# DETERMINANTS OF TAX COMPLIANCE AMONG EXPORT PROCESSING ZONES INVESTORS IN KENYA

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DOCTOR OF PHILOSOPHY (Business Administration)

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## Determinants of Tax Compliance among Export Processing Zones Investors in Kenya

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A Thesis Submitted in Partial Fulfillment for the Degree of Doctor of Philosophy in Business Administration (Finance) in the Jomo Kenyatta University of Agriculture and Technology

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#### **DECLARATION**

This thesis is my original work and has not been presented for a degree in any other university.

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## DEDICATION

This work is dedicated with much love and appreciation to my family: My wife, Peris and my children; Macbeth, Dylan, Ryan and Tyron.

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## ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
CIAT	Inter-American Center of Tax Administrations
EPZ	Export Processing Zone
EPZA	Export Processing Zones Authority
ETR	Electronic Tax Registers
GDP	Gross Domestic Product
GIZ	Gesellschaft fur Internationale Zusammenarbeit
GRIPS	National Graduate Institute for Policy Studies
IRD	Inland Revenue Department
IRS	Inland Revenue Services
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KRA	Kenya Revenue Authority
КМО	Kaiser-Meyer-Olkin
LTO	Large Taxpayer's Office
MNC	Multi-National Corporations
OECD	Organization for Economic Co-operation and Development
РСМ	Principal Components Method

PIN	Personal Identification Number
SME	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
ТСМР	Taxpayer Compliance Measurement Program
VAT	Value Added Tax
VIF	Variance Inflation Factor

#### **DEFINITION OF KEY TERMS**

- Tax:A compulsory financial contribution imposed by a<br/>government to raise revenue. It is levied on the income or<br/>property of persons or organizations, on the production costs<br/>or sales prices of goods and services (Porcano, 2011).
- **Tax Compliance:** The extent to which a taxpayer complies by or fails to comply to the tax laws of his country in terms of income declaration, returns filing and payment of the requisite taxes (Cummings, 2007).
- **Tax Evasion:**Refers to the conscious or unconscious action and behavior<br/>of a person who is liable to pay tax but who fails to fulfill<br/>this duty by either under reporting his tax liability or failing<br/>to account for his income generating activities altogether.<br/>Tax evasion also refers to the reduction or minimization of<br/>tax liability by illegal methods (Rile, 2011).
- **Tax Rate:**The tax rate is the tax imposed by a Central Government<br/>based on an individual's taxable income or a corporation's<br/>earnings. Kenya uses a progressive tax rate system, where<br/>the percentage of tax increases as taxable income. It can also<br/>be defined as the percentage of income paid as tax<br/>(Friedland, 2008).
- Tax Information:The knowledge or facts provided about taxes (Eriksen &<br/>Fallan, 2006).
- TaxComplianceRefers to the expenditure of time or money in conforming tocost:government requirements such as legislations or regulations(Sandford, 2009).

- Tax Attitude:The way of thinking or feeling about taxes (Cummings,<br/>Martinez-Vazquez & Torgler, 2005).
- TaxRefers to the procedures attached to tax complianceAdministration:including registration and filing of returns (Griffiths, 2005).

#### ABSTRACT

Tax is an important stream of revenue for any government's development projects in both developed and developing economies. Tax compliance in most of these economies is varied. Over the years, the Kenyan Government has undertaken various revenue administration reforms aimed at enhancing revenue collection. The general objective of this study was to examine the determinants of tax compliance among the Export Processing Zones investors in Kenya. Further, the study specifically addressed; how tax knowledge and awareness, tax system attitude, tax compliance cost, relative tax rate and tax enforcement efforts determine the tax compliance of investors in the Export Processing Zones in Kenya. In addition, it assessed the moderating effect of turnover level on the tax compliance of the EPZ investors in Kenya. The study was anchored on the Tax Morale Theory, Economic Theory of Compliance, Fiscal Exchange Theory, Social-Psychology Models and the Prospect Theory. The philosophical foundation of the study was positivism. This study used a cross sectional survey research design since it provides an accurate means of assessing information that captures respondents' similarities and differences. The target population for the study was the licensed investors in the Export Processing Zones in Kenya. The sample used for this study was 152 duly registered and licensed operators in the Export Processing Zones Authority located in the three Kenyan cities; Nairobi, Mombasa and Kisumu. Since very few investors are located in other towns, they were piloted for this study. The piloted firms were however not considered for the final study. The study was conducted in the year 2016 through to 2018. Primary data was gathered using structured questionnaires and captured through a 5-point type Likert Scale questionnaire. To determine variable internal consistencies, reliability and validity tests were done. Hypothesis testing was conducted by use of Analysis of Variance (ANOVA), multiple regression and correlation analysis. Further data analysis was done using descriptive and inferential statistics. The study found out that the level of tax compliance among the Export Processing Zones investors in Kenya was still low. The study revealed that the respondents comply with tax payments due to fear of detection and punishment. Audit and penalties are some of the measures employed by revenue authorities to ensure voluntary compliance. The levels of tax compliance is also influenced by social and personal factors. The study concluded that tax compliance is influenced by different factors such as tax knowledge and awareness, tax attitude towards the tax system, tax compliance costs, relative tax rates and noncompliance enforcement efforts. The low level of tax compliance is attributed to poor tax attitude from the respondents, high tax compliance costs, unfavorable relative tax rates and weak enforcement efforts. Since tax knowledge and awareness was found to have a positive influence on tax compliance, the study recommends that Revenue Authorities should embark on public awareness campaigns to educate the public on their role and responsibilities in taxation rather than approaching the matter from a legal obligation perspective. This will help create a sense of responsibility in compliance rather than fear for non-compliance. Putting in place active customer oriented information desks is also a necessary initiative that will promote tax compliance. Further Revenue Authorities should put in more robust measures to educate the public and the investors in particular on tax issues and policies through regular training programmes, workshops and seminars.

#### **CHAPTER ONE**

#### **INTRODUCTION**

#### 1.1 Background of the Study

Taxation remains to be the main source of government revenue in both developed and developing economies (OECD, 2009). It provides an important avenue for financial independence of nations from external assistance (OECD, 2009). However, one of the biggest threats to this method of financing governments is tax avoidance and tax evasion. Developing economies are worst affected by this challenge. While developing countries record relatively higher tax compliance levels (35%), African countries report less than 23% (GIZ, 2010). Budgetary shortfalls and taxation gaps prevail in fiscal plans, resorting to dependence on unsustainable financial sources such as Bank loans and multilateral donors (Global Financial Integrity, 2010). Developing countries therefore need to develop and implement policies that reduce prevailing shortfalls and unhealthy dependence on donor funds. The motivations for tax evasion are complex and have challenged taxation authorities throughout the world (GIZ, 2010).

Tax compliance can theoretically be described by categorizing compliance in three different types; tax payment compliance, tax assessment and filing compliance as well as compliance in correct tax reporting (Brown & Mazur, 2003). The other two categories of compliance include; administrative and technical compliance. Administrative compliance entails the observation of the various tax laws that govern the lodgment and payment of taxes (OECD, 2009). Procedural compliance also known as regulatory compliance refers to the adherence of the technical requirements of tax laws to calculate and pay taxes (Brown & Mazur, 2003).

#### 1.1.1 Global Perspective of Tax Compliance

The extent to which a taxpayer complies by or fails to comply to the tax laws of his country in terms of income declaration, returns filing and payment of the requisite taxes (Cummings, 2007). While Tax evasion can be defined as the failure by a person

or business to comply with its tax obligations, it is a serious challenge to tax authorities in both the developed and developing countries. It diminishes the mobilization of resources that governments need to invest in critical areas of social and personal development including health, education and infrastructural development (Cummings, 2007). In 2011, it cost governments worldwide about 5.1 % of their Gross Domestic Product (GDP) (Helhel & Ahmed, 2014). In Europe, tax evasion constitutes about 8% of the GDP of economies in the region. In North and South America, tax evasion costs economies 2% and 10% of their GDP respectively (Mansor, Tayib & Yusof, 2013). Even in the most advanced economies in the world, tax evasion undermines revenue collection substantially (Rile, 2011).

Italy lost close to \$340 billion to tax evasion in the year 2011 alone (The Washington Post, 2011). The country's debt of \$ 2.6 trillion representing just over 10 years of tax evasion could easily have been repaid in 8 years using these evaded taxes (Mohd & Ahmad, 2015). Countries like Italy and Greece have vowed to crack down on tax evasion and cash transactions for goods and services that fall below the authorities' radar (Mohd & Ahmad, 2015). Germany and Britain signed an agreement with Switzerland about recovering some tax revenue from accounts held by their citizens in Swiss banks. South America has the world's largest shadow economy compared with its G.D.P, followed by Africa and Europe, where income hidden from the tax authorities amount to about 20.5 percent of G.D.P. This compares with 10.8 percent in North America (Association, 2014).

In the United States (U.S.) alone, non- compliance is estimated to cost the Federal Government over \$300 billion annually. However, traditional economic models of tax compliance, which primarily emphasize enforcement and detection variables, are unable to explain current levels of compliance. In fact, particularly in the United States, compliance is much higher than these economic models would suggest (Bobek, Roberts & Sweeney, 2007). Tax evasion is a universal problem that affects all countries as well as modern economic systems in both the developed and developing nations. In the US, it is estimated that the extent of tax gap (the difference between taxes owed and taxes filed) for 2015 were US\$ 475 billion (IRS, 2015). This concern is particularly severe for developing countries given the rapid growth of investments

in their economies and the lack of adequate experience in dealing with this problem. In China, tax evasion by multinationals results in revenue loss amounting to US\$ 3.88 billion each year (Asia Times, 2007). In Hong Kong, the Inland Revenue department reported that about US \$ 1.15 billion was collected from back tax and penalties between the years 2003 to 2007(IRD, 2007).

#### **1.1.2 Regional Perspective of Tax Compliance**

Taxpayers' behavior towards tax systems has become a main area of concern for many countries and institutions, which are mainly tasked with revenue assessment and collection (Porcano, 2011). However, it is still not clearly documented on what has been done on the studies entailing taxpayer behaviors. Various tax authorities have mainly concentrated on studies whose main objective is to increase their revenue collections and enforcement efforts. This has led to neglecting taxpayer studies that may be a solution to the persistent problem of non-compliance. A high tax evasion as a function of GDP has been reported in the three East African Countries; Kenya, Uganda and Tanzania. Uganda loses the least amount in tax evasion. In 2011, it lost 856 million USD, followed by Tanzania at 1.9 billion USD, and Kenya lost slightly over 2 billion USD. Consistent with past trends, revenue collection has increased from Kshs.800.5billion in the 2012/13 Financial Year to Kshs.1.21trillion in the 2015/16 Financial Year. This represents an aggregate annual growth of 13.8%, Tax compliance levels in Kenya is still considered low at 54% in 2013 against KRA's target of 65% by 2018 (Kenya Revenue Authority, 2016). Based on these figures, it can be clearly seen that tax compliance levels in Kenya is generally low. It is therefore imperative for governments to undertake several initiatives aimed at recruiting as many taxpayers as possible into the tax system. The study aims at understanding the reasons for the low levels of tax compliance in Kenya and highlight policy recommendations to address the same.

#### 1.1.3 Tax Compliance in Kenya

Kenya is one of the low-income generating countries. Tax compliance levels in Kenya is generally low. This implies that the Kenyan tax collection agency must work hard towards ensuring efficient and effective tax administration. Tax administration in Kenya is done by the Kenya Revenue Authority, which was established through an Act of Parliament on 1<sup>st</sup> July, 1995 (Cap 469).

One of the main functions of the Kenya Revenue Authority is to promote tax compliance among the taxable citizens within the country (CIAT, 2006). The main function of Kenya Revenue Authority is the assessment, collection, administration and enforcement of tax laws with professionalism governed by integrity and fairness (CIAT, 2006). The Kenya Revenue Authority ensures the enforcement of various tax related Acts; the Income Tax, the Value Added Tax, Customs duties and Excise Tax among many others.

There are many challenges facing efficient tax compliance systems in Kenya. Some of the challenges include; poor quality of audit of tax revenues, politics and corruption. These challenges affect the structure of an economy such as the size of infrastructure in the tax design and administration. In addition, Kenya's tax system involves the preparation of tax returns, submitting of tax returns as well as paying of taxes due (Karingi, Ndungu & Kiringai, 2005). Nyandusi, Gideon and Kiprotich (2012), indicate that the problem of tax non-compliance among business firms constrains the realization of revenue collection targets by the Kenya Revenue Authority (KRA). Further, the aim of their study was to investigate the relationship between the size of taxpayers' income, inspection by the tax authorities, use of tax registers and VAT compliance. Results from their study revealed that VAT non-compliance is high among the middle-income business firms and that inspection of business firms by tax authorities had a slight positive relationship with VAT compliance (Nyandusi, Gideon & Kiprotich, 2012)

#### 1.1.4 Export Processing Zones

The first Export Processing Zone (EPZ) program was established in 1990 to provide an attractive investment opportunity for export-oriented business ventures within designated areas or zones. This programme was set up to help the economy grow through increased productive capital investment, employment creation, technology transfer, backward linkages development and diversification of exports (EPZA, 2017). This scheme which is managed and promoted by the Export Processing Zones Authority, offers a range of attractive incentives to ensure low costs of operations, fast set up, smooth operations and high profitability. An effective one-stop-shop service has been established at the EPZ Authority to help facilitate investors (Schrank, 2001).

The Kenyan Government gives various tax incentives to EPZ operators. Among these incentives, include an exemption from the remittance of corporation tax for a period of ten years. The companies are required to pay corporation tax starting from the tenth year of their operations at the rate of 25 percent. They also enjoy an investment deduction on initial capital investment of one hundred percent applied over 20 years. All their industrial raw materials and machinery are VAT exempted. The EPZ authority advocates that tax incentives are integral in ensuring competitiveness of EPZ investors on a global scale, hence the need to address systemic issues in the investment environment that have hindered the attraction, facilitation and retention of investments in Kenya (EPZA, 2016).

The impact of tax incentives on government revenues and tax compliance levels especially after the 10-year tax holiday is yet to be evaluated (KRA, 2016). This therefore poses a challenge to the tax authority on both the return on investment on government revenues as well as the levels on tax compliance in this programme.

Kenya's Export Processing Zones Authority (EPZA) has been in the forefront of initiating, promoting and providing attractive investment opportunities for the exportoriented business ventures in the country. Singularly and collectively, the 65 Export Processing Zones (EPZs) strategically located across the country constitute an economic proposition that makes a compelling case for companies and businesses to contemplate. Kenya is a fiscally sensible destination for assured returns for both local and international investors. The investors can therefore invest and engage in planned and sustainable development of the national economy by providing employment to the country's workforce (Njue, 2000). The number of gazetted zones as at the end of December 2016 stood at 65 from 47 during the previous year, out of which there are 152 enterprises operating in the zones located in the three Kenyan cities (EPZA, 2017).

#### **1.2 Statement of the Problem**

Taxes play an important role in the budget of any economy. One of the main reasons why governments impose taxes is to generate income to manage their economies and redistribute resources. Over the years, the Kenyan government has undertaken various revenue administration reforms aimed at enhancing revenue collection to plug the annual budget deficits (Masinde & Makau, 2010).

There is a mismatch between the overall tax collection growth by the Kenya Revenue Authority verses the country's economic growth. The Kenya Revenue Authority has therefore been compelled to come up with tax compliance measures like frequent audits, market surveys and frequent recruitment of taxpayers in all sectors of the economy (KRA, 2011). Unrelentingly low levels of tax compliance can cause the government's failure to achieve the necessary targets for financing the country's budget. Unless addressed, continued tax non-compliance may lead to a national crisis (Flynn, 2003).

Despite various revenue enhancement administrative reforms by revenue authorities, levels of tax compliance have remained quite low. The introduction of the self-assessment scheme by KRA in 1992 that required tax payers to register, keep records, file returns and make voluntary correct tax payments have yielded minimal results. A study conducted by KRA, KIPPRA and the Kenyan Treasury (2016), based on 2015/2016 financial year data revealed that VAT payment compliance was as low as 55% while tax returns filing compliance was 65% (Thiga & Muturi, 2015). Tax non-compliance is a substantive universal phenomenon that transcends cultural and political boundaries and takes place in all societies and economic systems.

The establishment of EPZs in Kenya was aimed at facilitating export-oriented industrialization as well as enhancing industrial growth and development in the country, create employment opportunities, bring in the much-needed foreign exchange earnings, transfer technology to the local people as well as generate income through payments of taxes such as corporation tax and employee income tax payments. However, some weaknesses have been noted especially in the filing of returns and payment of taxes by the various investors during and after the tax holiday.

There are many studies (Alon & Dwyer, 2012; Cummings, Martinez-Vazquez & Torgler, 2005; Simiyu, 2003; Devos, 2009; Kibiwott, 2013) that explain the behavior of tax compliance by various taxpayers for different economic sectors in various countries. Among these studies include that of Simiyu (2003) on factors that influence voluntary tax compliance among local authorities. Cummings, Martinez-Vazquez and Torgler (2005) discussed the effects of tax morale on tax compliance. Their findings were that differences in tax compliance levels could be explained by differences in the fairness of tax administration and in the perceived fiscal exchange. Devos (2009) analysed the relationship between some selected tax compliance variables and taxpayer attitudes on tax compliance in Australia. This study was conducted in a developed country; Australia while the current study was done in Kenya. In a study titled, the determinants of tax compliance among small and medium enterprises in Uasin-Gishu County, Kibiwott (2013), found out that the perceptions of SME operators regarding tax fairness, tax service quality and government spending priorities greatly affect the taxpayers' tax compliance decisions. Kuria, Ngumi and Rugami (2013), investigated factors affecting rental income tax compliance among landlords in Kilifi County in Kenya with findings revealing that landlords opted for no taxation as they saw themselves providing services (housing) to the public which should be a government task. The studies were done in different contexts such as SMEs and landlords in Kenya as opposed to this study where the focus was on EPZ investors.

Various scholars have widely considered and written about this field of tax compliance. Despite the fact that studies on determinants of tax compliance exist, there is still a need to assess the same in the Export Processing Zones. This study therefore sought to establish the determinants of tax compliance among investors in the Export Processing Zones, particularly with a close interest on variables such as tax knowledge and awareness, tax attitude, tax compliance costs, relative tax rate and tax compliance enforcement efforts.

#### **1.3 Research Objectives**

#### **1.3.1** General Objective

The general objective of this study was to examine the determinants of tax compliance among the Export Processing Zones investors in Kenya.

