

**RELATIONSHIP BETWEEN BUSINESS FINANCIAL ATTRIBUTES AND  
UPTAKE OF ELECTRONIC TAX REGISTERS AMONG SELECTED  
ENTERPRISES IN KISUMU CITY, KENYA**

**BY:**

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## **DECLARATION**

### **Declaration by the Student**

I declare that this research project is my original work and has not been presented in any other University.

.....

Date.....

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This research project has been submitted for examination with my approval as the University Supervisor.

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## **DEDICATIAON**

This research is dedicated to my family members for their moral support during the period of developing concepts on this project.

## ABSTRACT

Although law makes it mandatory for businesses registered for VAT to issue tax invoices and/or cash sale receipts which must be ETR generated or supported by ETR receipts, the Treasury's budget policy statement (2019) reports that KRA collected to Kshs 633.7 billion in the first half of the FY 2017/18, which was equivalent to 6.3 percent of GDP, against a target of Kshs 677 billion indicating a shortfall which may be attributed to poor business performance precipitating to low uptake of ETRs. Previous studies focus on the comparative analysis of revenue loss and non-compliance in developing countries, they employ technology acceptance model (TAM). Given that the law makes it mandatory for businesses registered for VAT to issue tax invoices and/or cash sale receipts which must be ETR generated or supported by ETR receipts, the relationship between firm size; business income levels; financial constraints and uptake of ETR are not known. Kisumu city is the suitable area of this study on the basis that majority of the business firms utilize electronic tax registers for the purpose of reporting VAT to the Kenya Revenue Authority. Therefore the purpose of this study was to assess the relationship between enterprise financial attributes and uptake of ETRs by enterprises in Kisumu city. The specific objectives of the study were to: establish the relationship between firm size and uptake of electronic tax registers; determine the relationship between business income levels and uptake of electronic tax registers and assess the relationship between financial constraints and uptake of electronic tax registers among enterprises in Kisumu city. The study was guided by the theory of reasoned action framework. The study employed correlational research design. The target population was 610 enterprises in Kisumu city. A sample of 334 entrepreneurs from 334 enterprises will be selected using stratified random sampling technique. Primary data will be collected using self-administered questionnaires. A pilot test with 30 traders was used test for reliability which yielded a Cronbach's alpha of more than 0.7 and validity was tested using expert opinion. Data was analyzed using descriptive statistics such as mean, standard deviation, percentages and frequencies and inferential statistics as Pearson correlation analysis. The findings were that relationship between firm size and utilization of ETRs is positive and significant ( $r = 0.475$ ,  $p = 0.008$ ,  $n = 220$ ) implying that firm size influences utilization of ETRs positively; the relationship between income levels and utilization of ETRs is positive and significant ( $r = 0.597$ ,  $p = 0.000$ ,  $n = 220$ ) meaning that income levels of tax payers influence utilization of ETRs positively and the relationship between financial constraints and utilization of ETRs is negative and significant ( $r = -0.728$ ,  $p = 0.003$ ,  $n = 220$ ) implying that financial constraints facing tax payers influence utilization of ETRs negatively. The study concludes that firm size and income levels of tax payers positively influences utilization of ETRs whereas financial constraints facing tax payers influence utilization of ETRs negatively. Results are presented in the form of tables, charts and graphs. The results may be useful to academicians, scholars and government for policy formulations.

## Table of Contents

DECLARATION.....	Error! Bookmark not defined.
ACKNOWLEDGEMENT .....	Error! Bookmark not defined.
DEDICATION .....	Error! Bookmark not defined.
ABSTRACT.....	Error! Bookmark not defined.
LIST OF ABBREVIATION AND ACRONYMS.....	Error! Bookmark not defined.
DEFINITION OF TERMS .....	Error! Bookmark not defined.
CHAPTER ONE .....	1
INTRODUCTION .....	Error! Bookmark not defined.
1.1 Background of the Study .....	Error! Bookmark not defined.
1.2 Statement of the Problem.....	4
1.3. Objectives Study .....	Error! Bookmark not defined.
1.3.1 Specific Objectives .....	Error! Bookmark not defined.
1.4 Research Hypotheses .....	Error! Bookmark not defined.
1.5 Scope of the study .....	Error! Bookmark not defined.
1.6 Justification of the Study .....	Error! Bookmark not defined.
1.7 Conceptual Framework.....	Error! Bookmark not defined.
CHAPTER TWO .....	7
LITERATURE REVIEW .....	Error! Bookmark not defined.
2.1 Theoretical Review .....	Error! Bookmark not defined.
2.1.1. The Technology Acceptance Model .....	Error! Bookmark not defined.
2.1.2 The Theory of Reasoned Action .....	7
2.1.3 Innovation Diffusion Theory .....	7
2.1.4 Classical Deterrence Theory .....	Error! Bookmark not defined.
2.1.5 The Concept of Enterprise Financial Attributes ....	Error! Bookmark not defined.
2.1.6 Uptake of ETRs.....	Error! Bookmark not defined.
2.2 Empirical Literature Review .....	11
2.2.1 Firm Size and Uptake of Electronic Tax Registers	Error! Bookmark not defined.
2.2.2 Business Income Levels and Uptake Electronic Tax Registers..	Error! Bookmark not defined.
2.2.3 Financial Constraints and Uptake of Electronic Tax Registers	Error! Bookmark not defined.
CHAPTER THREE .....	18

RESEARCH METHODOLOGY.....	<b>Error! Bookmark not defined.</b>
3.1 Research Design.....	<b>Error! Bookmark not defined.</b>
3.2 Study Area .....	<b>Error! Bookmark not defined.</b>
3.3 Target Population.....	<b>Error! Bookmark not defined.</b>
3.4 Sample Procedure and Sample Size.....	<b>Error! Bookmark not defined.</b>
3.5 Data Collection Instrument.....	<b>Error! Bookmark not defined.</b>
3.5.1 Data Type and Source.....	<b>Error! Bookmark not defined.</b>
3.5.2 Data Collection Procedure .....	<b>Error! Bookmark not defined.</b>
3.5.3 Reliability and Validity Testing.....	<b>Error! Bookmark not defined.</b>
3.6 Data Collection Procedure .....	<b>Error! Bookmark not defined.</b>
3.7 Data Analysis .....	<b>Error! Bookmark not defined.</b>
CHAPTER FOUR.....	<b>Error! Bookmark not defined.</b>
RESULTS AND DISCUSSIONS.....	<b>Error! Bookmark not defined.</b>
4.1: Demographic Characteristics.....	<b>Error! Bookmark not defined.</b>
4.2 The Relationship between Firm Size and Utilization of Electronic Tax Registers .....	<b>Error! Bookmark not defined.</b>
4.3 Relationship between Income Levels of Taxpayers and Utilization of Electronic Tax Registers.....	<b>Error! Bookmark not defined.</b>
4.4 Relationship between Financial Constraints and Utilization of Electronic Tax Registers.....	<b>Error! Bookmark not defined.</b>
CHAPTER FIVE .....	<b>Error! Bookmark not defined.</b>
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS .	<b>Error!</b>
<b>Bookmark not defined.</b>	
5.1 Summary of the Findings.....	<b>Error! Bookmark not defined.</b>
5.2 Conclusions of the Study .....	<b>Error! Bookmark not defined.</b>
5.3 Recommendations.....	<b>Error! Bookmark not defined.</b>
5.4 Limitations of the Study.....	<b>Error! Bookmark not defined.</b>
5.5 Suggestions for Further Research .....	<b>Error! Bookmark not defined.</b>
REFERENCES .....	<b>Error! Bookmark not defined.</b>
APPENDICES .....	33
Appendix I: Questionnaire for Respondents.....	33
Appendix II: Map of Kisumu City.....	<b>Error! Bookmark not defined.</b>

