internal Examiner

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DECLARATION

AND

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I, Salim S. Bakar, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

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DEDICATION

This dissertation is dedicated to my Dear mother Mrs. Salha, my father, my wife Zuhra and my son Said for their tolerance during the entire time of my absence when I was attending this program.

ABBREVIATIONS

ANOVA:	Analysis of Variance
ECR:	Electronic Cash Register
EFD:	Electronic Fiscal Devices
EFDMS:	Electronic Fiscal Devices Monitoring System
EFP:	Electronic Fiscal Printer
ESD	Electronic Signature Devices
ETR:	Electronics Tax Register
GDP:	Gross Domestic Product
GOK:	Government of Kenya
GPRS:	General Packet Radio Service
IMF:	International Monetary Fund
INTA:	Iranian National Tax Administration
KRA:	Kenya Revenue Authority
POS:	Point of Sale
PIN:	Personal Identification Number
PLU:	Price Look-Up
TRA:	Tanzania Revenue Authority
UIN:	User Identification Number
VAT:	Value Added Tax
VRN:	VAT Registration Number

ABSTRACT

The Tanzania Revenue Authority was until 2010 using Electronic Cash Registers (ECR) and manual paper system in processing Value Added Tax collections. Those tax collection methods were prone to falsification and they did not have a fiscal memory which could record and store tax information resulted to huge loss of Value Added Tax revenues. The Authority therefore introduced the use of Electronic Fiscal Devices which are more technological advanced than the ordinary Electronic Cash Registers and manual system. Electronic Fiscal Devices project requires Value Added Tax registered traders to make proper use of the devices as the machines are expected to simplify and improve the efficiency of Value Added tax collection process and hence they may increase government Revenues. The objective of Electronic Fiscal Devices project was to tighten the grip on tax collection as Tanzania Revenue Authority was losing a lot of revenue through falsification and other malpractices. This study therefore has measured the impact on performance of Value Added Tax collection process caused by the implementation of the Electronic Fiscal Devices project.

The study was conducted in Tanzania Revenue Authority in Tanga city. Secondary data were collected from Monthly Value Added Tax collection reports and Electronic Fiscal Devices Monitoring System (EFDMS) three years before and after the introduction of Electronic Fiscal Devices. The data were analyzed using Statistical Package for Social Science and Excel.

The findings of the study indicated that Electronic Fiscal Devices have significant impact on VAT collection and Value Added Tax returns submission and also they have positive effect on Value Added Tax collections. Hence it was concluded that Electronic Fiscal Devices are useful in Performance of Value Added Tax collection process. The study recommended that Government should continue investing on Electronic Fiscal devices for Value Added Tax collection process.

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CHAPTER ONE

INTRODUCTION

1.1 Background information

Value Added Tax (VAT) is a type of sales tax. It is a form of indirect tax that is collected from someone but the tax burden is borne by somebody else who is the final consumer of the taxable goods and services (Allingham and Sandmo, 1972). VAT was introduced by a French economist in 1953. Then, Maurice Laure, the joint director of French Tax Authority started to use it on effect from 10th April 1954 for large businesses, and extended over time to all business sectors. Other countries like Canada and Singapore call it a goods and services tax.

VAT was introduced in Tanzania in 1997 to replace sales tax which had been in operation since 1976. It was practiced because of very high sales taxes and tariffs encourage cheating and smuggling (Worku,2008).(Kiiza, 2005) mentioned three advantages of VAT system:-

- VAT has extremely broad base yielding substantial revenue for the government at low rates,
- Administrative efficiency; VAT is a self-policing tax in that it minimizes tax evasion and Neutrality:
- From economic point of view; VAT is levied at a single rate and registration threshold without affecting consumers' choice among goods, Taxpayers' savings and consumption decisions are not affected by VAT, Exports are encouraged through zero-rating, there is no distortion of domestic production and distribution, and its mode should also be noted.

VAT is now the most common form of consumption tax system used in over 145 different countries in the world (PWC, 2010). According to Iranian National Tax Administration website; Most of the countries that use VAT as their taxation system have the following reasons:-

- VAT minimizes tax evasion

When VAT system is compared to other types of taxation systems with the limited tax basis, the phenomena of tax evasion is decreased due to the lower rate of tax and as a

result a reliable source of income which will be created for the government. On the other hand, if one firm (seller) cheats, it means that another firm (the buyer) loses, because both firms have to report their transactions and they have opposing interests. The system is self-enforcing and it makes tax evasion difficult.

- VAT facilitate the entrance to the regional protocols and treaties

It is difficult to avoid VAT because are guided by many reasons such as necessity of unified model of taxation system in economic relations between the members of protocols, creation of unified tax burden, motivating the members towards efficiency, industrial development, using the benefit of neutralization, and increasing the internal competition reasons. The aforementioned reasons have made the implementation of the value added tax as one of the criteria for acceptance of the members in the protocols and treaties.

- VAT simplify auditing and control

In the value added tax system, the invoices of sales are the basis for tax calculations and the amount of sales of goods and services are recorded in the specified columns of invoice. The value added tax is calculated and collected on that basis since the invoices are recorded in the general journal and ledgers of the firms. The way invoices are recorded, it makes the system of tax auditing and control to be simple and effective.

- VAT has minimum negative effect on allocation of resources

From economic point of view, the VAT is a neutral tax because it has least effects on production factors and economic decisions of the business units. The reason is that the value added tax system is calculated proportionally on value added generated by production factors in production cycle and it has not any bias to any kind of production method. According to the above mentioned points, it is said that the value added tax has not any distortion on market forces regarding to optimum resource allocation. The neutrality of value added tax is one of the key reasons to be accepted by the Central and Eastern European countries.

Tanzania Revenue Authority (TRA) is implementing its third corporate plan focused on modern and effective methods of revenue collections so that it can meet the country's budget revenue targets. The tax base in Tanzania as in most African countries is extremely narrow. So far, the attempts to increase tax revenues have focused on closing the 'taxation gap' and expanding the tax base. (TRA, 2008).

The VAT system was introduced in Tanzania as a measure to increase government revenue through expansion of tax base. VAT is levied on consumption of taxable goods and services supplied in Tanzania or imported into Tanzania at the rate of 18% and 0% respectively (VAT Act 1997). It is charged at the beginning of manufacturing process and is counted in each phase of product or service production and marketing until it reaches the consumer, who pays this tax (Štreimikienė and Mikalauskienė, 2006).

This system enabled Tanzania to increase its Domestic revenues to an average of 16.7% of Total Domestic Revenues between the year of its introduction 1998 and in 2011. The average of total tax contribution to GDP for the same period was 19.8%. This clearly indicates that in Tanzania, VAT contributed substantially to the growth of the national economy (TRA website). The system requires every trader who has the annual turnover of 40millions and sale taxable goods or taxable services to be registered and act as agent of government of Tanzania to collect VAT at designated points and submit VAT collected to TRA.

Before July 2002; VAT computations in Tanzania were made by using manual paper system of which the base of computations was the total taxable sales recorded by manual sales invoice and receipt books. However the manual system of VAT collection was not that much efficient and resulted to the loss of huge revenues. The main challenge in VAT administration under this system was tax evasion by non-issuance of tax invoices and under invoicing of sales' transactions since taxes that were calculated based on these records TRA had no control over them. Some revenues were lost because the system was manual and tedious due to some traders reported wrongly in their monthly returns because of the errors occurred in manual counting process of sale

receipts. It caused traders to pose great risk to VAT avoidance and evasion. There were no clear records because some consumers do not have the culture of asking for or demanding receipts. For these reasons the government concluded that the system was inefficient in collecting VAT.

In 2002 The Government of Tanzania introduced Electronic cash registers (ECRs) (Finance Act 2002), as the machines that record sales transactions of the traders at the Point of Sale. The law required VAT registered retailers to record their daily sales and issue receipts through these machines. But the system was then failed because most of them were not strong, to transmit sales information to TRA. The receipts generated through ECR did not show the name of customers, Taxpayer Identification number (TIN) and the descriptions of the good purchased and also TRA had no control over them. Based on these weaknesses traders were then back to manual system of issuing tax invoice and receipts.

Example of Electronic cash registers (ECRs)



Source:www.ebay.com

Based on inefficient and failure of both (ECRs and manual system) in collecting VAT, in 2010 the Government of Tanzania through its agency TRA introduced modern automated system of collecting VAT. The Finance Act of 2010 stipulates that all traders and business entities, regardless their business size ought to use the devices during transactions particularly in issuance of receipts. The system uses Electronic Fiscal Devices (EFDs) under VAT regulation of EFD in 2010 Subsidiary Legislation, Government Notice No. 192 published on May 28, 2010. The machines were designed to be used in business for efficient management controls in areas of sales analysis and stock control system and they conform to the requirements specified by the laws. These

machines replaced the manual paper system of issuing tax invoices and receipts. The core objective of the EFD project is to enhance revenue collections by enforcing the use of the Electronic Fiscal devices (EFDs) and ensuring tax compliance of VAT registered traders.

Reasons for using Electronic Fiscal Devices (EFD)

Unlike EFDs, ECR and manual system were prone to falsification. EFD has a tax memory that carries information on tax. Tax memory is programmable as read only memory. The tax memory capacity stores data for at least 5 years or 1800 days transactions. EFD issues fiscal receipts which are easily identifiable for inspection purposes and daily fiscal summary reports called Z-Reprts, Other features of EFD are:-

- It has in-built Fiscal Memory which cannot be erased by mechanical, chemical or electromagnetic interferences;
- Automatic self-enforcing Issuing of daily “Z” report after every 24 hours;
- Transmits tax information to TRA system automatically;
- It has irreversible date mechanism
- Issues fiscal receipts/invoice which is uniquely identifiable;
- It can be used as a stand-alone and configured into a network;
- It has at least 48 hours power backup, and it can use external battery in areas with no electricity supply;
- It saves configured data and records on permanent fiscal memory automatically
- It has tax memory capacity that stores data for at least 5 years or 1800 day transactions

TRA introduced EFDs (Electronic Fiscal Devices) because of the following reasons: Electronic Fiscal Devices simplify collection of taxes and payment of taxes and they help TRA to collect easy taxes from traders. They have wireless connection between customer's central servers which show the exactly amount for traders to pay, they reduce misreporting of data which is done by traders so as to escape paying of taxes to the government hence Electronic Fiscal Devices become the solution on collecting taxes by showing real amount to pay, they save time and cost to TRA for the whole process of collection of taxes because all business people have to pay their taxes through online

methods, they also reduce the cost of TRA management to use a lot of time to search for the traders who does not pay taxes because each and everything is done online.

VAT Act Cap 186 (Law of Tanzania) requires that once a taxpayer is registered for VAT he/she should always issue EFD generated receipts, declare correct returns and submit returns online through E-filing before the due date and display VAT certificate. Failure to adhere to these requirements heavy fines and penalties are imposed. The Government hopes the introduction of EFDs to curb the problem of VAT non-compliance and increase VAT collections due to the fact that sales transactions are monitored electronically through GPRS modem to TRA central server. Buyers are required to ask for tax invoice that will be generated by the EFDs, recording transactions data in the machines cannot be deleted and the date of transaction cannot be reversed. These are the only ways taxable transactions are captured.

1.2 Development of ETRs System in Kenya

Kenya is the East African Country like Tanzania; established VAT system in 1995 (GOK, 2004) and it is the most important source of state finance and accounts for approximately 46% of state revenues (GOK, 1993).

In recognition to the need of undertaking coherent and comprehensive reforms in some years back, Kenya Revenue Authority (KRA) adopted a Tax Administration Reform and Modernizations Programme whose primary objective was to modernize and integrate its operations in line with international best practice of tax collection. Under this ongoing programme, KRA has introduced ETR program as one among many tax administration reforms measures that have been undertaken. ETRs were introduced in June 2004 to ensure that sales are properly recorded by registered taxpayers in Kenya (Price Waterhouse Coopers, Oct. 2005). This initiative which is initially focused on improving compliance with VAT requirements has the capacity to transform revenue collection in this field as it has been used by other countries. In Kenya, it is an obligatory for any person who sells goods or services to consumers to use approved tax registers and other devices that have fiscal memory to issue sales documents. This tendency provides a reliable means for KRA to check the total sales and tax payable by individual taxpayer.

1.3 Problem Statement

The Government of Tanzania introduced Electronic Fiscal Devices (EFDs) in 2010 to be used by VAT registered traders in issuing tax invoices and receipts. Initially those traders used manual paper system in issuing receipts and tax invoices as the records in collecting VAT. According to TRA,2009; manual paper system posed great risks to loss of revenues because of non-issuance of tax invoices and under invoicing of sales transactions, some revenues were lost because the system was manual and tedious, some traders reported wrongly in their monthly returns because of the errors occurred in manual counting process of sale receipts and some consumers did not have the culture of asking for or demanding receipts. This situation called for introduction of EFDs aimed at improving VAT collections by eliminating the problem of non- issuance of receipts, under invoicing of sales transactions, improving filing process of VAT returns and assisting traders in keeping proper business records (TRA website). The main question remains how far do these machines really help the Authority in increasing VAT collections and enhancing VAT returns submission? Thus, there is a need to assessed really benefiting the government by increasing the VAT collections and enhancing VAT returns submission. This study has assessed the impact of EFDs on VAT collection process; on VAT collection volume, VAT returns submission and measured the effects of EFDs on VAT collection volume. This study was conducted in Tanzania Revenue Authority Tanga City.