#### **1.3.2** Specific Objectives

The specific objectives which guided the study were:

- 1. To determine the effect of tax knowledge and awareness on tax compliance among investors in the Export Processing Zones in Kenya.
- 2. To assess the effect of attitude towards the tax system on tax compliance among investors in the Export Processing Zones in Kenya.
- 3. To determine the extent to which cost of tax compliance influences tax compliance among investors in the Export Processing Zones in Kenya.
- 4. To determine the influence of relative tax rate on tax compliance among investors in the Export Processing Zones in Kenya.
- 5. To evaluate the influence of enforcement efforts on tax compliance among investors in the Export Processing Zones in Kenya.
- 6. To evaluate the moderating effect of turnover level on the determinants of tax compliance among investors in the Export Processing Zones in Kenya.

#### **1.4 Research Hypotheses**

The research tested the following null hypotheses:

- 1. **Ho:** Tax knowledge and awareness has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya
- 2. **H**<sub>0</sub>: Tax attitude has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya.
- 3. **H**<sub>0</sub>: Cost of tax compliance has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya.

- 4. **H**<sub>0</sub>: Relative tax rate has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya.
- 5. **H**<sub>0</sub>: Enforcement efforts has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya.
- Ho: The turnover level has no significant moderating influence on determinants of tax compliance among investors in the Export Processing Zones in Kenya.

#### **1.5** Significance of the Study

The results of the study are likely to be useful to the Kenyan government, policy makers, the legislature and regulatory bodies such as the Kenya Revenue Authority in improving taxation systems and therefore, tax policies in Kenya.

#### 1.5.1 Investors

The study provides an insight into tax incentives and their impacts on economic growth to investors and Kenyan citizens. Investors need to establish business strategies putting into consideration the long-term effects (and consequences) of their decisions on the business and the economy. It is necessary to educate potential investors and citizens to encourage support and compliance for good macroeconomic policies.

The findings will also provide investors, investment advisors and executives with pertinent information on various ways and means of ensuring that their firms and clients are tax compliant.

#### 1.5.2 Government

The study findings will provide reference guidelines to government regulators on strategic responses in promoting tax compliance. The findings will also enable the government to understand the process by which taxpayers perceive tax fairness.

#### **1.5.3 Regulation Authorities**

The study is likely to equip tax authorities, agencies and the stakeholders with knowledge on the importance of tax compliance and consequences of tax evasion. Additionally, they will be able to use the findings of the study to formulate viable decisions concerning tax compliance. Further, the public, who are taxpayers may also benefit by understanding the tax regulations and penalties due to tax non-compliance and insubordination.

#### 1.5.4 Scholars and Researchers

The study will provide more insights to theorists and researchers, on the determinants of tax compliance especially in various Government sponsored investments. It will also assist them form a basis in pursuing further research on the same issue particularly with different variables that will help eliminate spurious relationships.

#### 1.6 Scope of the Study

The study focused on all the 152 enterprises or firms located in the three Kenyan cities that are licensed by the Export Processing Zones Authority (EPZA). The choice of the firms was necessitated by the fact that, most of the firms are located in the three Kenyan cities of Nairobi, Kisumu and Mombasa. The study was only limited to the study variables and thus considered these factors; tax knowledge and awareness, attitude and perception towards the tax system, cost of tax compliance, relative tax rate and enforcement efforts. The study commenced in 2016 and was concluded in 2018.

#### **1.7 Limitations of the study**

This study did not lack some limitations. The respondents may not have answered all questions with candor, and therefore the results of this study based on the opinions of the respondents might not accurately reflect the opinions of all members of the included population. This is more so because, people generally feel reluctant to divulge correct information about their incomes and tax positions (Coskun & Savasan, 2009).

In the current times, changes in diverse aspects have soared to a critical level. By way of example, attitudinal changes may take place over a short time span. Such changes may alter the levels of tax compliance. Consequently, findings of this study may be rendered less useful. Subsequently, this paper remains a tentative piece that is subject to review by other scholars at any appropriate moment.

This study sought sensitive information on businesses. As such, respondents would find it difficult to divulge information. This could be premised on the idea that the information given could be used in other ways other than those presented to them. However, the researcher assured the respondents and made it clear that information given was only for purposes of this study.

#### **CHAPTER TWO**

#### LITERATURE REVIEW

#### 2.1 Introduction

This chapter reviews both the theoretical and empirical literature related to the study variables and how they are related. It is from this review that the conceptual framework was developed. It forms a positive critique to the literature therefore identifying the research gaps with a probable take by the researcher on the various empirical findings. Theories on tax compliance, determinants of tax compliance and how these determinants affect tax compliance form the discussion in this chapter.

#### 2.2 Theoretical Review

This section highlights the theories that the study was built upon. They include; Tax Morale Theory, Economic Theory of Compliance, Fiscal exchange theory, Social-Psychology Models and the Prospect Theory; which are relevant to the study.

#### 2.2.1 The Tax Morale Theory

This theory was first advanced by German scholars centered around Gunter Schmolders known as the Cologne School of Tax Psychology (Schmölders, 1960). Tax morale can be termed as the individual factors that motivates a person to comply with his or her tax obligations. As a determinant of tax behavior, tax morale, aims to explain, how and why a taxpayer's morale influences his or her tax behavior. Many studies have found out that tax evasion can be attributed to the tax morale theory (Mocetti, 2011).

Taxpayers are more likely to comply with tax obligation if their friends, relatives and acquaintances comply with these obligations (Cummings, 2007). In addition, taxpayers will evade taxes if they feel that other people are getting away with tax evasion. In other words, if a society tolerates tax evasion, such a society would encourage tax evasion (Waweru, 2004). Religious beliefs are a variable in tax evasion as studies have shown that tax payers who have strong religious commitments or
beliefs would likely be tax compliant even if they feel that the tax rate is high (Gee, 2006).

In some instances, taxpayers can feel justified in evading taxes if they feel that the quality and quantity of essential goods and services offered by the government is not sufficient in comparison to the expected revenue collections. On the other hand, if the services are sufficient, the taxpayers will feel obliged to pay taxes due and payable of them without necessarily being coerced by the tax authorities (Gee, 2006). In economies where the provision of public goods and services is satisfactory, the evasion rates are low. Taxpayers will tend to comply with their tax obligation if they feel that their government is honest, democratic and participatory and if the taxpayers feel they play a meaningful role in governance (Cummings, 2007).

Recent studies in this area suggest that individuals' tax morale may provide the "missing link" that makes it possible to bridge the gap between theory and data and finally contribute to solve the so called "puzzle of compliance". The rationale behind the relationship between tax morale and tax compliance is that the level of compliance will turn out to be higher, all other things being equal (Cobham, 2005)

Alesina, Tella, and MacCulloch (2004), observe that, in modern democracies, where governments redistribute to a significant extent, it is very likely that not only the poor but even the net losers from redistributive schemes support them insofar as poverty and inequality are perceived as socially harmful. A redistributive motive may emerge as a mix of genuinely unselfish concerns and self-interest, to the extent that inequality breeds crime and threats to property rights.

A first limitation of this theory is that studies anchored on it needs to be carefully checked whether the answers in the questionnaire are independent from the behavior of the respondents. A second drawback is the artificial nature of the environment in which the data are generated: even though such experiments are typically run by using non-neutral, tax language to make the setting more realistic, it is not possible to rule out that subjects would behave differently when dealing with real tax authorities, rather than with experimenters (Cobham, 2005). This therefore underlines the importance of carefully considering data and evidence obtained from various

environments and respondents. However, Cummings et al. (2009) were able to provide further support for the hypothesis that tax morale exerts a positive impact on tax compliance.

Thus, taxpayers' attitudes are important predictors of tax evasion. This theory was relevant to this study since it highlights the instances in which the taxpayers feel justified to comply with their tax obligations or to evade the tax altogether. Numerous researchers have argued that the citizens' attitudes towards paying taxes (defined as tax morale) help to explain the degree of compliance or non-compliance.

# 2.2.2 Economic (Deterrent) Theory of Tax Compliance

The Economic Theory approach to tax compliance goes back to the economic deterrence model, developed by Allingman and Sandmo (1972). This theory is of the view that most countries rely on increased checks and severity of penalties as the main vehicle for enforcing tax compliance.

The economic deterrence model has been widely used to explain the relationship between tax evasion and tax compliance. The economic theory model of tax compliance emphasizes on the use of enforcement tools to achieve the required levels of tax compliance. Deterrence measures include employing methods like, timely and continuous taxpayer audits, post clearance audits, increased surveillance to curb smuggling, regional tariff balances as well as strict and hefty penalties for tax evaders. Taxpayers can also be accorded better tax knowledge through regular sensitization programmes, advertisements and public awareness forums (Fischer *et al.*, 1992).

Hite (1989), asserts that taxpayers are risk neutral individuals who will utilize any available loopholes or options to their benefits. He argues that when taxpayers view the tax evasion benefits outweighing the costs or penalties that they are likely to pay if convicted of tax evasion, they are more likely to evade tax. The converse is also true. Thus, a pure 'cost-benefit' explanation as to why taxpayers may or may comply with tax laws. Some researchers are of the view that most taxpayers weigh the likely benefits of evasion as compared to the risks associated with detection and punishment. Fines and penalties as a form of punishment plays a critical role in determining the

choice a taxpayer makes; whether to pay taxes or evade altogether (Milliron & Toy, 1988).

In studies attempting to empirically verify the Allingham and Sandmo model, it has been pointed out that since expected additional payments if evasion is detected observed in practice are always less than taxes due, taxpayers would always evade taxes if they behaved in accordance with the Allingham and Sandmo model. Not all taxpayers, however, resort to tax evasion, as evidenced from countries like the USA. This has prompted an enormous number of extensions of the Allingham and Sandmo model over the past 30 years, leading to the identification of many of the compliance determinants reviewed above (Das-Gupta, 2004).

This model postulates that rational decisions are made by taxpayers while taking into consideration the various economic gains accruing to them. If they realize that costs associated with tax evasion detection are higher than the expected tax evasion benefits, they are likely to comply with the tax laws and regulations. If the expected costs of evasion are lower than the expected benefits they will have a higher incentive of being non-compliant. Therefore, it is enough to check taxpayers more frequently and impose more severe penalties to limit tax evasion (OECD, 2012). This approach, in its simplicity, seems to be very convincing. However, no tax administration has the capacity to frequently check all taxpayers and impose severe penalties. Rational taxpayers may well factor this into their calculations and choose to continue evading taxes. In addition, practice does not confirm the theory, there is much less tax evasion than the model would imply. Other factors, sociological and psychological, for instance, determine actual levels of tax compliance.

The economic deterrence model has over the years, undergone series of modifications and extensions, and still enjoys prominence in most studies on taxpayer compliance. However, it has also been criticized as not being realistic in explaining taxpayer compliance, since it predicts a general substantial noncompliance beyond what is obtainable in reality (Slemrod, 2007). Rethi (2012) and Slemrod, (2007), observed that in spite of the existence and use of audits and penalties (which are the key components of the deterrence model), tax evasion has remained, and continuously posed significant threats to countries' economies, through loss of revenue. Besides, it has also been observed (even proven in studies) that there are people who never evade taxes, even when the probability of detection is zero (Sour, 2004). A classic example is in the case of the United States and Scandinavia, where empirical data revealed a high level of compliance "…more than what could be accounted for even by the highest feasible levels of auditing, penalties and risk aversion" (Fjeldstad, SchulzHerzenberg & Sjursen, 2012). Aside from the limitations noted above, the deterrence model has also faced criticism for failing to consider behavioral factors such as attitudes, perceptions, and moral judgments (Lewis, 1982); for neglecting the presence of codes of conducts, such as moral and ethical constraints that have potentials to prevent people from cheating in their taxes (Sour, 2004); and for neglecting the relevance that tax compliance takes place in a social context (Rethi, 2012).

This theory was relevant to the study as it explains the economic perspective of compliance and evasion of firms or individual taxpayers. Economic based theory is of the view that a taxpayers' tax compliance is influenced by the amount of savings he is likely to make on tax evasion, the likelihood of detection and what he is likely to lose if detected. Taxpayers are said to be 'utility maximizers' when deciding on how to correctly report self-tax assessments in order to maintain the required level of tax compliance. Tax evasion is considered profitable if the savings are more than losses if detected.

### 2.2.3 Social - Psychology Models

A common proposition of the theory of reasoned action is that individuals form their behavioral intentions on the basis of two basic determinants; personal factors and social influences (McKerchar & Evans, 2009). These are commonly referred to as personal norms and social norms respectively. They are generally noted to play important roles in determining tax compliance (Franzoni, 1999; Sour, 2004; OECD, 2010). Ronan and Ramalefane (2007), specifically noted that variables such as stigma, reputation and social norms have a great impact on taxpayers' decision on whether or not to comply with tax payments.

Personal norms have been defined as the deeply rooted convictions about what one ought or ought not to do (OECD, 2010). They are in most cases difficult to change and often beyond the reach of public policy" (Franzoni, 1999), because they take a long time of socialization processes to be developed (OECD, 2010). In the context of taxpayer behavior, personal norms reflect the taxpayers' values, tax ethics, tax mentality, and tax morale, all of which influences attitudes towards tax compliance. Sour (2004), contended that engagement in acts of evasion may induce feelings of anxiety, guilt or negative self-image in taxpayers. A contention that is in line with the findings of Taylor (2001), who observed that the internal fear of experiencing feelings of guilt, along with the risk of social stigmatization have greater deterrent effect than such external factors as the risk of detection and punishment. The fear of social stigmatization as a possible deterrent factor is a confirmation of the belief that tax compliance takes place within a social context (OECD, 2010; Kirchler, 2007), and the existence of the social norms effect on compliance behavior.

Alm (1999), defines a social norm as a pattern of behavior that is judged in a similar way by others and that it is sustained in part by social approval or disapproval". This affects tax compliance since it is common for people to discuss their tax affairs with friends, family members, and at their jobs (Sour, 2004). It therefore follows that an individual is most likely to comply with tax requirements if he believes members of his reference groups also comply, just as he is also likely not to comply if he believes that members of his referent group do not comply (Lewis, 1982; Franzoni, 1999; OECD, 2010; Fjeldstad, et al., 2012; Ali, et al., 2013).

Another social psychology model is the theory of Planned Behavior, which was developed by Ajzen in 1991. This theory is of the view that, some definite factors influence the behaviour of individuals. These factors originate from certain reasons and are usually planned by these individuals.

The essential thrust of this approach is that individuals are not risk neutral or risk averse but simply make decisions based on their cost benefit analysis of the gains verses the projected losses. Social - psychology models inductively examine the attitudes and beliefs of taxpayers in order to understand and predict human behavior (Ajzen, 1991). For a long time, various scholars have tried to identify the various methods and study variables that are employed in this model to explain taxpayers' tax compliance. This model is of the view that taxpayers are more concerned with areas touching on their benefits and interests rather than communal ones. In this regard, if a taxpayer has greater tax attitude, he is likely to cooperate with tax authorities and be more willing to pay taxes (McKerchar, 2003).

Cowell as cited in McKerchar (2003) in trying to explain tax evasion proposes that other noneconomic variables need to be investigated. Cowell indicated that tax compliance can be achieved by employing other social objectives like rewards other than the usual fines and penalties. The main objective here is that tax authorities need to make use of all available information to formulate tax policies geared at eliminating tax evasion. This theory was relevant to the study as it examined the human factors that affect taxpayers' compliance attitudes and behavior. It is important to note from this theory that an attitude is a reflection of cultural differences and the tax system in which they were formed.

# 2.2.4 Fiscal Exchange Theory

The fiscal exchange theory is acclaimed to have evolved from the economic deterrence and the social psychology models (McKerchar & Evans, 2009), and is premised upon the existence of a social, relational or psychological contract between the government and the taxpayers (Frey & Feld, 2002; Torgler, 2003; Fjeldstad, et al., 2012). The model thus suggests that the presence of government expenditures may serve as a motivating factor for taxpayer compliance, especially when the taxpayers value the goods and services they perceive to be receiving from the government (Alm, McClelland & Schulze, 1992; Alm, 1999; Fjeldstad, et al., 2012). Fjeldstad, et al. (2012) opined that the taxpayer may be seen as exchanging their purchasing power in the market in return for government vary in its performance. Taxpayers will be more willing to comply when they are satisfied with the provision of services from the government, even in the absence of detection and punishment (Torgler, 2003). Conversely, they are also likely to adjust their terms of trade, by reducing compliance when they are dissatisfied with services provision from the government, or even when they dislike the way their taxes are spent (Spicer & Lundtstedt, 1976; Smith, 1992; Alm, 1999; Palil, 2010). Another major proposition of the fiscal exchange theory is that of tax bargaining between taxpayers and the government, which is considered as central to building relations of accountability, mutual rights and obligations between state and society (Fjeldstad, et al., 2012). Alm (1999), citing several works, also noted that evidences exist from empirical, experimental, and simulation researches, that points to the fact that compliance is affected by collective decision process. This is especially so in democratic countries, where the taxpayers are presumed to be in a position to renegotiate their tax contract with the government, since they can monitor and control politicians, and partake as rule setters (in tax matters) via referenda and initiatives respectively (Torgler, 2003).

This theory was relevant to the study as it examined how the relationship between the government of the day and taxpayers can influence tax compliance. A good relationship between the two will most likely influence tax compliance positively and vice versa. It is a common believe that people comply with the law if they perceive the process leading to the law as generally fair (Tyler, 1990; McKerchar & Evans, 2009).

#### 2.2.5 **Prospect Theory**

The prospect theory was proposed by two Israel psychologists; Daniel Kahneman and Amos Tversky, in 1979. They applied psychological principles to investigate judgement and decision making. They asserted that, people make decisions according to how their brains process and understand information and not solely on the basis of the inherent utility that a certain option possesses for a decision maker.

Prospect theory explains how people evaluate risk; it holds that people are risk averse in regards to gains, but risk seeking in regards to loss (Cullis, Jones & Lewis, 2006). Consequently, the manner in which a decision is framed will affect a person's willingness to take risks. In income tax, for example, whether an issue is framed as a bonus for those with children (such as a child credit) or a penalty for the childless, will affect a taxpayer's attitude towards the provision. McCaffery and Baron (2005), explain that a taxpayer will be more willing to take risks by not complying when the issue is framed as a loss that is a penalty from an audit, than as a gain (a bonus from a refund). Consequently, the manner in which information is communicated to a taxpayer can have a major impact on his willingness to comply with the tax laws (Cullis, Jones & Lewis, 2006)

According to prospect theory, tax compliance should increase if paying taxes is seen as a gain not a loss. If a taxpayer views his situation as interconnected with that of his nation, because either he or she is a collectivist and or through identification with the nation, then taxpaying is more likely to be viewed as a gain rather than a loss. Hansen (2003), suggests that if a taxpayer views taxes as a national obligation, then the income after tax becomes the taxpayer's reference point and therefore: tax compliance decisions are made in the gain domain, which leads taxpayers to pursue a risk-averse behavior. On the other hand, if the taxpayer considers paying taxes as loss, then his or her reference point would be their income before tax. In this case, the taxpayer will be likely to engage in risk-seeking behavior.