## **LIST OF ABBREVIATION AND ACRONYMS**

ETR	-	Electronic Tax Registers
GDP	-	Gross Domestic Product
KRA	-	Kenya Revenue Authority
SPSS	-	Statistical Package for Social Scientists
TOT	-	Turn Over Tax
UK	-	United Kingdom
USA	-	United States of America
VAT	-	Value Added Tax
URA	-	Uganda Register Authority Action
IDT	-	Innovation Diffusion Theory
TAM	-	Technology Acceptance Model

## **DEFINITION OF TERMS**

### **Business financial attributes**

These are unique characteristics associated with individual businesses and include: income level of the taxpayer, financial constraints facing the taxpayer and the size of the business.

### **Uptake of ETR**

Refers to the extent of use of ETRs by enterprises.

### **Enterprises**

Refers to both medium and larger traders operating in Kisumu County.

### **Electronic Tax Register (ETR)**

ETR or printer is defined as any device approved by the government to record and issue fiscal data of goods and services

### **Value added Tax (VAT):**

Refers to tax levied on consumer goods, at every value added on a product where businessmen act as tax agents by collecting from consumers and remitting to the tax authorities.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Maloney (2004) defines enterprise financial attributes as the unique associated with individual taxpayers and include: the size of the business, income level of the taxpayer and financial constraints facing the taxpayer/business.

The size of a firm is considered to be an important attribute of tax payers hence the need to introduce it as an important driver of use of electronic tax system. The firm's size is calculated as a natural log of total assets or in terms of gross sales turnover. Penrose (1959) argues that larger firms enjoy economies of scale and these can impact on profitability. According to Ferri and Jones (1979), larger firms may also be able to leverage their market power, thus having an impact on profitability. Titman and Wessels (1979) suggest that large size firms tend to be more diversified and hence cash flows are less-volatile.

Previous studies (Adams & Webley, 2001 and Elffers, 1991) show that business size is a key determinant of tax compliance and therefore uptake. On the other hand, some studies use descriptive research or exploratory research designs to study comparative analysis of the compliance of VAT and sales tax among different sales level businesses (Brumbaugh, 2005; Muriithi and Moyi, 2003). On the contrary, (Yong, 2002) employ technology acceptance model (TAM) as a theoretical framework to investigate the factors affecting the adoption of electronic tax filing system but fail focus on enterprises in Kenya using correlational research design. On the contrary, others (Agha and Haughton, 2006); Duverne, 1990) study coordinate audits of income –tax and VAT using exploratory research design and comparative analysis of revenue losses and noncompliance in the economies of European countries namely UK and France as opposed to enterprises in Kenya. Therefore, the firm size and uptake of ETRs among firms in Kisumu city has not been explored.

Another popular view of tax payers' characteristics focuses on the income levels of the tax payer in terms of the size of the business and the capabilities of the owner. This view sees ETR utilization not as the result of the behavior of the state, but as an essential part of a lower income, less developed country, where opportunities for wage and salary

employment are limited both by lack of labor demand and lack of qualifications in the labor force. As a result, many people try to make a living in self-employment or small scale operations, with little capital, skills or technology (Godfrey, 2011). Maloney (2004) nuances this view by noting that there are some upper income, skilled labor force participants who engage in lucrative self-employment activities by choice, such as professionals and skilled workers who want the independence and flexibility which comes with self-employment, and there are many very vulnerable, low skill individuals who engage in lower productivity self-employment activities on the margin of poverty.

Reviewed literature (Pissarides and Weber, 2009; Nkoteet *al*, 2010) show that relationship between incomes and expenditure is important in any business. On the other hand, some studies use exploratory research designs to study comparative analysis of the revenue losses and noncompliance in different countries in Europe (Agha and Haughton, 2006). On the contrary, (Yong, 2002) employ technology acceptance model (TAM) as a theoretical framework to investigate the factors affecting the adoption of electronic tax filing system but fail focus on enterprises in Kenya using correlational research design. On the contrary, others (Duverne, 1990) study coordinate audits of income –tax and VAT using exploratory research design and comparative analysis of revenue losses and noncompliance in the economies of European countries instead of enterprises in Kenya. Therefore, the income levels and uptake of ETRs among enterprises Kisumu city has not been assessed.

Financial constraints on use of ETRs refer to the business capabilities and/or financial resources that may hinder use of ETRs. Albright (2004) defines financial resources as basically an accessory used to make something else for example capital. In practical accounting terms, according to Langnau (2004) fixed capital is fixed assets. He contends that fixed capital assets are used to make something which is then sold for revenue. This according to him is how to convert capital to cash; he adds that capital of a business is shown on the asset side of the Balance Sheet.

Prior studies (Muriithi and Moyi, 2003; Brumbaugh, 2005) dwelt on the role of perpetual tax reforms by the Kenya Revenue Authority in mitigating fiscal imbalances using the concepts of elasticity and buoyancy. On the other hand, some studies use exploratory research designs to study comparative analysis of the revenue losses and noncompliance in

different countries in Europe (Adams & Webley, 2001). On the contrary, (Yong, 2002) employ technology acceptance model (TAM) to investigate the factors affecting the adoption of electronic tax filing system but fail focus on enterprises in Kenya using correlational research design. On the contrary, others (Elffers, 1991) study income tax evasion measurement using exploratory research design instead of enterprises in Kenya. Therefore, the financial constraints and uptake of ETRs among enterprises in Kisumu city has not been studied.

Electronic Tax Registers were first introduced to Kenya in 2004, through a Kenya Gazette Notice No. 47 issued in October 22, 2004. According to this notice, Electronic Tax Register (ETR) or printer is defined as any device approved by the government to record and issue fiscal data of goods and services (KRA 2004). Today, the law makes it mandatory for businesses registered for VAT to issue tax invoices and/or cash sale receipts which must be ETR generated or supported by ETR receipts.

In Kenya, tax revenues make up to 80% of the government's budgetary resources with a negligible proportion coming from grants and loans. The Kenya Revenue Authority (KRA) is the tax collection agency of the Government of Kenya. It was formed on July 1, 1995 to enhance tax collection on behalf of the Government of Kenya. It brought together Customs and excise and Income Tax departments of the Ministry of Finance and Road Transport departments under the Ministry of Transport. It collects a number of taxes and duties, including Pay as you earn, value added tax, income tax and customs, traffic fees among others. Since KRA's inception, revenue collection has increased dramatically, enabling the government to provide much needed services to its citizenry like free primary education and health Services to all.