1.4 Research Objectives:

1.4.1 Main Objectives

The main objective of this study was to assess the impact Electronic Fiscal Devices on value added tax collection process.

1.4.2 Specific Objectives

This study was guided by the following specific objectives:

- i. To examine the impact of EFDs on VAT collection volume
- ii. To assess the impact of EFDs on VAT returns submission
- iii. To evaluate the effect of EFDs on VAT collection volume.

1.5 Research Questions

The research specifically gave the answers to the following research questions:

- i. What are the impacts of EFD son VAT collection volume?
- ii. What are the impacts of EFDs on VAT returns submission?
- iii. What are the effects of EFDs on VAT collection volume?

1.6 Scope of the Study

This study was conducted in Tanzania Revenue Authority in Tanga city since there is no empirical evidence on the impact of using EFDs on efficiency of VAT collection process conducted in this city. By December 2013, Tanga City has been about 322 VAT registered traders (TRA Tanga Annual report 2013). All of these traders have adopted the modern Electronic Fiscal Devices.

1.7 Significance of the Study

Since the same study has not been conducted at Tanga city; this research will help TRA in making number of decisions especially on matters relating to EFDs in Maximizing VAT collections and on other side to eliminating unnecessary claims by users of devices. The knowledge generated will improve the working situation of the device to customers' satisfactions hence the TRA as whole. The study will also enable other researchers to get room for further research and as a source of knowledge related to EFDs; the study will also increase awareness to other stakeholders on EFDs.

1.8 Limitations of the study

This study features some of limitations, though the findings and conclusions were not much affected, it is important to highlight some of the limitations. Firstly, the study was conducted in the Tanga city only, and has not examined regional variations in Tanzania. Secondly the study only measured impact on VAT collections while EFDs may also have impact on income tax. However, the impact on income tax we assumed that would not affect the overall results and conclusions since EFDs under phase one ware purposely introduced for VAT collections.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents and provides meaning of different concepts/variables that will be used in the study. It also provides the description of the variables, the measurement of the research variables, relationships among research variables and similar studies from different areas. The presentation of literature review enables the researcher to come up with conceptual framework of the study.

2.2 Research Concepts

2.2.1 Electronic Fiscal Devices (EFDs)

An Electronic Fiscal Device (EFD) means a machine designed to be used in business for efficient management controls in areas of sales analysis and stock control system and which conforms to the requirements specified under the Electronic Fiscal Devices Regulations, (2010) and duly registered under regulation 5 of the same regulation (TRA, 2013). EFD includes Electronic Tax Register, Electronic Fiscal Printer and Electronic Signature Device. The EFD system was introduced to replace the manual paper system and ECR that proved futile under VAT administration that led to tax evasions and tax avoidance. In view of this, government decided to introduce the EFD as stipulated in the Value Added Tax (EFD) Regulations 2010, as a measure to improve VAT collections and curb revenue leakage and VAT compliance. Before it, tax evasion itself constitutes a deadweight loss for society (Usher, 1986). Electronic Fiscal Devices are like Point of Sale (POS) terminal devices dedicated to enhance the accountability systems and effective collection of value added taxes by registered traders. It has the flexibility of working with the existing POS system or work as a standalone unit. It stores the transactions data in two different types of memories with high level of encryption and communicates with central server to transfer the transaction details via internet or General Packet Radio Service (GPRS) mode of communication. The EFD also features a graphical display and a receipt printer to enable the stand alone mode of operation. All eligible users of EFD are required to apply for registration to the commissioner on a

prescribed form which can be obtained from nearest TRA office or online through TRA website.

The suppliers of EFD shall submit the applications form to TRA and the commissioner shall issue User Identification Number (UIN). Over 95 per cent of business entitles registered with the value added tax (VAT) have been using the Electronic Fiscal Devices (EFDs) by last December, according to the Tanzania Revenue Authority (TRA).

The government through TRA introduced the EFD to replace the Electronic Cash Registers (ECR) and manual system for the purpose of enhancing VAT collections and other taxes compliance. Depending on how a taxpayer is categorized, there are three types of EFDs. They are Electronic Fiscal Device (EFDs) which are used by retail traders to issue receipts manually. Electronic Signature Devices (ESDs) which are used by computerized businesses that issue invoices via software and Electronic Fiscal Printers (EFPs) which are used by computerized retail outlets such as supermarkets.

Electronic Tax Register (ETR): Appropriate and commonly used by retail businesses that issue receipts manually



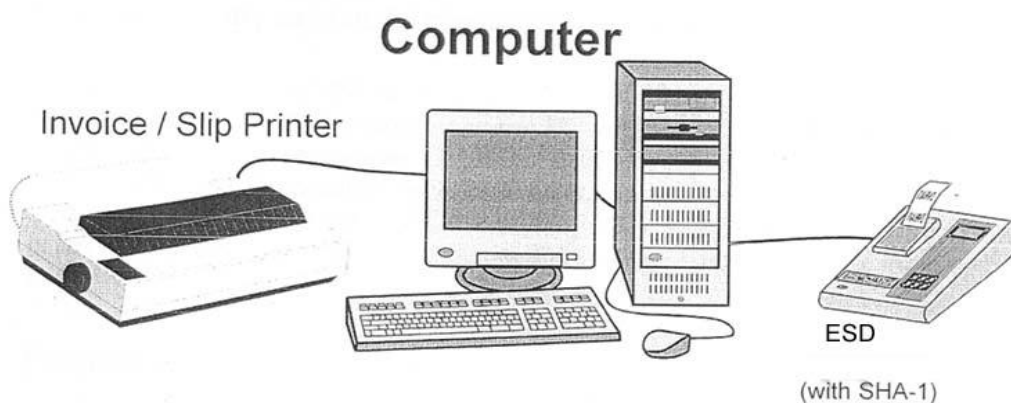
Source: www.tra.go.tz

Electronic Fiscal Printer (EFP): Used by computerized retail outlets suitable for business group such as supermarkets, petrol stations, ticketing etc.



Source: www.tra.go.tz

Electronic Signature Device (ESD): Used by computerized businesses that issue receipts or invoices via special accounting software. The users of this device include manufacturers, Whole sellers and the like. Value Added Tax Registered Traders in Tanzania Mainland are advised to select the device suitable to the category, operation and type of their business transactions.



Source: www.tra.go.tz

Documents Generated by EFDs

According to VAT act EFD Regulation of 2010 the following are documents that are generated by EFD:-

Transaction Receipt: This is the receipt printed in respect of each sale as it occurs. Such receipts printed from a register shall contain; the name and address of the user of the register, the VAT number of the user of the register, the Taxpayer identification number

(TIN) of the user of the register, the unique identification number of the register, Identity of supply, quantity, unit price, tax rate chargeable, and total value of the sale, the tax amount payable, the date and time of issue of the receipt, the total amount payable, inclusive of tax.

Daily Report: Approved Electronic Tax Registers must be designed to generate summary of transactions made each day by tax rate. This is called “Z reports” and must be used daily even if there is no transaction which has taken place.

Monthly Report: This report contains a summary of daily sales for the month's transactions by tax rates (Monthly Z-Report).

Annual Report: This is a summary of monthly sales for the year.

2.2.2 VAT collections volume.

VAT collections volume is defined as the amount of VAT revenue collected by TRA during the calendar month paid by VAT registered traders. (VAT Act 1997)

2.2.2.1 Factors that affects VAT collections Volume.

According to Egidijus Bikas and Emile Andruskaite, (2013); VAT collection volume is determined by a number of factors, including economic situation of the country, which is best characterized by gross domestic product. It is realized that the higher the standard of life in the country the higher the consumption, the better awareness of tax payments and lower tax fraud. Due to the fact that VAT is consumption tax, primarily VAT collections depends on the consumption level in the country. In addition, VAT collections are determined by the level of export and import. If export rate was zero, so the growth of export could have negative impact on VAT. It has been noted that export growth mostly follows domestic production, which could be pronominal as a result of households' disposable income or demand increase. On the other hand, variation in import promotes an opposite influence of income in VAT collections. The higher the import the lower is demand of domestic goods. As import is the target of VAT in the consuming country, the import increase results to higher VAT collections.

Bikas and Rashkauskas (2011) sized up households as the main VAT payers, and, as their core income is wage, authors subsume unemployment as a factor influencing increase of VAT revenues. But the proper uses of EFDs have positive effect on VAT

collections. Lumumba (2010) found that ETRs have enhanced the VAT revenue collections resulting from sound sales and stock audits and Timely submission of VAT returns

2.2.2.2 VAT collection Process,

According to VAT Act 1997; once you are registered you will be required to charge, collect and account for VAT on your taxable supplies and remit the tax to the Commissioner of Domestic Taxes. As a registered person you are also legally bound to submit online monthly returns with details of tax on goods and services charged to your customers (output tax) and tax on goods and services charged by your suppliers (input tax). Whenever you make a taxable supply, the supply is your output and the tax you charge is your output tax. If you purchase taxable supplies for furtherance of your business the supply is your input and the tax you pay is your input tax. You should subtract the input tax attributable to taxable supplies from your output tax and pay the difference to the TRA. If your input tax is greater than your output tax you should carry forward the difference as a credit to your next VAT return. In certain circumstances, you may be refunded the excess of your input tax over output tax if the Commissioner is satisfied that such excess arises from making zero rated supplies. If you provide both taxable and exempt supplies, the input tax that is not directly attributable to the former is apportioned using the partial exemption formula.

2.2.2.3 Advantages of EFD on VAT collection Process

According to EFD Regulation of 2010, EFDs have several advantages on VAT collection process such as enhance compliance of VAT and other tax laws, issuance of homogeneous fiscal receipts and fiscal invoices compelled to keep proper records of business transactions, accessible online to TRA's central server, to intensify controls, improve tax data safety and minimize the use of parallel and fake receipts, ensure easy access of online tax information and quick response to deviation or malpractices over the machine, facilitate efficient time management and compliance monitoring, facilitate retrieval of adequate information of other taxes, minimize tax disputes and simplify tax refunds and controls will in turn increase revenue collection in a minimum cost and effective way.

2.2.3 VAT returns submission.

A VAT return is a form used to submit tax payments to TRA(tra.go.tz). Economic.co.uk defined VAT return as the statement that shows how much VAT is due on Sales (output VAT) and how much VAT can be reclaimed on Purchases (input VAT) as well as dictating how much is then paid or reclaimed from Tax authority for a given period.

According to the European Commission website (ec.europa.eu/taxation), a VAT return is made up of the total VAT charged by a business and the total VAT paid by the business to suppliers. It explains the difference between the two amounts is either paid by the business if its incoming payments outnumber outgoing payments or claimed as a refund when outgoing VAT is higher than incoming.

Section 26 of VAT Act 1997 stipulates that Every taxable person shall, in respect of each prescribed accounting period, lodge with the Commissioner a tax return, in a form approved by the Commissioner containing any information which the form requires in relation to the supply by and to him of goods or services, the importation of goods, tax deductions or credits and any other matter concerning his business. The return shall be lodged by the last working day of the month after the end of the prescribed accounting period to which it relates or within such other time as the Commissioner may in a particular case determine by notice in writing together with payment of any tax due if any.

The VAT returns are currently submitted electronically through TRA website. VAT returns are measured using EFD simply to obtain amount of VAT that has been collected by Taxpayer during the month (Output VAT). VAT returns are measured by the number of VAT returns submitted per month.

2.3 Relationship between EFDs and VAT collection Volume.

As the number of EFDs increased, the VAT collection Volume is also expected to increase. The uses of EFD machines to VAT trader make the process of issuing tax invoice and receipts easy. The machines also simplify VAT collections process to TRA and more sales transaction are recorded that lead more VAT to be collected. VAT claims are also required to be supported by fiscal receipt, making the use of the machines eliminate the submission of fake claims by traders. All these controls lead to

increase VAT collection Volume. As the number of EFD increases and TRA put many efforts in proper VAT administration including enforcement to defaulters of VAT collection. Therefore, the Volume will gradually increase.

Lumumba (2010) comments that the machines are useful to enhance the revenue collections resulting from sound sales and stock audits.

2.4 Relationship between EFDs and VAT returns submitted

Every VAT registered trader is required to submit VAT return on or before the last working day of the month following the month of income. VAT returns are currently required to be submitted electronically through E-Filing system available in TRA website. All VAT returns are necessary to be submitted and if the trader has failed to submit them, he/she should pay fines and other penalties. The VAT returns may be showing payment of VAT, repayment of VAT or NIL. Reports generated through EFD machines simplify VAT computations process by taxpayers hence they facilitate timely submission of returns as a consequence of increasing the number of EFDs. Atambo et al, (2010) noted that timely filling of the Monthly VAT returns is attributed to many factors including. Most of businesses under his study have experienced timely filing of VAT returns due to the adoption of the ETR machines. Thus, ETRs have positive effect on VAT returns submission (YalemtesfaTaye2011).