This theory is very important in studies, in that it helps explain the choice of an option that does not in fact promote the greatest expected value. It helps explain why non optimal choices are often made, especially in cases with clear loss aversion.

The prospect theory however has its own limitations; Avineri and Bovy (2008) have described some of the major challenges modelers are faced with when applying the Prospect Theory. They assert that prospect theory is not a full-fledged theory of decision-making, it has got some general complexities in estimating parameter values.

In addition, some open questions remain about the suitability of Prospect Theory to describe and model a dynamic economic environment and the effect of feedback and learning on repeated choice. The theory was originally proposed in order to capture description-based decisions in one-shot tasks. Most features of Prospect Theory, such as reference dependency and gain or loss asymmetry, have been exhibited in a range of behaviours tested mainly in static settings, with no (or limited) feedback or incentives. However, some recent studies have questioned this paradigm, mainly in

dynamic settings (repeated choice) that provides feedback (and sometimes reward) related to the choice, and features a learning process (Ert & Erev, 2008, Ben-Elia, Erev & Shiftan, 2008).

The central idea in prospect theory is that people derive utility from gains and losses measured relative to a reference point. But in any given context, it is often unclear how to define precisely what a gain or loss is, not least because Kahneman and Tversky offered relatively little guidance on how the reference point is determined. This theory was relevant to tax payers' compliance as it gives situations upon which taxpayers choose to comply or evade tax. These situations may include, where one views taxation as a loss while others view tax payment as a national obligation.

#### 2.3 Conceptual Framework

The conceptual framework portrays a picture of the proposed relationship between the study variables. Independent variables, also known as predictor variables, are the force that is presumed to be the causes of the changes in the dependent variables. This framework attempts to establish and explain the factors that affect tax compliance among Export Processing Zones investors in Kenya. These factors include knowledge and awareness about tax issues, attitude towards taxation, cost of tax compliance, enforcement efforts and relative tax rate. The study determined the effects of independent variables on the dependent variable. Figure 2.1 shows the conceptual framework that was adopted for the study.



**Independent Variables** 



# **Figure 2.1: Conceptual Framework**

# 2.3.1 Tax Knowledge and Tax Awareness

Taxpayers' awareness can be explained as a condition when taxpayers understand how to calculate and pay their tax liability. Generally, awareness of the taxpayer to pay taxes will create taxation morality of society. People who have a higher morality feel that paying tax is the duty of every citizen and thus must be met because the tax is needed to sustain government spending (Siahaan, 2010). Positive assessment of taxpayers to the implementation of state functions by the government will mobilize the taxpayers to meet their tax obligations by paying taxes (Nurmantu, 2010). According to Suryadi (2006) there are four indicators that will enhance taxpayers' awareness; a positive perception about tax obligation, a taxpayer's characters, good taxpayers knowledge about tax regulations and periodic tax socialization.

Education, as a demographic variable that relates to the taxpayers' ability to comprehend and comply or not comply with the tax laws (Jackson & Milliron, 2012). The aspect of education has been distinguished: "the general degree of fiscal knowledge and the degree of knowledge involving evasion opportunities" (Jackson & Milliron, 2012). This knowledge is considered important for attitudes towards tax compliance. Persons both corporate and individuals are subject to taxation.

One of the factors that determine if an individual is compliant or not is his or her knowledge level. If a taxpayer has adequate knowledge that enables him to read and understand the taxation laws and regulations, he is more likely to comply. The aspect of knowledge that relates to compliance is the general understanding about taxation regulations and information pertaining to the opportunity to evade tax (Kasipillai, Norhani & Ariffin, 2003).

If an individual or taxpayer is more knowledgeable in taxation matters, he is more likely to be aware of various matters concerning taxation laws, how tax aids in national development, and how government revenue is collected and spent by the government (Mohd, 2010). Attitude towards tax compliance can be improved through the enhancement of taxation knowledge. When a taxpayer has a positive attitude towards tax, this will reduce his or her inclination to evade tax payment

The amount of taxes you owe is based on your income. You must pay taxes throughout the year. People who earn more income have higher tax rates than those who earn less, this means that tax rates get progressively higher when you earn more. You can reduce your taxes by taking advantage of various tax benefits. It is a taxpayer's responsibility to take control of his tax situation.

### 2.3.2 Tax Attitude and Tax Compliance

Perception towards tax and its general compliance levels has been identified as one of the major factors that influence tax compliance. Fischer (1992) is of the view that tax evasion is a universal phenomenon that takes place in all societies and economic systems including both developed and developing countries and it is influenced by many factors among them attitudes and perceptions. The growing dissatisfaction with the fairness of tax system is the major cause for increasing tax noncompliance. This contrasts with the benefits received for the tax given and the equity of the taxpayer's burden in reference to that of other individuals. Taxpayers who believe that the tax system is unfair are more likely to commit tax noncompliance behavior.

Social psychologists have offered several explanations why knowing a tax evader might cause an honest taxpayer to consider evasion. Lerner, (2008) suggests that people need to believe the world is just. Consequently, when people observe an unjust event, they may cope by punishing the harm-doer, compensating or blaming the victim, or denying the injustice by reasoning that justice will prevail in the next life. In some cases, such as tax evasion, one might seek justice by engaging in the activity oneself. When people violate a standard, they incur a psychological cost-guilt whether or not others discover the behavioural violation. However, if others of perceived high moral character violate a law, then one's behavioural standard may change. People are more likely to evade taxes when they observe a taxpayer of perceived high moral character evading.

Trivedi and Shehata, (2005), concluded that some taxpayers' behavior is a mixture of both economic and psychological considerations. This observation was the cornerstone in Lumumba et.al (2010) in their paper on taxpayer's attitude and compliance behavior in Kenya; in their findings, they observed that majority of Kenyans view the tax regime to be unfair, complex and punitive in nature. Accountability in government expenditure also had a big role in influencing compliance behavior with most respondents intimating that they did not comply, as they were not confident their taxpayer's money is used correctly.

#### 2.3.3 Cost of Tax Compliance

Compliance cost involves a myriad of expenses or difficulties encountered by the taxpayer in complying with the tax law both in terms of administrative compliance. This includes, registration, filing and subsequent payment of the taxes and also technical compliance which involves maintenance of appropriate records, machines and organisation of the supply chain so as to observe the requirements of the law. Administrative compliance is mostly direct and therefore it has been the area of concern in previous studies.

Thiga and Muturi (2015), when studying Tax Compliance among SME's in Kiambu County observed that low compliance costs are associated with high compliance levels, these findings have been vindicated by several researchers including Lumumba *et al*, (2010) and Slemrod, (1992).

Technical compliance is visible mostly among indirect taxes such as VAT and excise duty that require maintenance of substantive records, machines (ETR, flow meters), and at times might even call for a resident officer to monitor the production process. Although all these help in ensuring compliance, it raises costs and increases the premium on non-compliance.

### 2.3.4 Relative Tax Rate and Tax Compliance

Allingham and Sandmo (2012), are of the view that there is a positive correlation between a country's relative tax rate and the taxpayers' tax compliance level. These findings have also been supported by Alm*et al* (2015), in their evaluation of the Jamaican income tax structure which showed that small reductions in the marginal tax rate can have a general positive impact on revenue collection but this is only up to a point where the decrease in rate is sufficiently offset by the increased tax base and thereby a net increase in collections. In contrast, Yitzhaki (2014), theoretically proved that tax compliance increases with tax rates. Clotfelter (2013), however found that tax compliance decreases with increasing marginal tax rates, based on data from the Internal Revenue Service's Taxpayers Compliance Measurement Program (TCMP) survey of 1969. There has been no attempt at a specific research in Kenya on the impact of the relative tax rate on general compliance. This insight can be garnered from the unpublished report by Simiyu (2013) and Mutua (2011), which showed that high relative tax rates create undue burden to most businesses and have therefore been a hindrance towards increased compliance. The tax rates in Kenya range from as low as 5% on income derived from qualifying dividends to a high of 37.5% in corporation tax on non-resident companies. Individual income tax rates are progressive in nature with different tax brackets along the income spectrum.

## 2.3.5 Tax Enforcement Efforts

Slemrod and Yitzhaki (2000), observed that enforcement instruments, including audit rates and the punishment function, are also determinants of tax compliance, although these variables are rarely available for empirical studies. Dubin *et al.* (1990) and Pommerehne and Weck-Hannemann (1996), found that the probability of audit significantly affects tax compliance, whereas they found no evidence of a significant deterrent effect of the penalty. Andreoni *et.al* (1998), based on studies of data generated from the Internal Revenue Service's Taxpayers Compliance Management Programme (TCMP) observed that due to the low detection probability, even high penalties have no observable impact on the level of compliance. Merima *et al* (2013), when studying factors affecting tax compliance in a sample of African Countries, found out that when individual perceptions about the difficulty of evading taxes are high, taxpayer's attitude towards compliance is enhanced.

In Kenya, the audit coverage is less than 1% of the returns filed; this can explain the low levels of compliance especially on tax heads whose audit coverage is low such as Corporation tax and Excise duty. Noncompliance is also enforced as a civic rather than a criminal offence. In most cases, non-compliance, corrective actions are penalties rather than jail terms. Penalties levied on non-compliance ranges from 20% in areas with low frequent cases of evasion to 75% in cases where the offender is a frequent offender. The new Tax Procedures Act (2015) has harmonized the penalties and interests charged. Currently, there are no observable variance on compliance based on the punishment function across tax heads.

### 2.4 Empirical Literature Review

This section provides a review of published works, various periodicals and relevant books regarding the theories and the empirical findings from other researchers relevant to this area of study.

## 2.4.1 Tax Knowledge, Awareness and Tax Compliance

Mukasa (2011), analysed the relationship between taxation knowledge, tax perception and tax compliance of small and medium enterprises. The study adopted a crosssectional research design, combined with qualitative (analytical and explanatory) and quantitative (descriptive and inferential) research designs. The study considered 330 tax registered small and medium enterprises in Uganda. Self-administered questionnaires were used to collect data from the SME owners or managers. The study concluded that, knowledge and perceived tax greatly influence tax compliance. Tax knowledge and perceived tax fairness was found to have a positive influence on tax compliance. However, there is a weak relationship between tax knowledge and perception of tax system fairness. These findings imply that positive improvement of taxpayers' knowledge and tax system perceptions help improve tax compliance.

Musau (2015), assessed factors influencing tax compliance among 398 SMEs in Nairobi County. The study found out that a taxpayer will be more compliant if he realizes that tax authorities are keen on arresting tax diversion cases. The study also asserts that when taxpayers are satisfied with government services, trust government institutions, access tax literature and information and the tax system is simplified, their tax compliance levels will be higher.

Normala and Obid (2010), conducted a study to examine the influence of tax education, as a proactive approach to enhance voluntary tax compliance, among taxpayers, in Malaysia. This study was conducted after the Malaysian government allowed taxpayers to use an individual tax assessment based system from a previous system where tax officials assessed payable taxes in 2004. Audit follow-ups are then conducted by the revenue authority to ensure compliance. The study found out that taxpayers with high levels of knowledge on tax laws and regulations have a high level

of voluntary tax compliance. This was also confirmed through the statistical findings on how the level of tax education affects the tax compliance level.

Other studies have documented that a taxpayer's tax knowledge has a positive influence on the taxpayers' ability in understanding various tax laws and regulations. (Singh, 2003). Adequacy to tax legislation affects the tax knowledge of taxpayers. An obvious explanation that has been raised by researchers is that enhancement of tax knowledge will increase tax compliance. Maseko (2014), sought to understand the impact of tax knowledge on tax compliance behavior for SMEs in Zimbabwe. The study found out that unlike large sized corporations, small businesses face different business conditions, which make them endure a high tax compliance load.

Berhane and Yesuf (2013) assessed the challenges and opportunities of house rental income business tax in the regional state of Tigray in Ethiopia. The study collected data from 200 respondents via a survey questionnaire. The study findings established that there exists inefficiency and insufficient number of business house rent tax assessment and collection officers in the regional state of Tigray. Moreover, the study found out that most taxpayers lack sufficient knowledge of tax assessment and collection procedures. Thus, most of the business house rent taxpayers do not know the existing applicable rules and regulations. Further, the study found out that due to negligence, delay in tax payment and evasion are taken by taxpayers as solutions to escape from payment of proper business house rental income taxes.

Eriksen and Fallan (2006), found out that 'knowledge about tax law is assumed to be important for preferences and attitudes towards taxation. There is little research that explicitly considers how attitude towards taxation is influenced by specific knowledge of tax regulations. The study done by Eriksen and Fallan (2006), has illustrated the importance of tax laws education in a tax system. They suggested that fiscal knowledge correlates with attitudes towards taxation and that tax behavior can be improved by a better understanding of tax laws (Eriksen & Fallan, 2006). Various bottlenecks like inefficient growth opportunities and lack of polished corporate governance practices hinder compliance practices. In most cases, majority of SMEs are not able to access tax information from the various revenue authorities. The sensitization programmes are mostly skewed to only when "the need arises" basis (Osambo, 2009). Most of the tax systems are complicated with many undocumented procedures, which makes it difficult for taxpayers to understand and follow. In most cases, taxpayers are usually penalized for mistakes committed during the returns filing process using a system they hardly understand. Training and sensitization policies are mostly poorly planned and coordinated. The poor training policies usually confuses the taxpayers placing them in more disadvantaged positions as far as compliance matters are concerned (Programme Report, 2012).

Most governments and revenue authorities do not consult with the private sector when formulating policies geared towards the improvement of tax compliance. This non-inclusion makes most taxpayers feel left out and thus not part of the process (Chipeta, 2002). In addition, most taxpayers are not aware of business laws and regulations as well as the various tax procedures as outlined in the various revenue legislations. This arises from ineffective information sharing channels on the taxation policies in place. This prevents business people from entering engaging in legally accepted business activities and look for means and ways of evading the payment of taxes as required by the law. Taxpayers who opt to engage in these tax evasion strategies often end up doing their businesses without the acquisition of proper licenses and in collusion with scrupulous tax agents and officials. It has been widely reported that those taxpayers who opt to pay bribes always end up paying more when audits are done by the relevant authorities (Programme Report, 2012).

## 2.4.2 Tax Attitude and Tax Compliance

Ali and Sjursen (2011) in their study titled "the factors affecting tax compliance attitude in Africa", found out that if citizens are satisfied with the essential services provided by their governments, their attitude towards the tax system is always positive and they always strive to meet their tax obligations. However, if citizens do not get such essential services from the government and that they have to bribe to get such

essential services, they will therefore see no need to pay taxes. Such taxpayers develop a negative attitude and will try to use all means possible to avoid paying taxes. The researchers also documented that, where individuals feel mistreated or discriminated against are less likely to have a tax compliant attitude in Tanzania and South Africa.

Kibiwott (2013) analysed the determinants of Tax Compliance in Uasin-Gishu County. From the study sample of 230 SMEs, he concluded that tax compliance decisions is factor of provision of quality service and that the tax system should be fairly administered by the revenue authorities. They also found out that taxation knowledge and awareness has no correlation with the tax registration compliance. They also reported a weak negative correlation in the calculation and filing of returns and making tax payments whereas tax compliance costs has negative correlations with tax compliance.

Relying on evidence from the US and Britain, it is noted that those who have carefully studied the public's attitudes, perceptions, knowledge of taxes and tax policy, have generally found that citizens are indeed remarkably misinformed and or confused. Knowledge about tax law is assumed to be of importance for preferences and attitudes towards taxation as well as self-assessment (Kasipillai & Mustafa, 2010).

Magutu, Lumumba, Wanjohi and Mokoro (2010) sought to identify how a tax payers' attitudes influences tax compliance behavior in Kenya. They wanted to understand how attitudes and perception towards the tax system affect a taxpayer's compliant behaviour. They carried a survey on 260 taxpayers in Kerugoya town. By use of descriptive statistics, they analysed the data collected and presented in forms of tables, graphs and charts. The study documented that most of the taxpayers perceive the Kenyan tax system as unfair and discriminatory. They also established that lack of knowledge on tax laws, perception that the tax system is unfair and peer influence were among the various factors for low levels of tax compliance experienced in Kerugoya town. From the results, it was conclude that there exists a strong positive correlation between a taxpayers' attitude and the tax compliance level with a correlation of 0.836.

Karanja (2014) examined the various factors affecting voluntary tax compliance of Kenyan landlords. The study sample comprised of 45 randomly selected landlords in Nairobi County. The study found out that when taxpayers perceive that the government is misusing their taxes, their tax attitude change and this greatly affects their tax compliance. The study findings also established that landlords with higher levels of rental income have higher rental income tax compliance level. The study also pointed out that a taxpayer's attitude towards the tax system; high relative tax rates and higher tax knowledge are significant factors that play a great role towards a taxpayer's tax compliance level.

Helhel and Ahmed (2014) while looking at factors that impact on the relationship between tax attitudes and compliance to tax; evaluated and ranked the various factors that reduce taxpayers' compliance levels. The study used a five point Likert scale questionnaire, which was distributed to the taxpayers to help them understand their tax compliance opinions. The study concluded that high relative tax rates and difficult to use and comprehend tax systems were two major factors affecting the tax compliance level of the Sanaa' people of Yemen. They also pointed out that lack of continuous tax audits, little fines and penalties and misuse of tax amnesties were critical factors that most taxpayers attributed to their negative tax attitude.

Musau (2015), assessed factors influencing tax compliance among 398 SMEs in Nairobi County. The study found out that a taxpayer will be more compliant if he realizes that tax authorities are keen on arresting tax diversion cases. The study also asserts that when taxpayers are satisfied with government services, trust government institutions, access tax literature and information and the tax system is simplified, their tax compliance levels will be higher.

A study conducted by Coleman and Wilkins (2001) found out that majority of the Australian taxpayers had different opinions towards their tax system. These opinions were considered critical in the contribution to low tax compliance levels experienced in their revenue collection. This raises the issue of tax knowledge or awareness and the impact of this variable in improving overall taxpayer compliance. Further empirical evidence shows that it is important to provide education in improving

voluntary tax compliance in Malaysia by Loo and Ho (2005). A study by Kornhauser (2007) also supports the notion that educational efforts aimed at all segments of the population can improve taxpayer knowledge, which in turn influences voluntary compliance.