Over 95% of annual national budget funding comes from local taxes collected by the KRA. Concerns have also emerged about efficiency of collecting taxes and duties such as pay as you earn, value added tax, income tax and customs, traffic fees among others owing to stringent conditionalities adopted as part of Structural Adjustment programmes (SAPs) imposed on the Kenyan government in the 1990s by International monetary Fund (IMF) and the World Bank (Muriithi and Moyi, 2006). According to the Treasury's budget policy statement (2019), KRA collected to Kshs 633.7 billion in the first half of the FY 2017/18, which was equivalent to 6.3 percent of GDP, against a target of Kshs 677 billion indicating

a shortfall which may be attributed to poor business performance precipitating to low uptake of ETRs.

Kisumu city is the suitable area of this study on the basis that majority of the business firms utilize electronic tax registers for the purpose of reporting VAT to the Kenya Revenue Authority. Besides, during the introduction of ETR in 2006, most traders in main counties in Kenya, including Kisumu city resisted its adoption (Kathuri 2006). However, tax compliance studies in different towns in Kenya have not indicated any significant difference in taxpayer's attitudes (Lumumba *et al*, 2010).

## **1.2 Statement of the Problem**

Although law makes it mandatory for businesses registered for VAT to issue tax invoices and/or cash sale receipts which must be ETR generated or supported by ETR receipts, the Treasury's budget policy statement (2019) reports that KRA collected to Kshs 633.7 billion in the first half of the FY 2017/18, which was equivalent to 6.3 percent of GDP, against a target of Kshs 677 billion indicating a shortfall which may be attributed to poor business performance precipitating to low uptake of ETRs. Previous studies focus on the comparative analysis of revenue loss and non-compliance in developing countries, they employ technology acceptance model (TAM). Given that the law makes it mandatory for businesses registered for VAT to issue tax invoices and/or cash sale receipts which must be ETR generated or supported by ETR receipts, the relationship between firm size; business income levels; financial constraints and uptake of ETR are not known. Kisumu city is the suitable area of this study on the basis that majority of the business firms utilize electronic tax registers for the purpose of reporting VAT to the Kenya Revenue Authority

## **1.3. Objectives Study**

The general objective of the study was to assess the relationship between business financial attributes and uptake of electronic tax registers among selected enterprises in Kisumu city, Kenya

### **1.3.1 Specific Objectives**

Specific objectives were to:

- i. Establish the relationship between firm size and uptake of electronic tax registers among selected enterprises in Kisumu city.

- ii. Determine the relationship between business income levels and uptake of electronic tax registers among selected enterprises in Kisumu city.
- iii. Assess the relationship between financial constraints and uptake of electronic tax registers among selected enterprises in Kisumu city.

#### **1.4 Research Hypotheses**

This study was guided by the following research hypotheses:

Ho1: There is no relationship between firm size and uptake of electronic tax registers among selected enterprises in Kisumu city.

Ho2: Business income levels have no relationship with uptake of electronic tax registers among selected enterprises in Kisumu city.

Ho3: Financial constraints have no relationship with uptake of electronic tax registers among selected enterprises in Kisumu city.

#### **1.5 Scope of the study**

The research was carried out in Kisumu city, Kisumu County. Kisumu city is a suitable study area because majority of the business firms utilize electronic tax registers for the purpose of reporting tax returns to the Kenya Revenue Authority. Besides, during the introduction of electronic tax registers in 2006, most traders in main counties in Kenya, including Kisumu County resisted its adoption (Kathuri, 2006). Kisumu city is one of the largest cities in Kenya which is located in the Western Region of Kenya. As of 31<sup>st</sup> December 2015, the city had 610 private business firms registered by the County.

The research will be based on two variables namely enterprise financial attributes and uptake of electronic tax registers.

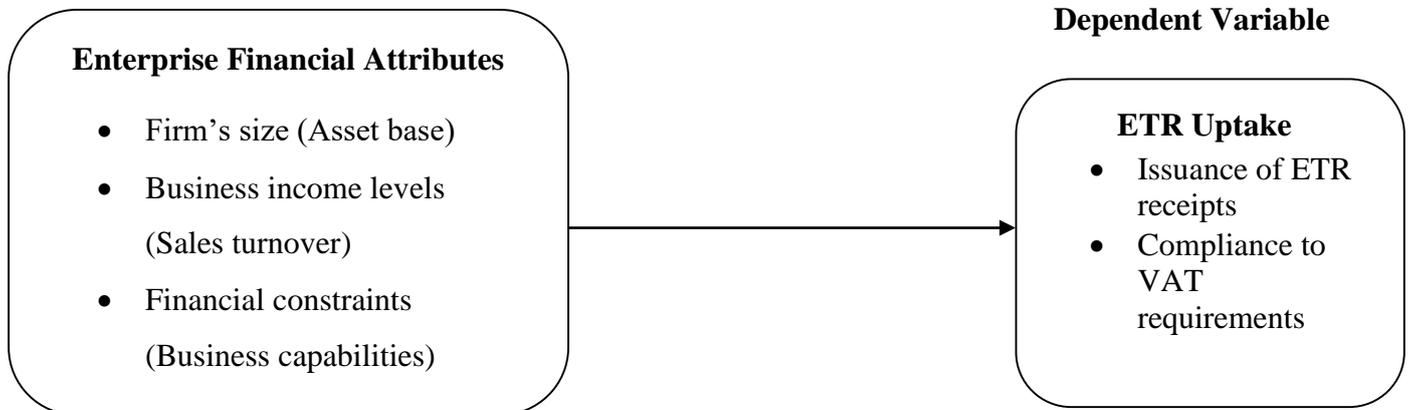
#### **1.6 Justification of the Study**

The study provides useful information for decision making not only to the Kenya Revenue Authority to take the corrective measures to counter any weakness identified. This will help in promotion of the enterprises' development in the country especially in Kisumu city where the study will be carried out, as well as ensuring adequate financial resources for the government. Business people will also benefit from the findings to understand the tax payers characteristics associated with utilization of electronic tax registers. This will help them in addressing financial constraints, business income generation and firm's size that influence the uptake of ETR machines. In addition, the study will provide information to

the researchers interested in enterprise financial characteristics and uptake of electronic tax registers in the devolved units of government.

## 1.7 Conceptual Framework

### Independent Variable



**Figure 1.1: Enterprise Financial Attributes and ETR Uptake relationship**

Source: Adapted from Lumumba *et al.* (2010).

Figure 1.1 shows the relationship between enterprise financial attributes and ETR uptake. Enterprise financial attributes which is the independent variable has three dimensions namely, firms' size, business income levels and financial constraints in using ETRs. The dependent variable is the ETR uptake which is surrogated by issuance of ETR generated receipts and compliance to VAT requirements.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter covers the review of all relevant theories, concepts and empirical studies on the subject and the research knowledge gaps.

