

**VALUE ADDED TAX (VAT) COMPLIANCE THROUGH USE OF
ELECTRONIC FISCAL DEVICE (EFD) IN TANZANIA
A CASE STUDY OF MUSOMA DISTRICT IN MARA**

**By
Shaibu Rahibu Gwimile**

**A Dissertation Submitted in Partial Fulfillment of the Requirements for Award of
the Degree of Master of Science in Accounting and Finance (MSc. A&F) of
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2013**

CERTIFICATION

We, the undersigned, certify that we have read and that hereby recommend for acceptance by the Mzumbe University, a dissertation entitled **Value Added Tax (VAT) Compliance through Use of Electronic Fiscal Device (EFD) in Tanzania. A Case Study of Musoma District** in partial fulfillment of the requirements for award of the degree of Master of Science in Accounting and Finance, Mzumbe University.

.....

Major Supervisor

.....

Internal Examiner

Accepted for the Board of the

.....

DIRECTOR

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I, **Shaibu Rahibu Gwimile**, declare that this dissertation is my own original work and it has not previously submitted by me for the award of any academic qualification and that all materials contained herein was duly been acknowledged.

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DEDICATION

I dedicate this work to my beloved mother **Asha Mshamu Nakao** and my late father **Mr. Rahibu Shaibu Gwimile** may his soul live upon in peace “Amen” for their encouragement and support who give during his life.

ABBREVIATION AND ACRONYMS

ARM	Assistant Regional Manager
EBT	Economic Based Theory
EFD	Electronic Fiscal Devices
EFDMS	Electronic Fiscal Devices Management Software
EFP	Electronic Fiscal Printer
ESD	Electronic Signature Device
ETR	Electronic Tax Register
FY	Financial Year
ICT	Information and Communication Technology
IMF	International Monetary Fund
PT	Psychological Theory
TRA	Tanzania Revenue Authority.
URT	United Republic of Tanzania
VAT	Value Added Tax
TSH	Tanzanian Shillings

ABSTRACT

This study investigated about Value Added Tax (VAT) compliance through use of Electronic Fiscal Device (EFD) in Musoma District in Mara Tanzania. The study specifically examine the effect of EFD in filling, remittance and refund process to VAT collection, the effectiveness and efficiency of EFD in VAT collection, the trend of VAT compliance before and after use of EFD.

A total of 40 respondents from TRA staff and VAT registered traders were used. The sample category involved 1 ARM - Audit, 1 ARM- Debt Management and Compliance Monitoring, 6 operational Staff obtained through purposive sampling and 32 VAT registered traders. The study employed case study research designs, while the research approach involved qualitative and quantitative research techniques. The data were gathered through closed ended questionnaires and semi structured interviews. Data were analysed through quantitatively and qualitatively. Quantitative data was analysed by using SPSS version sixteen, descriptive and inferential statistic such as mean, standard deviation and pie chart were also used to present data. Qualitative data was analysed by using thematic and content methods and presented by statements.

However, the data collected from interview still reveal that the use of EFD continue to face the challenge like lack of accountability and poor compliance to rules and regulation, lack of culture of paying tax voluntarily, ignorance and negligence of the VAT registered traders to comply with VAT Act together with its regulations.

Moreover, data from interviews depicted various strategies for effective use of EFD in VAT collection like corroboration with other international agencies, improving the quality of the paper used in the EFD machine, educating taxpayers on the advantages of using EFD machine to their business and tax purpose in general, enforcement measures, provide motivation and incentives to employees and improve employee's wages and working conditions.

The study is recommended to the TRA, Ministry of Finance and Economic Affairs and to the policy makers.

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CHAPTER ONE

INTRODUCTION AND OVERVIEW OF THE STUDY

1.0 Introduction

This study was about Value Added Tax (VAT) compliance through use of Electronic Fiscal Device (EFD) in Tanzania, A case study of Musoma District. In this Chapter, background to the problem, statement of the problem and research objectives, research questions, significance of the study and scope, limitation of the study, justification of the study and organization of the study will be presented.

1.2 Background to the Problem

Value Added Tax (VAT) is one of the most important sources of government revenues. It has significance on the domestic economy and on government policies (especially fiscal policies (URT, 2010). VAT has been the heart of tax compliance issue as when claimed to be the most efficient and contributing revenue source, it has also criticized for the heavy compliance costs associated with its introduction (Wheatley, 2004). Therefore the introduction of Electronic Fiscal Devices as one alternative to increase compliance and reduce costs associated with the compliance.

On the other hand, VAT is a consumption tax which is paid by the consumer at a rate of 18% of the value of the product bough (URT, 2010). Retailers are collection agents for the tax. The retailer who sells the good sends the tax to the TRA on the consumer's behalf (URT, 2011). VAT works on an input output system instead of all the tax being levied at the final retail point which is levied as the value is added to the good or service in the chain of production (Wheatley, 2004). The cost of producing a product can be divided into two categories, one category of costs is purchased inputs that are goods and services purchased by the producer and the other category of costs is value added that is labour costs, profits, rents and interest. The value added is the output value minus the costs of purchased inputs. The VAT that the producer sends to TRA is output VAT

minus input VAT. The retailer will only send VAT on his/her own value added (the service of making the product available to the consumer) to the TRA (Loudon, 2007). The rest of the VAT has already been sent to the TRA when the retailer bought the product and paid VAT on it (URT, 2010).

However, VAT was mainly introduced to replace the Sales Tax, which was unable to generate sufficient revenue as it was narrow based (Loudon, 2007). VAT is more advantageous than Sales Tax as it is charged on all goods and services except those which are specifically exempt; it is economically neutral; it encourages exports and it is simple to administer (URT, 2011).

Moreover, majority of the small businesses in Mainland Tanzania are not registered for VAT. They pay VAT on their purchases of taxable supplies (URT, 2010). VAT becomes part of their costs and do not claim input tax because they are not registered for VAT (Loudon, 2007). The manual system of collecting VAT faces the following problems; Some of the VAT registered traders are not issuing tax invoices; non-accounting for VAT on sales regardless of whether they have issued a tax invoice or not; using more than one tax invoice books, one for tax purposes and hiding other books for his/her own use; difficult in the management of the VAT repayment claims (URT, 2010). Keeping the weakness of the VAT manual system, the Government of Tanzania decides to use the EFD so as to increase transparency and control of VAT collection, remittance and tax refund processing (URT, 2010). VAT works on the destination principle which means that all imported products are levied with VAT, while all exported products have no VAT (Loudon, 2007). VAT is levied on the goods and services that are consumed in Tanzania, not the goods and services that are consumed elsewhere (URT, 2010).

Apart from that, the Value Added Tax (VAT) was introduced in Tanzania on 1st July, 1998. The system became operational from 1st January, 1999. There are two applicable

VAT rates in Tanzania Standard rate of 18% and Zero rate (0%) which is mostly applicable to exports (URT, 2010). Main reasons for introducing VAT are; to broaden the tax base; to attain economic neutrality; to promote exports, and to attain its administrative advantages (URT, 2010). The VAT turnover threshold is Tsh 40 million which means that those with total sales of less than Tsh 40 million are not required to register for VAT and those who are not registered for VAT cannot reclaim input VAT, and do not charge output VAT. Businesses below the threshold may voluntarily opt to register for VAT if they make sales to other VAT registered businesses (IMF, 2005).

Moreover, the Tanzanian Government aims to make the VAT system more equitable by exempting and zero-rating some goods and services which are disproportionately consumed by poor people or which are crucial welfare goods, while giving special relief to certain purchasers (URT, 2010). If a supply is zero-rated, this means that the supplier of the product reclaims all input VAT and does not levy output VAT. Zero-rating removes all VAT from the chain of production of that product (IMF, 2005). However, if a supply is exempt, this means that the supplier of the product does not reclaim input VAT and does not levy output VAT (IMF, 2005). Exempting removes the final stages VAT from the product, but does not remove all the VAT there is still VAT on the inputs to producing the exempt product and the suppliers who supply only exempt products are not required to register for VAT (URT, 2011).

However, Tanzania also has a policy of VAT deferment on capital goods which works like special relief, and is for purchases by VAT registered and non-VAT registered businesses of capital goods, as defined by the list of capital goods and the Task Force on Capital Goods (IMF, 2005). As to other countries, in Tanzania before the introduction of EFD, VAT collection, payment and refund processing was done manually (URT, 2010). The VAT registered trader was required to issue manual Tax Invoice to the purchaser and use the same to claim input tax. It was easy for the trader to make alteration to the tax invoice issued or received during the process of buying and selling (URT, 2011).

The EFD was introduced so as to make sure that all sales are properly recorded, all sales are properly accounted for, VAT rate is charged appropriately and traders are refunded in time (URT, 2011).

A lot of debate has been going on in the country between business owners and the Tanzania Revenue Authority (TRA) on the adoption of Electronic Fiscal Devices (EFD) (URT, 2010). Electronic Tax Registers were introduced by TRA to replace the manual paper system of issuing receipts and remitting VAT returns that was considered inefficient and straining. To enhance the accountability systems for Value Added Tax, the TRA has spearheaded the introduction of the Electronic Tax Registers and Electronic Signature Devices (URT, 2011). These devices offer unique benefits to traders and the Revenue Authority alike by recording transaction data in such a manner that it cannot be deleted (URT, 2010). The Government of Tanzania on the other hand allowed businesses to offset the cost of the Electronic Physical Devices (EFD) installation against the input VAT as well as training of traders on the use and benefits of those devices (URT, 2010).

Apart from that, the TRA focuses on effective methods of revenue collection so as to meet the country's budget revenue targets (Wheatley, 2004). The tax base in Tanzania, as in most sub-Saharan African countries, is extremely narrow. So far, attempts to increase tax revenue have focused on closing the 'taxation gap' and expanding the tax base. The main policies recommended by the IMF have led to trade liberalization, the transition from a sales tax to a system of VAT (IMF, 2005). Such policies have been adopted by most African countries with Tanzania being no exception.

Tanzania has witnessed significant changes in many aspects of its economy over the last four decades. One of the striking characteristics of Tanzania is that like many other Sub-Saharan countries today, it is not a high tax-yield country with a tax-to-GDP ratio of less

than 20 per cent (Wheatley, 2004). Tanzania is not able to finance a large share of its budget, while external donor finances are used to cover a much large share like other countries of the region. In order to increase the tax yield, efforts must be made in overcoming problems affecting its tax system (URT, 2010).

Like most developing countries, it has had to contend with the common problems that plague tax systems of developing countries (Loudon, 2007). This was also confirmed by Minister of finance Mustapha Mkulo (2009) speech on the opening of EFD (URT, 2010). Most scholars in finance have ignored focusing on the costs to traders of the tax systems that are now used in the processing and remittance of tax returns to revenue collection institutions (Wheatley, 2004). Not to mention the modern electronic systems like the Tanzanian EFD. The modern Tanzania EFD that has been put in place will therefore form a good case whose use will be assessed (URT, 2010). It was in this regard therefore that the TRA had tried to move from a system; with rates and structures that are difficult to administer and comply with; that are unresponsive both to growth and discretionary tax measures hence offering low tax productivity; that raise little revenue but introduce serious economic distortions; that provide opportunities for differential treatment of individuals and businesses in similar circumstances, and that are selective with regard to tax administration and enforcement to an electronic system (EFD) that should be categorized as; efficient, fair and administratively feasible both for the specific tax instruments and for the entire tax regime (Loudon, 2007).

Tanzania's tax system had adopted the modern Electronic Fiscal Devices (EFD) and how its benefits had differed from the previous system of effecting tax returns on costs that was incurred by the small scale traders was an area whose outcome (s) was quite desired (URT, 2010). There was little literature available on the introduction and adoption of Electronic Fiscal Device in Tanzania as well as in other developing countries (IMF, 2005). Developed countries like the United States of America and

Canada made use of electronic filing and electronic commerce to collect taxes from the taxpayers (URT, 2011). EFD has been introduced to VAT registered traders under the newly introduced "The Value Added Tax (EFD) Regulation of 2010" - Subsidiary Legislation, Government Notice No. 192 published on May 28, 2010, and enshrined in The Finance Act, 2010 (URT,2010). The law is effective from October 1, 2010 with the main aim of enhancing VAT compliance (URT, 2010).

TRA new EFD system became effective from 1st July, 2010 (URT, 2010). The system aims at allowing the taxman to get correct sales information from business people, reduces tax collection costs and helping business people to comply with the VAT regulations among others (URT, 2010). This will require an Electronic Fiscal Device Management Software (EFDMS) to manage the data transmitted by the EFD. Moreover, TRA has embarked on Electronic Fiscal Devices (EFD) project and intends to invest in electronic fiscal devices so as to simplify the duty of tax collection (URT, 2011).

1.3 Statement of the problem

It is evident that in order to increase VAT compliance, get correct sales information and reduce tax collection cost TRA introduces EFD in VAT collection (URT, 2010). The EFD is used for issuance of fiscal receipts. It is a machine designed for use in business for efficient management controls in areas of sales analysis and stock control system which conforms to the requirements specified in the Regulations and duly registered under regulation (URT, 2011).

In Tanzania context, TRA is insisting traders who are VAT registered to acquire and use EFD machine, there are some traders who have acquired the machine but not using them as intended (URT, 2010). The TRA is in the process of improving its automated systems

and processes in the management of Value Added Tax (VAT) compliance through the use of Electronic Fiscal Devices by VAT registered taxpayers (URT, 2011).

Despite on the efforts which was done by the government and TRA to emphasis on the use EFD in increasing tax compliance little information is known on the effectiveness of Electronic Fiscal Dives (EFD) in increasing Value Added Tax (VAT) compliance in Tanzania. Therefore the proposed study will seeks to examine the effectiveness of the EFD in increasing VAT compliance in Tanzania a case of Musoma District in Mara Region in Tanzania.