Studies have also examined the link between perceptions of fairness with tax evasion. For instance, Chan, Troutman and Bryan (2004) found out that a taxpayer's attitudes regarding the tax system had a strong correlation with tax compliance in Hong Kong and the United States of America (USA). Cummings, Martinez-Vazquez and Torgler (2005) discussed the effects of tax morale on tax compliance. Results from laboratory experiments conducted in different countries observed that differences in tax compliance levels can be explained by differences in the fairness of tax administration, in the perceived fiscal exchange, and in the overall attitude towards the respective governments. These experimental results are shown to be robust by replicating them for the same countries using survey response measures of tax compliance.

# 2.4.3 Cost of Tax Compliance and Tax Compliance

Tax compliance costs are those costs incurred by taxpayers, or third parties such as businesses, in meeting the requirements laid upon them in complying with a given structure and level of tax (Sandford, 2009). These costs of compliance can be categorized into the following depending on where they are incurred; Accounting Costs; Economic Costs; Lobbying Costs; Training Costs and Lost Revenue. The real cost of taxation goes beyond the amount that is paid to the tax authority. The most important cost of taxation is compliance. Compliance costs are the real costs associated with calculating taxes due and making a tax payment. These costs can be substantial, especially for businesses (Pope, 2008).

The costs of tax preparation can vary, but unlike the taxes themselves, preparation costs don't get any smaller for the low-income businesses. At times, they can even be very high. One way of measuring the compliance costs associated with taxation for businesses is to measure the number of hours it takes a business to calculate and pay its taxes (Thiga & Muturi, 2015). Taking the time to just figure out what you owe, calculate it, then file it in, requires a business to give up a more productive activity. In

response to this concern about tax compliance costs, governments have often endeavored to implement tax policies in the form of concessions that produce favourable outcomes for the small business sector (Pope, 2008). Such special tax concessions for small businesses fall mainly into two categories: positive concessions that provide a lower rate of taxation, an exemption or an accelerated deduction; and relieving concessions that excuse the taxpayer from requirements otherwise imposed (Payne, 2003).

Empirical evidence has suggested that progressive versus flat tax rate is the significant structural variable in association with tax compliance behavior (Clotfelter, 2006). Friedland (2008), using audited tax returns for individual taxpayers in Jamaica found out that high tax rates are linked to less tax compliance. This is because the high tax rates make the whole issue of tax compliance more expensive to the business people as it reduces their profits. In this regard since businesses must make more profits to stay afloat they misdeclare and hide their incomes under fictitious expenses resulting to non-compliance.

A study done by GRIPS (2006) on Public Finance Policy in developing nations showed that although MNCs contribute to government revenue in form of taxes, they generally tend to pay much less than what they ought to pay due to long tax concession periods, transfer pricing practices, huge investment allowances, disguised public subsidies and tariff protection from the government. These companies use their economic power to lobby for policies that are unfavorable for development and avoid local taxation, shifting profits to affiliates in low tax jurisdictions. This has a negative effect on the revenues collected by the government from taxation and make developing countries unable to effectively fund their development goals.

In its policy studies, the United States of America Treasury policy studies department (2002) observed that the effects of tax policies should be analyzed within a general framework where one explicitly recognizes the effects of tax policies on the level of services demanded form the government. Tax policies affect factor prices and the allocation of resources by the private sector and in the end, the quantity of services demanded from the government by its citizens.

A study by CIAT (2011), on Tax and development established that inadequate attention has been paid to the cost effectiveness of various incentives offered in terms of the overall impact on tax revenues lost, credibility and economic sustainability of the tax system as well as the tax policy and risks of corruption. It established that improved transparency in the provision and delivery of tax incentives for investment may help increase governments' fiscal accountability and rationalize the use of such incentives. This will also help in improving investor and taxpayer confidence in the system, support good governance, reduce lobbying pressures for increased or new incentives, and promote economic development.

Thananga, Wanyoike and Wagoki (2013) carried out a study on how landlords in Nakuru Municipality responded to new taxation measures, and factors which influence compliance. The study used a sample of 94 respondents and questionnaires for data collection. The findings of the study revealed that the tax compliance level to provisions of rental income tax policy by landlords, was very low. The compliance was due to expenses overstatement and deductions which would in turn reduce taxable pay.

Kemboi and Tarus (2012), examined determinants of tax compliance in Kenya for a period between 2007 to 2009 using quarterly secondary data. The hypothesis on the existence of co-integrated relationships between determinants and compliance was tested using Johansen-Julius co-integration technique. The result indicated that, tax compliance cost, fines and penalties, perceived opportunity for tax evasion and tax knowledge and education are important determinants of tax compliance.

Olweny and Omondi (2011), investigated the effect of determinants of tax compliance on the firms listed at the Nairobi Securities Exchange, Kenya. It used monthly time series data for five years, a period between January 2008 to December 2013 and found out that tax compliance costs and perceived opportunity for tax evasion affect tax compliance levels among firms.

Mukabi (2014), explored factors influencing turnover tax compliance using 56 respondents in the Kenya Revenue Authority Domestic Taxes Department in Nairobi County. The study found out that the perceptions of taxpayers towards the tax system

greatly determine the level of compliance for turnover tax. The findings also found out that other factors like cost of compliance and complicated tax systems result into low levels of tax compliance. The study also established that increased tax knowledge had a significant effect on perceptions towards the tax system.

# 2.4.4 Relative Tax Rate and Tax Compliance

A high relative tax rate is the main cause of tax evasion (Mutua, 2012). Incentives to evade tax depend on the marginal rates of taxation because these govern the gains from evasion as a sum of the sum evaded (Kaldor, 2006). One major cause of tax evasion is the high personal income tax rates, which tend to influence taxpayers to evade tax. Too many and complicated rules and regulations imposed by the government tend to lead to tax evasion. Businesses quite often find it not profitable to do businesses as stipulated in the tax laws and regulations. The heavy taxation is also a subject of worry not only in developed countries like the USA but also in Kenya and in other less industrialized countries in Africa and Latin America. For instance, taxes in Kenya confront the large manufacturing sector in different shapes and shades, for example: import duties, export and excise duties, sales and VAT, withholding taxes, income taxes and PAYE (KRA, 2011).

The high levels of taxation of SMEs in Africa and Kenya in particular, warrants attention on accelerated research areas aimed at addressing the overall effects of taxation on SMEs (Osambo, 2009). By studying taxation behavior in five different countries (USA, Gambia, Nigeria, South Africa and Kenya), Derwent (2000), concluded that increased tax burden is a major threat.

Most studies have suggested that one of the ingredients of tax evasion is the high relative tax rates imposed by governments. High tax rates increase the tax burden and this greatly affects a taxpayer's profitability (Chipeta, 2002). Other factors that influence tax evasion include the complexity of the tax system in use (Mungaya, 2012). If the tax system is simplified to the extent that most taxpayers can easily access and use, the taxpayers get encouraged to calculate, file returns and pay taxes due of them. In cases where the tax rates are high and the taxpayer's personal or disposable income is greatly impacted, the taxpayer will look at means and ways of reducing the

payable tax. Large companies are usually the most culprits where they alter their accounts to reflect low profitability levels aimed at reducing their tax burden (Mutua, 2012).

A recent study conducted by the Action Aid group (2012), in Zambia on the human cost of a British sugar giant firm avoiding taxes in Southern Africa, proved that Zambia was a mirror of a problem present across Africa and beyond where countries, both rich and poor, are struggling to tax globally mobile profits and capital and giving special tax breaks to investors, and as a result losing tax revenues that might otherwise be available for the fight against poverty. Zambia grants large capital allowances, which allow major investors to deduct much of the value of new plant, buildings and equipment from their taxable profits. An example was the giant Zambia Sugar Factory, which over the years has tripled its sugar exports since 2010, its revenues have risen250% times in the past five years, and its operating profits have increased significantly yet the company pays very little in corporate taxes. It was established that the company had paid to the Zambian Revenue Authority on average taxes of about 0.5% of its pre-tax profits – an average of less than ZK450 million (US\$90,000) a year which is significantly less than the 35% corporate tax rate.

# 2.4.5 Enforcement Efforts and Tax Compliance

To spur tax compliance, two opposite sets of tax enforcement approaches are used: the coercive and persuasive approaches (Silvani, 2008). The coercive approach advocates hard actions and the persuasive approach advocates collaborative working with the taxpayers. Little attention has been paid to understand the combined effects of these conflicting approaches. Spurring tax compliance is a commonly experienced challenge for tax authorities in developed and developing countries (Silvani 2008). In response to this challenge, which largely depends on taxpayer's type and size, tax authorities have innovated diverse compliance approaches and techniques. Approaches used to address small and large business tax compliances differ due to the risks they impose and the revenues they provide to the tax system (OECD, 2009).

Large corporate taxpayers (also referred to as large taxpayers) provide the majority of tax revenues to the tax system and play an instrumental role to its revenue imperatives.

Large taxpayers are different from other taxpayers because of their operational scale, the huge tax revenues they provide, as well as the risks and complexities entailed in their tax assessment. Tax authorities across the world have created Large Taxpayer Office (LTO) to secure tax compliance of the large taxpayers by employing an approach that tends to rely more on the persuasive than the coercive instruments (Donnelly & Heneghan, 2010).

The few studies on Organizational income tax evasion have typically focused on economic influences of compliance behavior, such as the penalty structure and other means of enforcement (Crocker & Slemod, 2005; Chen & Chu, 2005; Bayer & Cowell, 2009). Normala and Obid (2004) carried out a study to investigate reasons as to why taxpayers evade taxes while looking at ways through which various revenue authorities can foster tax compliance levels. They found out that high levels of fines and penalties and fear of tax evasion detection significantly affect taxpayers' tax compliance levels. However, in cases where the taxpayers feel that they are subjected to unfair tax rates and tax system, the effectiveness of the above factors is minimal. The study also pointed out that low relative tax rates foster high levels of tax compliance.

Nielsen and Ballas (2000), describe a number of scenarios when businesses are asked to make unofficial payments in order to continue operating, to elude fines and to avoid an increased tax bill. Extortion can be disguised as bribery when firms have to make payments to avoid bureaucratic delays or comply with laws, which were created with the purpose of creating bribery opportunities for the corrupt officials (Nielsen, 2003). Trust in a society's institutions also influences tax compliance. Torgler (2003) found out that trust in legal systems and public officials positively impacted individual tax compliance and the intrinsic motivation to pay taxes in transition economies.

# 2.5 Critique of the Existing Literature

Although there are many studies on tax compliance, the focus has been on individuals, residential property owners and small and medium sized enterprises. For instance, Berhane and Yesuf (2013), assessed the factors, which influence attitudes of rental taxpayers and compliance behavior with tax systems while Thananga, Wanyoike and

Wagoki (2013), Karanja (2014) and Kuria et al. (2013) examined the factors affecting voluntarily tax compliance by landlords in Kenya. Additionally, Maseko (2014), Musau (2015) and Mukabi (2014) assessed the various factors, which influence tax compliance by SMEs in various parts of Kenya. Other studies (Alon & Dwyer, 2012; Cummings, Martinez-Vazquez & Torgler, 2005; Simiyu, 2003; Devos, 2009; Kibiwott, 2013) also help explain the behavior of tax compliance.

Despite the fact that studies on factors affecting tax compliance exist, there is need to consider the same in the Export Processing Zones where investors in this sector enjoy various tax incentives ranging from non-payment of corporation tax, tax free inputs, exemption from stamp duty payments as well capital investment deductions. These firms are however required to register as taxpayers, assess the taxes payable, report as well as file returns with the Kenya Revenue Authority. This study therefore sought to establish the factors that affect tax compliance among Export Processing Zones investors, particularly with a close interest on variables such as tax knowledge and awareness, tax attitude, cost of tax compliance, relative tax rate and enforcement efforts.

### 2.6 Research Gaps

From the reviewed literature, it is evident that the results of the studies conducted have concentrated on areas such as rental income taxes, Small and Medium Enterprises while no emphasis has been put on government incentive schemes and programmes. Moreover, no literature available to the researcher analyses the tax compliance level and behaviours for investor in these schemes. These are therefore pertinent gaps that this study aspired to fill. The study outlined in this paper aims to address this gap and to gain insight into the factors that influence tax compliance and consequently low revenue collections by the government from taxpayers in the Export Processing Zones programme. The existing studies reviewed in this research therefore provide a useful starting point for this analysis. From the discussed literature, some existing gaps are summarized in Table 2.1

Study	Focus	Findings	Research	Focus of the Proposed
-		_	Gaps	Study
Ali and	Tax	Individuals who	The study	This study sought to
Sjursen	compliance	are more satisfied	does not show	analyze the
(2011)	attitude in	with public	the	determinants of tax
	Africa.	service provision	relationship	compliance.
		are more likely to	between	
		have a tax	knowledge,	
		compliant attitude	cost of tax	
			compliance	
			and tax	
Vihimott	Determinente	Democrations of	compliance.	This study addressed
(2013)	of Tay	SME operators on	The study	the factors that
(2013)	Compliance	tax fairness tax	focused on	determine tax
	among Small	service quality	SMEs	compliance among
	and Medium	and government	SIVILS.	EPZ investors
	Enterprises	spending affect		
	2	their tax		
		compliance.		
Atawodi	Determinants	Perceptions of	The study	This study addressed
and Ojeka	of Tax	SME operators on	focused on	the factors that
(2012)	Compliance	tax fairness, tax	SMEs in	influence tax
	among Small	service, quality	Nigeria.	compliance among
	and Medium	and government		EPZ investors in
	Enterprises.	spending affect		Kenya.
		their tax		
I I alla al	Danaantiana	compliance.	The study	This study losled at
Heinel,	Perceptions and Tax	Taxpayer	focussed only	the ettitude towards the
$1., \alpha$	Compliance	a positive	on tax navers	the attitude towards the
$\mathbf{X}  (2014)$	Compliance.	a positive	attitudes to	tax system.
1. (2014).		compliance	compliance	
Thiga &	Tax morale	Differences in tax	The study	This study determined
Muturi	on tax	compliance levels	only looked at	whether perceptions on
(2015)	compliance.	can be explained	how to	government service
		by fairness of tax	promote fair	provision affect tax
		administration,	tax	compliance.
		and in the overall	adminstration	
		attitude towards	to effect tax	
		the governments.	morale.	
Magutu,	Taxpayers'	Penalty rate and	The study did	This study assessed the
Lumumba,	evasion and	detection rate	not have its	effects of penalty and
Wanjohi,	how tax	have a significant	focus in	enforcement efforts on
& Mokoro	influence	compliance	Kenya.	Konvon scope
(2010)	compliance	compnance.		Kenyan scope.
Palil	Tax laws	Knowledge	Focus was on	Focus was on tax
(2012)	education in	correlates with	education and	education. awareness
<u> </u>	a tax system.	attitudes towards	compliance.	and compliance.
		taxation.	L	L

 Table 2.1: Knowledge and Research Gaps

# 2.7 Summary

The above chapter reviews the various theories that explain the independent and dependent variables as well as the empirical literature related to the study variables and their underlying relationships. The review then provided a basis for developing a conceptual framework that facilitates a quick understanding of the connection between the dependent, independent and moderating variables by the reader. The chapter also explored the conceptualization of the independent and the dependent variables by analyzing the relationships between the two sets of variables. Determination of this relationship is important in ascertaining that the variables are logical and plausible as far as the study is concerned. In addition, an empirical review was conducted where past studies both global and local are reviewed in line with the following criteria; title, scope and methodology resulting into a critique. It is from these critique that the research gap was identified.

## **CHAPTER THREE**

# **RESEARCH METHODOLOGY**

### 3.1 Introduction

This chapter outlines the research design and methodology used in the study. It defines the survey method used, including the data collection methods (survey procedures, population, sampling techniques and questionnaire development). Details of the research framework, hypotheses and data analysis techniques are also discussed in this chapter.

## 3.2 Research Design

Research design is a plan used to obtain answers to the questions being studied and for handling some of the difficulties encountered during the research process. It is therefore the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Kothari, 2017).

This study used a cross sectional survey research design. A cross sectional survey ensures that there is no active intervention on the part of the investigator that may produce researcher bias (Cohen *et al.*, 2000). This research design is appropriate when the intention of the study is to present a situation, what people currently believe in and objectively show whether there exists a significant association among variables (Baumgartner, Strong & Hensley, 2002).

Cross-sectional surveys provide accurate means of assessing information and help in collecting uniform and comparable data that captures respondents' similarities and differences across the sampled organizations to enrich the study findings. This research design supports the study's desired objectivity as a large amount of data can be collected with ease from a variety of people (Cooper & Schindler, 2008).

Further quantitative research was chosen for this study since it gave a detailed description of levels of tax compliance among investors in the EPZ across the three cities in Kenya.

## **3.3 Target Population**

Sekaran and Bougie (2011), refer to a population as the entire group of people, events or things of interest that the researcher wishes to investigate. The target population that formed the units of analysis for this study comprised of all the 152 firms licensed under the EPZ programme. According to the Export Processing Zones Authority, the licensed number of operating enterprises as at the close of the year 2016 was 152 firms spread across the three Kenyan cities. The study population, which represent the units of observation, comprised of the management employees of these enterprises.

The study targeted the EPZ investors in the three Kenyan cities, Nairobi, Kisumu and Mombasa where most of these investors are located. The investors operate under similar laws and are regulated by the EPZ Authority, whereas all tax matters are handled by the Kenya Revenue Authority.

#### 3.4 Sample and Sampling Technique

The study sample comprised of all the enterprises licensed by the Export Processing Zones Authority (EPZA) in the three Kenyan cities; Nairobi, Kisumu and Mombasa which are 152 in number, thus not a large population. A census technique was therefore employed in order to include all the 152 enterprises with senior or middle level management employees in the finance department or accounting department as the respondents. Census is the study of a whole population and as such, it enhances validity of the data and results by including all information for all the elements in the study as well as eliminating the sampling error (Kothari, 2017).

### **3.5 Data and Data Collection Instruments**

The study used primary data. Primary data was gathered by use of a structured questionnaire. A questionnaire is a pre-formulated written set of questions to which the respondents record the answers usually within closely delineated alternatives. The

question had both open ended and close ended questions. The Likert scale measures the level of agreement or disagreement. A Likert scale is a good measure of perception, attitude, values and behaviour. The Likert scale has scales that assist in converting the qualitative responses into quantitative values (Mugenda & Mugenda, 2017; Upagade & Shende, 2012; Zikmund, Babin, Carr & Griffin, 2010). The questionnaire comprised of seven sections. The first section consisted of the respondents' general information while all the other six sections focused on the six objectives of the study.