#### **2.1 Theoretical Review**

##### **2.1.1. The Technology Acceptance Model**

The technology acceptance model [TAM] states that technological innovation adoption is affected by the perceived usefulness and the perceived ease of use of the technology (Davis, 1989). The model has two fronts. One is the degree to which an individual believes that a particular system would enhance job performance within an organizational context. Secondly, the degree to which an individual believes that using a particular system would be free of effort. Thus, the model suggests that the innovation usage is indirectly affected by both perceived usefulness and perceived ease of use, which form the primary relevance for innovation adoption behaviors (Lee, Hsieh & Hsu, 2011).

##### **2.1.2 The Theory of Reasoned Action**

The theory of reasoned action presents a model for predicting the intention to perform a behavior based on an individual's attitudinal and normative beliefs (Southey, 2011). Theory holds that a person's attitude toward a behavior is determined by their salient beliefs about consequences of performing the behavior and an evaluation of the outcome of that behavior (Talukder, Harris, & Mapunda, 2008). Behavioral beliefs in this context define the subjective probability that performing the target behavior will result in consequences while evaluation refers to an implicit evaluative response to the consequence (Talukder et al., 2008). Hence, with respect to adoption of innovation, the adoption decision is influenced by attitudes toward the use of the innovation and perception of what other people who are important to an individual think about the adoption (Chigona, 2008).

##### **2.1.3 Innovation Diffusion Theory**

Innovation Diffusion Theory (IDT) was developed by Rogers (2003) who defined adoption as a decision of full use of an innovation as the best course of action available and rejection as a decision not to adopt an innovation. The theory defines diffusion as the process in

which an innovation is communicated through certain channels over time among the members of a social system. The innovation diffusion theory argues that “potential users make decisions to adopt or reject an innovation based on beliefs that they form about the innovation (Lee, Hsieh & Hsu, 2011). As expressed in this definition, innovation characteristics, communication channels, time, and social system are the four key components of the diffusion of innovations (Sahin, 2006).

These three theories are interrelated in one way or the other. The constructs employed in TAM (perceived usefulness and perceived ease of use) can be perceived as fundamental subset of innovation characteristics which are captured in the innovation diffusion theory. According to Lee et al. (2011), the relative advantage construct in innovation diffusion theory is similar to the notion of the perceived usefulness in TAM, and the complexity construct in innovation diffusion theory captures the perceived ease of use in the technology acceptance model. Moreover, trialability communicates the relative advantage of the innovation, a factor directly linked to perceived usefulness. Furthermore, the theory of reasoned action [TRA] also forms a subset of innovation diffusion theory through the social system (e.g. individuals are more likely to perform an act if they perceive the existence of greater social pressure from salient referents to perform that act (Talukder et al., 2008)). Hence, the study combines the innovation diffusion theory (IDT), the technology acceptance model (TAM), and the theory of reasoned action [TRA] to present an extended innovation diffusion model so as to give a more comprehensive approach for the study.

#### **2.1.4 Classical Deterrence Theory**

This framework assumes that taxpayers rationally perform a cost-benefit analysis of noncompliance taking into consideration the value of the marginal tax dollar and the risks of sanctions (Carroll, 2006). Since deterrence theory emphasizes cost-benefits that are based on expected outcomes of choices, it can be considered an outcome-processing theory (Carroll, 2006). Consequently, taxpayers make compliance maximize their utility.

Within this classical view of decision making, choices are considered to be motivated by self-interest (Hodgson, 2008). That is, individuals are thought to promote their own interests instead of the interests of others. Ethical values are seen as interfering with rational behavior and utility maximization (Etzion, 2006). Sociological research, however, has

broadened the notion of utility to include concern for social duty as well as self-interested goals. Thus, in classical deterrence theory, taxpayers choose a compliance level that maximizes utility (what is best for the taxpayer), and in sociological models, this choice also considers the social obligations and self-image of the taxpayers as well (Scholz 2007).

### **2.1.5 The Concept of Enterprise Financial Attributes**

Maloney (2004) defines enterprise financial attributes as the unique financial characteristics associated with individual taxpayers and include: the size of the business, income level of the taxpayer and financial constraints facing the taxpayer.

The size of a firm is considered to be an important attribute of tax payers hence the need to introduce it as an important independent variable. The firm's size is calculated as a natural log of total assets or in terms of gross sales turnover. Penrose (1959) argues that larger firms enjoy economies of scale and these can impact on profitability. According to Ferri and Jones (1979), larger firms may also be able to leverage their market power, thus having an impact on profitability. Titman and Wessels (1979) suggest that large size firms tend to be more diversified and hence cash flows are less-volatile. Size may be inversely related to probability of bankruptcy. Thus, a positive relationship between firm's performance and size is expected.

Another popular view of tax payers' characteristics focuses on the income levels of the tax payer in terms of the size of the business and the capabilities of the owner. This view sees ETR utilization not as the result of the behavior of the state, but as an essential part of a lower income, less developed country, where opportunities for wage and salary employment are limited both by lack of labor demand and lack of qualifications in the labor force. As a result, many people try to make a living in self -employment or small scale operations, with little capital, skills or technology (Godfrey, 2011). Maloney (2004) nuances this view by noting that there are some upper income, skilled labor force participants who engage in lucrative self-employment activities by choice, such as professionals and skilled workers who want the independence and flexibility which comes with self-employment, and there are many very vulnerable, low skill individuals who engage in lower productivity self-employment activities on the margin of poverty. In this view, the important point is not the relationship with the state, but the capabilities and

preferences of the individual. However, the assumption of tax avoidance and use of ETRs in the microenterprise sector tends to persist even as the more nuanced view of informality proposed by Maloney (2004) and others takes hold. This may be the result of very low business skills of the owners, who do not keep books and therefore cannot demonstrate their compliance with tax laws. It may also reflect an attempt by these very vulnerable businesses to avoid the corruption of petty bureaucrats. But it may also reflect a grey area between the institutions of the state and entrepreneurs, as described in Benjamin and Mbaye (2012). They note that many small traders and businessmen use self-employed fixers who, for a price, manage their relationship with the state to ensure a lower cost of doing business. This relationship benefits all parties, because it delivers more efficient transactions at a lower cost. But it also builds up the “pervasive culture of noncompliance” which Perry et al, (2007) found in Latin America.

Financial constraints on use of ETRs refer to the business capabilities and/or financial resources that may hinder use of ETRs. Albright (2004) defines financial resources as basically an accessory used to make something else for example capital. In practical accounting terms, according to Langnau (2004) fixed capital is fixed assets. He contends that fixed capital assets are used to make something which is then sold for revenue. This according to him is how to convert capital to cash; he adds that capital of a business is shown on the asset side of the Balance Sheet. In addition, Beal (2000) cites that supplementary to fixed capital, a business should have some working capital. According to him working capital is what is used in everyday operations. He says that if an entrepreneur takes current assets, and then subtract current liabilities, then working capital will be ascertained. He notes that the amount of working capital required should be enough to get through a few weeks of tough times. He gives a word of caution that working capital is what should be managed everyday because if this is not done, it will diminish and run out. According to Johansson (2004) running out of working capital is bad because that means a business is off balance, assets, including cash, will begin to pale against liabilities he further points out that it is not easy, however, to manage the working capital and requires an input of an expert.