2.5 Factors that contribute to fall of VAT collections

VAT non- compliance can be considered to be the opposite action or behavior to VAT compliance. VAT non-compliance comprises of VAT evasion and VAT avoidance. VAT evasion and VAT avoidance as the examples of VAT non-compliance activities have negative effects on VAT collections and VAT compliance. It is asserted that non-compliance is more than VAT evasion and it also includes some forms of VAT avoidance.

James and Alley define VAT evasion as ‘the attempt to reduce VAT liability by illegal means’ while VAT avoidance is defined as ‘reducing VAT by legal means’ (p. 28). Lewis (1982: 123) conceptualized VAT evasion as ‘any legal method of reducing one’s VAT bill’ and VAT evasion is ‘illegal VAT dodging’. Similarly, Kasipillai, Aripin and Amran (2003) perceived VAT evasion as actions which result to lower VAT than the

ones that are actually owed (p. 135). While VAT avoidance denotes the VAT payers' creativity to arrange their VAT affairs in a proper manner based on law and regulation (any provision not violated) so as to reduce their VAT bill and this is (or should be) acceptable in view of the VAT administrator. Kasipillai et al. (2003), Lewis (1982), Webley (2004), Elffers, Weigel and Hessing (1987) and Andreoniet al. (1998) express that non-compliance includes both intentional and unintentional actions. The latter action is normally caused by the calculation errors and inadequate VAT knowledge although there are other determinants.

Lewis (1982) outlined two major distinctions in intentional VAT evasion. One is evasion by commission and the next one is evasion by omission. Evasion by commission requires an action by VAT payer, for example claiming deductions or rebates where if a VAT payer is making a false claim, he will get a VAT saving (a commission on top of his evading actions). Contrarily, evasion by omission is intentional and should be classified as seriously as evasion by commission (Lewis, 1982). This kind of evasion requires VAT payers to do nothing in the VAT return (i.e. miss something out deliberately). It is noted when someone did not report his casual income or any cash-basis income. Based on the definitions and explanations on VAT evasion and avoidance given, Lewis (1982) doubts on the dividing line between evasion and avoidance as still remain unclear.

Across the countries, VAT evasion is predominantly influenced by only six variables namely price controls, public services, collected corporate VAT, GDP per capital, VAT system and the composition of government spending.

2.6 VAT Act and its Regulations

According to VAT act (1997) Under section 19, subsection (1) any person whose taxable turnover exceeds, or the person has reason to believe will exceed, the turnover prescribed in regulations made under this section, shall on and after the 1st day of January 1998, make application to be registered within thirty days of becoming liable to make such application.

Subsection (2); an application for registration shall be made in the manner and form prescribed in the regulations. Subsection (3); subject to this part, the Commissioner shall

register every applicant for registration who is eligible to be registered under subsection (1).

Subsection (4); where the Commissioner is satisfied there is good reason to do so, on grounds of national economic interest or for the protection of the revenue, he may register any person, whether or not an application to be registered has been made, regardless of the taxable turnover of the person.

Similarly, VAT act's regulation (2010) states that any person conducting a business whose taxable turnover exceeds or is likely to exceed Tsh.40 million in a period of 12 consecutive months or Tsh.10.million in a period of 3 consecutive months is obliged to register as a taxable person. Such person shall make application to be registered within thirty days of becoming liable to make such application.

2.7 Effectiveness of VAT regulations in VAT collection process in Tanzania

In Tanzania, VAT acts as a key budgetary source, and its contribution to the State budget is significant. VAT is characterized by the principle of self-assessment. Its principle creates the particular efficiency of VAT in comparison with other types of tax. Although this principle creates as already mentioned, the particular efficiency of VAT as compared with other types of tax, it is considered to be problematic because of the need for the tax authorities to trust the integrity of all the taxpayers. This requirement must be to the tax authorities carrying out sample audits and others to reexamine the accuracy of the assessments.

In economic theory, it is widely accepted to present VAT as a "self-enforcing" tax, in view of the special collection structure of the tax which is carried out in stages, as long as it is possible to cross-check between the invoices issued by the supplier and the invoices used by the business customer to offset tax. Practically, for the majority cases, this crosscheck is not carried out except for the cases in which in-depth auditing of the business takes place.

VAT fraud in general and the use of fictitious invoices in particular have become a very widespread phenomenon in the past decade. VAT fraud can be easily carried out due to

the basic simplicity of VAT as detailed below. Thus, it requires a fundamental change in the concept and the implementation of the law. A fictitious invoice is an invoice that "has been issued illegally". In other words, this is an invoice where at least one of the details contained in it is incorrect or is not in accordance with the transaction details like the supplier, the customer, the transaction amount, other details, or all of them together. Thus, it is possible that when the supplier exists also the transaction exists but the transaction amount (and accordingly the tax) has been changed in order to reduce the tax liability. There are cases in which there is no actual transaction behind the invoice. Another possible situation is when a genuine transaction took place but the invoice does not belong to the supplier but to a third party.

However, tax fraud can be much simpler since it is possible for a completely genuine invoice to be "reused" for a number of reporting periods or by a number of businesses. This is identical to using a fictitious invoice, in other words, offsetting input tax and reducing the tax liability in respect of transactions that never took place. Normally, the periodical reports submitted to VAT are not detailed as show only the total line. They also have no details of the individual sales and purchases behind the reported data. Therefore, they make enforcement of collection difficult. The implication of offsetting input taxes by self-assessment means only one thing of the business possibility to evade their VAT liabilities by offsetting fake input invoices. There is the chance of the fraud being detected by VAT authorities to be low, and its chance being detected in income tax assessments was almost zero.

One of the roles of the Tax Authority's is to fight against the phenomenon of fictitious invoices. The authorities have established internal committees at the beginning of the decade with the aim of considering methods for reducing the phenomenon. They could develop operative models and act upon their implementation by educating on the uses of new technological capabilities. The objective was to use information already available to the Taxes Authority in order to recognize the distributors at a relatively early stage of their activity and to reduce the extent of the loss of taxes. Experience shows that in most cases the lifetimes of companies' set up for the distribution of fictitious invoices is

relatively short up to one year. Hence the introduction of electronic VAT registers is reasonable in combating strongly on VAT evasion (VAT Act, 1997) under section 47.

Subsection (1), any person who is involved in fraud or who takes steps with a view to fraudulently evading tax or recovering tax, commits an offence and upon conviction shall, in addition to payment of tax which would have been paid, pay a fine twice the amount of tax involved or two million shillings, whichever amount is greater, or to imprisonment for a term of two years or to both.

Subsection (2) states that a person who deals in or accepts the supply or importation of any goods, or the supply of any services, and having reason to believe that the proper tax has not been or will not be paid or that any deduction or credit has been or will falsely be claimed in relation to it, commits an offence and upon conviction is liable to a fine not exceeding one million shillings or six times the amount of the tax evaded; whichever is greater, or to imprisonment for a term not less than six months but not exceeding three years, or to both the fine and imprisonment. Subsection (3); any goods which are the subject of an offence under this section shall, if the court convicts and so orders be forfeited.

EFD Regulation (20) which is related to Failure to use EFD states that any person who is required to use EFD and fail to do so for reasons beyond the provision of the Act or this regulation, commits an offence and upon conviction will pay the of fine of not less than 3M or imprisonment for term not exceeding 12months or both.

EFD Regulation (21) which is related to Fraudulent use of EFD declares that any person who take steps of using EFD in a manner aim at misleading the system or commissioner; In addition to tax will pay the fine twice the amount of tax involved or 4M which amount is greater or Imprisonment for term not exceeding 6months or both.

EFD Regulation (22) which is associated with Tempering with EFD and software declares that any person who tempers with EFD and its software will upon conviction pay the fine of not less than 1m or Imprisonment for the term not exceeding 3months or both. Also, failure to comply with Regulation 29 which requires every person to demand and retain a fiscal receipt or fiscal invoice in his possession for goods or services obtained.

2.8 Empirical Literature

The number of studies have been done by different scholars that assessed the impact of Electronic tax Devices on Value added taxes. Some of the studies measure the impact of the devices on taxpayers compliance, some of them measured their impact on revenue growth and others measured their impact on VAT returns submission.

Naibeian and Siringi(2011) examined the Impact of Electronic Tax Registers on VAT Compliance on private business firms in Kenya. The purpose of this study was to assess the impact on the uses of Electronic Tax Registers (ETRs) on Value Added Tax (VAT) compliance among private business firms in Kisumu city in Kenya. A sample of 233 private firms was selected from a population of 590 private firms using stratified sampling technique. The data were gathered by using questionnaires and data analysis was done based on correlation and descriptive statistics. Empirical results reveal that effective and regular use of ETR has a significant impact on the Value Added Tax (VAT) compliance ($R=0.622$, $p=0.005$). Based on the research findings the study concludes that the use of ETR has a significant impact on VAT compliance in Kenya.

Although this study was based in Kisumu in Kenya, its main focus was to examine the impact of Electronic Tax Registers on VAT Compliance. Therefore, it is significant to the current study which assesses the impact of EFDs on efficiency of VAT collection process. However, the study on hand is conducted in Tanga in Tanzania.

Chege(2010)assessed the impact of using electronic tax registers (ETR) on VAT compliance in Kenya to the classified hotels in Nairobi. The objectives of the study were to determine the impact of Electronic Tax Registers on VAT compliance among classified hotels in Nairobi and to identify factors affecting VAT compliance among classified hotels in Nairobi. This study adopted the survey research design which was the most appropriate as it entailed gathering of both primary and secondary data from classified hotels in Nairobi. The population consisted of all classified hotels, which were registered on VAT from 2004 to 2008. The research used both primary and secondary data. Primary data were obtained through self-administered questionnaires. The research findings indicated that there was an increasing of VAT collections due to the introduction of Electronic Tax Registers. Since ETR machines are appropriate and more

accurate on VAT reporting, they are deemed to enhance VAT collection. The study concluded that the classified hotels have adopted and complied with the requirements of VAT. The study recommended that the tax office should therefore strive to ensure full adoption of the ETR machines since they increase the declared VAT.

This study was conducted in Nairobi, Kenya with a focus of examining the impact of Electronic Tax Registers on VAT Compliance. However, the current study is based on Tanga, Tanzania with a focus of assessing the impact of EFDs on efficiency of VAT collection process.

Atambo and Anderson(2010)studied on the effectiveness of Electronic Tax Registers (ETRs) in processing the value added tax returns. The main purpose of this study was to assess the effectiveness of Electronic Tax Registers (ETRs) in processing the value added tax returns. The study population comprised of 98 VAT registered tax payers in Kisii town which is stratified into service providers, wholesalers and large scale retailers and supermarkets. The main instrument of collecting primary data was questionnaires while secondary data obtained from the KRA regional office. The respondents were senior, middle level and lower level managers. Analysis of data was mainly done using descriptive statistics. From the research data, most businesses (91 %) have acquired ETR machine. It indicates that most businesses in Kisii town have complied with the VAT requirements in Kenya. In addition, the timely filing of the Monthly VAT returns is attributed to many factors including ETR. "Most businesses indicated that timely filing of VAT returns was attributed to the adoption of the ETR machine. The use of ETR has also led to improved sales audit for the businesses. A part from that, it was found out that ETRs have enhanced revenue collection resulting from sound sales and" stock audits. Lastly, in evaluating the effectiveness of ETRs in filing VAT returns at regular intervals, it was found that the use of ETRs was not a waste of funds since it has assisted the business in many ways. The findings of these research projects are supposed to assist the Kenya Revenue Authority looking for the ways of improving the process of VAT returns. They will guide the authority to come up with other costless effective methods in which tax payers can use in processing their VAT returns.

This study was based in Kisii in Kenya as focusing on examining the impact of Electronic Tax Registers on VAT Compliance. However, the current study will be based in Tanga, Tanzania with a focus of assessing the impact of EFDs on efficiency of VAT collection process.

Weru and Kamaara (2013) studied the impact of strategic change on introduction of ETR for enhancement of tax collection at Kenya Revenue Authority. The study had the objective of establishing the effect of the change caused by implementation of the ETR project and if the ETR system enhanced the tax collection in Nairobi. The target population was 500 traders along Luthuli Avenue in Nairobi. They were Value Added Tax (VAT) holders who use the ETR machines and it also included ninety eight (98) KRA managers in the Department of Domestic Taxes.

The major findings indicated that ETR system had enhanced tax collection in business premises in Nairobi. The system had to a large extent provided an assistance in sealing loopholes of tax evasion in Nairobi. It was further found out that the stakeholders were yet to be trained effectively on the use of ETR machines. The system had also assisted the improvement of tax compliance. It was however observed that the system is yet to be fully institutionalized in the KRA system. The study has found that the Authority is still experiencing some resistances on changes from both internal and external customers.

This study focused to assess the impact of strategic change on introduction of ETR for enhancement of tax collection at Kenya Revenue Authority. However, the current study focused on assessing the impact of EFDs on efficiency of VAT collection process at Tanzania Revenue Authority.

Pandu (2012) studied the effects of using EFD on performance of VAT collection to VAT taxpayers in Dar es salaam, Tanzania. This study had the objective of establishing if the Electronic Fiscal Device had increased the speed at which taxpayers processed their VAT returns and if there were any associated costs in the process of VAT. Data were collected from registered VAT taxpayers in Dar es Salaam and TRA staff. The main instrument of collecting primary data was questionnaires while secondary data

were obtained from the Tanzania Revenue Authority offices. This study concluded that TRA should enhance the usage of EFD in order to combat tax evasion and increase VAT Collection.