#### **3.6 Data Collection Procedures**

Introduction letters and internal informants were used to access the respondents for this study. The research questionnaires were prepared and sent to the respondents with a questionnaire-forwarding letter and an introduction letter from the University. The researcher also sought a research permit from The National Commission for Science, Technology and Innovation. This is a government body that coordinates all research done in the county. The questionnaires were then distributed to the respondents with the assistance of a research assistant and in ensuring high response rate the respondents were reminded via email. The researcher made follow-ups and the fully completed questionnaires were picked from the respondents by a research assistant.

# 3.7 Pilot Test

The questionnaire was pilot tested to determine its validity and reliability. A Pilot test was conducted in order to determine the approximate length of the survey in terms of time, as well as to further refine the instrument. This was done on firms located in other regions; Bomet and Kerio Valley. Pilot testing of the instrument includes opportunities for comments relating to the clarity and content of the instrument. The questionnaire was tested on 10% of the sample of the questionnaires to ensure that it was relevant and effective. Reliability was tested using a questionnaire that was duly completed by fifteen (15) randomly selected respondents. The total population for the study comprised of 152 duly licensed EPZ investors based in the three Kenyan cities. These respondents were not included in the final study sample in order to control response biasness as recommended by Mugenda (2003).

### 3.7.1 Validity

According to Mugenda and Mugenda (2003), an instrument is valid if it measures the concept that it is supposed to measure. This study used both construct validity and content validity. Construct validity refers to the suitability of the scale used for purposes of operationalizing the theoretical construct and measuring it. Construct validity evidence involves the empirical and theoretical support for the interpretation of the construct. Testing for construct validity entailed a study of the convergent and discriminate validity. To verify content validity, the questionnaire was tested through discussions with ten randomly selected investors from the Export Processing Zones located outside the three Kenyan cities. Priority was given to firms which had operated for a period of more than five years to tap on their experience. Their proposed changes were evaluated and considered in adjusting the questionnaire to enhance its validity. This ensured that the questionnaire content did not conflict on confidentiality and ensured that vague statements were rectified.

### 3.7.2 Reliability

Cronbach (1951), defines reliability as the consistency in measurement, or the degree to which an instrument correctly measures the same way giving the same results each time it is used under the same conditions and with the same subjects. A variable is reliable if it is consistent. A reliability test answers the consideration whether the procedures of data collection and analysis will generate the same results on other occasions or will other observers make similar observations and arrive at the same conclusions from the raw data (Smith *et al.*, 2002 & Saunders *et al.*, 2007).

The size of a sample to be used for pilot testing varies depending on time, costs and practicality, but the same would tend to be 5 to10 per cent of the main survey(Cooper & Shindler,2006). According to Cooper and Schindler (2006), the respondents in a pilot test do not have to be statistically selected when testing the validity and reliability of the instruments.

In this study, the questionnaire was tested on 10% of the target population to ensure that it was relevant and effective. Reliability was tested using a duly completed questionnaire by fifteen (15) randomly selected respondents. These respondents were not included in the final study sample in order to avoid response biasness.

The questionnaire responses were input into the statistical package for social sciences (SPSS) version 22. The Cronbach's alpha coefficient was run and generated to establish the internal consistency reliability. The closer the Cronbach's alpha coefficient is to 1, the higher the internal consistency reliability (Sekaran, 2003). Sekaran (2006), recommend that a Cronbach alpha reliability correlation coefficient should be at least 0.70 for a newly developed tool. This study employed this standard to measure the extent to which the presented set of items measure individual latency of the variable under examination.

#### **3.8 Data Analysis and Presentation**

Hyndman (2008), defines data processing as a means of translating the respondents' answers on a questionnaire into an easy to manipulate form in order to generate statistical results. This involves coding, editing, data entry, and monitoring the whole data processing procedure. The main aim of checking the various stages of data processing is to produce a file of data that is as error free as possible. Burns and Grove (2003) define data analysis as a tool used to reduce and organize data gearing at producing findings that require interpretation by the researcher. De Vos (2002), on the other hand describes data analysis as a challenging and creative process that help create an intimate relationship of the researcher with the participants and data generated. Data analysis is the processing of data collected to make meaningful information out of them (Saunders, Lewis & Thornhill, 2009). This is necessary as raw data convey little meaning to most people.

# **3.8.1 Descriptive Statistics**

Data obtained from the questionnaires was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into SPSS (Statistical Package for Social Sciences) computer software for analysis. The collected data was also analysed for production of frequencies, descriptive statistics and inferential statistics. The SPSS generated findings were used to make generalizations

and conclusions of the study. Descriptive statistics; the mean, standard deviation and percentages were used to enable the process of making conclusions. Inferential statistics included correlation, regression analysis, F-test and t-test.

### 3.8.2 Diagnostic Tests

This study used regression analysis. The data was, therefore, checked for violations of assumptions of normality and linearity, Multicollinearity and heteroscedasticity. To check for normality, the study used skewness and kurtosis statistic to check the distribution of the variables and as recommended by Myoung (2008), the researcher used the rule of thumb that a variable is reasonably close to normal if its skewness and kurtosis have values between -1.0 and + 1.0. Further, the Kolmogorov-Smirnov (K-S) and Shapiro-Wilks (S-W) tests of normality was applied to determine the level of significance of the differences from a normal distribution (Hair *et al.*, 2010). According to Field, (2009), if the test is not significant (P>.05) then it means that the observed distribution is not different from the expected normal distribution and therefore normal. It should be noted, that non-compliance of a set of data to the normal distribution makes all subsequent statistical tests such as F and t-statistics invalid (Hair *et al.*, 2010). Hence normality was a compulsory test in multivariate analysis. Normality was tested using both univariate and multivariate analysis.

Homogeneity of variance (homoscedasticity) is another assumption that was tested during analysis. This assumption implies that the variance of one variable should be stable at all levels of the other variables (Field, 2009). The presence of unequal variances (Heteroscedasticity) of variables across different groups causes the prediction of the dependent variable to be better at some levels of the independent variable than at others (Hair *et al.*, 2010). It is this variability that affects the standard error and makes hypothesis testing insensitive. Homoscedasticity was tested by applying Levine's test in which the equality of variance is assumed if the F-statistic is not significant (P>.05).

Data was further tested for compliance on the assumption of no Multicollinearity between the independent variables. Multicollinearity exists when there is a strong correlation between two or more independent variables in a regression model (Field, 2009). With high collinearity, it is difficult to find a distinct effect of individual independent variables (predictors) on the dependent variable since it increases the standard error, which affects the size of regression coefficients and limits the size of multiple correlations (Field, 2009). Multicollinearity in the study was tested using Variance Inflation Factor (VIF). A VIF of more than 10 (VIF  $\geq$  10) indicated a problem of Multicollinearity.

#### **3.8.3 Inferential Statistics**

Factor analysis was used to establish the appropriateness of the questionnaire constructs. Specifically factor loadings were used to establish the weights of the various statements on extracted factors. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was performed to determine whether adequate correlation exists between the individual items contained within each of the sections of the questionnaire. According to Field (2000), a data set is considered adequate and appropriate for statistical analysis, if the KMO value is greater than 0.5.

Further to the descriptive statistics and bivariate analysis, the study used regression analysis. This analysis tested the statistical significance of the various independent variables on the chosen dependent variables. Faraway (2002), states that multiple linear regressions are used in situations where the number of independent variables are more than one. The assumptions of linear regression must be met by the data to be analyzed. These assumptions state that the coefficients must be linear in nature, the response errors should follow a Gaussian distribution and the errors should have a common distribution. To check for these assumptions, the study first conducted the diagnostic tests to ensure that they are not violated as recommended by Malhotra and Dash (2011) to assess for the model's underlying statistical assumptions.

Having ensured that the assumptions are not violated the study ran the following regression models before moderation and after moderation;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e....(i)$$

#### Where;

- i. Y = the value of the dependent variable
- ii.  $\{\beta_i; i = 1,2,3,4,5\}$  = The coefficients representing the various independent variables.
- iii. {X<sub>i</sub>; i=1,2,3,4,5} = Values of the various independent (covariates) variables.
- iv. *e* is the error term which is assumed to be normally distributed with mean zero and constant variance.
  - Y = Tax compliance

 $X_1 = Tax Knowledge and Awareness$ 

 $X_2 = Attitude towards Tax$ 

- $X_3 = Cost of tax compliance$
- $X_4 =$ Relative Tax rate
- $X_5 = Enforcement efforts$
- T= Turn over Level

$$\begin{split} Y = & \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 T + \beta_7 X_1 * T + \beta_8 X_2 * T + \beta_9 X_3 * T + \beta_{10} X_4 * T \\ + & \beta_{11} X_5 * T_{+} e. \end{split}$$

Analysis of data using a regression model has been used previously by Aduda (2011) in a study which investigated the relationship between executive compensation and firm performance in the Kenyan banking sector. Also Ngugi, (2001), used a regression analysis in a study on the empirical analysis of interest rates spread in Kenya while Khawaja and Mulesh (2007), used regression analysis to identify the determinants of interest rates spread in Pakistan.

Using SPSS, the regression models were tested on how well they fitted the data. The significance of each independent variable was also tested. Fischer distribution test (F-
test) was applied. F-test refers to the ratio between the model mean square divided by the error mean square. F-test was used to test the significance of the overall model at a 5 percent confidence level. The p-value for the F-statistic was applied in determining the robustness of the model. The conclusion was based on the basis of p value where if the null hypothesis of the beta was rejected then the overall model was significant and if null hypothesis was accepted the overall model was insignificant. In other words, if the p-value was less than 0.05 then it was concluded that the model was significant and has good predictors of the dependent variable and that the results are not based on chance. If the p-value was greater than 0.05 then the model was not significant thus cannot be used to explain the variations in the dependent variable.

Similarly, the t-test statistic was used to test the significance of each individual independent variable and hypothesis. The p-value for the F-statistic was applied in determining the robustness of the model. The p-value for each t-test was used to make conclusions on whether to fail to accept or fail to reject the null hypotheses. The benchmark for this study for failure to reject or failure to accept the null hypothesis was a level of significance of 5 percent. If the p-value was less than 5 percent the null hypothesis failed to be accepted and the alternate hypothesis would fail to be rejected. Also if the p-value was greater than 5 percent the null hypothesis failed to be rejected and the alternate hypothesis failed to be rejected and the alternate hypothesis failed to be rejected.

### Reject $H_0$ : $\beta x = 0$ ; if p <0.05,

# Otherwise fail to reject the $H_{0:} \beta x = 0$

## 3.8.4 Hypothesis Testing

This section presents the approach that was adopted in the study to test the six objectives as presented in chapter one. Table 3.1 shows how the various hypotheses were attained.

# Table 3.1: Hypothesis Testing

Hypotheses	Hypothesis Test	Regression Model
<b>Hypothesis 1:</b> $x_1$ H <sub>01</sub> :Tax knowledge has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya	H <sub>0</sub> : $\beta_1=0$ Ha: $\beta_1 \neq 0$ Reject H <sub>0</sub> if p <0.05, Otherwise fail to reject the H <sub>a</sub>	$\begin{split} Y &= \beta_0 + \beta_1 X_1 + \epsilon \\ \text{Where:} \\ Y &= Tax \text{ compliance} \\ \beta_0 &= \text{ intercept} \\ \beta_1 &= \text{ Coefficient for } X_1 \\ X_1 &= Tax \text{ knowledge and Awareness} \\ \epsilon &= \text{ Error term} \end{split}$
<b>Hypothesis 2: x</b> <sub>2</sub> H <sub>o2</sub> :Attitude towards the tax system has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya	$\begin{array}{l} H_{0:}\beta_{2}{=}0\\ Ha:\ \beta_{2}{\neq}\ 0\\ Reject\ H_{0}\ if\ p{<}0.05,\\ Otherwise\ fail\ to\ reject\ the\\ H_{a} \end{array}$	$\begin{split} Y &= \beta_0 + \beta_2 X_2 + \varepsilon \\ \text{Where:} \\ Y &= \text{Tax Compliance} \\ \beta_0 &= \text{intercept} \\ \beta_2 &= \text{Coefficient for } X_2 \\ X_2 &= \text{Attitude towards the Tax System} \\ \varepsilon &= \text{Error term.} \end{split}$
<b>Hypothesis 3: x</b> <sub>3</sub> H <sub>o3</sub> :Cost of tax compliance has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya	$\begin{array}{l} H_{0:}\beta_{3}{=}0\\ Ha:\ \beta_{3}{\neq}\ 0\\ Reject\ H_{0}\ if\ p<\!\!0.05,\\ Otherwise\ fail\ to\ reject\ the\\ H_{a} \end{array}$	$Y = \beta_0 + \beta_3 X_3 + \varepsilon$ Where: Y = Tax Compliance $\beta_0$ = intercept $\beta_3$ = Coefficient for X <sub>3</sub> X <sub>3</sub> = Cost of Tax Compliance $\varepsilon$ = Error term
<b>Hypothesis 4: x</b> <sub>4</sub> H <sub>04</sub> :Relative tax rate has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya	$\begin{array}{l} H_{0:}\beta_{4}{=}0\\ Ha:\;\beta_{4}{\neq}\;0\\ Reject\;H_{0}\;if\;p<\!\!0.05,\\ Otherwise\;fail\;to\;reject\;the\\ H_{a}\end{array}$	$Y = \beta_0 + \beta_4 X_{4} + \varepsilon$ Where: Y = Tax Compliance $\beta_0$ = intercept $\beta_4$ = Coefficient for X <sub>4</sub> X <sub>4</sub> = Relative Tax Rate $\varepsilon$ = Error term
<b>Hypothesis 5: x</b> <sub>5</sub> H <sub>o5</sub> : Enforcement efforts has no significant influence on tax compliance among investors in the Export Processing Zones in Kenya <b>Hypothesis 6: x</b> <sub>6</sub> H <sub>o5</sub> : The turnover level has no	$\begin{array}{l} H_{0:}B_{5}\!\!=\!\!0\\ Ha: B_{5}\!\!\neq 0\\ Reject \ H_{0} \ if \ p <\!\!0.05,\\ Otherwise \ fail \ to \ reject \ the\\ H_{a} \end{array}$	$Y = \beta_0 + \beta_5 X_5 + \varepsilon$ Where: Y = Tax Compliance $\beta_0$ = intercept $\beta_5$ = Coefficient for X <sub>5</sub> X <sub>5</sub> = Enforcement Efforts $\varepsilon$ = Error term
significant moderating influence on tax compliance among investors in the Export Processing Zones in Kenya	$\begin{array}{l} H_{0:}B_{6}\!\!=\!\!0\\ Ha: B_{6}\!\!\neq 0\\ \text{Reject }H_{0} \text{ if }p<\!\!0.05,\\ \text{Otherwise fail to reject the}\\ H_{a} \end{array}$	$\begin{split} Y = & \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 T + \\ & \beta_7 X_1 * T + \beta_8 X_2 * T + \beta_9 X_3 * T + \beta_{10} X_4 * T \\ & + \beta_{11} X_5 * T + e \\ & \text{Where:} \\ Y = Tax \text{ Compliance} \\ & \beta_0 = \text{ intercept} \\ & \beta_6 = \text{ Coefficient for T} \\ & T = \text{ Turnover Level} \\ & \epsilon = \text{ Error term} \end{split}$

## 3.8.5 Data Presentation

The presentation of data is an extremely important part of any study. Data was presented through explanations using graphs, tables, pie charts, figures as is appropriate to make the findings as clear as possible. The purpose of graphical displays and tables was to impart information to the reader in a more easily digestible form than the raw data. The best method of presentation depends on the number of observations in the sample as well as the number and type of variables to be displayed. The results were presented using tables and pie charts to give a clear picture of the study findings at a glance.

## **CHAPTER FOUR**

## **RESEARCH, FINDINGS AND DISCUSSION**

#### 4.1 Introduction

This chapter deals with data analysis in harmony with the objectives of the study. The specific objectives for the study were; to establish the effect of tax knowledge and awareness, tax attitude and perception, cost of tax compliance, relative tax rate and enforcement efforts on tax compliance among investors in the export processing zones in Kenya. This chapter provides a detailed discussion and a disclosure of the study findings in relation to the variables of study.

#### 4.2 Response Rate

A total number of 152 questionnaires were administered to all the respondents from various firms in the Export Processing Zones in Kenya. A total of 127 questionnaires were properly filled and returned. This represented an overall successful response rate of 84%. According to Mugenda and Mugenda (2003), a response rate of 50% or more is adequate. Babbie (2004) also asserted that questionnaire return rates of 50% are acceptable to analyze and publish, 60% is good while a return rate of 70% is considered as a very good response rate.

Response rate	Frequency	Percent
Returned	127	84%
Unreturned	25	16%
Total	152	100%

Table 4.1:	Response	Rate
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## 4.3 Pilot Test Results

Reliability was tested using Cronbach's Alpha Coefficient. Cronbach's Alpha Coefficient measures how well a set of items or variables, measure a single unidimensional latent construct that is a coefficient of reliability or consistency. Reliability is expressed as a coefficient between 0 and 1.00. The higher the coefficient, the more reliable is the test. According to Cronbach (1951), a Cronbach Alpha of 0.7 and above is acceptable. Cronbach Alpha was used to test the internal consistent reliability of the proposed constructs. The findings indicated that, tax compliance had a coefficient of 0.742, tax knowledge and awareness had a coefficient of 0.810, tax attitude had a coefficient of 0.831, cost of compliance had a coefficient of 0.784, relative tax rate had a coefficient of 0.743 and enforcement efforts had a coefficient of 0.711.All constructs depicted that the value of Cronbach's Alpha were greater or equal to 0.7000 and thus, the study constructs were reliable. The reliability results are presented in Table 4.2 below.

Variable	Cronbach's Alpha	No. of Items
Tax compliance	0.742	8
Knowledge and Awareness	0.810	5
Tax Attitude	0.831	6
Cost of Tax Compliance	0.784	7
Relative Tax Rate	0.743	7
Enforcement Efforts	0.711	7

#### Table 4.2: Reliability Test Results

#### 4.4 Sampling Adequacy

To examine whether the data collected was adequate and appropriate for inferential statistical tests such as factor analysis, regression analysis and other statistical tests, two main tests were performed; Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. For a set of data to be considered for statistical analysis, the value of KMO should be greater than 0.5 (Field, 2000).

The findings presented in Table 4.3 show that the KMO statistic was 0.620 while the critical level of significance was 0.5. The KMO (which was significantly high) was found to be greater than the critical level of significance of the test which was set at

0.5 (Field, 2000). The Bartlett's Test of Sphericity yielded a Chi-square of 3589.703 with 780 degrees of freedom, at p < 0.05). The results of the KMO and Bartlett's Test are summarized in Table 4.3. The results are therefore satisfactory for conducting a further statistical analysis on the collected data.