1.4 Research Objectives

1.4.1 General Objectives

The general objective of this study was to examine the effectiveness of the EFD in VAT compliance in Tanzania.

1.4.2 Specific Objectives

1. To assess the effect of EFD in filling, remittance and refund process to VAT collection.
2. To assess the effectiveness and efficiency of EFD in VAT collection
3. To examine the trend of VAT compliance before and after use of EFD

1.5 Research Questions

1. What are the effect of EFD in filling, remittance and refund processing?
2. Is collecting VAT using EFD an effective and efficiency mode?
3. What is the trend of VAT compliance before and after use of EFD?

1.6 Justification of the Problem

This study relates with the Tanzania national ICT policy of March 2003 together with TRA third Corporate Plan of 2008/9 to 2012/13 goal number two which is to modernize

TRA Operations. A state of the art Information and Communication Technology (ICT) is one of the very important elements of an effective modern tax administration. ICT deployment was play an important pivotal role in the implementation of the TRA third Corporate Plan. Information and Communication Technology (ICT) offers new opportunities to enhance revenue collection and to improve the quality of information delivery in tax collection in all areas. The Ministry of Finance believes that the use of EFD in Tax collection as well as administration and management represent powerful tool with which to achieve economic development and National development objective which stipulated in the National Development Vision of 2025 that is effective implementation of ICT facilities in all sectors of the economy in order to reach the high quality human life hood. The Ministry has therefore formulated this policy to guide the integration of ICT in financial activities. Discussion with TRA officials reveals that there are number of challenges which affect the implementation EFD system. The study aims to help VAT registered traders and TRA officials to use EFD effectively in simplifying tax collection, payment and refund processing.

1.7 Significances of the Study

The study was intended to reveal the effectiveness of the EFD machine on enforcing VAT compliance. Therefore the study is expected to benefit the following group of people. Since the aim of introducing EFD machine on VAT registered traders is to increase VAT compliance, get correct sales information and reduce tax collection costs of the Tanzania Revenue Authority, the study in the use of EFD machine will benefit TRA and traders since no formal study has been done on the effectiveness of the EFD system in terms of increasing tax collection, number of tax payers, simplicity of the system and tax returns processing.

Also, the findings of the study highlight the problems facing taxpayers in the process of adopting EFD machine and the suggested ways to alleviate them. Therefore, this will

benefit tax payers by enabling the TRA to solve problems facing them hence improving the quality of services provided and increasing government revenues.

Moreover, the study contributed to the existing knowledge to the literature review and it will help other researchers to identify viable areas for further research. Apart from that, the study will help the government officials to formulate suitable policy which relate with the real situation of Tanzania in order to overcome with the problem of tax collection so as to increase government revenue.

1.8 Scope of the Study

The research confined its scope and focus on only one TRA Musoma district. However the findings of the study can generalize the situation in Tanzania as the EFD machine has been adopted by all VAT registered traders in Tanzania. It is the expectations of the researcher that Tanzania will be among the countries who has successfully implemented the adoption of EFD to all liable traders.

1.9 Limitations of the Study

This study has faced some limitations during its carrying out; these limitations should not be taken as an excuse for unreliability of information. The limitations include time constraint and financial resources. Further, the study is based at Musoma District instead of large coverage for example the Mara Region. However, the researcher was kin and included VAT registered traders who have experience in business and paying tax.

1.10 Organization of the Study

Chapter 1 of this study introduced the problem statement and described the specific problem addressed in the study as well as design components. Chapter 2 presents a review of literature and relevant research associated with the problem to be addressed in this study. Chapter 3 presents the methodology and procedures which was used for data collection and analysis. Chapter four present data analysis of the findings, Chapter five presents discussions of the research findings and chapter six presents summary, conclusion and recommendation of the research findings.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter was given an overview of the relevant literature of the study. This study examines Value Added Tax (VAT) compliance through use of Electronic Fiscal Device (EFD) in Tanzania. The literature review includes themes namely theoretical frame work, definition of VAT, Tax Compliance, and Electronic Fiscal Devices. Other themes includes literature review, knowledge gap, conceptual frame work and empirical studies about Value Added Tax (VAT) compliance through use of Electronic Fiscal Device (EFD) in Tanzania carried out in developed countries, in Africa as well as in Tanzania was reviewed.

2.1 Definition of the Key Terms

2.1.1 Value Added Tax

VAT is a consumption tax levied by the government and paid by final consumer at the rate of 18% in Tanzania (URT, 2010). In this study VAT it mean that the final tax which is paid by the final consumer when is buying goods and services.

2.1.2 Electronic Fiscal Device

Electronic Fiscal Device is a machine designed for use in business for efficient management controls in areas of sales analysis and stock control system and which conforms to the requirements specified under the Value Added Tax (URT, 2011). In this study Electronic Fiscal Devices it mean that is the machine which were used to provide receipt to the customer after selling goods and services.

2.1.3 Tax Compliance

Tax compliance means that business or organisations complies with statutory and legal tax obligations (URT, 2010). In this study Tax Compliance means that the organisations complies with all statutory and legal obligations regarding the selling and buying goods and services, and submitting VAT returns to TRA.

2.2 Theoretical Framework

Theory is defined as an explanation of particular phenomena in terms of a set of underlying constructs and a set of principles that relate the constructs to each other (Gall & Gall, 2005). This study was guided by Economic Based Theory (EBT) and Psychology Theories (PT). Various opinions exist about the best ways to improve tax compliance. Given the chance, a lot of businesses do not pay taxes unless there is a motivation to do so. Some believe that the best way is to increase incentives (Feld & Frey, 2007) others believe the best way is to increase penalties. Tax compliance theories can be broadly classified into two. They are; economics based theories and psychology based theories.

2.2.1 Economic Based Theories

Economic Based Theory (EBT) is also known as deterrence theory and they place emphasis on incentives. The theory of EBT suggests that taxpayers are moral utility maximizes; they are influenced by economic motives such as profit maximization and probability of detection (Feld & Frey, 2007). As such they analyze alternative compliance paths for instance whether or not to evade tax, the likelihood of being detected and the resulting repercussions and then select the alternative that maximizes their expected after tax returns after adjusting for risk (Trived & Shehata, 2005). This process is referred to as “playing the audit lottery. Therefore according to the EBT, in order to improve compliance, audits and penalties for non-compliance should be increased.

The EBT has been used in different areas of the research to explain how different economic motives enable taxpayers to pay tax. However through EBT taxpayers are able to pay VAT through the maximization of the profit which they accumulated in their business activities (Feld & Frey, 2007). Wanjiku (2008) applied this theory on his increasing efficiencies of economic performance of various entrepreneurs in their daily activities through their financial transactions they perform.

Similarly to that, a study conducted by Papert's on the turtle micro-world of logo argues that EBT is the one of the ways which improves efficiency of the businessman to pay VAT. This to certain degree influence the way of VAT collection through tax compliance. Indeed, it seems that the combination of the EBT is more appropriate for using EFD in increasing VAT compliance.

Applicability of Economic Based Theory (EBT)

In this study, EBT helps to understand how the taxpayers use EFD in selling goods and services. The taxpayers in the business areas were needed to give receipt to the customer when buying goods or when providing services. From EBT perspective the primary responsibility of the taxpayers is to provide receipt to the customers when buying goods or when providing services. TRA have argued that the primary responsibility of the tax payers is to use EFD machines to provide receipt to the customers in business areas (URT, 2010). From this perspective the use of EBT in VAT collection is to increase the understanding of how the business will be conducted and to determine the proper tax which will be collected from the taxpayers.

2.2.2 Psychological Theories

The founder of the Psychological Theory (PT) is Piaget (Pask, 1975). PT explains that the taxpayers are influenced to comply with their tax obligations by psychological factors which focus on the taxpayers' morals and ethics (Ernest, 1994). The theories

suggest that a taxpayer may comply even when the probability of detection is low as opposed to the economic theories that emphasize increased audits and penalties as solutions to compliance issues, psychology theories lay emphasis on changing individual attitudes towards tax systems (Ford, 2007). Therefore, EFD machines will need psychological preparation of the taxpayers to be prepared well to use EFD machines in their business areas and the technological tools as well as the type of technical and administrative support mechanisms required for EFD to take place (URT, 2010). The taxpayer and the business that pay the VAT must be prepared well before given EFD to use in their business activities. The taxpayers must be prepared psychologically effective before using new technology including this EFD machines.

A study conducted by Ernest (1994) on the role ICT in attracting financial company in economic growth recommended that manager of the financial companies should be prepared well in term of the psychological way so as to attract customer and to pay tax. Therefore tax payers and customers must be prepared well in terms of psychological way in order to be aware on the role of tax in development of our economy. Therefore to day the use of the EFD, tax payers should be prepared psychologically in all level of implementing the EFD as the new technology for taxpayers.

Applicability of Psychological Theory (PT)

In this study, PT helps to understand and prepare EFD machines as technological tools and programs to support the use of EFD in increasing VAT compliance which must be conceived in such a way as to stimulate the electronic way of collecting VAT. Therefore, to day in using EFD taxpayers should be prepared effectively in term of psychology in order to use effectively EFD machines.

2.3 Empirical Studies

2.3.1 Situation of Tax Compliance in Tanzania

The EFD machines was introduced to collect Value Added Tax (VAT) in Tanzania on 1st July, 2010 in Tanzania, the system became operational from 1st January, 2011 (URT, 2011). There are two applicable VAT rates in Tanzania Standard rate of 18% and Zero rate (0%) which is mostly applicable to exports (URT, 2010). Main reasons for introducing EFD machines to collect VAT is to broaden the tax base, to attain economic neutrality, to promote exports, and to attain its administrative advantages (URT, 2010).

EFD machines were introduced to replace the local Tax payments, which was unable to generate sufficient revenue as it was narrow based (URT, 2010). VAT is more advantageous than Sales Tax as it is charged on all goods and services except those which are specifically exempt, it is economically neutral, it encourages exports, it is simple to administer. Majority of the small businesses in Tanzania are not registered for VAT. They pay VAT on their purchases of taxable supplies. Such VAT becomes part of their costs. Do not claim input tax because they are not registered for VAT (URT, 2010). Problems of manual system of accounting for VAT are some of the VAT registered traders are not issuing tax invoices, non-accounting for VAT on sales regardless of whether they have issued a tax invoice or not, using more than one tax invoice books, one for tax purposes and hiding other books for his/her own use and difficult in the management of the VAT repayment claims (URT, 2010).

However, introduction of Electronic Fiscal Devices (EFDs) as an aid to tax revenue collections, the Tanzania Revenue Authority (TRA) says the machines have been showing considerable difference for the better, especially in the area of value-added tax (VAT) collections (URT, 2010). TRA acting director of Taxpayer Services & Education, Yerehiah Maghi, said tax collections from VAT-registered operators have improved since TRA introduced the devices two years ago. For instance, TRA collected a total of Tsh785, 882.4 million in the 2009/2010 financial year, before the EFDs were

introduced. By comparison, the Authority collected Tsh791, 462.9 million in FY-2010/11, immediately following introduction of the devices (URT, 2011). Moreover, noting that this rise was not phenomenal or dramatic, Maghi attributed this to the fact that the EFDs had not become widely used that early. Significantly enough, in the following year – FY-2011/12 – TRA collected Tsh1, 086,374.0 million, about a 40 per cent increase (URT, 2010). Therefore, this indicates that the introduction and use of the machines has brought about marked improvement in the collection of VAT. According to the Revenue Authority, there are at least 14,000 EFDs that are currently in use across Tanzania, and the target is to cover all the VAT-registered traders in the country, who are estimated to number 17,000 (URT, 2011).

Using an EFD by a trader when issuing a sale receipt to a customer; makes it possible for the machine to transmit a message directly to TRA showing details of the transaction. TRA get to know the sales made each day (URT, 2010). Also, at the end of the month, TRA is in a good position to know how much each EFD user has to pay as a monthly VAT obligation. This is unlike in the past when TRA officers had to laboriously check through receipt books, compile the various cash sales and other receipts in efforts to determine the amount that each trader had to pay as VAT (URT, 2010).

Apart from encouraging the use of EFDs as a means of enhancing tax collections, TRA also regularly conducts tax education seminars as part of efforts to enhance voluntary tax compliance (URT, 2010). Other measures taken are conducting Stakeholders Forums; conducting Customer Care Training for TRA Staff; establishing Tax Centre's, and the adoption of new state-of-the-art systems of tax payments like the Asycuda, ASYCAN e-Filing System, as well as paying tax by using mobile telephony (URT, 2010). In another development, the Tanzania Revenue Authority says it projects to collect Tsh3,945,004.10 million by December 31, which marks the end the first half of the current financial year, 2012/2013 (URT, 2012). If and when that happens, it would be 63

per cent of the half-year collection target. According to available data, the Authority collected a total of Tsh2, 495,766 million from July 1 to the end of October this year (URT, 2010).

2.4. Application of EFD in-general

The use of EFD in developing countries like Tanzania is considered to be necessary in order to overcome the challenges related to low tax collection (URT, 2010). The meaningful use of EFD occurs only when there is effective application of EFD in tax collection. The potentials of EFD in VAT collection is seen when the increase of VAT collection in UK (Trived & Shehata, 2005). ETR this device is appropriate and commonly used by retail business that issue receipts manually alternatively known as Electronic Fiscal Cash Register (EFCR). This device may be used as a stand-alone which keeps totals in a fiscal memory and print retail receipts using an in built printer. Example of users includes small retailers of all types of businesses (URT, 2011).

However, Electronic Fiscal Printer (EFP) is another form of EFD which is commonly used by computerized retail outlets. The device is connected to a computer network and stores every sale transactions or details made in its fiscal memory. It is basically similar to printers that are currently used in supermarkets, except for the fiscal memory. Example of users of this kind of device includes supermarkets, Petrol stations and Ticketing (URT, 2012).