## **2.1.6 Uptake of ETRs**

Refers to the extent of use of ETRs by enterprises. Robert (2010) identifies benefits of using ETRs as: Reduction of fraud, remote access to information, improved collection statistics, and uniform application of tax legislation. The introduction of tax registers minimizes direct contacts between tax collection officers and traders hence reduction of corruption. Further benefits achieved through automation include improved reporting, control of file transfers, automatic reconciliation of tax returns declarations, and compliance testing of bank files. Paperless declarations and customs automation save time and make it easier to focus on inspecting high-risk consignments. The possibility of submitting tax returns declarations on-line has in some cases made it possible to reduce the associated fees; in other cases it has helped eliminate the obligatory contracting of Customs agents (KRA, 2004).

Electronic Tax Registers were first introduced to Kenya in 2004, through a Gazette Notice No. 47 issued in October 22, 2004. According to this notice, electronic tax register or printer is defined as any device approved by the government to record and issue fiscal data of goods and services (KRA 2004). Today, the law makes it mandatory for businesses registered for VAT to issue tax invoices and/or cash sale receipts which must be ETR generated or supported by ETR receipts. The VAT act Cap 476 (Laws of Kenya), requires that once a tax payer is registered, should always display VAT certificate, issue ETR generated receipts, declare correct returns and submit returns on time. Failure to adhere to these requirements attracts heavy fines and penalties. Development finds that the need to raise taxation can lead to the strengthening of state–society relationships, with positive consequences for state capacity and the extent to which governments are responsive and accountable to their citizens (Prichard, 2009).

## **2.2 Empirical Literature Review**

### **2.2.1 Firm Size and Uptake of Electronic Tax Registers**

Using qualitative data, Adams & Webley (2001) in UK studied small business owners' attitudes on VAT compliance. The study found that among small businessmen and women

observed that the more egoistic an individual is, the less likely he or she will be to comply with rules and laws when compliance or utilization of ETRs conflicts with his/ her interests.

Another study by Elffers (1991) in Swiss on income tax evasion measurement found that believing the system to be inefficient correlates positively with propensity to evade tax. How business people think about the VAT money they collect may also influence their behavior towards it (the notion of mental accounting). Mental accounting is often described as a psychological mechanism whereby income is framed in respect of personal finance, that people have a number of mental accounts that operate independently of one another. What is interesting in the current context is whether businessmen and women psychologically separate monies owed to VAT into a separate mental account from that of business turnover. If they do not, then they may be more likely to evade VAT as a result of seeing it as “their” money.

A study by Brumbaugh (2005) in United States of America used comparative analysis of the compliance of VAT and sales tax among different sales level businesses using exploratory research design. The findings were that by the final stage of production, a cumulative rate of a VAT on an item is the same as that of a sales tax provided that neither contained special allowances and benefits. Therefore, their broad economic effect is the same. But since the two types of taxes differ in how they are collected, there are differences in compliance and ease of administration. A VAT would impose a higher compliance burden on the businesses in the retail sector. At the same time, a VAT avoids a tax administrative problem of distinguishing business use of the items from the personal use.

A study on tax reforms and revenue mobilization in Kenya by Muriithi and Moyi (2003) dwelt on the role of perpetual tax reforms by the Kenya Revenue Authority in mitigating fiscal imbalances. Their study employed the concepts of elasticity and buoyancy to determine whether tax reforms in Kenya made the yield of the individual taxes responsive to changes in national income. Their study revealed that, reforms had a positive and significant ( $p = 0.002$ ) impact on the overall tax structure. In addition, they found that the reforms failed to make VAT responsive to changes in income, even though VAT was predominant in the tax structure.

Agha and Haughton (2006) investigated comparative analysis of the revenue losses and noncompliance in different countries in Europe. The findings of the study were that revenue losses vary from a low of 3 % (France, United Kingdom) to a high of 40 % (Italy). However, they explained that even the low figure represents a huge sum of money (three billion dollars for France) and a very high proportion of firms involved in some non-compliance.

Duverne (1990) analyzed coordinate audits of income –tax and VAT in France and found that 66% of French VAT taxpayers audited had understated the value of taxable sales (a quarter of them fraudulently) and 40% had overstated the value of taxable inputs.

Yong (2002) carried out an empirical study on the factors affecting the adoption of electronic tax filing system in Taiwan using technology acceptance model (TAM) as a theoretical framework. Their study introduced “perceived credibility” as a new factor that reflects user's intrinsic belief in electronic –tax filing systems, and examined the effect of technology-efficacy on the intention to use the electronic tax registers. The findings of the study were that the most prevalent factors affecting adoption of electronic tax filing were business size, financial constraints on use of electronic tax filing system, income levels and perception of traders towards the process. In addition, the study revealed that perceived ease of use, perceived usefulness and perceived credibility were important factors that influenced the acceptance of electronic tax filing systems.

Previous studies (Adams & Webley, 2001 and Elffers, 1991) show that business size is a key determinant of tax compliance. On the other hand, some studies use descriptive research or exploratory research designs to study comparative analysis of the compliance of VAT and sales tax among different sales level businesses (Brumbaugh, 2005; Muriithi and Moyi, 2003). On the contrary, (Yong, 2002) employ technology acceptance model (TAM) as a theoretical framework to investigate the factors affecting the adoption of electronic tax filing system but fail focus on enterprises in Kenya using correlational research design. On the contrary, others (Agha and Haughton, 2006); Duverne, 1990) study coordinate audits of income–tax and VAT using exploratory research design and comparative analysis of revenue losses and noncompliance in the economies of European

countries namely UK and France as opposed to enterprises in Kenya. Therefore, the firms size and uptake of ETRs among enterprises in Kisumu city has not been assessed.

### **2.2.2 Business Income Levels and Uptake Electronic Tax Registers**

Pissarides and Weber (2009) assessed the effects of the different scopes and trust and customer loyalty in UK but using survey method. They collected data from 1982 family expenditure survey. By assuming that employees report income and expenditures accurately when employees filed their income report, an estimate of expenditure function for the same households then gives the true relationship between incomes and expenditure. The study found that the final estimate of the unobserved economy was approximately 5.5% of GDP. Although the methods used are not perfect, they cannot be dismissed entirely.

Nkote et al (2010) studied the effect of automation and customs tax administration in the case of Uganda. The findings showed inconsistency of the automation in improving efficiency in tax compliance. The result generally showed that automation predicted the cost of tax compliance and effectiveness of revenue collection though predicted clearance time negatively. The study concludes that the cost of tax compliance was increased with increasing automation and the time taken to clear tax declarations reduced with increased computerization of tax administration at Uganda Register Authority (URA). The implications were that Uganda Register Authority (URA) achieved the computerization of customs tax compliance at an increasing rate of costs due to incomplete automation of all the systems.