Table 4.3: Tax Compliance KMO Sampling Adequacy and Bartlett's SphericityTests

Kaiser-Meyer-Olkin Measure	0.620
Bartlett's Chi- Square	3589.703
Bartlett's df	780
Bartlett's Sig.	0.000

# 4.5 Annual Turnover

The study also analysed the annual turnover for all the EPZ organizations used in the study. Forty-eight point eight percent of the respondents indicated that their annual turnover lies between 151 - 200 million, 26.8% indicated over 200 million while 15% indicated between 51 - 100 million shillings. Only a small number of 2.4% had an annual turnover of less than 50 million Kenyan Shillings. The findings imply that the firms were doing well and had an excellent financial performance. The results are presented in Table 4.4 below.

Annual Turnover	Frequency	Percent
Below 50 million	3	2.4
51-100 million	19	15.0
101-150 million	9	7.1
151-200 million	62	48.8
Over 200 million	34	26.8
Total	127	100

 Table 4.4: Annual Turnover

#### 4.6 Factor Analysis

Factor analysis was used to determine if the values of the observed data can be expressed as functions of a number of possible causes of the variables and to determine their importance to the study. It is a data-reduction technique used to reduces a large number of overlapping variables to a smaller set of factors that reflect construct(s) or different dimensions of construct(s)

#### 4.6.1 Tax Compliance

After successfully testing for the validity and reliability of the collected data using KMO and Cronbach's alpha coefficient results, Factor Analysis was conducted using the Principal Components Method (PCM) approach. Factor extraction and the Kaiser Criterion yielded an Eigen value greater than one indicating that all the 8 statements can be factored into one factor. The total variance as explained by the extracted factor yielded a value of 42.41% as shown in Table 4.5 below.

				Extract	ion Sums of So	quared
Component	Initial	Eigen values		Loading	gs	
			Cumulative		% of	Cumulative
	Total	% of Variance	%	Total	Variance	%
	3.39			3.39	42 411	42 411
1	3	42.411	42.411	3	42.411	42.411
	1.71					
2	1	21.394	63.804			
	0.98					
3	7	12.336	76.141			
	0.59					
4	5	7.434	83.574			
	0.48					
5	5	6.056	89.631			
	0.33					
6	0	4.129	93.760			
	0.30					
7	2	3.774	97.534			
	0.19					
8	7	2.466	100.000			

 Table 4.5: Tax Compliance Total Variance Explained

Extraction Method: Principal Component Analysis.

Table 4.6 shows the factor loadings for all the statements on tax compliance. All the eight variables yielded coefficients of more than 0.4. All the statements were therefore retained for analysis. A factor loading equal to or greater than 0.4 is considered adequate as postulated by Rahn (2010) and Zandi (2006). This is further supported by Black (2002) who asserts that a factor loading of 0.4 has a good factor stability and is deemed to lead to desirable and acceptable solutions.

Statement	Component
We comply with tax payments due to fear of detection and punishment.	0.684
Audit and penalties influence our tax compliance.	0.650
Our tax compliance is affected by social and personal norms.	0.651
The rules in the constitution influence our tax morale.	0.711
Political parties' affiliation increases our compliance.	0.740
Non-compliance to taxes influences our tax morale and compliance.	0.756
Tax payment influences economic development in our country.	0.492
We ensure that our organisation is tax compliant at all times.	0.462

**Table 4.6: Tax Compliance Factor Analysis Component Matrix** 

Extraction Method: Principal Component Analysis.

## 4.6.2 Tax Knowledge and Awareness

After successfully testing for the validity and reliability of the collected data using KMO and Cronbach's alpha coefficient results, Factor Analysis was conducted using the Principal Components Method (PCM) approach. Factor extraction and the Kaiser Criterion yielded an Eigen value greater than one indicating that all the 5 statements can be factored into one factor. The total variance as explained by the extracted factor yielded a value of 42.013% as shown in Table 4.7 below.

				Extr	action Sums	of Squared
Component		Initial Eigen	values		Loading	gs
		% of	Cumulative		% of	Cumulative
	Total	Variance	%	Total	Variance	%
1	2.101	42.013	42.013	2.101	42.013	42.013
2	1.335	26.707	68.721			
3	0.739	14.772	83.493			
4	0.462	9.244	92.738			
5	0.363	7.262	100			

Table 4.7: Tax Knowledge and Awareness Total Variance Explained

Extraction Method: Principal Component Analysis.

Table 4.8 shows the factor loadings for tax knowledge and awareness statements on tax compliance. All the five variables yielded coefficients of more than 0.4, all statements were therefore retained for analysis. A factor loading equal to or greater than 0.4 is considered adequate Rahn (2010) and Zandi (2006). This is further supported by Black (2002) who asserts that a factor loading of 0.4 has a good factor stability and is deemed to lead to desirable and acceptable solutions.

Statement	Component
Our Accounts /Finance staff are knowledgeable and aware of	0.570
tax laws and procedures.	0.570
Our Accounts /Finance staff have been trained on tax issues.	0.678
KRA website lacks enough information on various tax	0.470
procedures hence low tax compliance.	0.470
Our fear of paying taxes is influenced by conflicting tax	0.765
information from different sources.	0.763
Our staff often attend refresher courses and seminars	0.714
organised by KRA.	0./14

 Table 4.8: Tax Knowledge and Awareness Factor Analysis Component Matrix

Extraction Method: Principal Component Analysis.

# 4.6.3 Tax Attitude

After successfully testing for the validity and reliability of the collected data using KMO and Cronbach's alpha coefficient results, Factor Analysis was conducted using the Principal Components Method (PCM) approach. Factor extraction and the Kaiser Criterion yielded an Eigen value greater than one indicating that all the 6 statements can be factored into one factor. The total variance as explained by the extracted factor yielded a value of 44.53% as shown in Table 4.9 below.

				Extr	action Sums	of Squared
Component		Initial <b>E</b>	ligen values		Loadin	gs
		% of	Cumulative		%of	Cumulative
	Total	Variance	%	Total	Variance	%
1	2.672	44.528	44.528	2.672	44.528	44.528
2	1.290	21.502	66.030			
3	0.755	12.589	78.618			
4	0.536	8.941	87.559			
5	0.438	7.295	94.854			
6	0.309	5.146	100			

**Table 4.9: Tax Attitude Total Variance Explained** 

Extraction Method: Principal Component Analysis.

Table 4.10 shows the factor loadings for tax knowledge and awareness statements on tax compliance. All the 6 variables yielded coefficients of more than 0.4, all statements were therefore retained for analysis. A factor loading equal to or greater than 0.4 is considered adequate Rahn (2010) and Zandi (2006). This is further supported by Black (2002) who asserts that a factor loading of 0.4 has a good factor stability and is deemed to lead to desirable and acceptable solutions.

Statement	Component
I believe it's our obligation as citizens to pay taxes as stipulated by	0.704
the Law or Government.	0.704
The tax system in place motivates us to voluntarily comply with	0 (55
our tax obligations.	0.033
I see no point of paying taxes when it is being misused by	0.400
individuals in government.	0.499
I feel that there is a lot that can be done on our tax systems to ease	0.500
the preparation, filing of returns and payment of taxes.	0.399
I feel that we can pay taxes in all our obligations without being	0.015
followed.	0.815
K.R.A has put in place enough measures to ensure that taxpayers	0 (90
know of their tax obligations and reparations of noncompliance.	0.689
Entropetion Mathed Drive in al Common ant Analysis	

Table 4.10: Tax Attitude Factor Analysis Component Matrix

Extraction Method: Principal Component Analysis.

# 4.6.4 Cost of Tax Compliance

Factor analysis was conducted using Principal Components Method (PCM) approach. The extraction of the factors followed the Kaiser Criterion where an Eigen value of 1 or more indicates a unique factor. Total Variance analysis indicates that the 7 statements on cost of compliance can be factored into 1 factor. The total variance explained by the extracted factor is 59.273% as shown in Table 4.11 below.

Component	Initial Eigen values			Extraction	Sums of Squar	ed Loadings
		% of	Cumulative		% of	Cumulative
	Total	Variance	%	Total	Variance	%
1	4.149	59.273	59.273	4.149	59.273	59.273
2	0.905	12.930	72.203			
3	0.707	10.096	82.300			
4	0.437	6.246	88.546			
5	0.361	5.159	93.705			
6	0.249	3.562	97.267			
7	0.191	2.733	100			

 Table 4.11: Cost of Tax Compliance Total Variance Explained

Extraction Method: Principal Component Analysis.

Table 4.12 shows the factor loadings for cost of tax compliance statements. All the seven factors attracted coefficients of more than 0.4 hence all the statements were retained for analysis.

Table 4.12: Co	ost of Tax Co	mpliance Factor	<b>Analysis Con</b>	nponent Matrix
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Statement	Component
We feel that there is a lot that can be done on our tax systems to	0.832
ease the preparation, filing and payment of taxes.	0.832
K.R.A has put in place enough measures to ensure that taxpayers	0.734
know of their tax obligations and reparations of non-compliance.	01101
We are able to correctly calculate the taxes due and payable by	0 746
ourselves.	0.740
We hire professionals to compute and file our tax returns.	0.799
There are high costs associated with Tax compliance.	0.738
We are aware of the tax due dates that relate to our business.	0.808
Tax compliance costs are always lower than penalty costs.	0.724

Extraction Method: Principal Component Analysis.

# 4.6.5 Relative Tax Rate

The extraction of the factors followed the Kaiser Criterion where an Eigen value of 1 or more indicates a unique factor. Total Variance analysis indicates that the 7 statements on relative tax rate can be factored into 1 factor. The total variance explained by the extracted factor is 37.11% as shown in Table 4.13.

			Extra	action Sums	of Squared	
Component	Initial Eigen values				Loadin	gs
		% of	Cumulative		% of	Cumulative
	Total	Variance	%	Total	Variance	%
1	2.598	37.117	37.117	2.598	37.117	37.117
2	1.626	23.225	60.342			
3	0.998	14.253	74.596			
4	0.594	8.492	83.088			
5	0.569	8.129	91.216			
6	0.335	4.780	95.997			
7	0.280	4.003	100			

# Table 4.13: Relative Tax Rate Total Variance Explained

Extraction Method: Principal Component Analysis.

Table 4.14 shows the factor loadings for the relative tax rate statements. All the seven factors attracted coefficients of more than 0.4 hence all the statements were retained for analysis

Statement	Component
The tax rates in Kenya are fair.	0.423
The Kenyan Tax Rates are higher compared to those of other	
countries.	0.790
Tax Rates in Kenya are inconsistently adjusted.	0.534
Increase in tax rates increases our tax burden.	0.417
Strict regulations by KRA increases our response to tax compliance.	0.777
The introduction of the iTax system has helped reduce the tax	
preparation, filing and payment burden.	0.675
High tax rates increase the prices of our goods and thus customers	
opt for cheaper goods.	0.527
Entro otion Mathed Dringing Company Analysis	

Table 4.14: Relative Tax Rate Factor Analysis Component Matrix

Extraction Method: Principal Component Analysis.

# 4.6.6 Tax Enforcement Efforts

The extraction of the factors followed the Kaiser Criterion where an eigen value of 1 or more indicates a unique factor. Total Variance analysis indicates that the 7 statements on enforcement efforts can be factored into 1 factor. The total variance explained by the extracted factor is 37.01% as shown in Table 4.15.

				Extraction Sums of Squared			
Component	Initial Eigen values				Loading	gs	
		% of	Cumulative		% of	Cumulative	
	Total	Variance	%	Total	Variance	%	
1	2.591	37.008	37.008	2.591	37.008	37.008	
2	1.335	19.070	56.078				
3	0.880	12.576	68.654				
4	0.830	11.864	80.518				
5	0.590	8.434	88.952				
6	0.464	6.624	95.576				
7	0.310	4.424	100				

**Table 4.15: Enforcement Efforts Total Variance Explained** 

Extraction Method: Principal Component Analysis.

Statement	Component
Fines influence the levels of tax compliance.	0.412
KRA carries out regular and prompt audits.	0.485
The benefits of tax avoidance and evasion outweigh the cost	0.613
of paying taxes.	0.015
The KRA enforcement methods are generally weak.	0.768
Penalties are fairly administered in Kenya upon failure to	0.575
comply.	0.575
Taxpayers evade taxes as a result of strict penalties.	0.656
Payment of bribes to tax officials reduces the chances of being	0.678
penalized.	0.078

**Table 4.16: Enforcement Efforts Factor Analysis Component Matrix** 

Extraction Method: Principal Component Analysis.

Table 4.16 above shows the factor loadings for tax knowledge and awareness statements on tax compliance. All the seven variables yielded coefficients of more than 0.4, all statements were therefore retained for analysis. A factor loading equal to or greater than 0.4 is considered adequate Rahn (2010) and Zandi (2006). Black (2002) who asserts that a factor loading of 0.4 has a good factor stability and is deemed to lead to desirable and acceptable solutions further supports this.

### 4.7 Descriptive Statistics

In this section, the descriptive statistics for the study variables namely; tax compliance, tax knowledge and awareness, tax attitude, cost of tax compliance, relative tax rate, and enforcement efforts are reported.

The respondents were obliged to rate their level of agreements or disagreements with the statements in relation to study variables on a scale of 1 to 5. Where 5 represents "Very Great Extent" and 1 "Not at all". The Mean and Standard Deviations were computed for the variables and the results are indicated in Table 4.17 to Table 4.31.

# 4.7.1 Tax Compliance

The general objective of the study was to examine the determinants of tax compliance among Export Processing Zones investors in Kenya. Table 4.17 shows that the respondents agreed that they complied with tax payments due to fear of detection and punishment to a great extent with a mean of 3.6, audit and penalties are measures used to enhance voluntary tax compliance attracted a mean of 3.42 while the statement on whether their tax compliance was affected by the social and personal norms had a mean of 3.28. In addition, the respondents felt that the rules in the constitution affected their tax morale to a great extent with a mean of 3.57, political parties' affiliation increased their compliance to taxation with a mean of 3.06. The issue of whether tax non-compliance decreases tax morale and compliance attracted a mean of 3.38. Finally, the statement, whether tax payment has led to economic development in our country and whether the level of tax compliance of their organization was high attracted a mean of 3.65 and 3.56 respectively. The mean score for the responses was 3.44, indicating that many employees agreed to the statements regarding tax compliance to a moderate extent. This therefore implies that the tax compliance level among investors at Export Processing Zones was still low.

The study findings are in agreement with those of Karanja (2014) who revealed that social norms and respondent's income levels strongly influenced tax non-compliance levels among the Kenyan taxpayers on rental income. The study concluded that attitude factors, high tax rate, unfair tax system, social norms, gender and education level factors are significant and play a great role towards the compliance or non-compliance of Kenyan taxpayers. Similarly, Thananga, Wanyoike and Wagoki (2013) revealed that compliance level to provisions of rental income tax policy by landlords, was very low and non-compliance was due to expenses overstatement and deductions which would in turn reduce taxable pay. In contrast, Nyandusi, Gideon and Kiprotich (2012), indicated that the problem of tax non-compliance among business firms constrains the realization of revenue collection targets by the Kenya Revenue Authority (KRA). Further, the aim of their study was to investigate the relationship between the size of taxpayers' income, inspection by the tax authorities, use of tax registers and VAT compliance. Results from their study revealed that VAT non-

compliance is high among the middle-income business firms and that inspection of business firms by tax authorities had a slight positive relationship with VAT compliance.

Statement	Mean	Std.	CV
	witcuit	Deviation	
We comply with tax payments due to fear of	3 600	1 421	0.305
detection and punishment.	3.000	1.421	0.395
Audit and penalties influence our tax	2 420	1 226	0.201
compliance.	3.420	1.330	0.391
Our tax compliance is affected by social and			0.470
personal norms.	3.280	1.506	0.459
The rules in the constitution influence our tax			a <b>a =</b> a
morale.	3.570	1.354	0.379
Political parties' affiliation increases our	2.0.00	1 5 4 5	0.505
compliance.	3.060	1.545	0.505
Non-compliance to taxes influences our tax	2 200	1 004	0.200
morale and compliance.	3.380	1.284	0.380
Tax payment influences economic development	2 (50	1 000	0.001
in our country.	3.650	1.389	0.381
We ensure that our organisation is tax compliant	2.5.0	1 410	0.000
at all times.	3.560	1.418	0.398
Average	3.440	1.407	0.409

 Table 4.17: Tax Compliance Descriptive Statistics

Table 4.18: R	Responses on	Tax Com	nliance
1 abic 7.10. h	<b>Copulses</b> on		phance

Statement	Not at all	Small Extent	Moder ate Extent	Great Extent	Very Great Extent
We comply with tax payments					
due to fear of detection and	16.5%	6.3%	10.2%	34.6%	32.3%
punishment					
Audit and penalties are					
measures used to enhance	14.2%	11.8%	14.2%	37.8%	22.0%
voluntary tax compliance					
Our tax compliance is affected					
by the social and personal	21.3%	10.2%	15.7%	24.4%	28.3%
norms					
The rules in the constitution	11.00/	11.00/	17 20/	27 60/	22 20/
affects our tax morale	11.8%	11.0%	17.3%	27.0%	32.3%
Political parties affiliation					
increases our compliance to	22.8%	19.7%	14.2%	15.7%	27.6%
taxation tax					
Non-compliance to taxes					
decreases our tax morale and	13.4%	10.2%	21.3%	35.4%	19.7%
compliance					
Tax payment has led to					
economic development in our	9.4%	16.5%	13.4%	21.3%	39.4%
country					
To what extent can you rate the					
level of tax compliance of your	11.8%	16.5%	11.0%	25.2%	35.4%
organization?					
Average	15.2%	12.8%	14.7%	27.8%	29.6%

Table 4.18 shows that 66.9% of the respondents agreed that they comply with tax payments due to fear of detection and punishment to a great extent, 59.8% agreed that audit and penalties are measures used to enhance voluntary tax compliance and 52.7% indicated that their tax compliance was affected by the social and personal norms to a great extent. In addition, 59.9% of the respondents indicated that the rules in the constitution affected their tax morale to a great extent, 43.3% indicated that political parties' affiliation increased their compliance to taxation tax and 55.1% indicated that non-compliance to taxes decreases their tax morale and compliance to a great extent. Finally, 60.7% of the respondents indicated that tax payment has led to economic development in our country and 60.6% of the respondents indicated that the level of tax compliance of their organization was to a great extent. The study findings show that tax compliance is still low in Kenya.