Panduobserved that timely filling of the monthly VAT returns is attributed to many factors and EFD is the one of the factors. Further the introduction of EFD has assisted in cutting costs that the business used to incur in processing VAT. It was also found that EFDs have enhanced the revenue collection resulting from sound sales and stock audits. When the researcher evaluates the effectiveness of EFDs in filling VAT returns, it was realized that the use of EFDs has assisted the business in many ways.

This study focused to establish the effects of using EFD on performance of VAT collection the case study of VAT taxpayers in Dar es salaam, Tanzania. However, the current study focuses on assessing the impact of EFDs on efficiency of VAT collection process at Tanzania Revenue Authority in Tanga Town.

Lumumba and Peterson(2010) measured the effectiveness of Electronic Tax Registers (ETRs) in processing the value added tax Returns Perspectives from Registered VAT Taxpayers in Kisii town in Kenya. This study aimed at assessing the effectiveness of ETR in processing the Value Added Tax returns. The study sought to determine the extent to which the ETR are being used by the taxpayers, the problems that they were encountering in using them if any as well as to get possible solutions to the problems. The study intended to assess if the ETR had increased the speed when taxpayers processed their VAT returns and if there were any associated costs in processing VAT. The population under this study comprised of 98 VAT registered taxpayers in Kisii town. According to the regional KRA office's records, the population was stratified into service providers, wholesalers & large scale retailers and supermarkets. The main instrument of collecting primary data was the questionnaires while secondary data were obtained from the KRA regional office. The analysis of data was mainly done using descriptive statistics. The findings of this research project assisted the Kenya Revenue Authority looking for the ways of improving the process of VAT returns. Data were collected from 78 registered VAT taxpayers in Kisii town. The respondents were senior,

middle level and low managers. Out of the 78 registered VAT taxpayers only 68 responded where it gives a response rate of 87% percent. Data analysis tools that were used in the research were Excel and SPSS and data were presented in form of tables and graphs.

The researcher conclude that first, Kenya has witnessed significant changes in many aspects of it seconomy over the last four decades. But like most developing countries, it has been to contend with the common problems that plague tax systems of developing countries (Karingi, Wanjala, Dec, 2005).

Second, the timely filling of the monthly VAT returns is attributed to many factors where ETR is one of them. Furthermore, the introduction of ETR has assisted in reducing costs that the business used to incur in processing VAT.

Third, it was found that ETRs have enhanced the revenue collection resulting from sound sales and stock audits.

Fourth, in evaluating the effectiveness of ETRs in filling VAT Returns at regular intervals, it was found that the use of ETRs was not a waste of funds and has assisted the business in many ways. Last, KRA has articulated a vision for Kenyan customs and in the process of delivering such mandate. However, it has faced the following challenges while meeting its pillars. The addressed challenges the cost and classification of the businesses which need to use ETRs, ETRs are expensive, cost to be paid in installments and ETRs should be compatible with computers in business premises. This study was based on Kisii Town, Kenya with the focus of measuring the effectiveness of Electronic tax registers in processing of value added tax Returns Perspectives from Registered VAT Taxpayers. However, the current study has been conducted in Tanga, Tanzania and focused on assessing the impact of EFDs on efficiency of VAT collection process.

Taye (2011) assessed the impact of Electronic Tax Register on Value Added Tax, the case of Addis Ababa City Ethiopia. His study aimed at assessing the effectiveness of Electronic Tax Registers (ETRs) in the processing of Value Added Tax. The study

sought to determine the effect of Electronic Tax register on administration cost and compliance cost, the extent of tax evasion while using ETRs and audit follow up effects. The study established if the ETRs had increased the speed at which taxpayers processed their VAT returns and if there were any associated costs in the processing of VAT. The population under the study encompasses of 3000 VAT registered, 11 ETRs experts and ultimate tax payers with no limited number of people in Addis Ababa City. The main instrument of collecting primary data was the questionnaires while secondary data was obtained from the Ethiopia Revenue Customs Authority (ERCA). The data analysis was done using multiple regression and descriptive statistics. The findings of this research show that ETRs have positive effect on VAT returns and others independent variables have significant effect on VAT income except compliance cost. This study was based on Addis Ababa City Ethiopia with a focus of assessing the impact of Electronic Tax Register on Value Added Tax. However, the current study is based on Tanga, Tanzania with the aim of assessing the impact of EFDs on efficiency of VAT collection process.

Adari's (1997) study focused on the introduction of Value Added Tax (VAT) in Kenya that replaced sales tax in 1990. The study analyzed the structure, administration and performance of VAT. The estimated buoyancy and elasticity coefficients were less than unity implying a low response of revenue from VAT to changes in GDP. It was suggested that there were the presence of laxity and deficiencies in VAT administration. However, the estimation of buoyancy and elasticity coefficients were done totally in disregarding the time series properties and without taking care of unusual observations in the data. Therefore, the results were not reliable for planning purposes.

Omweri and Bernard (2010) conducted a study on assessing the effectiveness of Electronic Tax Registers (ETRs) in the collection of VAT returns. The study measured the problems face tax payers and tax collectors on using Cash Register Machine as well as the possible solutions to the problems. The study on the effectiveness of Electronic Tax Registers had been recently introduced by the Kenyan tax authority. The study sought to establish if the Electronic Tax Registers had increased the speed at which

taxpayers processed their VAT returns and if there were any associated costs in processing VAT.

The population under the study comprised of 98 VAT registered taxpayers in Kisii town according to the regional KRA office's records. The researcher stratified the population (VAT registered organizations) in to four different groups at the point of their activities that are service providers, wholesalers & large scale retailers and supermarkets. The researcher used primary and secondary data and the main instrument of collecting 24 primary data was the questionnaires while secondary data were obtained from the KRA regional office. Data analysis was mainly done using descriptive statistics sorted and summarized in tables and diagrams. Data analysis tools used in the research were Excel and SPSS and data were presented in form of tables and graphs.

Based on the results from data analysis and findings of the research, they conclude the following;

First, Kenya has witnessed significant changes in many aspects of its economy over the last four decades. But like most developing countries, it had to contend with the common problems that plague tax systems of developing countries (Karingi, Wanjala, Dec, 2005).

Second, the timely filling of the monthly VAT returns is attributed by many factors together with ETR. Furthermore, the introduction of ETR has assisted in reducing costs that were challenging the business in processing VAT.

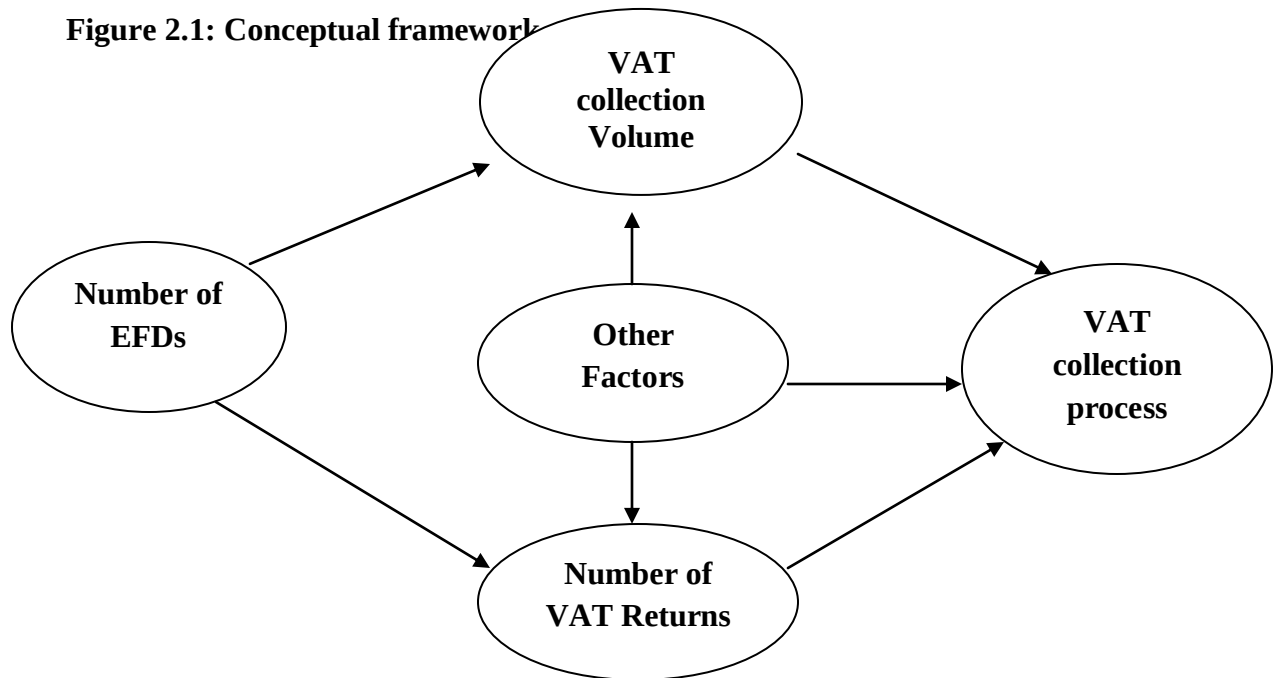
Third, it was found that ETRs have enhanced the revenue collection resulting from sound sales and stock audits. Fourth, in evaluating the effectiveness of ETRs in filling VAT Returns at regular intervals, it was found that the use of ETRs was not a waste of funds as it has assisted the business in many ways.

2.9 Conceptual Framework

The conceptual framework below shows that a VAT collection volume depends upon the number of EFD machines as to be use by VAT traders during the VAT accounting

period. And the number of VAT returns submitted depends on the number of EFDs in operations, if the VAT traders will make proper uses of EFDs. VAT computation becomes easy in facilitating timely submission of VAT returns. The model also shows that VAT collection Volume depends on other factors (level of tax fraud, the level of export and import, awareness of tax payments, consumption level in the country and the Standard of life in the country)

Figure 2.1: Conceptual framework



Source: Researcher (2014),

Models of VAT collections are usually based on production function, whereby VAT collections become dependent variable and Number of EFDs becomes independent variable. In this model, VAT collection volume is affected by Number of EFDs in operations, and other factors. The model of the study can be expressed as shown in equation.

$$Y = \alpha + \beta X + \varepsilon \dots\dots\dots 1$$

Where

Y is an observed VAT collection volume or number of VAT returns,

α is constant,

X is the number of EFD, and

E is other factors that may affect VAT collection Volume

2.10 Hypotheses of the study

Based on the above conceptual framework and literature review, the following hypotheses were generated:-

1. Electronic Fiscal Devices has significant impact on VAT collection volume.
2. Electronic Fiscal Devices has significant impact on VAT returns submission.
3. Electronic Fiscal Devices has positive effect on VAT collection volume

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods and procedures that were followed in conducting the research. It describes the type of the study, the study area, variables and their measurements, types and Source of data. It goes on to explain the data collection procedure, the data collection instruments and the data analysis techniques that were involved in the research.

3.2 Type of the study

Towards undertaking this study, a case study was employed. The design chosen is due to the fact that the unit to be studied was Tanzania Revenue Authority-Tanga branch. It had to involve in-depth rather than breadth analysis of the problem under the study. The objective of the case study is to locate the factors that account for the behavior-patterns of the given unit as an integrated totality. As other approaches, the case study approaches starts with research questions. Then, the data to be collected and analyzed should answer the research questions. Through the process of research, the case study approach tends to generate, elaborate, or test theory (Kothari, 2008).

3.3 Study area

Tanzania is a big country embodying wide geographical differences. Taking into account of this the research was conducted in Tanzania Revenue Authority Tanga City. The researcher decided to choose TRA Tanga because he is an employee of TRA in Tanga Region. Therefore, it was easy to get enough data and to minimize the traveling cost.

3.4 Variables and their measurement

3.4.1 Dependent variable

The dependent variable of the study was VAT collections volume. This variable was measured by VAT collected by TRA for the accounting periods that is calendar month.

3.4.2 Independent variables

The independent variable of the study will be the number of EFD machines in operations for the particular accounting period. This variable will be measured by looking on the number of EFD machines were in operations during the accounting period. Another variable which will have effect on dependent variable is the number of VAT returns submitted by VAT taxpayers for the accounting periods.

3.4.3 Measurement by Objectives

Objective 1: It was measured by comparing impact of EFDs on VAT collections before and after EFD introduction

Objective 2: It was measured by comparing impact EFDs on VAT returns submitted before and after EFD introduction

Objective 3: It was measured by evaluating effect of EFDs on VAT collections after EFD introduction

3.5 Types and Sources of data

3.5.1 Types of Data

The researcher on the impact of EFD on VAT collection a case of Tanzania Revenue Authority used secondary data including quantitative Secondary data so as to achieve the desired goal of the research.

3.5.2 Sources of Data

The researcher has used data from the secondary source available in Tanzania Revenue at Authority Tanga Regional Office. They included Monthly VAT collections and number of returns submitted that have been obtained from monthly of VAT collections reports and number of EFD in operations. Specifically, they were obtained from Electronic Fiscal Devices Monitoring system (EFDMS).All of the data that were collected were from the financial years 2007/2008 to 2012/2013 and 2010/2011 to 2012/2013 respectively.