Electronic Signature Device (ESD), is the another form of EFD which is used by computerized businesses that issue receipts or invoices via special accounting software. The device is designed to authenticate by signing any personal computer (PC) producing financial document such as tax invoice (URT, 2011). The device uses a special computer program to generate a unique number (signature) which is appended to and printed to every invoice issued by the user's system. The number is unique in that no two numbers

can be similar which makes it easy to distinguish between authentic and fake invoices (Ernest, 1994).

On the other hand, the use of EFD in western countries was more successfully which increase VAT hence leads to the economic growth (Trived & Shehata, 2005). In UK EFD use show improvement on the VAT collections which enable the taxpayers to pay their tax on time ((IMF, 2005).

Moreover, the use of EFD in Tanzania is the new technology which is faced with various challenges which includes insufficient knowledge to the taxpayers on the use of EFD, restriction from the wholesaler and retailers to use EFD machines, lack of confidence from the taxpayers to use EFD in their business activities and poor infrastructures which support the taxpayers to use EFD machines (URT, 2012).

2.4.1 EFD infrastructures support in VAT collection

The successful application of EFD in increasing VAT collection is dependent on many variables. One of the factors that influence the effective use of EFD by registered traders in the business transaction is the availability of resources or EFD infrastructure. According to URT (2010) the potential of EFD to increase VAT delivery can only be realized when the technologies are available in registered traders. This means the availability of EFD infrastructure to the VAT registered traders is what will lead to the full application or use of EFD in business transaction (URT, 2012).

However, in Tanzania, the government introduced EFD since the 2010 and get support with the TRA corporate plan for implementation of effective use of EFD to the registered traders. The use of EFD in Tanzania is entirely new in increasing VAT compliance to the registered traders in Tanzania (URT, 2010). The widespread use of EFD in 2010 would probably have been another step in increasing VAT collection to the

registered traders, but no efforts were made to integrate these electronic media into services delivery (URT, 2011).

On the other hand, the use of EFD in developing countries like Tanzania is considered to be necessary in order to overcome the challenges related to poor VAT collection (URT, 2010). Therefore, the meaningful use of EFD occurs only when there is effective use of EFD in VAT collection. The potential of EFD in economy can be unlocked through increasing VAT collection. Thomas and Ranga in UNESCO (2010) explained that applicability of EFD is concerned essentially with more effective in increasing VAT compliance and with the support of the various components of EFD.

Moreover, VAT application of EFD involves effective use of VAT registered traders with the EFD machine and other information technologies, serving the purpose of VAT collection. According to URT (2010) the potential of EFD in enhancing VAT collection can only be realized when the technologies have been well and appropriately adopted and integrated in the business area.

The literature (Wanjiku, 2008) shows that available EFD infrastructures are not used primarily for increasing VAT compliances in Tanzania. According to URT (2010), most registered traders in urban areas already use EFD, however in most cases EFD have not been integrated as a main tool in increasing VAT compliances. In many developing countries like Tanzania, the potential of EFD to support VAT collection to registered traders is yet to be fully realized.

2.4.2 Challenges facing EFD in VAT collection

Several factors are reported to affect effective use of EFD by VAT registered traders. A number of studies (Wanjiku, 2008) have shown that there are a wide range of factors

which associated with VAT registered traders under-utilization of EFD in VAT collection.

Therefore, to date most of the attention on both policy and research has been on examining how the lack of infrastructure and access to technology affect the use of EFD in VAT collection (URT, 2010). However, it has also been shown that even in cases where the infrastructure is available, few VAT registered traders are effectively integrating EFD in their payments (URT, 2011).

However, it is not easy to identify the barriers to effective EFD use by looking at single variables independent of each other because there are interlocking factors, which hinder effective use of EFD in VAT collection. According to Tolhurst (2005) there are three interlocking factors that affect traders' take-up of EFD. These are institutional factors: resource and the traders'. These factors depend on each other and affect each other, so we cannot get the whole picture by looking at one factor and ignoring the other because these factors are interrelated.

On the other hand, inadequate EFD is also reported as an important factor affecting EFD application in VAT registered business. Many traders in Tanzania do not have EFD machine as reported in Swart and Wanjiku (2008). The literature (Wanjiku, 2008) shows Tanzania like other developing countries lack strong policies, coordination and financial resources which serve to hamper the ability to integrate the use of ICTs effectively in business from the national level.

Research conducted in United State of America by Tolhurst (2005) to examine the role of technology in financial transaction found that tax collectors to have beneficial impacts on the collection of revenues. The technology enabled showing of numerous, complex

examples enhanced the increasing of tax collection in the financial year which increase government revenues. In the United Kingdom EFD increase the tax collection of 18% at the first time when they started to be used as a main tool in tax collection (Wanjiku, 2008).

2.5 Perception of VAT registered traders on EFD

The EFD of new technologies in VAT collection raise new challenges in financial sectors settings particularly to registered traders. Since the introduction of EFD in VAT collection, traders now face new social, cultural and pedagogical phenomena that challenge traders in term of technical ability, knowledge and expertise. EFD create new possibilities; dilemmas and new opportunities that EFD offer to make VAT increasing more meaningful and rewarding (Levin et al., 2011). Traders' beliefs, perceptions and knowledge are very essential for successful application of EFD in VAT collection. According to Wanjiku (2008) traders' beliefs and attitude and their confidence and competence with EFD remain centrally important in increasing adoption of EFD.

Traders' perceptions and knowledge is a very crucial factor in successful EFD use in increasing VAT collection. According to Grainer and Tolhurst (2009) traders' attitude to EFD affect their use of those technologies in the VAT collection. Trader's perception and knowledge either can support or hinder successful use of EFD in VAT collection activities. It is well known that the meaningful integration of technology assumes that traders' need to learn about the potential of technology in increasing VAT compliance collection, change their routine and learn to apply new EFD approaches (Sandholtz et al, 2010).

2.6 Strategies Towards Effective use of EFD Machine

The use of EFD in VAT collection is very important for providing opportunities for traders to learn better due to the expected improvement in the quality of VAT payment

(URT, 2010). URT (2010) suggests strategies to improve EFD use in VAT registered traders in Tanzania so as to bring about effective increasing of VAT collection. In order to be successful in EFD use there should be a shift from the traditional tax payment to new one, the use of EFD.

Wanjiku (2008) suggest that in order to promote the effective use of EFD in VAT collection, traders need to be reinforced with sufficient skills not only in basic skills but also in the proper use of EFD in VAT collection. There are few traders' currently with skills and knowledge on the use of EFD facilities. According to URT (2011) if Tanzania wants to promote the use of EFD in VAT collection; traders' need to be equipped with the basic EFD skills to make use of the technology.

As it relates to the successful use of EFD in VAT collection, we need to consider different interdependent variables. EFD use in business areas is not only about availability of EFD in the business areas, or traders' perception and knowledge or just about traders support, but all these factors affect each other. According to URT (2010) in the successful implementation of EFD, three interlocking variables have to be considered in order to effect change: trader's factors, VAT register factors and resource factors.

2.7 The Conceptual Framework

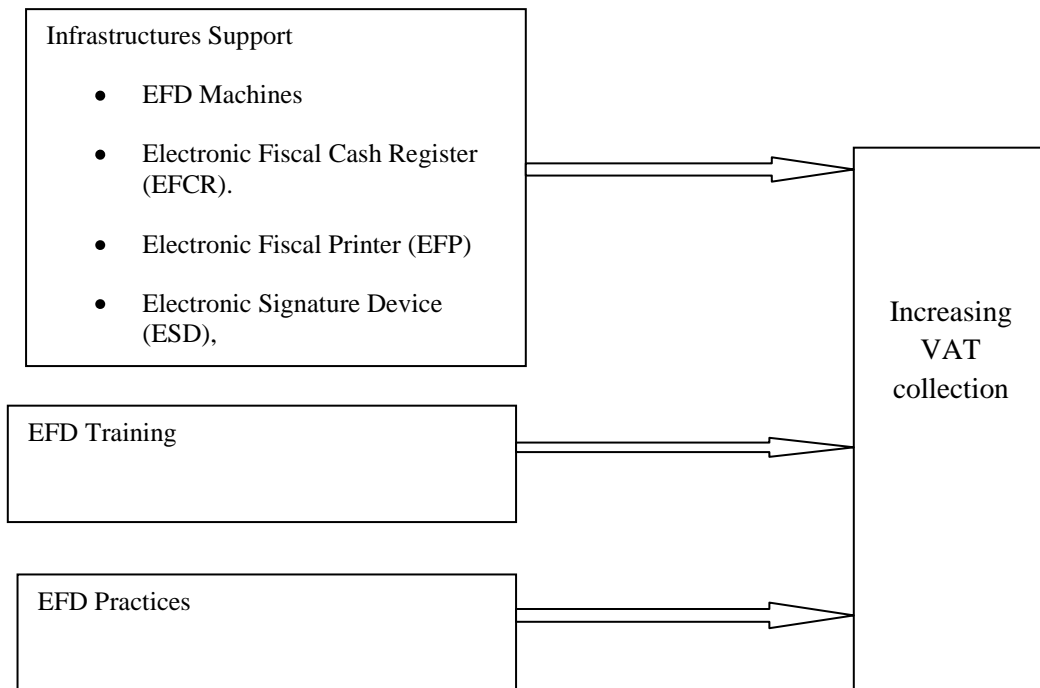
In order to understand the effectiveness of Electronic Fiscal Dives (EFD) in increasing value added tax (VAT) compliance in Tanzania, there was a need to have a comprehensive conceptual framework. According to Smyth (2004) a conceptual framework should assist a researcher to organize his or her thinking and complete an investigation successfully. This conceptual framework proposed here will explains hypothesized causal relationships between factors that previously reported to be

important in technology integration which is extended from Inan and Lowther (2010) path model. This study examines the VAT compliance through use of Electronic Fiscal Dives (EFD) in Tanzania. Therefore, this study was guided by the model which is adapted from Inan and Lowther (2010) cited from Ntambala (2011).

The model consists three parts. The first part consists of infrastructure support and EFD training. The second part of this model is comprised of EFD practice and the last part consists of increasing VAT collection.

In this model, it is assumed that the presence of infrastructure leads to EFD training to traders. In the second part, it is assumed that both infrastructure and EFD training lead to EFD practice by the traders. In the third part, it is assumed that all the EFD practice, among traders will lead to effective increasing VAT collection. The relationship among these factors is shown in the model using both single headed arrows.

Figure1. The Hypothesized model and Conceptual Framework



Source: Adopted from Ntambala Y (2011)

2.8 Hypothesis

H0; There are positive relationship between EFD and VAT compliance

H1; There are no relationship between EFD and VAT compliance

2.9 Knowledge Gap

The literature review provides various studies on contribution of EFD in VAT compliance .However, very few studies have been conducted in Tanzania context to explore the role of EFD in facilitating VAT compliance, a study by Daudi Mboma on “Challenges to EFD adoption in Tanzania: Enhancing VAT services in Tanzania.” Therefore there is no any study conducted in Tanzania context focusing Value Added Tax (VAT) compliance through use of Electronic Fiscal Device (EFD) in Tanzania.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter explains the methods that were used in obtaining and analyzing data from the area of study. The chapter was organized into research design; research approach; area of study; target population and sample of the study; data collection methods and instruments for data collection and data analysis strategy.

3.1 Research Design

The key question for this study is ‘VAT compliance through use of EFD in Tanzania a case study of Musoma District. To answer the question one should explore the levels of VAT compliance indicators. A case study approach is an appropriate research design that will enable various outcomes to be reached upon conclusion to the study. The case study design allows the researcher to deal with a particular individual organisation within the group, and in conclusion, not to generalize the findings (Adam & Kamuzora, 2008).

TRA Musoma was chosen as a case study in this area because firstly TRA Musoma has succeeded to enforce the purchase and use of EFD machine by all VAT registered traders. Also the researcher is familiar with the region hence enhances availability of data required for this kind of study.

3.2 Area of Study

The study was conducted at TRA Musoma District. Musoma District is among of the district which have VAT registered traders who are forced by law to purchase and use EFD machine on their daily transaction. Since the district has VAT registered traders, it

made the area to be advantageous for the study. The area was selected because of the familiarity of the area by the researcher.

3.3 The Study Population

A population is a group of individuals, objects or items from which samples are taken for measurement (Kombo & Tromp 2006; Panneerselvam, 2007). Population represent entire spectrum of a system of interest. The target population in this study was ARM – Audit, ARM- Debt Management and Compliance Monitoring, Operational Staff, VAT Traders in total of 65, was considered because of their experience they have as they use EFD in their business activities, and thus they had much to say. As Kombo and Tromp (2006) suggest, effective population sample should have some idea of the topic being investigated.

3.4 Sample size and sampling technique

Sample is a small group of respondents drawn from the population in which the researcher is interested in gaining information and drawing conclusion (Guba 1994). In most cases researchers uses samples and not population due to financial and time constraints as well as scattered population in a very wide geographical area which make sampling necessary. The sample for this study was drawn from the complete list of all employees and VAT registered taxpayers at the Musoma district. In this study convenient sampling was applied. Convenient sampling involved selecting immediate and available participants (Kothari, 2004). This is because the VAT registered traders group is too large to include every individual in the study and also by convenient sampling; it is easy to detect the relationship between the perceptions on the contribution of EFD in increasing tax compliance. Adam at el (2008) stresses out that convenience sampling is useful for detecting the relationship between different phenomenons. Therefore the sample for this study was 40 respondents. The sample of this study was drawn from the complete list of VAT registered traders and TRA staff in Musoma

District. A simplified formula for proportions by Yamne (1967) was adopted to obtain the desired sample sizes, assuming 95% confidence level and precision of 0.05: $n = \frac{N}{1 + N(e)^2}$ where n is the sample size and e is the level of precision: $n = \frac{65}{1 + 65*(0.05^2)}$, sample size (n) = 40 as represented in the table below 3.1

Table1. The Sample Size

Category of respondents	Population	Sample Size	Frequency of Respondents
ARM – Audit	1	1	1
ARM- Debt Management and Compliance Monitoring	1	1	1
Operational Staff	15	6	6
VAT Traders (Registered)	48	32	32
Total	65	40	40

3.5 Data collection Methods and Instruments.

The central focus for any research activity is the gathering of information/data for the production of knowledge. Adam et al (2008) defines data as those facts that a particular situation gives to an observer. In this study the researcher uses interviews, questionnaires, observation, documentary analysis and secondary data reviews for data collection from different sources.