The study findings are in agreement with those of Karanja (2014) who revealed that social norms and respondent's income levels strongly influenced tax non-compliance levels among the Kenyan taxpayers on rental income. The study concluded that attitude factors, high tax rate, unfair tax system, social norms, gender and education level factors are significant and play a great role towards the compliance or noncompliance of Kenyan taxpayers. Similarly, Thananga, Wanyoike and Wagoki (2013) revealed that compliance level to provisions of rental income tax policy by landlords, was very low and non-compliance was due to expenses overstatement and deductions which would in turn reduce taxable pay. In contrast, Nyandusi, Gideon and Kiprotich (2012), indicated that the problem of tax non-compliance among business firms constrains the realization of revenue collection targets by the Kenya Revenue Authority (KRA). Further, the aim of their study was to investigate the relationship between the size of taxpayers' income, inspection by the tax authorities, use of tax registers and VAT compliance. Results from their study revealed that VAT noncompliance is high among the middle-income business firms and that inspection of business firms by tax authorities had a slight positive relationship with VAT compliance.

#### 4.7.2 Tax Knowledge and Awareness

The first objective of the study was to determine the influence of tax knowledge and awareness on tax compliance among investors in the Export Processing Zones in Kenya. Table 4.19 shows that the mean aggregate score for responses for this section was 3.52. This indicates that majority of the respondents agreed that tax knowledge and awareness was a key determinant of tax compliance among investors in the Export Processing Zones in Kenya. This supported the statement suggesting that their Finance or Accounts staff had been trained on tax issues with the highest mean of 3.85, followed by the statement that their Finance or Accounts staff had enough knowledge and awareness on tax and tax procedures with a mean of 3.72. One of the items "KRA website lacks enough information on various tax procedures. Tax compliance" scored lowly with a mean of 3.11 and a Standard Deviation of 1.175. The study findings are consistent with the findings of Mukasa (2011) who found out that tax knowledge and perceived tax fairness had a causal relationship with tax compliance. Tax knowledge was found to have a positive and significant relationship with tax compliance as well as perceived tax fairness. These findings imply that positive improvement of taxpayers' knowledge will greatly lead to an improved tax compliance. The findings agree with those of Normala and Obid (2010) who conducted a study to examine the influence of tax education, as a proactive approach to enhance voluntary tax compliance, among taxpayers, in Malaysia and found out that taxpayers with high levels of knowledge on tax laws and regulations have a high level of voluntary tax compliance. This was also confirmed through the statistical findings on how the level of tax education affects the tax compliance level. Similarly, other studies have documented that a taxpayer's tax knowledge has a positive influence on the taxpayers' ability in understanding various tax laws and regulations (Singh, 2003; Eriksen & Fallan, 2006; Chipeta, 2002). Adequacy to tax legislation affects the tax knowledge of taxpayers. An obvious explanation that has been raised by researchers is that enhancement of tax knowledge will increase tax compliance. Furthermore, the findings are in support of Maseko (2014) who sought to understand the impact of tax knowledge on tax compliance behavior for SMEs in Zimbabwe and found out that unlike large sized corporations, small businesses face different business conditions, which make them endure a high tax compliance load.

Statement	Mean	Std. Deviation	CV
Our Accounts /Finance staff are knowledgeable and aware of tax laws and procedures.	3.720	1.168	0.314
Our Accounts /Finance staff have been trained on tax issues.	3.850	1.092	0.284
KRA website lacks enough information on various tax procedures hence low tax compliance.	3.110	1.175	0.378
Our fear of paying taxes is influenced by conflicting tax information from different sources.	3.310	1.109	0.335
Our staff often attend refresher courses and seminars organised by KRA.	3.590	0.995	0.277
Average	3.520	1.108	0.315

Table 4.19: Tax Knowledge and Awareness Descriptive Statistics

Table 4.20 below represents the findings on tax knowledge in percentage.

Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
Our Finance or Accounts staff have enough knowledge and awareness on tax and tax procedures	6.3%	13.4%	7.9%	47.2%	25.2%
Our Finance/Accounts staff have been trained on tax issues	6.3%	6.3%	11.0%	48.8%	27.6%
KRA website lacks enough information on various tax procedures hence low tax compliance	11.9%	21.4%	16.7%	43.7%	6.3%
Conflicting information from different sources increases fear of paying taxes	5.5%	18.9%	29.9%	30.7%	15.0%
Our staff often attend refresher courses and seminars organised by KRA.	5.5%	7.9%	21.3%	52.8%	12.6%
Average	7.1%	13.6%	17.4%	44.6%	17.3%

# Table 4.20: Responses on Tax Knowledge

Results in Table 4.20 shows that 72.4% agreed that their Finance/Accounts staff had enough knowledge and awareness on tax and tax procedures, 76.4% agreed that their Finance/Accounts staff had been trained on tax issues and 50% agreed that KRA website lacks enough information on various tax procedures hence low tax compliance. In addition, 45.7% agreed that conflicting information from different sources increased fear of paying taxes and 65.4% agreed that their staff often attended refresher courses and seminars organised by KRA. The study findings are consistent with the findings of Mukasa (2011) who found out that tax knowledge and perceived tax fairness had a causal relationship with tax compliance. Tax knowledge was found to have a positive and significant relationship with tax compliance as well as perceived tax fairness. These findings imply that positive improvement of taxpayers' knowledge will greatly lead to an improved tax compliance. Similarly, other studies have documented that a taxpayer's tax knowledge has a positive influence on the taxpayers' ability in understanding various tax laws and regulations (Singh, 2003; Eriksen & Fallan, 2006; Chipeta, 2002). Adequacy to tax legislation affects the tax knowledge of taxpayers. An obvious explanation that has been raised by researchers is that enhancement of tax knowledge will increase tax compliance. Furthermore, the findings are in support of Maseko (2014) who sought to understand the impact of tax knowledge on tax compliance behavior for SMEs in Zimbabwe and found out that unlike large sized corporations, small businesses face different business conditions, which make them endure a high tax compliance load.

The respondents were asked to indicate if they had attended any formal training organized by KRA or any other institution on tax compliance. Figure 4.1 reveals that 62% of the respondents had not attended any training while 38% had been trained on tax compliance organized by KRA. The findings imply that the firms had low tax knowledge and awareness, which could have led to low tax compliance levels. The findings agree with those of Normala and Obid (2010) who conducted a study to examine the influence of tax education, as a proactive approach to enhance voluntary tax compliance, among taxpayers, in Malaysia and found out that taxpayers with high levels of knowledge on tax laws and regulations have a high level of voluntary tax compliance. This was also confirmed through the statistical findings on how the level of tax education affects the tax compliance level.



Figure 4.1: Training

## 4.7.3 Attitude towards the Tax System

The second objective for the study was to determine the influence of tax attitude on tax compliance among investors in the Export Processing Zones in Kenya. The study findings in Table 4.21 indicate that the statement "they believed it's their obligation to pay taxes as stipulated by the law" scored highly with a mean of 4.28. On whether, the tax system in place motivated them to voluntarily comply with their tax obligations attracted a mean score of 4.08, while the statement that they saw no point of paying taxes when it was being misused by individuals in government had a mean score of 3.69. In addition, the respondents felt that there was a lot that can be done on the tax system to ease the work of preparation, filing of tax returns and payment of taxes to them with a mean score of 3.64. Further, the questions on whether, they felt that they can pay taxes in all obligations without being followed and that K.R.A had put in place enough measures to ensure that taxpayers know their tax obligations and reparations of noncompliance attracted mean scores of 4.26 and 3.95 respectively. The mean score for responses for this section was 3.98 indicating that majority of the respondents agreed that tax attitude was a key determinant of tax compliance among investors in the Export Processing Zones in Kenya.

The study findings are in tandem with Kibiwott (2013) who studied the determinants of Tax Compliance among Small and Medium Enterprises (SME) in Uasin-Gishu County and found out that the perceptions of SME operators about tax fairness, tax service quality and government spending priorities greatly affect their tax compliance decisions. Similarly, Magutu, Lumumba, Wanjohi and Mokoro (2010) in their study on taxpayers' attitudes and compliance behavior towards tax in Kenya concluded that majority of taxpayers viewed the Kenyan tax system as unfair. Some factors behind tax noncompliance were established to be; unfavourable and difficult to understand tax laws, high tax rates as well as peer influence. They concluded that there is a strong correlation between taxpayers' attitude and tax compliance in Kenya.

Results agree with those of Ali and Sjursen (2011) who in their study titled "the factors affecting tax compliance attitude in Africa", found out that if citizens are satisfied with the essential services provided by their governments, their attitude towards the tax system is always positive and they always strive to meet their tax obligations. However, if citizens do not get such essential services from the government and that they have to bribe to get such essential services, they will therefore see no need to pay taxes. Such taxpayers develop a negative attitude and will try to use all means possible to avoid paying taxes. The researchers also documented that, where individuals feel mistreated or discriminated against are less likely to have a tax compliant attitude in Tanzania and South Africa.

Statement	Mean	Std. Deviation	CV
I believe it's our obligation as citizens to pay taxes as stipulated by the Law or Government	4.280	0.916	0.214
The tax system in place motivates us to voluntarily comply with our tax obligations.	4.080	1.044	0.256
I see no point of paying taxes when it is being misused by individuals in government.	3.670	1.310	0.357
I feel that there is a lot that can be done on our tax systems to ease the preparation, filing of returns and payment of taxes.	3.640	1.103	0.303
I feel that we can pay taxes in all our obligations without being followed.	4.260	0.819	0.192
K.R.A has put in place enough measures to ensure that taxpayers know of their tax obligations and reparations of noncompliance.	3.950	0.872	0.221
Average	3.980	1.011	0.254

# Table 4.21: Tax Attitude Descriptive Statistics

To get a clearer picture on the respondent's opinion, the responses on tax attitude were computed in percentages and presented in Table 4.22.

Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
I believe it's our obligation to support the government by paying taxes.	1.6%	5.5%	5.5%	37.8%	49.6%
The tax system in place motivates us to voluntarily comply with our tax obligations.	3.9%	7.1%	5.5%	44.1%	39.4%
I see no point of paying taxes when it is being misused by individuals in government.	11.8%	7.9%	12.6%	37.0%	30.7%
I feel that there is a lot that can be done on our tax systems to ease the work of preparation of tax returns and payment.	3.1%	16.5%	16.5%	40.9%	22.8%
I feel that we can pay taxes in all obligations without being followed.	0.8%	4.7%	4.7%	47.2%	42.5%
K.R.A has put in place enough measures to ensure that taxpayers know of their obligations and reparations of noncompliance.	0.8%	7.1%	14.2%	52.0%	26.0%
Average	3.7%	8.1%	9.8%	43.2%	35.2%

## Table 4.22: Responses on Tax Attitude

The study findings in Table 4.22 indicate that 87.4% of the respondents agreed that they believed it's their obligation to support the government by paying taxes to a great extent, 83.5% indicated that the tax system in place motivated them to voluntarily comply with their tax obligations to a great extent and 67.7% indicated that they saw no point of paying taxes when it was being misused by individuals in government. Sixty-three point seven of the respondents indicated that they felt that there was a lot that can be done on the tax systems to ease the work of preparation of tax returns and payment to a great extent. Further, 89.7% agreed that they felt that they can pay taxes in all obligations without being followed and 78% indicated that K.R.A had put in place enough measures to ensure that taxpayers know of their obligations and reparations of noncompliance to a great extent.

The study findings are in line with Karanja (2014) who examined the various factors affecting voluntary tax compliance of Kenyan landlords in Nairobi County and found that when taxpayers perceive that the government is misusing their taxes, their tax attitude change and this greatly affects their tax compliance. The study findings also established that landlords with higher levels of rental income have higher rental income tax compliance level. The study also pointed out that a taxpayer's attitude towards the tax system; high relative tax rates and higher tax knowledge are significant factors that play a great role towards a taxpayer's tax compliance level.

Results are in corroboration with those of Helhel and Ahmed (2014) who concluded that high relative tax rates and difficult to use and comprehend tax systems were two major factors affecting the tax compliance level of the Sanaa' people of Yemen. They also pointed out that lack of continuous tax audits, little fines and penalties and misuse of tax amnesties were critical factors that most taxpayers attributed to their negative tax attitude. Similarly, the findings are in line with those of Musau (2015) who assessed factors influencing tax compliance among 398 SMEs in Nairobi County and found that a taxpayer will be more compliant if he realizes that tax authorities are keen on arresting tax diversion cases. The study also asserted that when taxpayers are satisfied with government services, trust government institutions, access tax literature and information and the tax system is simplified, their tax compliance levels will be higher.

## 4.7.4 Cost of Tax Compliance

The respondents were asked to indicate on average, how much they spend in a month in preparing and filing their tax returns. Table 4.23 illustrates that 30.7% of the respondents indicated over 100,000 shillings, 34.6% indicated between 10, 001 and 50,000 shillings while 18.1% indicated below 10,000 shillings. Only 16.5% indicated that they spend between 50,001 and 100,000 shillings to file their returns. The study findings are in support of Pope (2008) who opined that compliance costs are the real costs associated with calculating and making the payment. These costs can be substantial, especially for businesses.

	Frequency	Percent
Below Ksh 10, 000	23	18.1
Between Ksh 10,001 and Ksh 50,000	44	34.6
Between Ksh 50,001 and Ksh 100,000	21	16.5
Over Ksh 100,000	39	30.7
Total	127	100

 Table 4.23: Money Spent on filing Tax Returns

The respondents were asked to indicate the expenses that constituted the highest tax compliance cost. The study findings show that software and internet represent 54.3%, 27.6% was for the cost of employing professional staff while 18.1% represented book keeping costs. Tax compliance costs are those costs incurred by taxpayers, or third parties such as businesses, in meeting the requirements laid upon them in complying with a given structure and level of tax (Sandford, 2009). These costs of compliance can be categorized into the following depending on where they are incurred; Accounting Costs; Economic Costs; Lobbying Costs; Training Costs and Lost Revenue.

	Frequency	Percent
Cost of employing professional staff	35	27.6
Book Keeping	23	18.1
Software and Internet	69	54.3
Total	127	100

The third objective of the study was to establish the extent to which cost of compliance influence tax compliance among investors in the Export Processing Zones in Kenya. Table 4.25 shows that the respondents felt that there was a lot that can be done on their tax systems to ease the work of preparation of tax returns and payment with a mean of 4.09. The statement on whether the Kenya Revenue Authority had put in place enough measures to ensure that taxpayers knew their tax obligations and reparations of non-compliance attracted a mean of 4.05. The statement whether taxpayers were able to correctly calculate the taxes due and pay had a mean of 3.97. In addition, the respondents agreed that they used professionals to compute and file their tax returns with a mean of 3.97, while the statements on whether there were high costs associated

with Tax compliance; and if they were aware of the tax due dates that related to their business and if tax compliance costs were always lower than penalty costs had mean scores of 3.89, 4.06 and 4.10 respectively. The mean score for the responses for this section was 4.02 which indicates that majority of the respondents agreed that tax compliance cost was a key determinant of tax compliance among investors in the Export Processing Zones in Kenya.

The above results are in agreement with what Kemboi and Tarus (2012) found out when they examined determinants of tax compliance in Kenya between 2007 and 2009. They found out that tax evasion benefits, access to tax knowledge as well as tax education greatly influence taxpayers' compliance levels. Other scholars also agree with the findings for instance; Olweny and Omondi (2011) who sought to find out the effect of determinants of tax compliance on the firms listed at the Nairobi Securities Exchange in Kenya, found out that tax compliance cost and perceived opportunity for tax evasion affect tax compliance levels among firms. Similarly, Mukabi (2014) who explored factors influencing turnover tax compliance using 56 respondents in the Kenya Revenue Authority Domestic Taxes Department in Nairobi County and found that the perceptions of taxpayers towards the tax system greatly determine the level of compliance for turnover tax. The findings also found out that other factors like cost of compliance and complicated tax systems result into low levels of tax compliance. The study also established that increased tax knowledge had a significant effect on perceptions towards the tax system.

Statement	Mean	Std. DV	CV
We feel that there is a lot that can be done on our tax systems to ease the preparation, filing and payment of taxes.	4.090	1.054	0.258
K.R.A has put in place enough measures to ensure that taxpayers know of their tax obligations and reparations of non-compliance.	4.050	1.007	0.249
We are able to correctly calculate the taxes due and payable by ourselves.	3.970	1.105	0.278
We hire professionals to compute and file of our tax returns.	3.970	1.221	0.308
There are high costs associated with Tax compliance.	3.890	1.28	0.329
We are aware of the tax due dates that relate to our business.	4.060	1.112	0.274
Tax compliance costs are always lower than penalty costs.	4.100	1.246	0.304
Average	4.020	1.146	0.285

# Table 4.25: Cost of Tax Compliance Descriptive Statistics

Table 4.26 presents the responses on cost of compliance in percentage.

# Table 4.26: Responses on Cost of Compliance

Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
We feel that there is a lot that can be done on our tax systems to ease the work of preparation of tax returns and payment.	1.6%	8.7%	15.7%	27.6%	46.5%
K.R.A has put in place enough measures to ensure that taxpayers know their obligations and reparations of non- compliance.	0.8%	9.4%	15.0%	33.9%	40.9%
We are able to correctly calculate the tax that we are due to pay.	2.4%	11.8%	12.6%	33.1%	40.2%
We use professionals to compute and file our tax returns.	7.1%	8.7%	7.1%	34.6%	42.5%
There are high costs associated with Tax compliance.	6.3%	13.4%	9.4%	26.8%	44.1%
We are aware of the tax due dates that relate to our business.	1.6%	14.3%	6.3%	32.5%	45.2%
Tax compliance costs are always lower than penalty costs.	5.5%	11.8%	3.9%	24.4%	54.3%
Average	3.6%	11.2%	10.0%	30.4%	44.8%

Table 4.26 above shows that 74.1% of the respondents felt that there was a lot that can be done on their tax systems to ease the work of preparation of tax returns and payment to a great extent, 74.8% indicated that K.R.A had put in place enough measures to ensure that taxpayers knew their obligations and reparations of non-compliance to a great extent and 73.3% agreed that they were able to correctly calculate the tax that they were due to pay. Seventy seven point one of the respondents agreed that they used professionals to compute and file their tax returns, 70.9% agreed that there were high costs associated with Tax compliance, while 77.7% agreed that they were aware of the tax due dates that related to their business and 78.7% agreed that tax compliance costs were always lower than penalty costs. The above results are in agreement with what Kemboi and Tarus (2012) found out when they examined determinants of tax compliance in Kenya between 2007 and 2009. They found out that tax evasion benefits, access to tax knowledge as well as tax education greatly influence taxpayers' compliance levels. Other scholars also agree with the findings for instance; Olweny and Omondi (2011) who sought out to find out the effect of determinants of tax compliance on the firms listed at the Nairobi Securities Exchange, Kenya and found out that tax compliance cost and perceived opportunity for tax evasion affect tax compliance levels among firms. Similarly, Mukabi (2014) who explored factors influencing turnover tax compliance using 56 respondents in the Kenya Revenue Authority Domestic Taxes Department in Nairobi County and found that the perceptions of taxpayers towards the tax system greatly determine the level of compliance for turnover tax. The findings also found out that other factors like cost of compliance and complicated tax systems result into low levels of tax compliance. The study also established that increased tax knowledge had a significant effect on perceptions towards the tax system.