3.6 Data collection methods

The secondary data related to the research topic were collected so as to reach the objective intended to be attained in this research. All research data were collected from TRA in Tanga based on Monthly VAT Collection volume and monthly VAT returns. Those basic information were collected from monthly VAT reports 3years before and after the introduction of EFDs and the number of EFDs distributed were collected from Electronic Fiscal Devices Monitoring System (EFDMS).

Table3.1: Groups of data collected and periods.

Periods	Variables	Monthly data collections/ Durations
BEFORE EFD	VAT Collections (in Millions)	From July 2007/2008 to June 2010/2011
	No of VAT Returns Submitted	
AFTER EFD	VAT Collections (in Millions)	From July 2010/2011- June 2013/2014
	No of VAT Returns Submitted	
	Number of EFD entering the operations	

Source: Researcher (2014)

3.7 Data analysis methods and Techniques

The research data collected were analyzed using Statistical Package for Social Science software (SPSS) and Excel computer application by first performing preliminary analysis. This procedure was crucial on checking missing values, outliers, normality check. Then, researcher performed a descriptive analysis of the data to measure Central tendency of data by (mean, mode and median) and measures the variability which includes the standard deviation, variance, minimum and maximum values of the variables, finally, the researcher did an inferential statistics by performing paired sample T-test, correlation and regression analysis.

Inferential analysis of the data for objective one and objective two have been done by using paired sample T-test that measured the impact of EFDs on VAT collections and VAT returns respectively before the introduction of EFDs (Time 1) and after the introduction of EFDs (Time 2).

Inferential analysis for objective three was done by finding the level of correlation between monthly VAT collections and number of EFDs and obtained the correlation coefficient. Then, further regression analysis with linear regression model to find the effect of EFDs on VAT collections Volume was performed.

CHAPTER FOUR

FINDINGS, DATA ANALYSIS AND INTERPRETATIONS

4.1 Introduction

The chapter confers the research findings, data analysis and the interpretation of the findings based on the objectives of the study. This chapter presents data analysis and interpretation where the researcher carried out preliminary data analysis and inferential data analysis based on the objectives of the study.

4.2 Data analysis and Interpretations.

The research data collected were analyzed using Statistical Package for Social Science (SPSS) software by performing first preliminary analysis (missing data check, outlier check, nominal check ,descriptive analysis) and the data were then undergone inferential statistics by performing paired sample T-test, correlation and regression analysis as here under:-

4.2.1 Preliminary data analysis

4.2.1.1 Missing data check

The researcher conducted the missing data check since missing data sometimes may occur when data collection is done improperly or mistakes are made in data entry. The table 4.1 below shows the results of the missing data check:-

Table 4.1: Results of missing data check

Statistics					
	VAT collection before use EFD	VAT collection after use of EFD	Number of EFDs distributed	Number of VAT return submitted before EFDs	Number of VAT return submitted after EFDs
Valid N	36	36	36	36	36
Missing	0	0	0	0	0

a. Multiple modes exist. The smallest value is shown

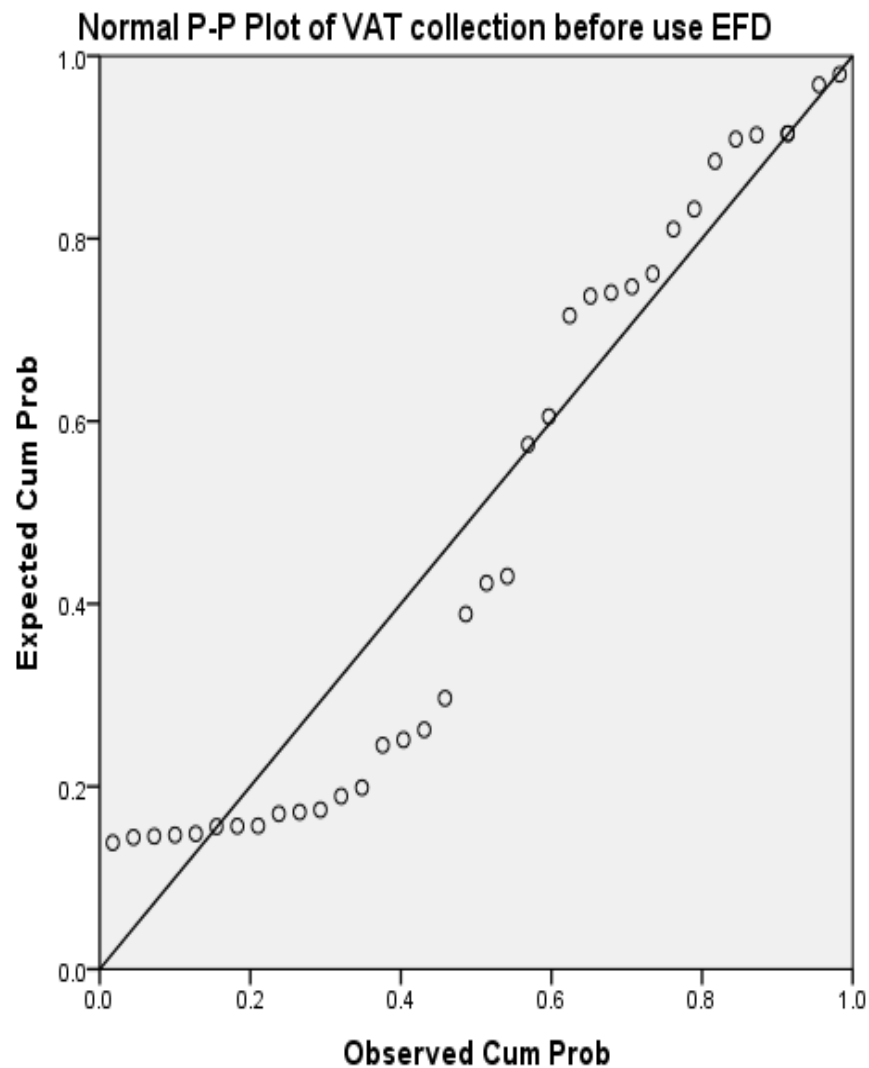
Source: Researcher (2014)

The results on the table 4.1 reveal that there was no missing data as all variables in the second row show 0 in all columns.

4.2.1.2 Outlier check-

Outliers are data values that differ greatly from the majority of a set of data. These values fall outside of an overall trend that is present in the data. We always need to be on the lookout for outliers. Sometimes they are caused by error. Other times outliers indicate the presence of a previously unknown phenomenon. Another reason that we need to be diligent about checking for outliers is that all the descriptive statistics are sensitive to outliers. The mean, standard deviation and correlation coefficient for paired data are just a few of these types of statistics. The research unperformed the outlier check to determine the outlier effects for the data of each variable. The following graphs show the outlier effects of each group of variables.

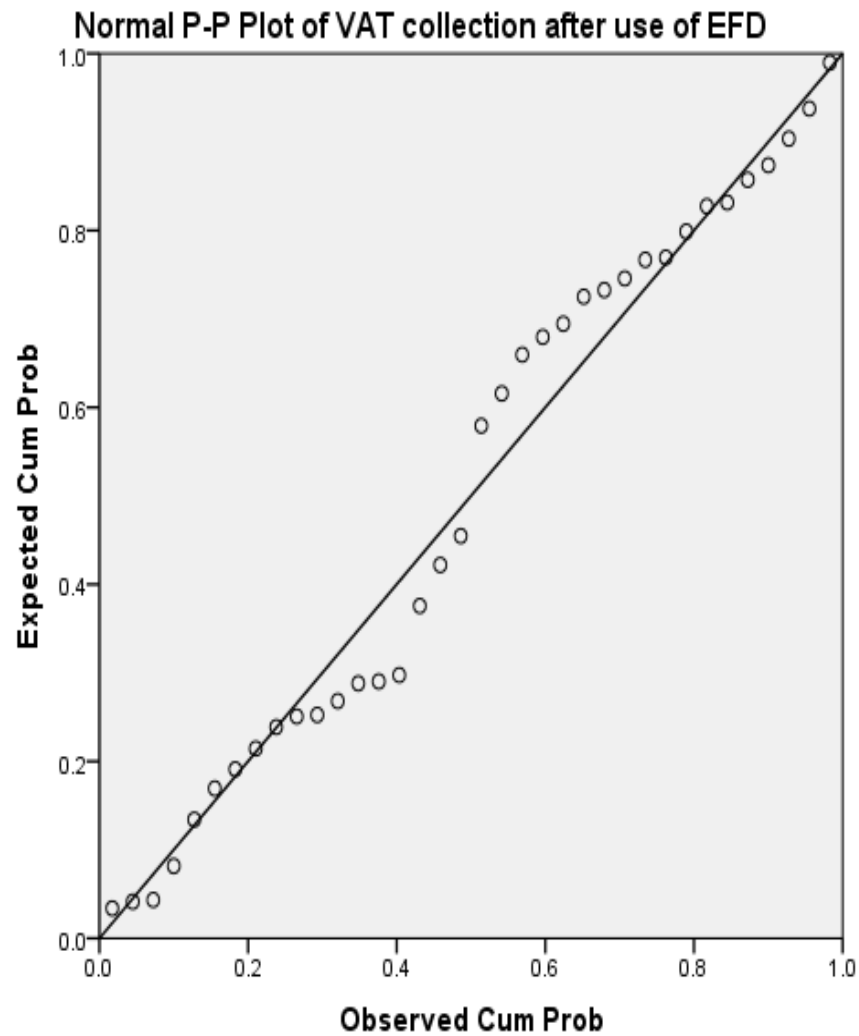
Figure 4.1: Distribution of VAT collections before using EFDs



Source: Researcher (2014)

Figure 4.1 above reveals that the data of VAT collections before using EFD were normally distributed as we see that all the data are close to the normal distribution lines.

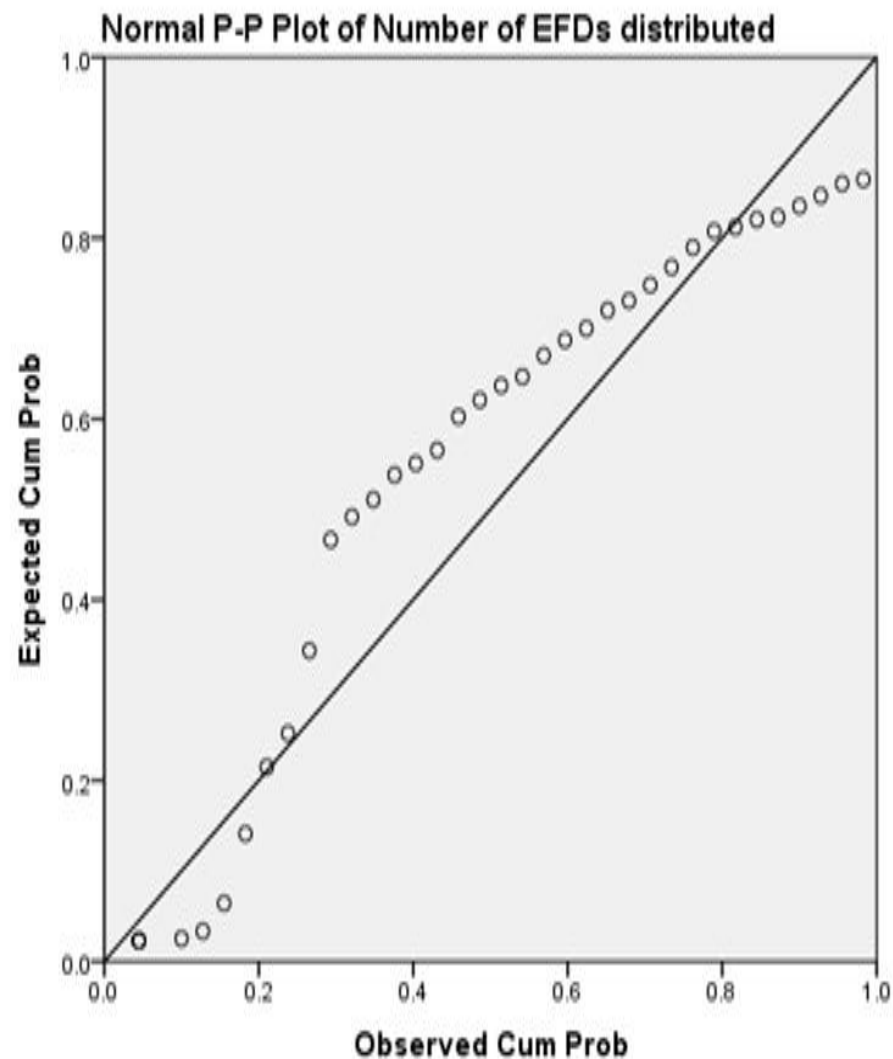
Figure 4.2: Distribution of VAT collections after using EFDs



Source: Researcher (2014)

Figure 4.2 reveals that the VAT collections after using EFD were normally distributed as we see that all values are close to the normal distribution lines.