3.5.1 Questionnaire

This study deployed self-administered questionnaires which comprises closed and open ended questions to 40 VAT registered traders. There were questionnaires for VAT registered traders. Only 40 VAT registered traders were required to fill in the questionnaire. The closed ended questionnaires were designed to gather more

information about the VAT compliance through use of EFD in Tanzania. The researcher was opted to use open ended questionnaires in order to allow more freedom of response on the effectiveness of the EFD in VAT compliance in Tanzania. Santos et al (1999), declared that closed-ended questionnaire has power to elicit unrestricted, unbiased and frank responses. Respondents also may provide “insight from their feelings, background, hidden motivation, interests and decisions (Adam, 2008). Moreover, the questionnaires consists of five scaled likert type question that will measure strongly agree to strongly disagree (Appendix 1 and 2).

3.5.2 Interviews

The study employs face-to-face semi-structured interviews in which carefully worded questionnaires were administered to VAT registered traders. Interviews will seek in depth the information so as to examine the effectiveness of the EFD in increasing VAT compliance in Tanzania. The semi-structured interviews were used as they are useful in the collection of rich qualitative data due to their flexibility, being focused, time-effective and they enabled the researcher to get a complete and detailed understanding of the issue under research (Kombo & Tromp, 2006). In this technique Kothari (2004,) add that “with interview the researcher learn the subjective experiences of the participants”. Moreover, interviews were enabling to obtain data required to meet specific objectives of the study and to provide in-depth data which is not possible to get by using a questionnaires (Kothari, 2004). The interview was conducted after observation in order to get more clarification on some issues observed about EFD actual practices and integration of EFD to VAT registered traders. The information was noted in a notebook and recorded by using mobile phone (Appendix 3 and 4).

3.6 Validity and Reliability

3.6.1 Validity

Hester (1996) defines validity as the quality of procedure or instrument used in the research in accurate, correct, true, meaningful and in a right way. A valid instrument measures what the researcher claims to measure. The study uses data triangulation from VAT registered traders, where questionnaires, interview and observation was conducted to collect data. This is because triangulation is a method of highest priority in determining internal validity in a research (Waller, 2010). However, Adam et al. (2008), acknowledge that no one method in social science research is a perfect measurement of constructs under consideration.

3.6.2 Reliability

Reliability is a measure of degree to which research instruments yield the same results or data after repeated trial (Bryman, 2001). A reliable instrument measures the data in a consistent and accurate manner rather than randomly. To make the instruments reliable, the research provides clear instructions of the instruments and clarification in order to remove ambiguity of the instructions. Moreover, to ensure reliability, multiple methods of data collection was employed which was questionnaires, interviews and observation. The language which was used in the instrument also was checked to determine if the instruments items was understood by the respondents before carrying the actual study.

3.7 Ethical Issues

Before going to the field for data collection, the researcher sought research clearance letter from the Director of postgraduate studies from the Mzumbe University. The letter states the purpose of the study and its importance in order to justify the need for data collection. The clearance letter was taken to Regional Administrative Secretary (RAS) Mara region. The Mara Region Administrative Secretary (RAS) forward the letter

directly to the TRA Regional Manager so as to allow conducting the study in Musoma District.

3.8 Data analysis

Data was analyzed both qualitatively and quantitatively. Quantitative data collected through questionnaire was analysed by using SPSS and presented by using descriptive statistics and inferential statistics such as mean, standard deviation and pie charts. Qualitative data collected by using interview was analysed by using thematic and content methods and was presented by statements of words.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

The main purpose of the study was to evaluate the effectiveness of the Value Added Tax (VAT) Compliance through Use of Electronic Fiscal Device (EFD) in Tanzania. Both background and variable characteristics were thoroughly examined and the findings are presented in this chapter.

This chapter reports the study findings after analyzing the data obtained through questionnaires, Interview, documentary review and observation from different categories of respondents. The presentation starts with major background characteristics of the respondents' categories, sex, and job title.

4.1 Background Characteristics of Respondents

4.1.1 Respondents' categories

The study population involved two categories of respondents namely; category 'A' included eight (8) Musoma District TRA staff members, category 'B' included 32 VAT registered traders.

Table 2: Summary of Expected and Actual Respondents

Respondent categories	Expected number of respondents	Actual number of respondents	Percentage %
TRA staff members	8	8	100
VAT registered traders	32	32	100

Source: Field Survey data, 2013

4.1.2 Distribution of respondents by sex

The study came up with a sample size of 40, where by 8 were TRA staff members respondents, of whom 5 (12.5%) were male while 3 (7.5%) were female. VAT registered traders were 32 of whom 17 (42.5%) were male while 15 (37.5%) were female. Though it was not intension of the study to get respondents based on their sex, but the views obtained reflect a fair representation of both sexes in the study as represented in table 4.2 below.

Table 3: Respondent Distribution by Sex

Respondent categories	Respondents sex	Total	
		Frequency(N)	Percent (%)
TRA staff members	Male	5	12.5
	Female	3	7.5
VAT registered traders	Male	17	42.5
	Female	15	37.5
Total		40	100

Source: Field Survey data, 2013

4.1.3 Distribution of Respondents by Experiences

The study came up with a sample size of 40, where by 8 were TRA staff members respondents, of whom 3 (7.5%) had experience of less than 1 years, 1 (2.5%) had experience of 2 to 5 years and 2 (5.0%) had experience of 6 to 10 and above 10 years. VAT registered traders were 32 of whom 4 (10.0%) had experience of less than 1 year, 13 (32.5%) had experience of 2 to 5 years, 6 (15.0%) had experiences of 6 to 10 years and 9 (22.5%) had experience of above 10 years. Though it was not intension of the study to get respondents based on experiences, but the views obtained reflect a fair representation of both experiences of respondents in the study as presented in the Table 4.3.

Table 4: Respondent Distribution by Experiences

Respondents Experiences	TRA Staff members		VAT registered traders		Total	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)	Frequency (N)	Percent (%)
Less than 1 year	3	7.5	4	10.0	7	17.5
2 to 5 years	1	2.5	13	32.5	14	35.0
6 to 10 years	2	5.0	6	15.0	8	20.0
Above 10 years	2	5.0	9	22.5	11	27.5
Total	8	20.0	32	80.0	40	100

Source: Field Survey data, 2013

4.1.4 Distribution of Respondents by Education level

The study came up with a sample size of 40, where by 8 were TRA staff members respondents, of whom 2 (5.0%) were certificate and diploma holders, while 3 (7.5%) were Bachelor and Masters and above holders. VAT registered traders were 32 of whom 30 (75%) had secondary education and 2 (5.0%) had certificate and diploma. Though it was not intension of the study to get respondents based on education level, but the views obtained reflect that respondents had some basic education level although it differs from one respondent to another.

Table 5: Respondent Distribution by Education level

Education Qualifications	TRA Staff members		VAT Registered Traders		Total	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Secondary education	-	-	30	75.0	30	75.0
Certificate and diploma	2	5.0	2	5.0	4	10.0
Bachelor	3	7.5	-	-	3	7.5
Master's and above	3	7.5	-	-	3	7.5
Total	8	20.0	32	12.5	40	100

Source: Field Survey data, 2013

4.2 Effect of EFD in Filing, Remittance and Refund process to VAT collection

The study wanted to identify the effect of EFD in filing, remittance and refund process to VAT collection in Tanzania. The researcher met respondents at their work place and managed to extract information from all 40 respondents to eventually come out with the effect of EFD in filing, remittance and refund process to VAT collection in Tanzania. In accomplishing this specific objective TRA staff members and VAT registered traders was given questionnaire to indicate the effect of EFD in filing, remittance and refund process to VAT collection. Additionally semi-structured interview were conducted to TRA Debt management. In accomplishing this specific objective the following sub themes were used.

4.2.1 Type of EFD used by the Musoma VAT traders

In this sub theme the researcher wanted to know if VAT registered traders of Musoma use any of the type of EFD. The researcher used questionnaire to obtain information on the use of EFD in VAT collection. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question, ” do VAT registered traders use any of the following EFD” as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents are as presented in the figure below.

Table 6: Type of EFD used by Musoma VAT registered traders

Device Use	Responses			Total	Std. Deviation	Mean
	1	2	3			
Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR)	35	5	-	40	.35355	1.1250
Electronic Fiscal Printer (EFP),	30	10	-	40	.46291	1.2500
Electronic Signature Device (ESD),	35	5	-	40	.35355	1.1250
Grand Total Mean						1.1666
Responses key : 1= Yes, 2= No, 3= Sometimes						

Source: Field Survey data, 2013

From the findings it was revealed that the mean score of 2 is the decision point to judge the use of EFD in VAT Collection (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3 = 6/3 = 2$). Therefore mean score of responses below 2 shows that type of EFD is used by the Musoma VAT registered traders.

The research findings show there is large extent of EFD use in VAT collection (Grand mean score from respondents = 1.1666). The mean score of 1.1250 shows that VAT registered traders use Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR), while the mean score of 1.2500 shows that VAT registered traders use Electronic Fiscal Printer (EFP). Additionally, the research results show that the mean score of 1.1250 respondents show that VAT registered traders use Electronic Signature Device (ESD).

4.2.2 How Often the Devices are used

The researcher wanted to know how often the devices are used in VAT collection. The researcher used questionnaire to obtain information on how often the devices are used in VAT collection. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question on how often the devices are used in VAT collection as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is presented in the figure below.

Table 7: Responses on how often the devices are used

Device Use	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR)	25	10	-	5	-	40	1.06066	1.625
Electronic Fiscal Printer (EFP),	25	10	5	-	-	40	.75593	1.5000
Electronic Signature Device (ESD),	20	20	-	-	-	40	.53452	1.5000
Grand Total Mean								1.5416
Responses key : 1=every time of transaction to not real =5								

Source: Field Survey data, 2013

From the findings it was found that the mean score of 3 is the decision point to judge the oftenest use of EFD by the VAT traders (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows that EFD devices are often used by VAT traders in issuing fiscal receipts in every transaction.

The research findings shows that VAT registered traders use EFD often to issue receipts (Grand mean score from respondents =1.5416). The mean score of 1.625 shows that VAT registered traders often use Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR), while the mean score of 1.5000 shows that VAT registered traders often use Electronic Fiscal Printer (EFP). Additionally, the research results show that the mean score of 1.5000 respondents show that VAT registered traders often use Electronic Signature Device (ESD) in issuing receipts in every transaction.

4.2.3 The effect of EFD in filing, remittance of return and refund processing

The researcher was interested to know the effects of EFD. The researcher used questionnaire to obtain information on the effects of EFD on refund processing, simplifying filing and remittance of returns. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question to indicate the effects of EFD as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Table 8: Responses on the Effect of EFD

Device Use	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Simplifies filling of returns	30	10	-	-	-	40	.46291	1.2500
Simplifies remittance	10	30	-	-	-	40	.44096	1.7778
Simplify refund process	10	25	5			40	.64087	1.8750
Time saving in refund processing	10	25	5			40	.64087	1.8750
Grand Total Mean								1.69445
Responses key : 1=Strong Agree, 2=Agree, 3= Not Sure, 4=Disagree, 5=Strong Disagree								

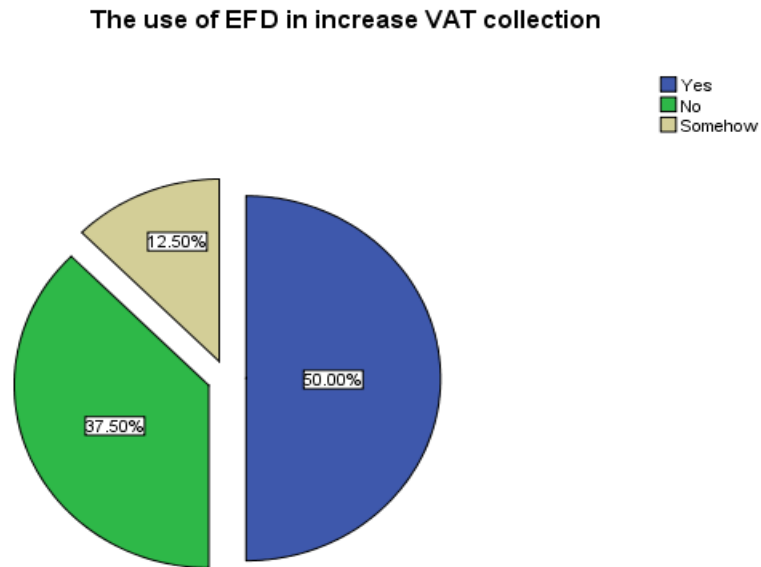
Source: Field Survey data, 2013

From the findings it was founded that the mean score of 3 is the decision point to judge the effect of EFD (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows that respondents agreed that EFD has effect in simplifying filling of returns, remittance, refund processing and saves time in refund processing.

Grand mean score from respondents =1.69445. The mean score of 1.2500 shows that the respondents agreed that EFD has effect in simplifying filling of return, while the mean score of 1.7778 respondents agreed that EFD has effect in remittance of returns. Additionally, the research results show that the mean score of 1.8750 represent respondents who agree that EFD has effect on both time and the refund process.