Yong (2002) carried out an empirical study on the factors affecting the adoption of electronic tax filing system in Taiwan using technology acceptance model (TAM) as a theoretical framework. The findings of the study were that the most dominant factor affecting adoption of electronic tax filing was income levels of traders. In addition, the study revealed that perceived ease of use, perceived usefulness and perceived credibility were important factors that influenced the acceptance of electronic tax filing systems.

Agha and Haughton (2006) investigated comparative analysis of the revenue losses and noncompliance in different countries in Europe. The findings of the study were that revenue

losses vary from a low of 3 % (France, United Kingdom) to a high of 40 % (Italy). However, they explained that even the low figure represents a huge sum of money (three billion dollars for France) and a very high proportion of firms involved in some non-compliance. Duverne (1990) analyzed coordinate audits of income –tax and VAT in France and found that 66% of French VAT taxpayers audited had understated the value of taxable sales (a quarter of them fraudulently) and 40% had overstated the value of taxable inputs.

Reviewed literature (Pissarides and Weber, 2009;Nkoteet *al*, 2010) show that relationship between incomes and expenditure is important in any business. On the other hand, some studies use exploratory research designs to study comparative analysis of the revenue losses and noncompliance in different countries in Europe (Agha and Haughton, 2006). On the contrary, (Yong, 2002) employ technology acceptance model (TAM) as a theoretical framework to investigate the factors affecting the adoption of electronic tax filing system but fail focus on enterprises in Kenya using correlational research design. On the contrary, others (Duverne, 1990) study coordinate audits of income –tax and VAT using exploratory research design and comparative analysis of revenue losses and noncompliance in the economies of European countries instead of enterprises in Kenya. Therefore, the income levels of traders and utilization of ETRs among enterprises in Kisumu City has not been explored.

### **2.2.3 Financial Constraints and Uptake of Electronic Tax Registers**

Using qualitative data, Adams & Webley (2001) in UK studied small business owners' attitudes on VAT compliance. The study found that among small businessmen and women observed that the more egoistic an individual is, the less likely he or she will be to comply with rules and laws when compliance or utilization of ETRs conflicts with his/ her interests. However, the used descriptive research design, studied small business owners as opposed to enterprises incorporating both medium and large enterprises, did not relate financial constraints to the uptake of ETRs.

Another study by Elffers (1991) in Swiss on income tax evasion measurement found that believing the system to be inefficient correlates positively with propensity to evade tax. How business people think about the VAT money they collect may also influence their behavior towards it (the notion of mental accounting). Mental accounting is often described

as a psychological mechanism whereby income is framed in respect of personal finance, that people have a number of mental accounts that operate independently of one another. What is interesting in the current context is whether businessmen and women psychologically separate monies owed to VAT into a separate mental account from that of business turnover. If they do not, then they may be more likely to evade VAT as a result of seeing it as “their” money.

A study by Brumbaugh (2005) in United States of America used comparative analysis of the compliance of VAT and sales tax among different sales level businesses using exploratory research design. The findings were that by the final stage of production, a cumulative rate of a VAT on an item is the same as that of a sales tax provided that neither contained special allowances and benefits. Therefore, their broad economic effect is the same. But since the two types of taxes differ in how they are collected, there are differences in compliance and ease of administration. A VAT would impose a higher compliance burden on the businesses in the retail sector. At the same time, a VAT avoids a tax administrative problem of distinguishing business use of the items from the personal use.

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Yong (2002) carried out an empirical study on the factors affecting the adoption of electronic tax filing system in Taiwan using technology acceptance model (TAM) as a theoretical framework. The findings of the study were that the most dominant factor affecting adoption of electronic tax filing was income levels of traders. In addition, the study revealed that perceived ease of use, perceived usefulness and perceived credibility were important factors that influenced the acceptance of electronic tax filing systems.

Prior studies (Muriithi and Moyi, 2003; Brumbaugh, 2005) dwelt on the role of perpetual tax reforms by the Kenya Revenue Authority in mitigating fiscal imbalances using the concepts of elasticity and buoyancy. On the other hand, some studies use exploratory research designs to study comparative analysis of the revenue losses and noncompliance in different countries in Europe (Adams & Webley, 2001). On the contrary, (Yong, 2002) employ technology acceptance model (TAM) to investigate the factors affecting the adoption of electronic tax filing system but fail focus on enterprises in Kenya using correlational research design. On the contrary, others (Elffers, 1991) study income tax evasion measurement using exploratory research design instead of enterprises in Kenya. Therefore, the financial constraints and uptake of ETRs among enterprises in Kisumu city has not been studied.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

This chapter presents on research design and methodology that was used in carrying out the study. Further describes, target population, sampling techniques and sample size, research instruments, validity and reliability of research instruments, data collection and data analysis techniques.

#### **3.1 Research Design**

The study employed a correlational research design which involves relating two or more variables and allows predictions of outcomes based on causative relationships between the variables. According to Mugenda and Mugenda (2003), correlational research explores the relationship between variables, that is, the effect of one thing on another and more specifically, the effect of one variable on another. Mugenda and Mugenda (2003) contend that correlational research design has the advantage of being relatively cheap and it is used for the current study so as to assess the relationship between study variables.

#### **3.2 Study Area**

The study was conducted Kisumu. Kisumu City is the headquarter of Kisumu County. It is also Nyanza's commercial and industrial hub. The county lies in western Kenya. The study was based on large and medium scale businesses registered and operating with Kisumu County government. Kisumu County is chosen as a study area on the basis that majority of the business firm uses Electronic Tax Register (ETR) for the purpose of filing VAT to the Kenya Revenue Authority. The units of the analyses were entrepreneurs with information about VAT knowledge of the participating firms.

#### **3.3 Target Population**

The target population comprised of 610 entrepreneurs drawn from 610 enterprises in Kisumu City. A sample of 334 entrepreneurs from 334 enterprises will be selected using stratified random sampling technique. According to Mugenda and Mugenda, (2011), a population is a well- defined set of people, services, elements and events, groups of things or households that are being investigated. The study was carried out in Kisumu city, which

had a population of 610 enterprises, the researcher targeted all the 610 enterprises in the City and registered for VAT purposes.

**Table 3.1 Target Population**

<b>Category</b>	<b>Population</b>
Medium traders	400
Large scale traders	210
<b>Total</b>	<b>610</b>

**Source: Kisumu County Revenue Collection Office, 2019**

Mugenda, (2008) observe that study population is the whole group that the researcher is interested in and wishes to make conclusions on. In the current study, the focus was on the medium scale and large scale entrepreneurs in Kisumu city.

### **3.4 Sample Procedure and Sample Size**

The target population was 610 employees drawn from 610 enterprises in Kisumu city. A sample of 334 traders from 334 enterprises was selected using stratified random sampling technique.