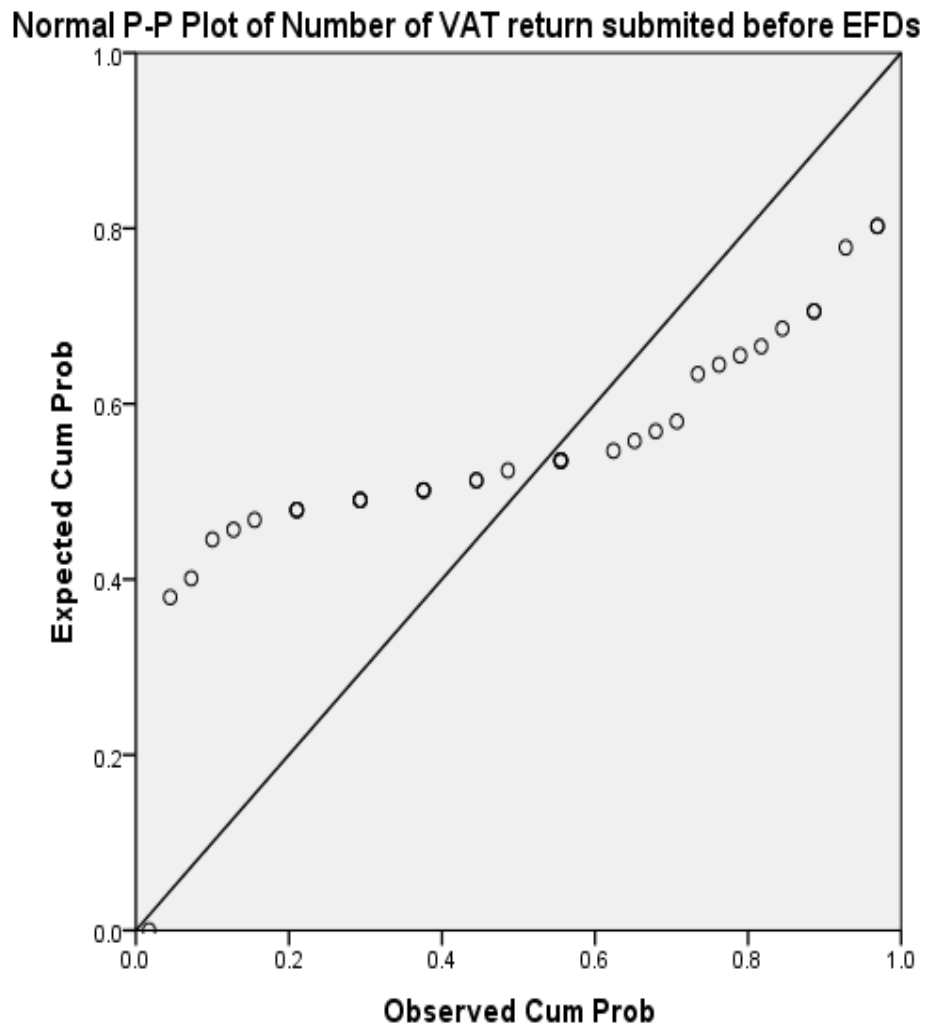
Figure 4.3: Distribution of Number of EFDs



Source: Researcher (2014)

Figure 4.3 above reveals that the values of numbers of EFDs were normally distributed as it appears that all values are close to the normal distribution lines.

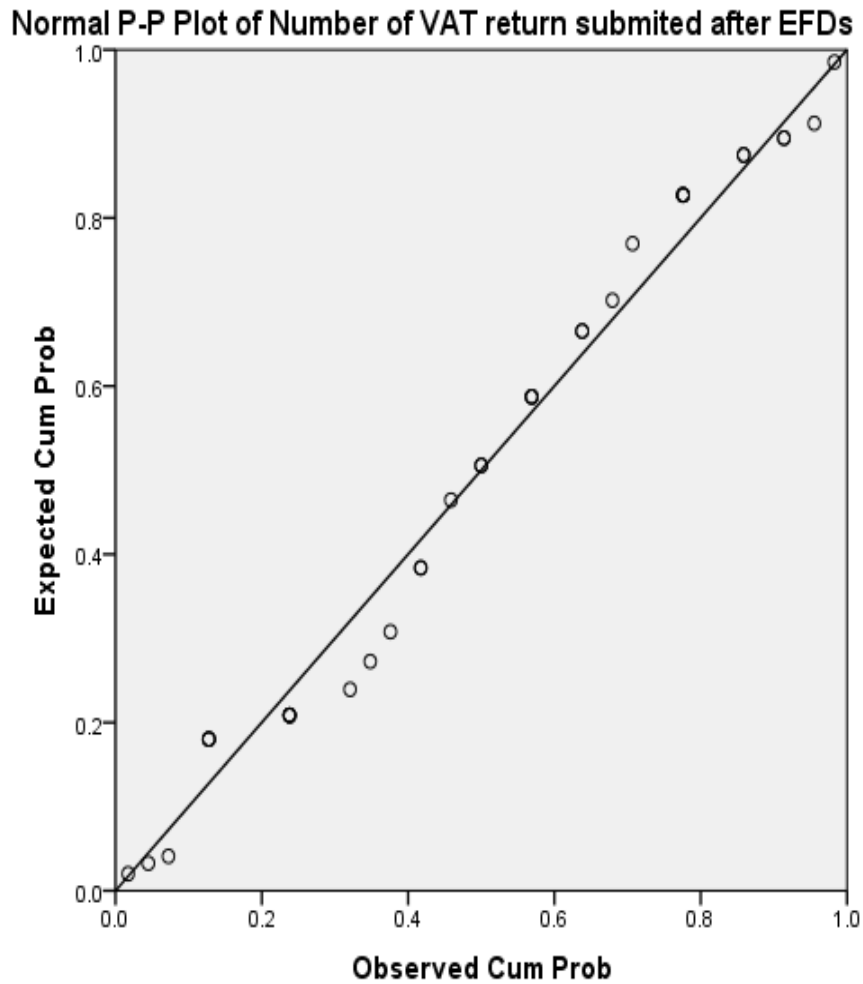
Figure 4.4: Distribution of VAT returns before EFDs



Source: Researcher (2014)

Figure 4.4 reveals that the values of number of VAT returns submitted before using EFD were normally distributed as we see that all of them are close to the normal distribution lines.

Figure 4.5: Distribution of VAT returns after using EFDs



Source: Researcher (2014)

Figure 4.5 reveals that the values of number of VAT returns submitted after using EFD were normally distributed as we see that all the data are close to the normal distribution lines.

4.2.1.3 Normality check:

The Researcher has further gone through the data to perform the normality test. In statistics, normality tests are used to determine if a data set is well-modelled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. The output of the normality check is skewness and kurtosis as it is seen in the table below:-

Table 4.2: Results of Normality check of the data.

Descriptive Statistics

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAT collection before use EFD	36	249.1728	.480	.393	-1.196	.768
VAT collection after use of EFD	36	425.9286	.030	.393	-.543	.768
Number of EFDs distributed	36	376.97	-1.013	.393	-.231	.768
Number of VAT return submitted before EFDs	36	222.8611	-2.203	.393	9.809	.768
Number of VAT return submitted after EFDs	36	256.8611	-.058	.393	-.523	.768
Valid N (list wise)	36					

Source: Researcher (2014)

In assessing univariate normality from the Table 4.2, it was identified that all skewness indices ranged between -2.203 and 0.480 (recorded range is between -3 and 3). Based on these results, indices are less than 3. This indicates that data of the study were univariate normally distributed. On the other hand, kurtosis indices ranged between -0.543 and 9.809 (required indices should be less than 10.0 (Kline, 2005)). Therefore, the data are normally distributed and the subsequent analysis can use parametric formulas.

4.2.1.4 Descriptive analysis:

Researcher performed the descriptive statistics of the data to measure Mean, Standard Deviation, Maximum data, Minimum data, Mode and Median. Descriptive statistics is the discipline quantitatively describing the main features of data or the quantitative descriptions. Even when a data analysis draws its main conclusions using inferential statistics, descriptive statistics are generally also presented. Some of the measures that are commonly used to describe a data set are measures of central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the standard deviation, variance, minimum and maximum values of the variables. McGraw (2008) defined the measures of descriptive statistics as the mean of a set of observations in their average. It is equal to the sum of all observations divided by the number of observations in the set. The median of the data set is the middle value of the data set while the mode of the data set is the value that occurs most frequently. The standard deviation of a set of observations is the

(positive) square root of the variance of the set. The maximum data is the largest value in the data set and the minimum data is the minimum value of the data set.

Table 4.3: Results of the Descriptive statistics of the data

Descriptive Statistics									
	N	Min.	Max.	Mean	Std. Dev.	Median	Mode	Variance	Range
VAT collection before use EFD	36	211.90	319.43	249.17	34.27	240.99	296.21	1174.59	107.53
VAT collection after use of EFD	36	334.66	541.76	425.92	49.99	428.09	334.66 ^a	2498.79	207.10
Number of EFDs distributed	36	0	585	376.97	188.76	439.00	0	35630.7	585
Number of VAT return submitted before EFDs	36	25.00	253.00	222.86	35.42	225.50	226.00	1254.64	228.00
Number of VAT return submitted after EFDs	36	237.00	278.00	256.86	9.69	257.00	249.00	93.894	41.00
Valid N (list wise)	36								

Source: Researcher (2014)

4.2.2 Inferential statistics and their results

The data were used to measure inferential statistics of the variables under each objective. The following are the results of each objective and their interpretations:-

4.2.2.1 The impact of EFDs on VAT collection volume;

In determining the impact of EFDs on VAT collections, the researcher applied Paired sample T test to compare VAT collections before the introduction of EFDs and VAT collections after the introduction of EFDs. Before using Paired Sample T-Test, the researcher has first done correlation analysis that measures association among variables (number of EFDs and VAT collections). The correlation coefficient is a measure of linear association between two variables. Values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear sense. While a correlation coefficient of -1 indicates that two variables are perfectly related in a negative linear sense, and a correlation coefficient of 0 indicates that there is no linear relationship between the two variables. Here below are the results of the Test:-

Table 4.4: Results of Paired sample statistics of VAT collection before and after EFDs

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAT collection before use of EFDs	249.1728	36	34.27239	5.71206
	VAT collection after use of EFDs	425.9286	36	49.98791	8.33132

Source: Data analysis

From Table 4.4 it is revealed that the mean of VAT collections after using EFDs (249.1728) is greater than the mean of VAT collections before using EFDs (222.8611). This indicates that EFDs have the significant impact on VAT collections.

Table 4.5: Results of Paired sample correlation between VAT collection before using EFDs and VAT collection after use of EFDs

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	VAT collection before use of EFDs	36	0.845	.000
	VAT collection after use of EFDs			

Source: Researcher (2014)

From table 4.5 above, it is revealed that there is strong correlation between two variables(VAT collected in the two periods) as the correlation coefficient is 0.845

Table 4.6: Paired sample T-Test Results of VAT collected in two Periods

Paired Samples Test

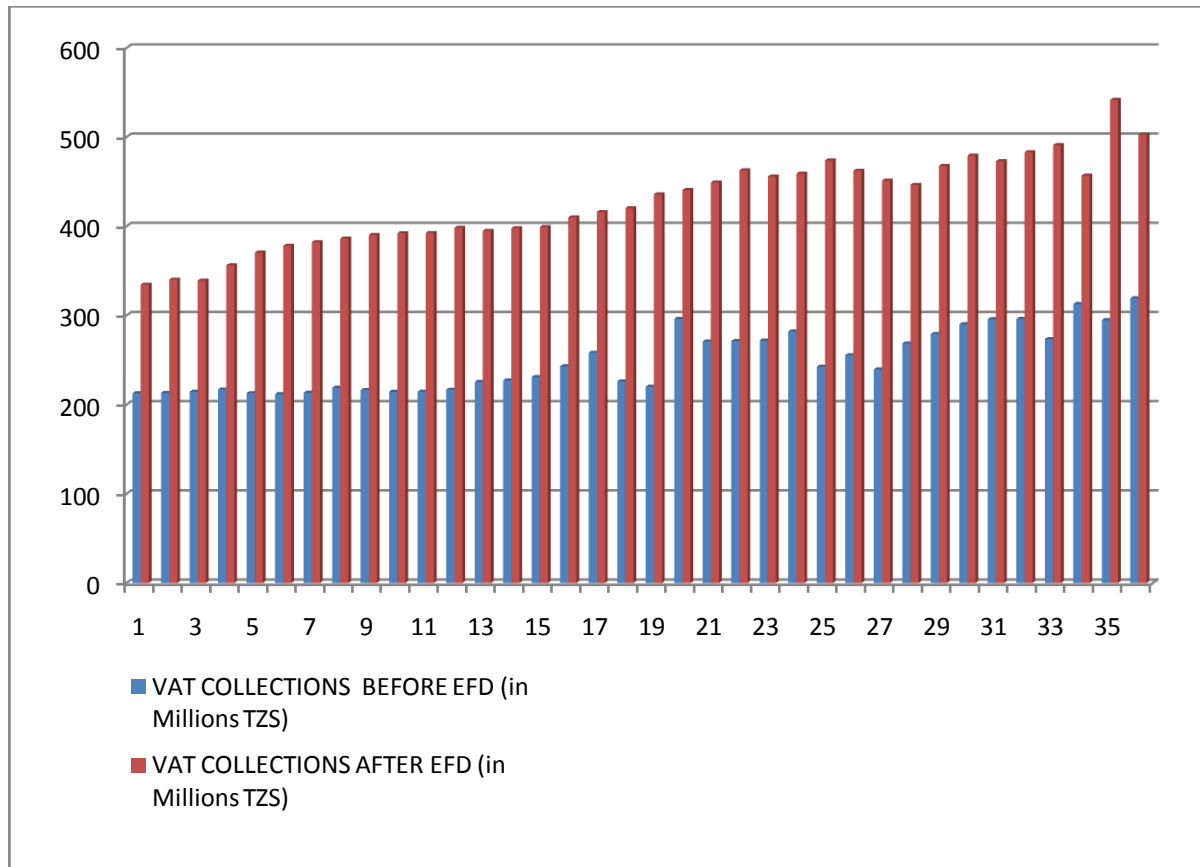
		Paired Differences					t	df	Sig. (2tailed)
		Mean	Std. Deviat ion	Std. Error Mean	95% Confidence Interva l of the Difference				
					Lower	Upper			
Pair 1	VAT collection before use of EFDs	-176.75	27.89	4.65	-186.19	-167.31995	- 38.0 2	35	.000
	VAT collection before use of EFDs								

Source: Researcher (2014)

A paired-sample t-test was conducted to evaluate the impact of EFDs on VAT collection volume. The impact was evaluated by observing the difference between the VAT

collection before using EFDs and after using EFDs. From the Tables above it is noted that there is significant difference mean to VAT collection from the two periods (Mean VAT collection before using EFDs = 149.1728, SD=34.27239 and mean VAT collection after using EFDs = 425.9286, SD=49.98791; $t(df=35)=-38.029$, $p=0.000$ (two-tailed) at the magnitude of the differences in the means (mean difference=-176.7558, 95% C: -186.19171 to -167.31995)). Furthermore, the results reveal that there is a strong correlation of 0.845 among the VAT collected in the two periods. The correlation between the periods was significant as p was 0.000.