In this sub theme also the researcher wanted to know if EFD leads to the increase in the amount of VAT collected. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question to indicate the effects of EFD in VAT collection as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

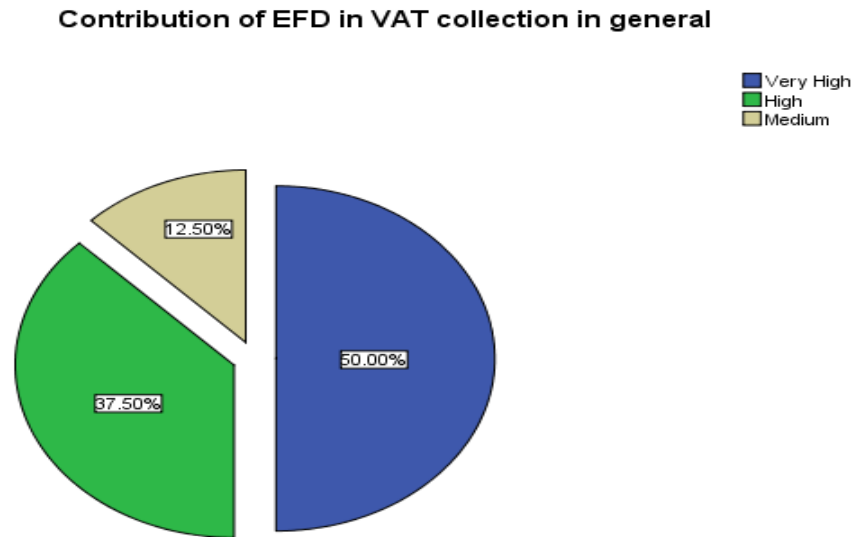
Figure 2. EFD and the increase in VAT collection



The research findings shows that the use of EFD leads to the increase in VAT collected. 50.00% of the respondents respond YES, 37.50% responds No and 12.50% of the respondents respond somehow.

The researcher uses questionnaire to obtain information on the contribution of EFD in VAT collection in general. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question to indicate the contribution of EFD in VAT collection as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Figure 3. Contribution of EFD in VAT collection in general



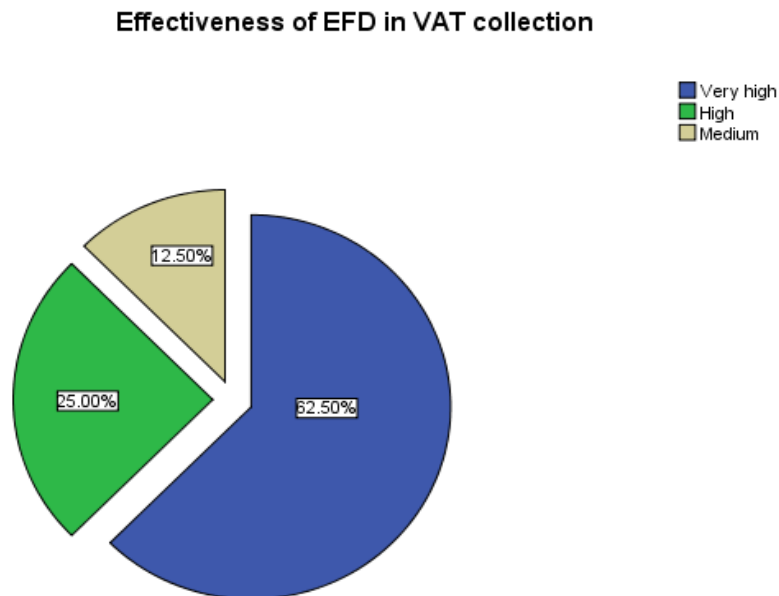
The research findings show that contribution of EFD in increasing VAT collection is very high since 50.0% of respondents responds very high, 37.50% responds high, 12.50% responds medium and none of them respond low.

4.3 The effectiveness and efficiency of EFD in VAT collection

The researcher was interested to assess the effectiveness and efficiency of EFD in VAT collection in Tanzania. The researcher met respondents at their work place and managed to extract information from all 40 respondents to eventually come out with the effectiveness and efficiency of EFD in VAT collection in Tanzania. In accomplishing this specific objective TRA staff members and VAT registered traders were given questionnaires to indicate the effectiveness and efficiency of EFD in VAT collection. Additionally semi-structured interviews were conducted to TRA Debt management and Audit staff.

In the first question, the researcher was interested to know how the respondents rank the effectiveness of EFD in VAT collection. The researcher uses questionnaires to obtain information on the effectiveness of EFD. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question to indicate the effectiveness of EFD in VAT collection as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Figure 4. Effectiveness of EFD in VAT collection



62.50% of respondents rank the effectiveness of EFD in VAT collection to be very high, 25.0% responds high, 12.50% of responds medium and none of them respond low.

4.3.1 Acceptance of EFD statements

The researcher was interested to know the degree of acceptance of these statements by the TRA staff and VAT registered traders. The researcher uses questionnaires to obtain information from both TRA staff and VAT traders. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question by showing their acceptance on the statements as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Table 9: The Degree of acceptance on the statements

Device Use	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Using EFDs has enhanced VAT collection	20	10	10	-	-	40	1.06066	1.06066
All EFDs are registered by TRA	25	10	5	-	-	40	.75593	1.5000
Using EFDs had freed me from using much effort	20	20	-	-	-	40	.53452	1.5000
All transactions are entered or recorded in EFDs	25	15	-	-	-	40	.51755	1.3750
Grand Total Mean								1.3589
Responses key: 1=Strongly Agree, 2=Agree, 3= Not Sure, 4=Disagree, 5=Strongly Disagree								

Source: Field Survey data, 2013

From the findings it was founded that the mean score of 3 is the decision point to judge the degree of acceptance on the statements (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows that the statements have been agreed by the respondents.

Grand mean score from respondents =1.3589. The mean score of 1.06066 shows that VAT registered traders agreed that using EFDs have enhanced VAT collection while the mean score of 1.5000 shows that using EFDs had freed them from using much effort and all EFDs are registered by TRA. Additionally, the research results show that the mean score of 1.3750 respondents shows that all transactions are entered or recorded in EFDs.

4.3.2: Availability of inputs in order to make EFD operate well

The researcher wanted to know if the expected inputs in order to make EFD operate well are available. The researcher uses questionnaire to obtain information if expected inputs are available. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question to indicate whether inputs are available enough to not available as indicated in both questionnaire for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Table 10: Availability of inputs in order to make EFD operate well

Device Use	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Devices themselves (EFCR, EFP, ESD)	25	15	-	-	-	40	.51755	1.3750
Specific budget to maintain the system/Devices	30	10		-	-	40	.46291	1.2500
Expert personnel in operating the system/Devices	20	10	10	-	-	40	.74402	1.6250
Grand Total Mean								1.40625
Responses key: 1=Strong Agree, 2=Agree, 3= Not Sure, 4=Disagree, 5=Strong Disagree								

Source: Field Survey data, 2013

From the findings it was founded that the mean score of 3 is the decision point to judge the availability of the inputs in order to make EFD operate well (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows that there is availability of inputs in order to make EFD operate well.

The research findings shows that there is availability of inputs which support the operation of EFD (Grand mean score from respondents =1.40625). The mean score of 1.3750 shows that respondents agreed the availability of devices themselves (EFCR, EFP, ESD) in order to make EFD operate well, mean score of 1.2500 agreed that specific budget to maintain the system/devices is available while the mean score of 1.6250 agreed that expert personnel in operating the system/devices is available.

Additionally, the research results show that the mean score of 1.4375 respondents show that all transactions are entered or recorded in EFDs.

4.3.3: Expected outputs of EFDs in VAT collection

In this sub theme the researcher wanted to know how the respondents rank the expected outputs of EFDs in VAT collection. The researcher uses questionnaire to obtain information. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Table 11: Expected outputs of EFDs in VAT collection

Device Use	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Increase of VAT collection	30	5	5	-	-	40	.46291	1.2500
Encourage VAT compliance	20	5	5	5	5	40	.70711	1.7500
Reduce costs of VAT collection	25	15	-	-	-	40	.51755	1.3750
Grand Total Mean								1.4583

Source: Field Survey data, 2013

From the findings it was founded that the mean score of 3 is the decision point to judge the expected output of EFDs in VAT collection (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows that respondents rank high these expected output of EFDs.

Grand mean score from respondents =1.4583. The mean score of 1.2500 shows that respondents agreed that the use of EFD increases VAT collection; while the mean score of 1.7500 shows that using EFDs had encouraged VAT compliance. Additionally, the

research results show that the mean score of 1.3750 respondents show that the use of EFDs reduce the cost of VAT collection.

4.3.4 The costs of operating EFD system

In this sub theme the researcher wanted to know the costs of operating EFD system in VAT collection. The researcher uses questionnaires to obtain information. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. All respondents were required to answer this question to indicate the costs of operating the EFD system as indicated in both questionnaires for TRA staff and questionnaire for VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Table 12: Responses on the costs of operating EFD system

Device Use	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Personnel (e.g. Training, new employee etc.)	35	5	-			40	.44096	1.2222
Electronic Fiscal Cash Register (EFCR).			-	25	15	40	.51755	1.6250
Electronic Fiscal Printer (EFP)			5	20	15	40	.70711	1.7500
Electronic Signature Device (ESD)			-	15	25	40	.51755	1.3750
Grand Total Mean								1.49305
Responses key: 1=Very fair, 2=Fair , 3= Somehow, 4=Not fair, 5=Very unfair								

Source: Field Survey data, 2013

From the findings it was found that the mean score of 3 is the decision point to judge the acceptability of the cost of operating EFD device (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$).

Grand mean score from respondents = 1.49305. The mean score of 1.2222 shows that respondents agreed that the costs of personnel (e.g. Training, new employee etc.) is fair while the mean score of 1.6250 shows that costs of Electronic Fiscal Cash Register (EFCR) is not fair, the mean score of 1.7500 responds that the costs of Electronic Fiscal Printer (EFP) is very unfair. Additionally, the research results show that the mean score of 1.3750 respondents show that the costs of Electronic Signature Device (ESD) was unfair.

4.3.5: The General Efficiencies of EFD

In this sub theme the researcher wanted to know the general efficiencies of EFD in VAT collection. The researcher uses questionnaire to obtain information. Questionnaires were distributed to both 8 TRA staff and 32 VAT registered traders. Data collected from the 40 respondents is as presented in the figure below.

Table 13: Responses on the General Efficiencies of EFD in VAT collection

Statement	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Leads to the attainment and surpassing of target	25	10	5	-	-	40	.75593	1.5000
Users consider EFDs useful	25	15	-	-	-	40	.51755	1.3750
Users consider EFDs easy to use	40	-	-	-	-	40	.00000	1.0000
Grand Total Mean								1.2916
Responses key: 1=Strong Agree, 2=Agree, 3= Not Sure, 4=Disagree, 5=Strong Disagree								

Source: Field Survey data, 2013

From the findings it was found that the mean score of 3 is the decision point to judge the general efficiencies of EFD (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows the general efficiencies of EFD in VAT collection.

Grand mean score from respondents =1.2916. The mean score of 1.5000 shows that respondents agreed that using EFDs leads to the attainment and surpassing of target,

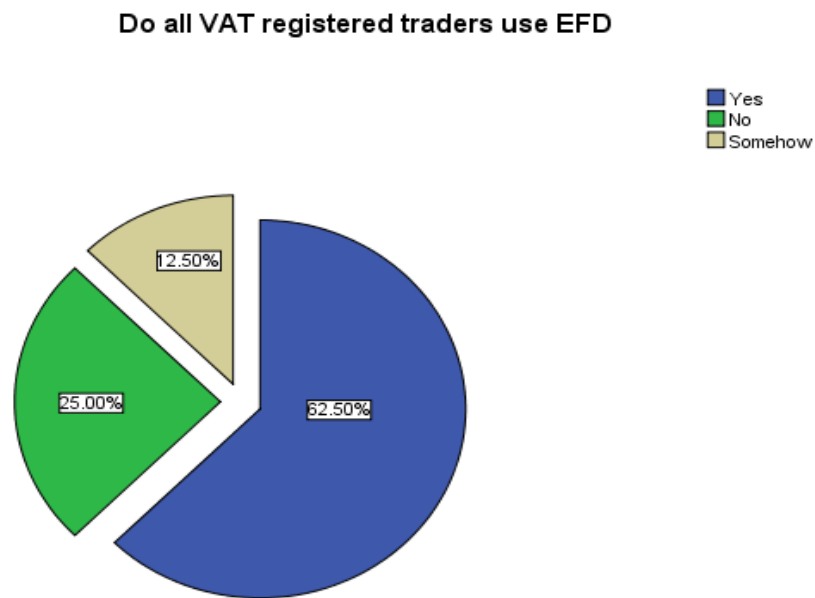
mean score of 1.3750 agreed that users consider EFDs is useful and mean score of 1.0000 consider EFDs easy to use.

4.4 The trend of VAT compliance before and after use of EFD

The researcher wanted to identify the trend of VAT compliance before and after use of EFD in VAT collection in Tanzania. The researcher met respondents at their work place and managed to extract information from all respondents to eventually identify trends of VAT compliance. In accomplishing this specific objective, respondent were given questionnaire to show the trend of VAT compliance. Additionally semi-structured interview were conducted to these TRA staff members. In accomplishing this specific objective the following sub themes were used.

The researcher uses questionnaire to obtain information on VAT registered traders use of EFD in issuing of receipts. Questionnaires were distributed to TRA staff members. Data collected from the 8 respondents from TRA staff are as presented in the figure below.