**Table 3.2: Sample size**

<b>Traders</b>	<b>No.</b>	<b>Sample Size</b>
Medium traders	400	262
Large traders	210	72
<b>TOTAL</b>	<b>610</b>	<b>334</b>

**Source: Kisumu County Revenue Collection Office, 2019**

### **3.5 Data Collection Instrument**

The study utilized primary data. The primary data was obtained from the entrepreneurs. The questionnaires was self-administered so as to avoid misinterpretation of question by the respondents. The questionnaires contained both closed and open ended questions.

### 3.5.1 Data Type and Source

The study used both primary and secondary data. Primary data was collected using semi-structured questionnaires administered to the entrepreneurs. Secondary data was obtained using desk review.

### 3.5.2 Data Collection Procedure

Primary data was collected through questionnaires. According to Dillman (2000), within business and management research, the greatest use of questionnaires is made in the survey strategy. This is because each respondent is asked to respond to the same set of questions and it provides an efficient way of collecting responses from a large sample prior to quantitative analysis.

### 3.5.3 Reliability and Validity Testing

A pilot test with 5 % of the total population of 610 traders yielding 30 respondents drawn from 30 enterprises will be performed. Robson, (2004) cites that validity refers to whether the test is measuring the variable that it is expected to be measuring. Two types of validity are important in the questionnaires that will be used. These are content and face validity. Content validity assesses the level to which the test is about the variables under study. Face validity is a test regarding whether the questionnaire serves the purpose at hand. This is a common sense approach where the time taken, design and size of the questionnaires come to play. The supervisor advised on face validity of the questionnaires.

Reliability according to Coolican, (2004) is the ability of a test to have similar results from repeated administration. The test-retest technique was used. In this technique, the questionnaire were administered to the 30 respondents in the pilot study and another administration to the 30 respondents repeated. These 30 who participates in the pilot study were excluded from the final study.

**Table 3.3: Summary of Cronbach's Alpha Reliability Test Results**

Construct	No. of Items	Cronbach's Alpha
Enterprise Financial Attributes	3	0.850
ETR uptake	4	0.783

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**Source: Field Data, 2019**

Enterprise financial attributes and ETR up take had alphas of 0.850 and 0.783 respectively, indicating strong internal consistency among measures of variable items.

**3.6 Data Collection Procedure**

The researcher used the drop and pick later method to administer and collect the filled questionnaires (Babbie, 2011). A date was agreed on with every respondent on the date that the filled questionnaire would be collected. To ensure that the response rate is good, respondents were reminded through phone calls.

**3.7 Data Analysis**

Data was analyzed using descriptive statistics such as mean, standard deviation, percentages and frequencies and inferential statistics, Pearson's correlation analysis was used to determine the relationship of the key variables. Data was presented using frequency tables, charts and graphs.

## CHAPTER FOUR

### RESULTS AND DISCUSSIONS

The chapter presents the results and discussions of the statistical analysis undertaken on the study variables discussed in the foregoing chapters. The first part presents the analysis of demographic characteristics of the respondents and the rest is on the results based on the objectives of the study.

#### 4.1: Demographic Characteristics

The demographic and contextual characteristics considered were type of business, form of ownership, number of employees and sales turnover.

**Table 4.1: Type of business engaged in**

Business Type	Frequency	Percent	Valid Percent	Cumulative Percent
Wholesale	80	36.4	36.4	36.4
Retail	94	42.7	42.7	79.1
Hospitality	26	11.8	11.8	90.9
Service	20	9.1	9.1	100.0
Total	220	100.0	100.0	

Source: Field data, 2019

Table 4.1 shows the type of businesses traders engaged in. The results indicate that majority (42.7%) of the respondents are in retail business; with 36.4 % of the respondents' in wholesale business while 11.8% are in hospitality business. Only 9.1 % of the respondents are in service businesses. This implies that enterprises in KisumuCounty are dominated by retail businesses.

**Table 4.2: Form of ownership**

Form of ownership	Frequency	Percent	Valid Percent	Cumulative Percent
Sole proprietorship	87	39.5	39.5	39.5
Partnership	108	49.1	49.1	88.6
Private company	25	11.4	11.4	100.0
Total	220	100.0	100.0	

Source: Field data, 2019

Table 4.2 indicates the analysis of form of business respondents engaged in. The findings indicate that majority (49.1%) of respondents are in partnership form of business while only 11.4% are registered as private companies. This means that the most enterprises in Kisumu County are registered as partnerships.

**Table 4.3: Number of employees in the firm**

Number of employees	Frequency	Percent	Valid Percent	Cumulative Percent
Below 6	83	37.7	37.7	37.7
Between 6-30	100	45.5	45.5	83.2
Over 30	37	16.8	16.8	100.0
Total	220	100.0	100.0	

Source: Field data, 2016

Table 4.3 shows the number of employees in enterprises in the sample. The results indicate that majority (45.5%) of these had employed employees in the range of between 6 and 30, while 37.7% had employed below 6 employees. Only 16.8% had a workforce of more than 30 employees. This means that Kisumu County is dominated by medium enterprises.

**Table 4.4: Business sales turnover**

Business turnover	Frequency	Percent	Valid Percent	Cumulative Percent
Below Kshs 5 million	37	16.8	16.8	16.8
Between Kshs 5-25 million	54	24.5	24.5	41.4
Between 26-50 million	69	31.4	31.4	72.7
Between 51-75 million	30	13.6	13.6	86.4
Above 75 million	30	13.6	13.6	100.0
Total	220	100.0	100.0	

Source: Field data, 2019

Table 4.4 shows the sales turnover of enterprises in the sample. The results indicate that majority (31.4%) of these enterprises had sales turnover in the range of between Kshs 26-50 million, while 24.5% had a sales turnover between Kshs 5-25 million. Only 16.8% had a sales turnover of below Kshs 5 million. This implies that enterprises in Kisumu County are within the taxable bracket threshold of above Kshs 5 million.

## 4.2 The Relationship between Firm Size and Utilization of Electronic Tax Registers

To assess the relationship between firm size and utilization of ETRs, Pearson’s correlation analysis was performed and the results are summarized in the Table 4.5.

**Table 4.5: Bi-Variate Pearson’s Correlation between Firm Size and Utilization of ETRs**

Variables		Utilization of ETRs	Firm size
Utilization of ETRs	Pearson Correlation	1	
	Sig. (2-tailed)		
Firm size	Pearson Correlation	.475**	1
	Sig. (2-tailed)	.008	

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

Source: Field Data, 2019

Table 4.5 indicates the relationship between firm size and utilization of ETRs is positive and significant ( $r = 0.475$ ,  $p = 0.008$ ,  $n = 220$ ). This implies that firm size relates with utilization of ETRs positively. This finding is in tandem with that of Muriithi and Moyi (2003) who reported a positive relationship between firm size and tax return filling at 1 % level of significance ( $p = 0.002$ ). However, the finding is at variance with that of Adams and Webley (2001) who found a negative association between the size of the organization and ETR utilization in VAT returns.

## 4.3 Relationship between Income Levels of Taxpayers and Utilization of Electronic Tax Registers

In order to assess the relationship between income levels and utilization of ETRs, Pearson’s correlation analysis was performed and the results are summarized in the Table 4.6.