Figure 4.6: Impact of EFDs on VAT collections



Source: Researcher (2014)

Figure 4.6 shows that the impacts of EFDs on VAT collections as the Values of VAT collections after EFDs are high as compared to the values of VAT collections before EFDs.

4.2.2.2 The impact of EFDs on VAT returns submission

In determining the impact of EFDs on VAT returns submission the researcher has used Paired sample T-test to compare number of VAT returns submitted before the introduction of EFDs and the number of VAT returns after the introduction of EFDs. Here below are the results of the Test:-

Table 4.7: Results of Paired sample statistics of VAT returns before and after EFDs

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAT returns before use of EFDs	222.8611	36	35.42086	5.90348
	VAT returns after use of EFDs	256.8611	36	9.68991	1.61499

Source: Researcher (2014)

From Table 4.7, it is observed that the mean of VAT returns after using EFDs is 256.8611 which is greater than the mean of VAT returns before using EFDs which is 222.8611. This indicates that EFDs have the significant impact on VAT returns submission.

Table 4.8: Paired sample correlation of VAT returns before and after EFDs

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	VAT returns before use of EFDs	36	0.426	.010
	VAT returns after use of EFDs			

Source: Researcher (2014)

From table 4.8 above, it is revealed that there is strong correlation between two variables (VAT collected in the two periods) as the correlation coefficient is 0.426

Table 4.9: Paired sample T-Test Results of VAT returns of the two periods

Paired Samples Test

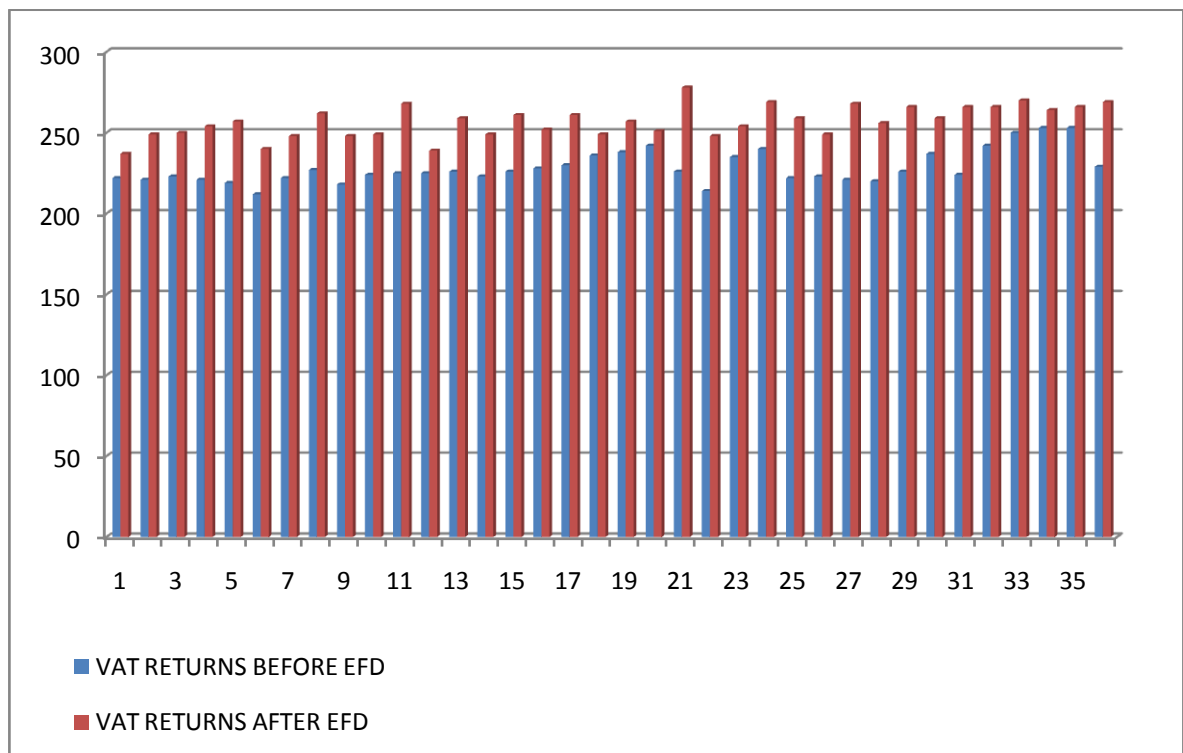
		Paired Differences					t	df	Sig. (2tailed)
		Mean	Std. Deviat ion	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	VAT Returns before use of EFDs	-34.00	32.50	5.42	-45.00	-23.00	-6.27	35	.000
	VAT returns after use of EFDs								

Source: Researcher (2014)

A paired-sample t-test has been used to evaluate the impact of EFDs on VAT returns submitted. The impact was evaluated by evaluating the difference between the VAT returns submitted before using EFDs and after using EFDs. From the Tables4.9 above, it

is noted that there is significant difference mean to VAT returns from the two periods (Mean VAT returns submitted before using EFDs = 222.8611, SD=35.42086 and mean VAT returns submitted after using EFDs = 256.8611, Standard Deviation=9.68991; $t(df=35)=-6.27$, $p=0.000$ (two-tailed) at the magnitude of the differences in the means (mean difference=-34.00, 95% C: -45.00to -23.00)). Furthermore, from the results it was revealed that there is a strong correlation of 0.426 among the VAT returns in the two periods. The correlation between the periods was significant as p was 0.000.

Figure 4.7:Impact of EFDs on VAT Returns submission



Source: Researcher (2014)

Figure 4.7 above shows that the impact of EFDs on VAT returns submission as the Values of VAT returns submitted after EFDs are high as compared to the values of VAT returns submitted before EFDs.

4.2.2.3 The effect of EFDs on VAT collection volume

The data were first applied in correlation analysis to measure the association between variable. Furthermore, regression analysis was done to identifying the relationship

between a dependent variable (VAT collections) and independent variable (Number of EFDs used). Here below are the results of the analysis:-

Table 4.10: Correlation analysis between VAT collection after EFDs and Number of EFDs

Correlations

		VAT collection after use of EFD	Number of EFDs distributed
VAT collection after use of EFD	Pearson Correlation	1	.907**
	Sig. (2-tailed)		.000
	N	36	36
Number of EFDs distributed	Pearson Correlation	.907**	1
	Sig. (2-tailed)	.000	
	N	36	36

VAT collection after use of EFD	0.907	
Number of EFDs distributed		1

Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher (2014)

From Table 4.10above, it is revealed that there is significant and positive correlation between VAT collection and number of EFDs used. It was observed that a single increase in EFD to the VAT traders increases VAT collection by 0.907 units.

Table 4.11: Correlation Model summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.907 ^a	.822	.817		21.37331

a. Predictors: (Constant), Number of EFDs distributed

Source: Researcher (2014)

Table 4.11 above shows the summary of the correlation model, it shows that the number of EFDs distributed affect VAT collections by 82.2%.

Table 4.12: ANOVA between VAT collection after EFDs and Number of EFDs

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71925.853	1	71925.853	157.449	.000 ^b
	Residual	15531.831	34	456.819		
	Total	87457.684	35			

a. Dependent Variable: VAT collection after use of EFD

b. Predictors: (Constant), Number of EFDs distributed

Source: Researcher (2014)

Table 4.12 tested the significant differences between means of the two groups of variables to test whether the samples are all alike or not. The results showed that means for the two groups are quite different. Variance computed as the sum of squared deviations from the overall mean, divided by n-1 (sample size minus one).

Table 4.13: Regression analysis between VAT collection of EFDs and Number of EFDs.

Coefficients^a

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	335.396	8.046		41.682	.000
Number of EFDs distributed	.240	.019	.907	12.548	.000

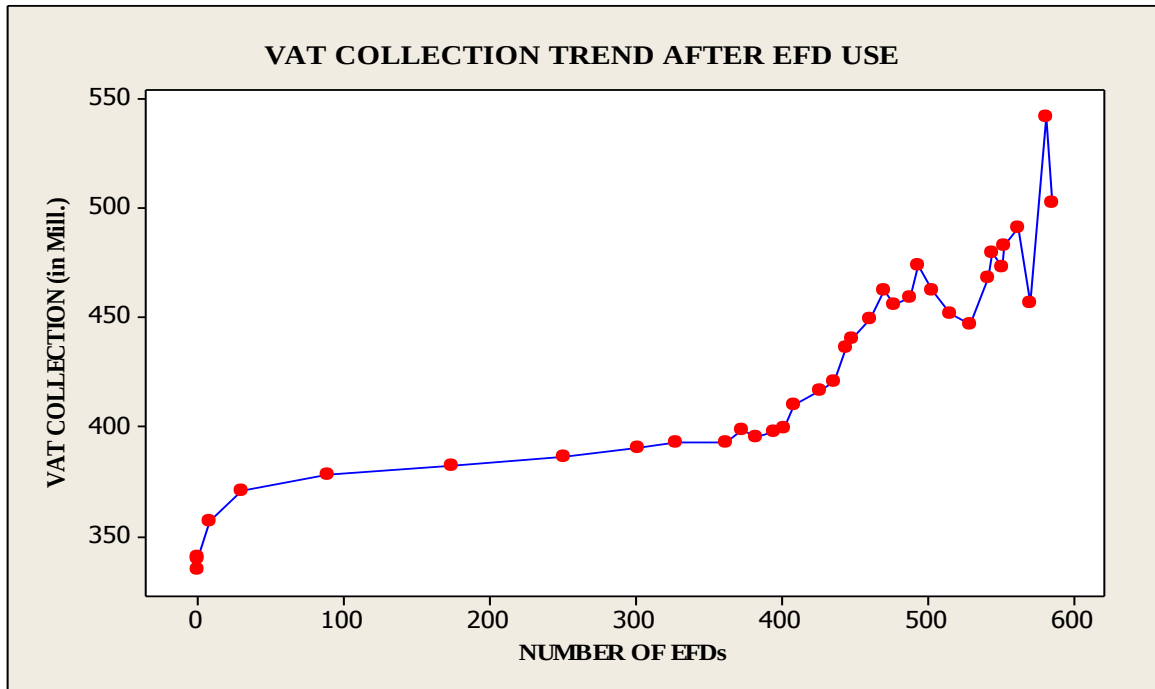
a. Dependent Variable: VAT collection after use of EFD

Source: Researcher (2014)

From the Table 4.13 above, it is revealed that the number of EFDs distributed have significant and positive effect on VAT collection ($\beta=0.907$, $\alpha=0.000$). This means that a single increase in EFD to the VAT traders increases VAT collection by 0.907 units. The relationship is presented in the following equation.

$$VATcollection = 0.240(number \quad of \quad EFDsdistributed) + 335.40$$

Figure 4.8: VAT Collection Trend after EFD use.



Y axis- VAT collections in Millions

X axis- Number of EFDs

Source: Researcher (2014)

Figure 4.8 shows the trend of VAT collections volume after the use of EFDs and it is observed that VAT collections were increasing as the number of EFDs increased.

4.3 Hypothesis testing

H1 Since $t(df=35) = -38.029$, $\alpha=0.000$ therefore, the null hypothesis supports Electronic Fiscal Devices as they have significant impact on VAT collection volume.

H2 Since $t(df = 35) = -6.27$, $\alpha = 0.000$, therefore the null hypothesis supports Electronic Fiscal Devices as they have significant impact on VAT returns submission.

In, H3 we have seen above that $B=0.907$, $\alpha=0.000$ to mean that EFD has significant effect on VAT collection as well as the null hypothesis supported Electronic Fiscal Devices to reflect that they have positive effect on VAT collection volume.