Figure 5 Responses of the use of EFD by VAT registered traders



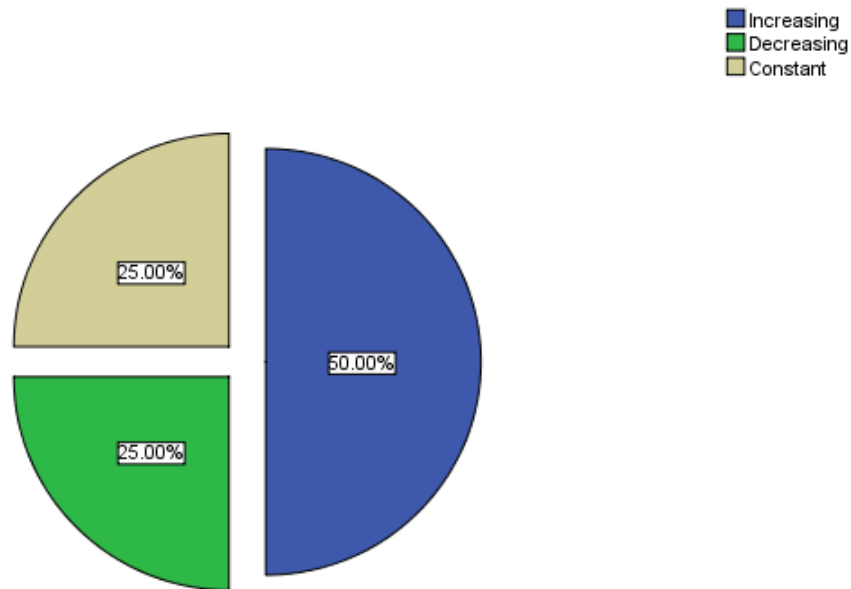
Source: Field Survey data, 2013

The research findings show 62.50% of TRA staff members respond YES, 25.00 % of VAT registered traders respond No and 12.50% of TRA staff responds somehow.

The researcher uses questionnaire to obtain information on the increase or decrease of VAT registered traders after introduction of EFDs in VAT collection. Questionnaires were distributed to both 8 TRA staff. Data collected from the 8 respondents from TRA staff are as presented in the figure below.

Figure 6 Responses on the Increase or decrease of VAT registered traders

Are VAT registered traders increasing or decreasing after introduction of EFDs



Source: Field Survey data, 2013

The research findings show that 50.00% of TRA Staff members respond Yes, 25.00% of TRA respond No and constant.

4.4.1: The trend of VAT compliance before and after the use of EFD (increasing or decreasing)

The researcher uses questionnaires to obtain information on the trend of VAT compliance before and after the use of EFD (increasing or decreasing) in VAT collection. Questionnaires were distributed to 40 respondents. Data collected from the 40 respondents are as presented in the figure below.

Table 14: Responses on the trend of VAT compliance before and after the use of EFD (increasing or decreasing)

Device Use	Responses			Std. Deviation	Mean
	1	2	Total		
Number of traders using EFD machine	35	5	40	.35355	1.1250
Issuance of receipts	40	-	40	.00000	1.0000
Sales declared	40	-	40	.00000	1.0000
VAT collection	35	5	40	.35355	1.1250
Number of refunds	10	30	40	.46291	1.2500
Purchases	35	5	40	.35355	1.1250
Compliance costs (Ratio of costs of collecting VAT viz tax collected)	10	30	40	.46291	1.2500
Grand Total Mean					1.1250
Responses key: 1= Increases, 2 Decreases					

Source: Field Survey data, 2013

From the findings it was found that the mean score of 3 is the decision point to judge the trend of VAT compliance before and after the use of EFD (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 shows that there is increase in compliance after the adoption of EFD.

The research findings show that there is an increase in VAT compliance after the adoption of EFD (Grand mean score from respondents =1.1250). The mean score of 1.1250 of respondents show that number of VAT traders using EFD machine is increasing, mean score of 1.0000 said issuance of receipts and sales declared increases,

mean score of 1.1250 said the VAT collection and purchases declared increases, while mean score of 1.2500 said there is a decrease in number of refunds and compliance costs as a result of using EFD.

Moreover, data from interview shows the increase in the amount of VAT collected and number of VAT registered traders who are using EFDs. The data from interview as presented in the table below;

Table 15: Increase in the amount of VAT collected (figures in million)

	2009	2010		2011	
	Amount	Amount	% Increase	Amount	% Increase
VAT collected	729.372	816.9	12%	1,200.84	47%

Findings from the interview conducted to the TRA staff reveal that there is an increase in VAT collection from average of Tshs.729.372 million per annum in 2009 to Tshs.1,200.84 million in 2011 which is equivalent to 65% increase as presented in the table 15 above.

Table16: Increase in the number of traders using EFD

	2009	2010		2011	
	Number	Number	% Increase	Number	% Increase
Traders	27	33	22%	48	45%

Findings from the interview conducted to the TRA staff reveal that there is an increase in the number of traders using EFD increases from 33 in 2010 to 48 in 2011, this is equivalent to 45% increase as presented in the table 16 above.

4.4.2: The Problems/Challenges in using EFD

The researcher uses questionnaire to obtain information on the problems/challenges facing VAT registered traders in using EFD and TRA staff in enforcing the EFD usage.

Questionnaires were distributed to 40 respondents. Data collected from the 40 respondents are as presented in the figure below.

Table 17: Responses on the problems/challenges in using EFD

Challenge/Problems	Responses		Total	Std. Deviation	Mean
	1	2			
Lack of appropriate features by the EFD machine	40	-	40	.00000	1.0000
Network problems	30	10	40	.46291	1.2500
Insufficient knowledge of how the EFD machine function	30	10	40	.46291	1.2500
Cost of the EFD	30	10	40	.46291	1.2500
Late response from EFD machine supplier when there is problems in the functioning of the machine	35	5	40	.35355	1.1250
Low quality EFD machine	35	5	40	.35355	1.1250
Language used by the machine	30	10	10	.46291	1.2500
Grand Total Mean					1.1786
Responses key: 1= Yes, 2 =No					

Source: Field Survey data, 2013

From the findings it was found that the mean score of 1.5 is the decision point to judge the problems/challenges facing VAT traders and TRA staff (decision point was obtained

by adding number of response key and divided by total number of response key $1+2 = 3/2 = 1.5$). Therefore mean score of responses below 1.5 indicate that the mentioned problems are really facing VAT traders and TRA staff.

The research findings show that there are problems/challenges facing VAT traders and TRA staff (Grand mean score from respondents =1.1786). The mean score of 1.000 of responses agree that there is a problem of EFD lacking appropriate features, mean score of 1.2500 agree that there is network problems, insufficient knowledge of how the EFD machine function, costs of the EFD is high and language is the problem; while mean score of 1.1250 agree that there is a problem of late response from the EFD supplier and the quality of the devices itself.

However, the data collected from interview still reveal that the use of EFD continue to face the challenge like lack of accountability and poor compliance to rules and regulation, lack of culture of paying tax voluntarily, ignorance and negligence of the VAT registered traders to comply with VAT Act together with its regulations.

4.4.3: Strategies to improve the effective use of EFD in facilitating VAT compliance

The researcher uses questionnaire to obtain information on strategies to improve the effective use of EFD in facilitating VAT compliance in VAT collection. Questionnaires were distributed to 40 respondents. Data collected from the 40 respondents are as presented in the figure below.

Table 18: Strategies to improve the effective use of EFD in facilitating VAT compliance

Statement	Responses					Total	Std. Deviation	Mean
	1	2	3	4	5			
Stable Network	30	10	-	-	-	40	.50000	1.3333
Seminar to increase the awareness on EFD usage	40	-	-	-	-	40	.00000	1.0000
Quick response from EFD machine supplier when there is problems in the functioning of the machine	25	15	-	-	-	40	.51755	1.3750
Quality EFD machine	35	5	-	-	-	40	.35355	1.1250
The use of Swahili language	30	5	-	-	5	40	1.64208	1.8750
Grand Total Mean								1.3416
Responses key: 1=Strongly Agree, 2=Agree, 3= Not Sure, 4=Disagree, 5=Strongly Disagree								

Source: Field Survey data, 2013

From the findings it was found that the mean score of 3 is the decision point to judge the strategies suggested to improve the effective use of EFD in facilitating VAT compliance (decision point was obtained by adding number of response key and divided by total number of response key $1+2+3+4+5 = 15/5 = 3$). Therefore mean score of responses below 3 suggest the mentioned strategies to be effective in facilitating VAT compliance by using EFD.

Grand mean score from respondents =1.3416. The mean score of 1.3333 shows that respondent agreed that stable network, mean score of 1.0000 agreed that seminar to increase the awareness on EFD usage, mean score of 1.3750 quick response from EFD machine supplier when there is problems in the functioning of the machine, mean score

of 1.1250 agreed the use of quality EFD machine, mean score of 1.8750 agreed with the use of Swahili language in order to facilitate VAT compliance through using EFD.

Moreover, data from interviews depicted various strategies for effective use of EFD in VAT collection like corroboration with other international agencies, improving the quality of the paper used in the EFD machine, educating taxpayers on the advantages of using EFD machine to their business and tax purpose in general, enforcement measures, provide motivation and incentives to employees and improve employee's wages and working conditions.

CHAPTER FIVE

DISCUSSION OF THE RESEARCH FINDINGS

5.0 Introduction

This chapter presents the discussion of the research findings. It discusses what was revealed after analyzing the research data in relation to the research topic, conceptual framework and literature review. It further gives an interpretation of the study findings.

5.1: Effect of EFD in filling, remittance and refund process to VAT collection

From the findings, it was seen that at least each respondent mentioned one or more than one effects of EFD in filling, remittance and refund process. However, among the prevailing effects of EFD in filling, remittance and refund are as follows.

According to the research findings, Musoma VAT traders use all types of EFDs. They use Electronic Tax Register (ETR), Electronic Fiscal Printer (EFP) and Electronic Signature Device (ESD). The Grand mean score from respondents = 1.1250 shows that VAT registered traders use Electronic Tax Register (ETR) and Electronic Signature Device (ESD), mean score 1.2500 use Electronic Fiscal Printer (EFP). In fact, the use of EFD in VAT collection in Musoma District depend much on the law which is used by the TRA to enforce the use of EFD devices by VAT registered traders.

On how often the devices are used, most of the respondents agree that traders issue receipts often in every time of transaction. Electronic Tax Register and Electronic Fiscal Printer are more often used than Electronic Signature Device.

It has also revealed that EFD simplify filling and remittance of returns, simplify refund and saves time in refund processing. As shown in the table 4.7 of responses on the effect of EFD, most of the respondents strongly agree that EFD simplifies filling of returns.

Also the findings of the research shows that EFD increases VAT collection as 50% of the respondents say “Yes” and the same percentage say the contribution of EFD in VAT collection in general is very high. This shows that the modern way of using EFD in VAT collection increase the VAT collection compared to the traditional way of printed Tax Invoices VAT.

5.2: The effectiveness and efficiency of EFD in VAT collection

The research findings found the following effectiveness and efficiency of EFD in VAT collection in TRA Musoma District.

Effectiveness of EFD in VAT collection has been considered as one of the most essential elements of promoting and maintaining higher VAT collection. Effectiveness of EFD in VAT collection can meet the challenges of competition and can achieve TRA objectives in a better way hence it improves national incomes and promote economic growth of our country.

Loudon, (2007) argued that maintenance of effectiveness of EFD in VAT collection is a prerequisite for attainment of TRA targets which can promote maximum productivity in an organization. However, URT, (2011) added that retaining and un-performing of EFD in VAT collection may affect TRA performance because important position in the TRA performance are held by VAT registered traders who lack skills, knowledge, attitudes and creativity to perform effectively on the use of EFD in VAT collection. Also the

information which is available in the EFD system will help in assessing the income tax of the taxpayers. From this point we note that the EFD machine is not important only for VAT but also for income tax purposes.

On the other hand, the research findings from interview and questionnaires revealed that, the effectiveness of EFD is very high as ranked by 62.50% of the respondents. Enhanced VAT collection, freed taxpayers and TRA officials from using much effort, all EFDs are registered by TRA and all transactions are entered in the EFDs are other effectiveness of EFD. There is availability of inputs such as devices themselves, specific budget to maintain the system and expert personnel to operate the system as indicated by the research findings in table 4.9. Adoption of EFD expected to increase VAT collection, encourage VAT compliance and reduce costs of VAT collection. This has been succeeded as shown in table 4.10 when respondents agreed on the output of EFD. The respondents also agree on the general efficiency of the EFD as it leads to the surpassing of target and users consider them to be useful and easy to use. The costs of purchasing and operating the devices are not fair as it costly in terms of the device itself and its accessories.

5.3: The trend of VAT compliance before and after use of EFD

In the trend of VAT compliance the researcher was looking if there was an increase in the number of VAT registered traders, uses of EFD by VAT traders uses EFD, increase or decrease in the sales, purchases, VAT collection and number of refunds. Findings from the interview conducted to the TRA staff reveal that there is an increase in VAT collection from average of Tshs.729.372 million per annum in 2009 to Tshs.1,200.84 million in 2011 which is equivalent to 65% increase. Also number of traders using EFD increases from 33 in 2010 to 48 in 2011, this is equivalent to 45% increase.

Moreover, the research findings found the following problems/challenges being facing VAT traders and TRA staff in using EFD in VAT collection in TRA Musoma District.

Network problems

EFD machines use internet service to transmit data from the EFD operator to the EFDMS at the TRA office. There is always a network problems which the transmission of data from the EFD user to the EFDMS. Sometimes it takes up to more than two days without availability of network. For instance the EFD machine belongs to Mr. Mohamed Kessy, a Coca Cola agent, confront a network problem for more than a week and he was allowed to use receipt book until the network return to normal.