**Table 4.6: Bi-Variate Pearson’s Correlation between Income levels and Utilization of ETRs**

Variables		Utilization of ETRs	Income levels
Utilization of ETRs	Pearson Correlation	1	
	Sig. (2-tailed)		
Income levels	Pearson Correlation	.597**	1
	Sig. (2-tailed)	.000	

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

Source: Field Data, 2019

Table 4.6 shows the relationship between income levels and utilization of ETRs is positive and significant ( $r = 0.597$ ,  $p = 0.000$ ,  $n = 220$ ). This implies that income levels of tax payers influence utilization of ETRs positively. The findings concur with those of Yong (2002) who report a positive relationship while they contradict other studies (Nkote et al. 2010 and Agha and Haughton, 2006) who found a negative relationship between business income level and ETRs utilization.

#### **4.4 Relationship between Financial Constraints and Utilization of Electronic Tax Registers**

In order to assess the relationship between constraints and utilization of ETRs, Pearson’s correlation analysis was performed and the results are summarized in the Table 4.7.

**Table 4.7: Bi-Variate Pearson’s Correlation between Financial Constraints and Utilization of ETRs**

Variables		Utilization of ETRs	Financial constraints
Utilization of ETRs	Pearson Correlation	1	
	Sig. (2-tailed)		
Financial constraints	Pearson Correlation	-.728**	1
	Sig. (2-tailed)	.003	

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

Source: Field Data, 2019

Table 4.7 indicates the relationship between financial constraints and utilization of ETRs is negative and significant ( $r = -0.728$ ,  $p = 0.003$ ,  $n = 220$ ). This implies that financial constraints facing tax payers influence utilization of ETRs negatively. The findings are in tandem with those of Elffers (1991) who found a negative association between ETRs utilization and financial constraints associated with implementation and use of ETRs. However, the findings are at variance with those of Brumbaugh (2005) who report a positive relationship between financial constraints and ETRs implementation and use among organizations.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

This chapter presents a summary of study findings, conclusions and recommendations based on the major findings.

#### **5.1 Summary of the Findings**

Based on objective one, the findings are that the relationship between firm size and utilization of ETRs is positive and significant ( $r = 0.475$ ,  $p = 0.008$ ,  $n = 220$ ) implying that firm size influences utilization of ETRs positively. Objective two findings are that the relationship between income levels and utilization of ETRs is positive and significant ( $r = 0.597$ ,  $p = 0.000$ ,  $n = 220$ ) meaning that income levels of tax payers influence utilization of ETRs positively. Based on objective three, the findings are that the relationship between financial constraints and utilization of ETRs is negative and significant ( $r = -0.728$ ,  $p = 0.003$ ,  $n = 220$ ) implying that financial constraints facing tax payers influence utilization of ETRs negatively.

#### **5.2 Conclusions of the Study**

The study conclusions are outlined as per the objectives as follows:

From the findings of objective one, it can be concluded that that firm size influences utilization of ETRs positively. Based on objective two findings, it can be concluded that the income levels of tax payers influence utilization of ETRs positively. From the findings of objective three, it can be concluded that financial constraints facing tax payers influence utilization of ETRs negatively.

#### **5.3 Recommendations**

Based on conclusion of objective one, private firms in Kisumu County should increase their firm sizes as this was found to enhance utilization of ETRs. From the conclusion of objective two, private firms in Kisumu County should continue increasing income levels. Similarly, from conclusion of objective three, firms in Kisumu County should reduce financial constraints as these were found to undermine utilization of ETRs.

#### **5.4 Limitations of the Study**

The outcome of the study cannot be generalized to all firms in Kenya since the study was limited to private firms in Kisumu County and did not incorporate all private firms in Kenya. The study adopted a correlational research design. The use of predetermined questions may have forced respondents to respond to questions even without properly understanding them.

#### **5.5 Suggestions for Further Research**

In order to improve the findings in this study, the researcher would like to suggest the following for further investigation. Future research efforts could dwell on large manufacturing firms and use more robust research designs such as time series, panel data and case studies. More research should be conducted on tax compliance status amongst Kenyan private firms over a period of time using secondary data. Empirical studies could also explore the relative importance of enterprises' attributes. Further research could be conducted based on the other remaining 46 counties in Kenya since such areas represent a variation in target markets and consequently the customers buying habits. Comparisons could be done on whether or not there is any variation or similarity.

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## APPENDICES

### Appendix I: Questionnaire for Respondents

#### Introduction

This study is being carried out in order to assess the relationship between Financial Attributes and uptake of ETR among Selected Enterprises in Kisumu City, Kenya and is strictly for academic purposes only. All information provided shall be treated with utmost confidentiality.

Date.....20.....

No.....

#### SECTION A: GENERAL INFORMATION

Instruction: tick (√) the appropriate box

1. Name of the firm (optional) .....  
Respondent's position in the firm.....  
Address (optional) .....  
Physical Location. ....  
Year or VAT registration .....
2. What is the type of your business) (tick appropriately)
  - a) Wholesale ( )
  - b) Retail ( )
  - c) Hospitality ( )
  - d) Service ( )
  - e) Other (specify) .....
3. How many employees does your firm have? (tick appropriately)
  - a) Below six ( )
  - b) 6 – 30 ( )
  - c) Over 30 ( )
4. What is the estimate of our sales (turnover) per year? (tick appropriately)
  - a) Below Kshs. 5m ( )
  - b) Kshs. 5 – 25m ( )
  - c) Kshs. 26m – 50m ( )
  - d) Kshs. 51m – 75m ( )
  - e) Above Kshs. 75m ( )
5. What is the form of ownership of your business? (tick appropriately)
  - a) Sole proprietorship ( )
  - b) Partnership ( )
  - c) Private company ( )

<b>Enterprise Financial Attributes</b>	<b>Very High</b>	<b>High</b>	<b>Moderate</b>	<b>Low</b>	<b>Very Low</b>
Firm Size					
Income levels					
Financial constraints					

**SECTION B: ENTERPRISE FINANCIAL ATTRIBUTES**

6. What is the extent to which you consider the following enterprise characteristics in uptake of ETRs in your business? Very High (5), High (4), Moderate (3), Low (2), and Very Low (1)

**SECTION C: ELECTRONIC TAX REGISTERS' UPTAKE RATES**

7. Has your firm adopted electronic tax registers?

- a) Yes ( )  
b) No ( )

If yes, when? Year.....

8. Please indicate how your opinion on each of the questions below by cycling a no. 1 – 5 (corresponding to highly agree to strongly agree)

		<b>Very often</b>	<b>Often</b>	<b>Sometimes</b>	<b>Rarely</b>	<b>Never</b>
		1	2	3	4	5
1.	How often do your customers request for an ETR receipt?					
2.	Do you insist on a customer being issued with ETR receipt?					
3.	Has the use of ETR increased compliance to VAT?					
4.	Is the use of ETR effective enough in combating VAT non compliance?					

9. Please comment how the use of electronic tax registers have impacted VAT compliance in your firm.....  
.....

## Appendix II: Map of Kisumu City