4.4 Chapter Summary

This chapter presented a detailed analysis of the research findings in answering the research objectives. Data analysis was carried out based on the objectives of the study. Preliminary analysis such as missing data check, outlier check, nominal check, descriptive analysis and inferential statistics such as paired sample T-test, correlation and regression analysis and Descriptive statistics such as means, and frequency distribution were used to analyze the data. Presentation of results was done by tables, figures and graphs. Lastly the chapter finalized by testing the hypothesis of the study. The research findings are discussed thoroughly in the next chapter.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter discusses the findings as presented and analyzed in chapter four. The discussion of the findings has been done to the consideration of the objectives of the study as categorized.

5.2 Impact of EFDs on VAT collections

The study found that EFDs have significant impact on VAT collections volume as the results showed that there is significant difference means to VAT collection from the two periods (Mean VAT collection before using EFDs = 149.1728, SD=34.27239 and mean VAT collection after use of EFDs = 425.9286, SD=49.98791; $t(df=35) = -38.029$, $p=0.000$ (two-tailed) at the magnitude of the differences in the means (mean difference=-176.7558, 95% C: -186.19171 to -167.31995)). It was also revealed that there was a strong correlation of 0.845 among the VAT collected in the two periods. The correlation between the periods was significant as p was 0.000 to mean that EFDs have significant impact on VAT collections. This outcome was due to the proper use of EFDs by the traders, effective mechanisms of TRA in monitoring the implementation of EFDs and enforcement measures taken by TRA to those traders who convicted to made offences.

As it was studied by Naibe and Siringi, (2011) when they assessed the impact of using Electronic Tax Registers (ETRs) on VAT compliance among private business firms in Kisumu city in Kenya. They found that effective and regular use of ETRs have a significant impact on the Value Added Tax (VAT) compliance ($R=0.622$, $p=0.005$) and concluded that the use of ETR has a significant impact on VAT compliance in Kenya.

The same results found in another study by Chege et al (2010) when they assessed the impact of using electronic tax register (ETR) on Value added tax compliance in Kenya: a case study of classified hotels in Nairobi found the same results. Chege found that there was an increase in VAT declared with the introduction of ETR then deemed to enhance

VAT collection resulted from more accurate VAT reporting. The study concluded that the classified hotels have adopted and complied with the requirements of VAT

On the study conducted by Weru et al (2013) on the impact of strategic change on introduction of ETR for enhancement of tax collection at Kenya Revenue Authority, it was found that ETR system had enhanced tax collection in business premises in Nairobi and that the system had to a large extent assisted in sealing loopholes of tax evasion in Nairobi

5.3 Impact of EFDs on VAT returns submission

The study found that EFDs has significant impact on VAT returns submission as the results in chapter four showed that there is significant difference in mean of VAT returns submitted before using EFDs (Mean =222.8611, SD=35.42086) and mean VAT returns submitted after using EFDs (Mean= 256.8611, SD=9.68991;) $t(df=35) = -6.27$, $p=0.000$ (two-tailed) at the magnitude of the differences in the means (mean difference=-34.00, 95% C: -45.00 to -23.00)). Furthermore, from the results it was revealed that there was a strong correlation of 0.426 among the VAT returns in the two periods. The correlation between the periods was significant as p was 0.000.

These results have been caused by the proper use of EFDs by the traders that provided timely and accurate tax information to businesses, simplifying electronic filling of VAT returns through Electronic Filling System available in TRA website, simplifying the identification of VAT-able and non VAT-able items while transacting and capturing them in to record. This indicates that indeed the use of EFDs has improved sales audit on top of timely filling of monthly VAT returns making VAT collection process rather simple than it was before.

The same results were found by Taye (2011) who assessed the effectiveness of Electronic Tax Registers (ETRs) in the processing the Value Added Tax returns, the case of Addis Ababa City Ethiopia. He found that ETRs have positive effect on VAT returns submission.

Another study was conducted by Omweri and Bernard (2010) on assessing the effectiveness of Electronic Tax Registers (ETRs) in the collection of VAT returns. They found the same results that the timely filling of the monthly VAT returns is attributed to the introduction of ETR.

5.4 Effects of EFDs on VAT collections Volume

The study found that number of EFDs distributed have significant and positive effect on VAT collection Volume as ($\beta=0.907$, $\alpha=0.000$). This means that a single increase in EFD to the VAT traders increases VAT collection by 0.907 units.

The same results were revealed in Pandu's (2012) study who studied the effects of using EFD on performance of VAT collection, the case study of VAT taxpayers in Dar es salaam, Tanzania. Pandu found that EFDs have enhanced the revenue collections resulted from sound sales and stock audits. He concluded that TRA should enhance the usage of EFD in order to combat tax evasion and increase VAT Collection. Taye (2011) found that ETRs has a positive effect on VAT returns and others independent variables has a significant effect on VAT income.

5.5 Challenges faced by TRA in EFDs implementation

In the process of implementing EFDs, the following challenges were experienced by TRA.

- i. Regular breakdowns/malfunctions of the Devices;
- ii. Some of the suppliers did not have offices at regions;
- iii. Some external batteries of devices did not last long and they did not have the capacity as expected
- iv. Resistance by some traders to avoid purchasing and using EFDs and sometime they hold demonstrations
- v. Some businessmen issued receipts that did not show the names of customers and sometimes issued under invoiced receipts
- vi. Some businessmen failed to submit written notification to RM on the failure of their devices.
- vii. Some businessmen submitted VAT returns showing the sales that differ to the actual sales recorded in to the machines.

- viii. Some of TRA staff do not have enough knowledge on how to use EFDs
- ix. Customers do not have the culture to demand receipts while they purchase goods or services
- x. Many areas in up-countries have weak network signals hence affects transmission of “Z” reports;
- xi. Monitoring of EFDs after working hours and public holidays

5.6 Measures taken by TRA to face challenges

Apart from encouraging the use of EFDs as a means of enhancing tax collections, TRA also regularly conducts tax education programs such as Seminars, workshops, radio programs, TV programs, outreach programs and distributing EFD brochures as part of efforts to enhance voluntary tax compliance. The following are other measures taken by TRA against the EFD challenges mentioned above:-

- i. Enforcement measures were taken to those who disobeyed the law including imposing fines and penalties
- ii. Conduct Regular EFD monitoring programs (Desk Examination Programs, Field Visit Programs, Online Check Programs, Surveillance Programs and Inspection Programs)
- iii. Regular meetings with EFD suppliers to discuss the progress of EFD distribution assignment and problems associated with it.
- iv. TRA educated its staff on how to use EFDs
- v. Proper vetting of VAT returns and advised taxpayers to revise their returns if errors were observed.
- vi. Press releases made by TRA clarified measures that shall be taken to those traders who refuse to purchase and use EFDs.

5.7 TRA responses on the Impact of EFDs to VAT collections.

Tanzania Revenue Authority (TRA) responded that EFDs have been showing positively considerable difference especially in the area of value-added tax (VAT) collections. This was commented by the TRA acting director of Taxpayer Services & Education, Mr. Yereh Mbaghi in Business times of 08 December 2012, 3 years after the introduction of (EFDs). He said for example, before the EFDs being introduced, TRA

collected a total of Tsh 785,882.4million but the Authority collected Tsh791,462.9million in financial year 2010/11 immediately after the introduction of the devices. Noticeably, this rise was not phenomenal or dramatic it is due to the fact that EFDs were not being widely used before. Moreover, in the financial Year -2011/12 – TRA collected TZS1, 086,374.0 million which is about 40 per cent increase. It indicates that the introduction and the use of the machines have brought about marked improvement in the collection of VAT.

5.8 TRA responses on business owners who avoid the EFDs

According to Tanzania Revenue Authority (TRA), over 90 percent of business entities registered in Value Added Tax (VAT) has been using the Electronic Fiscal Devices (EFDs) by December 2012. TRA Taxpayers services and education director Allan Kiula upon being interviewed warned traders and business entities that they are yet starting to use the devices, reported by Veneranda Sumila (2012) in The Citizen of 19th January 2012; Mr. Kiula said that these traders are liable to legal action which may cause them to pay not less than TSh3millions of fine, to be jailed for not less than a year or both. “The EFDs help us to monitor tax payment, and if a trader avoids using them means that he intends to evade paying the required taxes, and as such the law mandates us to take them to task,” said Mr. Kiula.

He added that, paying tax is everyone’s obligation because it is through tax that the government is able to provide social services and implement development projects including construction of infrastructure, schools, hospitals create jobs for the emerging workforce. TRA refunds all traders who purchase EFDs. The refund is done through reduction on the amount of tax the business entity pays after every now and then.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter, the researcher gives out the general conclusion drawn based on the results from data analysis and discussion of the research findings. At the end implications for TRA management, theories for policy makers and suggestions for future researches have been given as recommendations in this study.

6.2 Conclusions

Based on the results from data analysis and discussion of findings, the study concludes that EFDs have significant impact on efficiency of VAT collection process. The results revealed that EFDs have significant impact on VAT collection Volume, as it was observed in three years after EFD introduction. VAT collections have increased gradually than three years before the introductions of them. Furthermore, EFDs have significant impact on VAT returns submission. They have enhanced the timely submission of the monthly VAT returns, as it was noted that the number of VAT returns submitted after the introduction of EFDs was gradually increasing when comparing to the number of VAT returns before the introduction of EFDs. This is an indication that most VAT traders in Tanga have complied with the VAT requirements in Tanzania. EFDs have been introduced to get the country out of the problems that plague tax systems of developing countries as it was found that EFDs have enhanced VAT collections.

6.3 Recommendations for Improvement

Based on the results from data analysis, discussion of the research findings on the findings and the key objectives of this study, the researcher recommends the following:-

1. The Government of Tanzania should continue to invest on Electronic Fiscal Devices (EFDs) as the modern method that simplifies not only VAT collection process but also income tax collection process and hence increasing Government revenue. The proper use of EFDs at the end of the year will make traders be able

to know their actual sales and hence they can smoothly prepare their income tax returns.

2. TRA needs to embark on sensitization, education and training programs in order to address the challenges still affecting the EFD project. More stake-holders need to be sensitized to reduce the resistance and also to increase the coverage on the use of the system insuring that more EFDs are distributed to VAT traders.
3. TRA needs to strengthen department dealing with VAT collection by ensuring that the officers are well trained to monitor and evaluate the EFD system. The TRA staff needs to be well aware of the areas that are prone to falsification of the system and address them. These areas include falsified breakages of the EFDs, collusion between TRA revenue officers and traders in tax evasion and substandard EFDs among others. The policies and procedural manuals should be well documented in order to ensure efficiency in VAT collection.
4. TRA should carry out monthly and quarterly monitoring and evaluation and the reports should be well analyzed for continuous improvement. TRA needs to carry out an impact assessment on EFD project to determine the extent of its success and carry out further research with a view of enhancing the system as well as coming out with more superior systems which can detect any form of falsification and fraud.
5. False VAT refund claims (VAT input) is one of the major possible revenue leakage areas. In the absence of strict monitoring machinery, Tanzania may face huge losses of revenue as sums which have been collected as VAT input and wrongly be refunded to the traders. It is for this reason that TRA has made arrangements aimed at ensuring that only genuine VAT repayment claims are paid supported by EFD receipts which have been vetted. However, TRA is also bound to abide to the time limits for effecting VAT refunds so as to avoid the payment of interest on the delayed VAT refunds. This means that officers have

to work efficiently and professionally in order to reduce complaints on delayed VAT refunds to ensure that the amounts refunded are correct as well as trying to avoid the payment of interest. Efforts must be taken to contain such refunds by taking punitive measures against traders and auditors who deliberately submit falsified refund claims hence reducing VAT collections.

6. The taxpayer will be less likely to comply with a tax system they consider to be unfair. The Enforcement approach adopted by TRA should be fair and should create a good relationship between an individual and TRA so as to enhance compliance. The tax payers will always have a game playing posture where they perceive grey areas of the tax law and they will then try to minimize the tax they have to pay. On such cases, TRA should develop an effective strategy that aims at enhancing compliance. The tax office should not build a bridge between themselves and the taxpayer. TRA should also work with other agencies so as to increase the taxpayer's commitment to the tax system and seal loopholes so that one will not have an avenue for not declaring actual sales made.
7. Lastly, EFDs are manufactured, supplied and serviced by Private companies which are also do businesses, although there are contract between TRA and these companies, the staff of these companies may misbehave and may treat taxpayers wrongly. Therefore, it is advised that TRA should work closely to supervise the operations of these companies so that the government could achieve the main objectives of maximizing revenue collections.

6.4 Suggestion for Further Researches

Areas for further researches that were identified include a similar study to be carried out on other regions in the country. An example of the study can be on the effectiveness of EFDs to the businesses and the benefits or challenges encountered and how efficient the EFDs help the business in preparing VAT returns. Further research might be done to determine how EFD contribution to company's financial performance can be measured and to what extent it can benefit the organizations.

Tanzania Revenue Authority launched the second phase of EFDs on May 2013, in order to better covering Tax collection from non-VAT registered traderswhom their turnover do exceed 14million per year. This is another area which needresearch so that the impact of EFDs on Income tax collections can be measured.

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