Late response from EFD supplier when there is a problem in the functioning of the machine

The research findings showed that the EFD suppliers do not respond in time when the machine sent to them. This is mostly contributed by their location in Mwanza only instead of having offices in every region. Also it is cost fully to the VAT registered trader to travel to Mwanza when the machine encounters the problem. They use one technician to service the machine from all these Lake regions.

Costs of the EFD and its accessories

The costs of purchasing the EFD machine is very high small number can afford to purchase them affecting their business although the whole amount is returned in the form of input tax. Also the costs of purchasing EFD accessories are very high making the cost of operating to the VAT trader to be high. Example cost of the battery (Tshs.200,000), cost of roll paper and service fee. One EFD machine is sold between Tshs. 1.8million and 3 million which a larger amount to a small trader in the district.

The research findings found the following strategies or measures which have been identified by the respondents to be taken in order to ensure effective use of EFD in facilitating VAT compliance in Musoma District. These strategies were:

Improve employee's wages and working conditions

There is a need for the government to improve its source of income and be in the position to pay salaries according to the prevailing standard of living. For that reason there was a need for the systematic monitoring of public salaries differentials for jobs that requires the same skills and experiences, reducing and eventually eliminating wage gaps for comparable jobs. On the other side, the working condition of TRA employees such as housing and offices with available furniture should be improved.

Provide motivation and incentives to employees

It has been observed that, there were strong connection between TRA employee's satisfaction and the level of the use of EFD in VAT collection. Employees who have less job satisfaction tend to be more often indiscipline because they lack work morale. According to motivation theories such as Maslow hierarchy of needs shows that every human being has its need which must be fulfilled in order for him/her to live comfortably, such needs are physiological needs, social needs, esteem needs and self-actualization. These needs also depend on the use of EFD devices which depends on the TRA employee to make sure all VAT registered traders use EFD in their business.

Enforcement measures

TRA Management's ultimate for VAT registered traders who have EFD devices and they fail to use in their business. These enforcement measures include penalties and fines for those VAT registered traders who failed to use EFD machines. If the tax payer

does not want his/her case to be ruled by the Commissioner, the case will be brought to the court for the hearing and decision.

Educating taxpayers on the advantages of using EFD machine to their business and tax purpose in general

Support and investment in EFD use is important for the adoption of new technology for VAT collection. TRA in Tanzania indicate the importance of providing a variety of both formal and informal training systems so that VAT registered traders could take advantage of the methods which suit them best. Employ a variety of training methods ranging from face-to-face workshops to online self-study programs depending on training objectives and environments, and integrate informal support into the formal training system so that the less experienced VAT registered traders can obtain timely assistance.

Improving the quality of the paper used in the EFD machine

TRA should be consider on how to improve the quality of the paper used in the EFD machine because the paper used is very delicate and very simple to be damaged and erased itself within a short period of time. Therefore TRA and government should think on how to improve the quality of the paper used in the EFD machine.

Collaboration with other international agencies

National and international partnerships across public and private sectors need to be formed to share resources; knowledge and experiences in providing effective and efficient EFD usage in VAT collection. The use of EFD in VAT collection depends on the efforts made by organizations have shown training advantages of international collaborations and benefits of using EFD for VAT collection. One of such advantages of

international collaboration is to bridge the gap between EFD haves and have-nots. Governments or TRA should promote national and international partnerships so as to provide incentives for private participation and investment of EFD in VAT collection.

5.4 Relationship Between EFD And VAT Compliance

Further analysis was considered necessary by the researcher to prove the contribution of EFD in enhancing VAT compliance. The null hypothesis was formed stating that **“There is a positive relationship between EFD and VAT compliance”**.

First it was assumed that given other factors constant, all VAT are paid/collected using EFD Also it was assumed that the registered traders are using their machines for every transaction they conduct. Therefore, all transactions are counted for VAT purposes.

For the analysis purposes, effectiveness of EFD was measured by budget v/s actual; while the Efficiency was measured through Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of respondents. VAT compliance can only be enhanced if three factors will be in place namely, first, infrastructure support which include EFD Machines (Electronic Fiscal Cash Register (EFCR), Electronic Fiscal Printer (EFP), Electronic Signature Device (ESD)), second EFD Training and thirdly EFD Practices. All these factors can be measured by measuring the effectiveness and efficiency of EFD.

In this case the model will be;

VAT compliance = f (Effectiveness and efficient of EFD)

VAT compliance variable is a new created variable to include the effectiveness and the efficiency of EFD, includes variable applicable EFD, often use of device, contribution of EFD in VAT collection, general ranking of effectiveness of EFD, inputs, outputs, costs of operating and general efficiency.

The simple linear regression analysis will be;

$$\text{VAT compliance} = f(X_{1(\text{effectiveness, efficiency})}) + \text{Constant}$$

That is to say; $Y = (b_1X_1 + c)$

Where; Y is the VAT compliance

X_1 is the effectiveness of EFD

b_1 is the slope of the variable

After formulating this model, simple linear regressions were conducted using data collected from the questionnaires distributed to our respondents. In the respondent's questionnaire question number 2 to 13 only were used to create this variable.

The model summary tells us whether the predictors in the model are successful in predicting the outcomes (Feld&Frey, 2007). The value of R is 0.173. This represents the correlations between the predictor variables and the VAT compliance. The results tell us whether the variations in VAT compliance can be explained by the selected variables. The value of R^2 tells us that the independent variables can account for 30% (0.301) of the variation in VAT compliance. That is to say, in other words, only 30% of VAT compliance can be influenced by infrastructure.

Table19: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.173 ^a	.301	.018	.69981

a. Predictors: (Constant), at what EFD machines are you using?

Furthermore, $\hat{\alpha}$ values tell us about the direction and strength of the relationships between each of the predictors and VAT compliance. Positive relationships exist between VAT compliance and effectiveness and efficiency of EFD see tablebelow.

Table 20: Coefficients of regressions

Model	Unstandardized Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.241	.161		7.696	.000
Efficiency and effectiveness of EFD	.121	.077	.173	1.573	.120

a. Dependent Variable: VAT Compliance

Having established the relationship between dependent variables and independent variables as we have seen above, now we should try to answer our hypothesis. The null hypothesis (H0) states that “There is a positive relationship between EFD and VAT compliance”. The finding shows that there existing positive relationship between EFD and VAT compliance as discussed above. The remaining matter is if the relationship is significant so that we can accept or reject our hypothesis. Then, Analysis of variance (ANOVA) will help us in making proper decision.

The ANOVA results shows that, a sig.0.120 which means there significant effect of EFD to VAT compliance compared to normal 0.05. Therefore, the hypothesis has been accepted.

Table 21: ANOVA Results

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.212	1	1.212	2.474	.120 ^a
	Residual	39.179	80	.490		
	Total	40.390	81			

a. Predictors: (Constant), Efficiency and Effectiveness of EFD

b. Dependent Variable: VAT compliance

To sum up, on the effect of EFD upon VAT compliance from the analysis, our model will be;

$$Y = 0.121X_1 + 1.241$$

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter begins with the summary of the study. Following the summary of the study, a summary of the findings of each objective is presented. The second part of the chapter will present implications for practice along with recommendations for further study. Following will be a discussion as well as reflections on the findings.

6.1 Summary of the First Objective

The objective was to assess the effect of EFD in filling, remittance and refund process to VAT collection. Specifically, the researcher investigated (a) the type of EFD used by VAT registered traders (b) how often the VAT registered traders use EFD to issue receipts (c) the effect of EFD in filling, remittance and refund process (d) the impact of EFD in simplifying filling of returns, remittance and refund process (e) if EFD increases VAT collection and (f) the ranking of the contribution of EFD in VAT collection in general. Data was collected using questionnaire and each question was analysed using table of frequencies, pie charts, standard deviation and mean.

Summary of the Findings and Conclusion

The following conclusion was drawn based on the data reported on chapter 4. It was found VAT registered traders use either of the three available EFD, they often issue EFD receipts in every time of transaction, EFD increases VAT collection, contribution of EFD in VAT collection is very high and has effect and impact in filling, remittance of return and refund process. This study find an overall satisfaction mean score of 1.1666 for the type of EFD used, 1.5416 for how often the VAT traders issue receipts using EFD, 1.69445 for the effect of EFD on VAT collection. Also more than 50% of the

respondents agree that EFD increases VAT collection and the general contribution of EFD is very high. Basing on the overall findings of the first objective, a researcher concludes that the EFD has simplified filling, remittance of return and reducing time of processing of refund.

6.2. Summary of the Second Objective

The objective was to assess the effectiveness and efficiency of EFD in VAT collection. Specifically, the researcher investigated (a) effectiveness by target/objective versus actual (b) acceptance of the statements on EFD (c) availability of inputs to make EFD operate well (d) expected output of EFD (e) costs of operating EFD system and (f) the general efficiencies of EFD. Data was collected using questionnaires and each question was analysed using table of frequencies, pie charts, standard deviation and mean.

Summary of the Findings and Conclusion

The researcher found that effectiveness of EFD with regards to surpassing target is very high. The respondents accept that EFD has enhanced VAT collection, they are all registered by TRA, using EFD has freed both TRA staff and VAT registered traders from using much effort and all transactions are entered in EFD. A cost of operating the EFD system in terms of personnel is fair. On the other hand, costs of operating the EFD to the VAT registered traders are very unfair. The cost of the device itself together with the cost of service and its accessories is very expensive for a small trader from the district to afford. On general efficiencies of EFD, respondents agree that EFD leads to the surpassing of target, users consider it useful in their operations and they also consider it be easy to use.

This study find an overall satisfaction mean score of 1.3589 for the acceptance of the EFD statements, 1.40625 for the inputs to make EFD operate well, 1.4583 for the

expected output of EFD, 1.49305 for the cost of operating EFD system and 1.2916 for the general efficiencies of EFD. Also 62.50% of the respondents rank the effectiveness of EFD in attaining and surpassing target to be very high. Basing on the overall findings of the first objective, a researcher concludes that the EFD increases effectiveness and efficiency in the VAT collection.

6.3 Summary of the Third Objective

The objective was to examine the trend of VAT compliance before and after the introduction of EFD. Specifically the researcher investigated (a) the use of EFD by VAT registered traders (b) the increase or decrease in the number of VAT registered traders and (c) the trend of VAT compliance in terms of amount of VAT collected and number of VAT registered traders who are using EFD. Data was collected using questionnaires and interviews; and each question was analysed using table of frequencies, pie charts, standard deviation, percentage and mean.

Summary of the Findings and Conclusion

62.50% of the respondents respond 'YES' that all VAT traders use EFD. 50% of the respondents say the number of VAT traders is increasing after the introduction of EFD. Amount of VAT collected in 2009 was Tshs729.372 million, 2010 Tshs816.9 million and Tshs.1,200.84 for 2011. This is equivalent to 12% increase for 2010 and 47% increase for 2011. The number of VAT traders who are using EFD increases from 33 in 2010 to 48 in 2011.

Basing on the overall findings of the first objective, a researcher concludes that the trend of VAT compliance is good since there is increase in the amount of VAT collected, users of EFD and number of VAT registered compared to the previous period before the introduction of EFD.

6.4 General Conclusion and Policy Implication.

Generally, the Value Added Tax (VAT) compliance through use of Electronic Fiscal Device (EFD) in Tanzania granted to the VAT registered traders under TRA emerged as part of the financial reforms of 2010's, where the government began to use EFD so as to boost revenue and simplify tax administration and hence lead to the extensions of the social services like water, schools and hospitals hence resulting to the growth of the economy. It was the expectation of the government by allowing EFD devices, the VAT registered traders would assist the government to the extension of social services like education, hospital and water services, especially in the remote areas where the government has been unable to provide the said services and improve the collection of the government revenues, hence successfully managed to rise the standard of life of its citizens.

It is not in dispute as per the findings of the researcher that there is increasing number of the VAT registered traders and the level of the revenues is too high. Example in a written response to the Business Times Newspaper of 8th December, 2012, the TRA acting director of Taxpayer Services and Education Yeremiah Maghi, said tax collection from VAT registered traders have improved since TRA introduced the devices in 2010. For instance TRA collected a total of Tshs.785,882.4 million in the 2009/2010 financial year before the EFD were introduced. By comparison the Authority collected Tshs.791,462.9 million in financial year 2010/2011 immediately following the introduction of the devices. Significantly enough in the following year financial year 2011/2012 TRA collected Tshs.1,086,374 million, about a 40% increase. This indicates that the introduction and use of the machines has brought about marked improvement in the collection of VAT.

Using an EFD by a trader when issuing a sale receipt to a customer; makes it possible for the machine to transmit a message directly to TRA showing the transaction. This way TRA get to know the sales made each day.

However, the research still reveal that the use of EFD still continue to face the challenge of the quality of paper used and the machine itself, the cost of the machine, the network problems especially in the remote areas and the insufficient features of the EFD management system.

Moreover, the researcher depicted various strategies for effective use of EFD in VAT collection like collaboration with other international agencies, improving the quality of the paper used in the EFD machine, educating taxpayers on the advantages of using EFD machines to their businesses and tax purpose in general, enforcement measures, provide motivation and incentives to employees and improve employee's wages and working conditions.

6.5 Recommendations

As the findings revealed herein above in this research, the introduction and use of EFD machine so as to boost revenue collection and simplify tax administration has marked improvement in the collection of VAT. In order to increase the effectiveness and efficiencies of the EFD machine, I recommend the following to be done so as to attain the objectives of introducing EFD;

Making comparison possible in the EFDMS

The current EFDMS do not allow comparison of sales declared by one registered trader with the corresponding purchases of another trader as it was in the previous system. In order for the system to function well the system must allow the comparison of purchases and sales made by one trader with purchases and sales made by other traders. This will make easier to detect and hence prevent false declaration in the VAT return.

Educating taxpayers on how to write the TIN and name of the buyer on the EFD receipt and make it a must in order to legalize the EFD receipt issued

When a trader issue a receipt without writing the name and the TIN, that must not be accepted as a legal receipt by the buyer and the TRA in claiming input tax paid by the VAT registered traders.

Affiliation of police officers and the public in general in the enforcement of the issuance of EFD receipts

A police officer must be allowed to arrest any person who sells without issuing EFD receipts and those who do not request the receipts when doing purchase. Gift must be provided to persons who will disclose traders who do not issue EFD receipt when making sales.

Reducing number of VAT exemptions to be granted to various persons

Even if the EFDs are useful, the revenue to be collected from VAT will decline if the number of exemptions to be granted to various people will keep on increasing. VAT should be granted only on capital goods and not on consumables.

EFDMS must show the details of each transaction done

Although in their brochures TRA claim that the EFDMS shows the details of each transaction done by the users of EFD, it is not true in practice. The system does not show the details of each transaction and hence it is difficult for the TRA officer to know exactly how much each EFD user has to pay as a monthly VAT obligation by only looking at the EFDMS. The system must integrate both sales and purchases made by the VAT registered trader.

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APPENDICES

APPENDIX I: QUESTIONNAIRE TO THE TRA STAFF

Dear respondent,

The purpose of this questionnaire is to obtain information on the usage of EFD in facilitating VAT compliance in Tanzania, a case of Musoma district in order to help researcher fulfill his studies. Together with that, your input will be essential part of the EFD usage evaluating process and thus an integral for attaining the objectives of implementing the usage of EFD.

Your response to this questionnaire is completely anonymous. Please feel free to give the response that you think is most appropriate.

PART A; RESPONDENT'S INFORMATION

1. Respondent's details

Sex	Female		Male	
Experience	Less than 1 year	2 to 5 years	6 to 10 years	Above 10 years
Education	Secondary education	Certificate and diploma	Bachelor	Master's and above
Department				
Position				

PART B; EFFECT OF EFD IN FILLING, REMITTANCE AND REFUND PROCESS TO VAT COLLECTION

2. Do VAT registered traders use any of the following EFD? Choose the applicable answer

Device	YES	NO	Sometimes
Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR)			
Electronic Fiscal Printer (EFP),			
Electronic Signature Device (ESD),			

3. How often the devices are used? Rank from 1(every time of transaction) to 5 (Not really)

Device	1	2	3	4	5
Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR)					
Electronic Fiscal Printer (EFP),					
Electronic Signature Device (ESD),					

4. Use scale provided to show the effect of EFD and tick (√) in the respective column.

1: Strongly Agree (SA) 2: Agree (A) 3: Not Sure (NS) 4: Disagree (D)

5: Strongly Disagree (SD)

Effect	1	2	3	4	5
EFD simplifies filling of returns					
EFD simplifies remittance					
It simplify refund process					
Time saving in refund processing					

5. To what extent do you think EFD has an impact to; Rank each, the lower percent means low impact, higher percent means high impact

Effect	0 to 20%	21 to 40%	41 to 60%	61 to 80%	81 to 100%
Simplifying filling of returns					
Simplifying remittance					
Simplifying refund process					
Time saving in refund process					

6. Does the EFD increase VAT collection?

- a) Yes
- b) No
- c) Somehow

7. How do you rank the contribution of EFD in VAT collection in general?

- a) Very High
- b) High
- c) Medium
- d) Low

PART C; THE EFFECTIVENESS AND EFFICIENCY OF EFD IN VAT COLLECTION

8. If you will consider effectiveness to be measured by target/objective v/s actual/outcome, how do you rank the effectiveness of EFD in VAT collection?

- a) Very high
- b) High
- c) Medium
- d) Low

9. When EFD are used, how do you rank the following statements? Rank by ticking from 1 (Strongly Agree) to 5 (Strongly Disagree) to show the degree of acceptance on the statement.

Statement	1	2	3	4	5
Using EFDs have enhanced VAT collection					
All EFDs are registered by TRA					
Using EFDs had freed me from using much effort					
All transactions are entered or recorded in EFDs					

10. The following are expected inputs in order to make EFD operate well, show if these inputs are applicable by ranking from 1(Not available) to 5 (Available enough)

INPUT	1	2	3	4	5
Devices themselves(EFCR, EFP, ESD)					
Specific budget to maintain the system/Devices					
Expert personnel in operating the system/Devices					

11. The following are expected outputs of EFDs, rank each of them from 1 (Not effective) to 5 (Very effective).

OUTPUT	1	2	3	4	5
Increase of VAT collection					
Encouraged VAT compliance					
Reduced costs of VAT collection					

12. How do you rank the costs of operating EFD system? Rank from 1 unfair to 5 very fair.

Areas		Rank				
		1	2	3	4	5
Personnel (e.g. Training, new employee etc.)						
Devices	Electronic Fiscal Cash Register (EFCR).					
	Electronic Fiscal Printer (EFP)					
	Electronic Signature Device (ESD)					

13. Use the scale provided below to show the general efficiencies of EFD and tick (√) in the respective column.

1: Strongly Agree (SA) 2: Agree (A) 3: Not Sure (NS) 4: Disagree (D)

5: Strongly Disagree (SD)

Statement	1	2	3	4	5
Leads to the attainment and surpassing of target					
Users consider EFDs useful					
Users consider EFDs easy to use					

**PART D; THE TREND OF VAT COMPLIANCE COSTS BEFORE AND AFTER
USE OF EFD**

14. Do all VAT registered traders use EFD?

- a) Yes
- b) No
- c) Somehow

**15. Are VAT registered traders increasing or decreasing after introduction of
EFDs?**

- a) Increasing
- b) Decreasing
- c) Constant

16. What is the trend of VAT compliance before and after the use of EFD? Is it increasing or decreasing?

(Put tick where appropriate)

	Response	
	Increases	Decreases
Number of traders using EFD machine		
Issuance of receipts		
Sales declared		
VAT collection		
Number of refunds		
Purchases		
Compliance costs (Ratio of costs of collecting VAT viz tax collected)		

17. What are the problems/challenges being faced by you in enforcing the usage of EFD?

Problems	Response	
	Yes	No
Lack of appropriate features by the EFD machine		
Network problems		
Insufficient knowledge of how the EFD machine function		
Cost of the EFD		
Late response from EFD machine supplier when there is problems in the functioning of the machine		
Low quality EFD machine		
Language used by the machine		

18. Use the scale provided below to show what should be done to improve the effective use of EFD in facilitating VAT compliance and tick (√) in the respective column.

1: Strongly Agree (SA) 2: Agree (A) 3: Not Sure (NS) 4: Disagree (D)

5: Strongly Disagree (SD)

To be done	Response				
	1	2	3	4	5
Stable Network					
Seminar to increase the awareness on EFD usage					
Reduction in the cost of the EFD machine and its accessories					
Quick response from EFD machine supplier when there is problems in the functioning of the machine					
Quality EFD machine					
The use of Swahili language					

Thank you for your participation

APPENDIX II: QUESTIONNAIRE TO THE VAT REGISTERED TRADERS

Dear respondent,

The purpose of this questionnaire is to obtain information on the usage of EFD in facilitating VAT compliance in Tanzania, a case of Musoma district in order to help researcher fulfill his studies. Together with that, your input will be essential part of the EFD usage evaluating process and thus an integral for attaining the objectives of implementing the usage of EFD.

Your response to this questionnaire is completely anonymous. Please feel free to give the response that you think is most appropriate.

PART A; RESPONDENT'S INFORMATION

1. Respondent's Details

Sex	Female		Male	
Experience in Business	Less than 1 year	2 to 5 years	6 to 10 years	Above 10years
Kind of Business				
Position				

PART B; EFFECT OF EFD IN FILLING, REMITANCE AND REFUND PROCESS TO VAT COLLECTION

2. Do you use any of the following EFD? Choose the applicable answer

Device	YES	NO	Sometimes
Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR)			
Electronic Fiscal Printer (EFP),			
Electronic Signature Device (ESD),			

3. How often you use the devices? Rank from 1(every time of transaction) to 5 (Not really)

Device	1	2	3	4	5
Electronic Tax Register (ETR) also known as Electronic Fiscal Cash Register (EFCR)					
Electronic Fiscal Printer (EFP),					
Electronic Signature Device (ESD),					

4. Use scale provided to show the effect of EFD and tick (√) in the respective column.

1: Strongly Agree (SA) 2: Agree (A) 3: Not Sure (NS) 4: Disagree (D)

5: Strongly Disagree (SD)

Effect	1	2	3	4	5
EFD simplifies filling of returns					
EFD simplifies remittance					
It simplify refund process					
Time saving in refund processing					

5. To what extent do you think EFD has an impact to; Rank each, the lower percent means low impact, higher percent means high impact

Effect	0 to 20%	21 to 40%	41 to 60%	61 to 80%	81 to 100%
Simplifying filling of returns					
Simplifying remittance					
Simplifying refund process					
Time saving in refund process					

6. Does the EFD enhance your VAT payment?

- a. Yes
- b. No
- c. Somehow

7. How do you rank the contribution of EFD in VAT collection in general?

- a. Very High
- b. High
- c. Medium
- d. Low

PART C; THE EFFECTIVENESS AND EFFICIENCY OF EFD IN VAT COLLECTION

8. If you will consider effectiveness to be measured by target/objective v/s actual/outcome, how do you rank the effectiveness of EFD in VAT collection?

- a. Very high
- b. High
- c. Medium
- d. Low

9. When EFD are used, how do you rank the following statements? Rank by ticking from 1 (Strongly Agree) to 5 (Strongly Disagree) to show the degree of acceptance on the statement.

Statement	1	2	3	4	5
Using EFDs have enhanced VAT collection					
All EFDs are registered by TRA					
Using EFDs had freed me from using much effort for example queuing					
All transactions are entered or recorded in EFDs					

10. The following are expected inputs in order to make EFD operate well, show if these inputs are applicable by ranking from 1(Not available) to 5 (Available enough)

INPUT	1	2	3	4	5
Devices themselves(EFCR, EFP, ESD)					
Specific budget to maintain the system/Devices					
Expert personnel in operating the system/Devices					

11. The following are expected outputs of EFDs, rank each of them from 1 (Not effective) to 5 (Very effective).

OUTPUT	1	2	3	4	5
Increase of VAT collection					
Encouraged VAT compliance					
Reduced costs of VAT collection					

12. How do you rank the costs of operating EFD system? Rank from 1 unfair to 5 very fair.

Areas		Rank				
		1	2	3	4	5
Personnel (e.g. Training, new employee etc.)						
Devices	Electronic Fiscal Cash Register (EFCR).					
	Electronic Fiscal Printer (EFP)					
	Electronic Signature Device (ESD)					

13. Use the scale provided below to show the general efficiencies of EFD and tick (√) in the respective column.

1: Strongly Agree (SA) 2: Agree (A) 3: Not Sure (NS) 4: Disagree (D)

5: Strongly Disagree (SD)

Statement	1	2	3	4	5
Leads to the attainment and surpassing of target					
Users consider EFDs useful					
Users consider EFDs easy to use					

PART D; Other Questions

14. What are the problems/challenges being faced when using EFD?

Problems	Response	
	Yes	No
Lack of appropriate features by the EFD machine		
Network problems		
Insufficient knowledge of how the EFD machine function		
Cost of the EFD		
Late response from EFD machine supplier when there is problems in the functioning of the machine		
Low quality EFD machine		
Language used by the machine		

15. Use the scale provided below to show what should be done to improve the effective use of EFD in facilitating VAT compliance and tick (✓) in the respective column.

1: Strongly Agree (SA) 2: Agree (A) 3: Not Sure (NS) 4: Disagree (D)

5: Strongly Disagree (SD)

To be done	Response				
	1	2	3	4	5
Stable Network					
Seminar to increase the awareness on EFD usage					
Reduction in the cost of the EFD machine and its accessories					
Quick response from EFD machine supplier when there is problems in the functioning of the machine					
Quality EFD machine					
The use of Swahili language					

Thank you for your participation

APPENDIX III: QUESTIONNAIRE FOR TREND AND EFFECTIVENESS

1. The following is the trend of actual VAT collected, use 2009 as base year in this analysis.

Type of revenue	2009 (Tsh m)	2010 (Tsh m)	2011 (Tsh m)	Increase/ (Decrease) by %
Budgeted VAT				
Actual VAT collected				

2. What was the trend of VAT traders during this period? Use 2009 as a base year (By numbers)

Traders	2009	2010	2011	Increase/ Decrease by %
Registered traders using EFD				

APPENDIX IV: INTERVIEW GUIDE FOR ASSISTANT REGIONAL MANAGERS (DEBT MANAGEMENT & COMPLIANCE MONITORING AND AUDIT)

Dear Sir/ Madam

I am Shaibu R. Gwimile, a postgraduate student at Mzumbe University. Currently, I am conducting a study on, VAT compliance through use of Electronic Fiscal Device in Tanzania, a case of Musoma District. The aim of this questionnaire is to get views about the VAT compliance through use of Electronic Fiscal Device in Tanzania. In this study, Electronic Fiscal Devices are used to mean Electronic Tax Register, Electronic Signature Device and Electronic Fiscal Printer. It is expected that your views will help to improve the usage of EFD in VAT compliance and consequently lead to increase in VAT collection.

Be informed that the views collected from you will be used for the purpose of this study and not otherwise.

A. Biographic data

1. Sex: male [], female []
2. Age_____
3. Number of years in the post_____
4. Academic qualification_____

B. Interview questions

1. What do you think are the major challenges towards effective use of EFD in facilitating VAT compliance?

2. Which strategies do you employ to make sure that VAT registered traders use EFD machine in their daily transactions?

3. What do you think should be done to support effective use of EFD in facilitating VAT compliance?

Thank you for your participation.