The respondents were asked to indicate whether there were hidden costs associated with tax compliance. Majority of the respondents (94%), answered in the negative, while 6% indicated that there were hidden costs associated with tax compliance. The results are presented in Figure 4.2 below.



Figure 4.2: Hidden Costs associated with Tax Compliance

# 4.7.5 Relative Tax Rate

The fourth objective of the study was to determine the influence of relative tax rates on tax compliance among investors in the Export Processing Zones in Kenya. Table 4.27 shows that the mean score for responses in this section was 3.97. This indicates that the respondents agreed that the relative tax rate influenced tax compliance of investors in the Export Processing Zones in Kenya. This was supported by the statements that their companies found out that the tax rates in Kenya are fairly administered with a mean of 3.98, the Kenyan tax rates were higher compared to those of other countries with a mean score of 4.1 and that tax rates in Kenya are inconsistently adjusted with a mean of 3.72. Additionally, the respondents agreed with the statements that increase in tax rates increased their tax burden to a great extent, strict regulations by KRA increased their response to tax compliance and introduction of the iTax system had reduced the tax preparation, filing and payment burden to a great extent with mean scores of 3.99, 3.69 and 3.98 respectively. Finally, the statement on whether high tax rates increased the prices of their goods and thus customers opted for cheaper goods had the highest mean score of 4.36 and a standard deviation of 0.833.

The study findings are in line with Musau (2015) who assessed factors influencing tax compliance among SMEs in Nairobi County and revealed that when an individual perception about difficulties of evading taxes increases, the higher the likelihood of

being tax compliant among SMEs in Nairobi County. The findings also revealed that those individuals who are satisfied with what the government is offering as public goods and service from taxes, have enough tax information; trust government officials in handling their taxes; and have the perception that if tax filing procedures are less complex, tax payers are likely to comply with tax payment.

The sentiments of the findings agree with those of Mutua (2012) and Kaldor (2006) who opined that a high relative tax rate was the main cause of tax evasion. Additionally, incentives to evade tax depend on the marginal rates of taxation because these govern the gains from evasion as a sum of the sum evaded. The other cause of tax evasion was the high personal income tax rates, which tend to influence taxpayers to evade tax. Too many and complicated rules and regulations imposed by the government tend to lead to tax evasion. Businesses quite often find it not profitable to do businesses as stipulated in the tax laws and regulations.

Results also agree with Mungaya (2012) who asserted that other factors that influence tax evasion include the complexity of the tax system in use. If the tax system is simplified to the extent that most taxpayers can easily access and use, the taxpayers get encouraged to calculate, file returns and pay taxes due of them. In cases where the tax rates are high and the taxpayer's personal or disposable income is greatly impacted, the taxpayer will look at means and ways of reducing the payable tax.

Statement	Mean	Std. Deviation	CV
The Tax Rates in Kenya are fair.	3.98	1.113	0.280
The Kenyan Tax Rates are higher compared to those of other countries.	4.1	1.104	0.269
Tax Rates in Kenya are inconsistently adjusted.	3.72	1.103	0.297
Increase in tax rates increases our tax burden.	3.99	1.065	0.267
Strict regulations by KRA increases our response to tax compliance.	3.69	1.166	0.316
The introduction of the iTax system has helped reduce the tax preparation, filing and payment burden.	3.98	1.257	0.316
High tax rates increase the prices of our goods and thus customers opt for cheaper goods.	4.36	0.833	0.191
Average	3.97	1.092	0.275

### Table 4.27: Relative Tax Rate Descriptive Statistics

The respondents were asked to indicate their rate of agreement on relative tax rates. The results are presented on Table 4.28 below.

Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
Our company finds the tax rates in Kenya fairly administered	2.4%	11.8%	12.6%	31.5%	41.7%
The Kenyan Tax Rates are higher compared to those of other countries	3.1%	9.4%	8.7%	31.5%	47.2%
Tax Rates in Kenya are inconsistently adjusted.	4.7%	15.0%	4.7%	54.3%	21.3%
Increase in tax rates increases our tax burden	3.9%	7.9%	9.4%	42.5%	36.2%
Strict regulations by KRA increases our response to tax compliance	7.9%	9.4%	12.6%	46.5%	23.6%
Introduction of iTax has reduced the tax burden	7.9%	8.7%	6.3%	32.3%	44.9%
High tax rates increases the prices of our goods and thus customers opt for cheaper goods	0.0%	3.1%	13.4%	27.6%	55.9%
Äverage	4.3%	9.3%	9.7%	38.0%	38.7%

## Table 4.28: Responses on Tax Rate

Table 4.28 shows that 73.2% of the respondents agreed that their company found the tax rates in Kenya fairly administered, 78.7% agreed that the Kenyan Tax Rates were higher compared to those of other countries and 75.6% agreed that tax rates in Kenya are inconsistently adjusted. Additionally, 78.7% of the respondents agreed that increase in tax rates increased their tax burden to a great extent, 70.1% agreed that strict regulations by KRA increased their response to tax compliance and 77.2% agreed that introduction of iTax had reduced the tax burden to a great extent. Finally, 83.5% of the respondents agreed that high tax rates increased their goods and thus customers opted for cheaper goods to a great extent.

The study findings are in line with Musau (2015) who assessed factors influencing tax compliance among SMEs in Nairobi County and revealed that when an individual

perception about difficulties of evading taxes increases, the higher the likelihood of being tax compliant among SMEs in Nairobi County. The findings also revealed that those individuals who are satisfied with what the government is offering as public goods and service from taxes, have enough tax information; trust government officials in handling their taxes; and have the perception that if tax filing procedures are less complex, tax payers are likely to comply with tax payment.

The sentiments of the findings agree with those of Mutua (2012) and Kaldor (2006) who opined that a high relative tax rate was the main cause of tax evasion. Additionally, incentives to evade tax depend on the marginal rates of taxation because these govern the gains from evasion as a sum of the sum evaded. The other cause of tax evasion was the high personal income tax rates, which tend to influence taxpayers to evade tax. Too many and complicated rules and regulations imposed by the government tend to lead to tax evasion. Businesses quite often find it not profitable to do businesses as stipulated in the tax laws and regulations.

Results also agree with Mungaya (2012) who asserted that other factors that influence tax evasion include the complexity of the tax system in use. If the tax system is simplified to the extent that most taxpayers can easily access and use, the taxpayers get encouraged to calculate, file returns and pay taxes due of them. In cases where the tax rates are high and the taxpayer's personal or disposable income is greatly impacted, the taxpayer will look at means and ways of reducing the payable tax.

The respondents were asked to indicate whether their organisation ever paid any penalties for failing to comply with the tax laws and regulations. Figure 4.3 illustrates that 57.0% had not paid penalties while 43.0% had paid penalties. The study findings are consistent with those of Normala and Obid (2004) who carried out a study to investigate reasons as to why taxpayers evade taxes while looking at ways through which various revenue authorities can foster tax compliance levels and found that high levels of fines and penalties and fear of tax evasion detection significantly affect taxpayers' tax compliance levels. However, in cases where the taxpayers feel that they are subjected to unfair tax rates and tax system, the effectiveness of the above factors is minimal. The study also pointed out that low relative tax rates foster high levels of tax compliance.



## **Figure 4.3: Penalties Paid**

The study sought to find out the percentage of the penalty raised compared to the principal tax for those who had paid penalties. Table 4.29 reveals that 20.5% indicated 5% while 19.7% indicated 10% while 3.1% indicated over 20%. As illustrated in the new Tax Procedures Act (2015), most cases of non-compliance, corrective actions are penalties rather than jail terms. Penalties levied on non-compliance ranges from 20% in areas with low frequent cases of evasion to 75% in cases where the offender is a frequent offender.

Penalty	Frequency	Percent
5%	26	20.5
10%	25	19.7
Over 20%	4	3.1
Total	55	43.3

Table 4.29: Penalty Raised

# 4.7.6 Enforcement Efforts

The fifth and last objective of the study was to evaluate the influence of enforcement efforts on tax compliance among investors in the Export Processing Zones in Kenya. Table 4.30 shows that the respondents agreed that fines increased the levels of tax compliance with a mean of 3.69. The statements whether KRA carried out regular and prompt audits attracted a mean score of 3.54 and if the benefits of tax avoidance and evasion outweighed the cost of paying taxes had a mean of 3.23. Additionally, the

respondents agreed that KRA enforcement methods were generally weak with the lowest mean of 3.22, penalties were fairly administered in Kenya upon failure to comply with a mean of 3.42, while the statement, if taxpayers evaded taxes as a result of strict penalties had a mean of 3.4 and payment of bribes to tax officials reduced the chances of being penalized attracted a mean of 3.09. The mean score for responses in this section was 3.37 which indicate that the respondents agreed that enforcement efforts influenced the tax compliance of investors in the Export Processing Zones in Kenya to a moderate extent.

These results are in support of Normala and Obid (2004) who investigated reasons as to why taxpayers evade taxes and in what way the tax authorities can influence their compliance and showed that both the theoretical model (psychology model) of the tax compliance and the empirical evidence on penalty rate and detection rate do have a significant effect on the tax compliance. However, their effectiveness may be greatly reduced in an economy, which is perceived to have an unfair tax administration and tax system. Torgler (2003) also found out that trust in legal systems and public officials positively impacted taxpayer compliance and the intrinsic motivation to pay taxes in transition economies.

Statement	Mean	Std. Deviation	CV
Fines, influence the levels of tax compliance	3.69	1.3	0.352
KRA carries out regular and prompt audits.	3.54	1.227	0.347
The benefits of tax avoidance and evasion outweigh the cost of paying taxes.	3.23	1.415	0.438
The KRA enforcement methods are generally weak.	3.22	1.447	0.449
Penalties are fairly administered in Kenya upon failure to comply.	3.42	1.144	0.335
Taxpayers evade taxes as a result of strict penalties.	3.40	1.143	0.336
Payment of bribes to tax officials reduces the chances of being penalized.	3.09	1.288	0.417
Average	3.37	1.281	0.380

**Table 4.30: Enforcement Efforts Descriptive Statistics**
Table 4.31 presents the findings on enforcements efforts in percentage.

Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
Fines increase the levels of tax compliance	7.1%	15.7%	14.2%	26.8%	36.2%
KRA carries out regular and prompt audits.	7.1%	17.3%	14.2%	37.8%	23.6%
The benefits of tax avoidance and evasion outweigh the cost of paying taxes	18.1%	15.0%	14.2%	31.5%	21.3%
The KRA enforcement methods are generally weak	18.9%	17.3%	7.9%	34.6%	21.3%
Penalties are fairly administered in Kenya upon failure to comply	8.7%	15.7%	11.8%	52.8%	11.0%
Taxpayers evade taxes as a result of strict penalties	7.9%	13.4%	25.2%	37.8%	15.7%
Payment of bribes to tax officials reduces the chances of being penalized	18.1%	12.6%	22.0%	36.2%	11.0%
Average	12.3%	15.3%	15.6%	36.8%	20.0%

 Table 4.31: Enforcement Efforts Descriptive Statistics

Table 4.31 shows that 63% of the respondents agreed that fines increased the levels of tax compliance to a great extent, 61.4% agreed that KRA carried out regular and prompt audits to a great extent and 52.8% agreed that the benefits of tax avoidance and evasion outweighed the cost of paying taxes to a great extent. Additionally, 55.9% of the respondents agreed that the KRA enforcement methods were generally weak, 63.8% agreed that penalties were fairly administered in Kenya upon failure to comply to a great extent, while 53.5% agreed that taxpayers evaded taxes as a result of strict penalties and 47.2% agreed to a great extent that payment of bribes to tax officials reduced the chances of being penalized. The results are in support of Normala and Obid (2004) who investigated the reasons as to why taxpayers evade taxes and in what way the tax authorities can influence their compliance and showed that both the theoretical model (psychology model) of the tax compliance and the empirical evidence on penalty rate and detection rate do have a significant effect on the tax compliance. However, their effectiveness may be greatly reduced in an economy,

which is perceived to have an unfair tax administration and tax system. Torgler (2003) also found out that trust in legal systems and public officials positively impacted taxpayer compliance and the intrinsic motivation to pay taxes in transition economies.

# 4.8 Results of Diagnostic Tests

The following diagnostic tests were conducted.

# 4.8.1 Normality Test for Tax Compliance

Tax compliance measures were subjected to a normality test. Unlike the independent variables of the study, tax compliance being the dependent variable of the study was further subjected to a One-Sample Kolmogorov-Smirnov Test to test its normality. The following null and alternative hypotheses were used:

H<sub>1</sub>: The data is normally distributed

Ho: The data is not normally distributed

The results obtained in Table 4.32 indicated that Kolmogorov-Smirnov Z is 0.996 (p-value = 0.274) the p-value is more than 0.05; we fail to accept the null hypothesis and accept the alternative hypothesis. The data will therefore be said to be normally distributed.

		Tax Compliance
Ν		127
Normal Parameters a,b	Mean	3.4351
	Std. Deviation	0.9066
Most Extreme Differences	Absolute	0.0880
	Positive	0.0620
	Negative	-0.0880
Kolmogorov-Smirnov Z		0.9960
Asymp. Sig. (2-tailed)		0.2740

Table 4.32: One-Sample Kolmogorov-Smirnov Test

a Test distribution is Normal.

# 4.8.2 Linearity

The linear relationship of the independent variables on the dependent variables was tested using Pearson's correlation coefficient between the organizational performance

and each of the hypothesized explanatory variables as proposed by Cohen, West and Aiken, (2003). The linearity results are shown in Table 4.32 below.

The findings presented in table 4.33 indicates that there is a significant positive linear relationship between tax compliance and tax knowledge and awareness, tax compliance and tax attitude at P < 0.05 significance level. Furthermore, there is a significant positive linear relationship between tax compliance and cost of compliance, tax compliance and relative tax rate at P < 0.05 significance level. Finally, tax compliance and enforcement efforts had a positive linear relationship. But, it is important to mention that correlation does not necessarily mean that there is a causal relationship (Young, 2000; Wooldridge, 2000). To this end, it is important to conduct a regression analysis in order to estimate causal relationship. The population is normally distributed therefore the linear regression is suitable and can be estimated in this study.

		Knowledge	Tax Attitude	Cost of Compli ance	Tax Rate	Enforc ement Efforts	Tax Compliance
Knowledge	Pearson Correlation	1					
	Sig. (2-tailed)						
Tax Attitude	Pearson Correlation	.882**	1				
	Sig. (2-tailed)	0.000					
Cost Compliance	Pearson Correlation	.777**	.779**	1			
	Sig. (2-tailed)	0.000	0.000				
Tax Rate	Pearson Correlation	.813**	.816**	.890**	1		
	Sig. (2-tailed)	0.000	0.000	0.000			
Enforcemen t Efforts	Pearson Correlation	.449**	.453**	.458**	.515**	1	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		
Tax Compliance	Pearson Correlation	.820**	.819**	.834**	.858**	.522**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	

 Table 4.33: Results of Pearson's Correlation Test

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

The Pearson's correlation between two independent variables was also used to assess Multicollinearity. Using this technique, Multicollinearity between two independent variables will be present if the correlation coefficient is greater than 0.9 (-0.9). Results in table 4.33 shows that all the variables had coefficients of below 0.9 (tax attitude and tax knowledge r = .882, cost of compliance and tax knowledge r = .777, relative tax rate and tax knowledge r = .813, enforcement efforts and tax knowledge r = .449) which implies that there were no Multicollinearity problems. Therefore, the results imply that there was no Multicollinearity problem among the variables and hence the level of Multicollinearity in the model can be endured.

# 4.8.3 Multicollinearity

Multicollinearity was tested using Variance Inflation Factor (VIF). A VIF of more than 10 (VIF  $\geq$  10) indicate a problem of multi-collinearity. According to Montgomery (2001) the cutoff threshold of 10 and above indicate the existence of multi-collinearity while tolerance statistic values below 0.1 indicate a serious problem while those below 0.2 indicate a potential problem.

The results in table 4.34 indicate that the VIF value for tax knowledge and awareness was established to be 5.153 while its tolerance statistic was reported to be 0.194, tax attitude had a VIF value of 5.215 and tolerance value of 0.192, cost of tax compliance (tolerance statistics = 0.198, VIF value =5.057), Relative Tax rate (tolerance statistics = 0.157, VIF value =6.385) and enforcement efforts (tolerance statistics = 0.731, VIF value =1.368). Based on these, the assumption of multi-collinearity between predictor variables was thus not rejected as the reported VIF and tolerance statistics were within the accepted range.

	Collinearity Statistics		
	Tolerance	VIF	
Tax Knowledge and Awareness	0.194	5.153	
Tax Attitude	0.192	5.215	
Cost of Tax Compliance	0.198	5.057	
Relative Tax Rate	0.157	6.385	
Enforcement Efforts	0.731	1.368	

Table 4.34: Results of Multi-collinearity 1	lest
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## 4.8.4 Homoscedasticity Test

To test for homoscedasticity, the Levene test (1960) for equality of variance was computed using one-way Anova procedure. This test was used to assess variance homogeneity, which is a precondition for parametric tests such as the t-test and ANOVA. If the Levene test is statistically significant, the hypothesis of homogeneous variances should be rejected. The results therefore in table 4.35 indicated that the Levene statistic for knowledge was 7.187, and insignificant (p-value=0.171), tax attitude (Levene statistic = 3.518 p-value=0.112), all the variables were insignificant. This therefore implies that the null hypothesis is not rejected and thus the variances are said to be homogeneous. To this end, it is important to conduct the regression analysis in order to estimate the causal relationship between the variables.

	Levene Statistic	df1	df2	Sig.
Knowledge and Awareness	7.187	22	98	0.171
Tax Attitude	3.518	22	98	0.112
Cost of Tax Compliance	4.999	22	98	0.200
Relative Tax Rate	4.779	22	98	0.260
Enforcement Efforts	2.030	22	98	0.110

# 4.9 Test of Hypotheses

#### 4.9.1 Tax Knowledge

Regression analysis was conducted to empirically determine whether tax knowledge and awareness was a significant determinant of tax compliance among investors in the Export Processing Zones in Kenya. Regression results in Table 4.36 indicate that the goodness of fit for the regression between tax knowledge and awareness and tax compliance was satisfactory. An R squared of 0.672 indicates that 67.2% of the variations in tax compliance are explained by the variations in tax knowledge and awareness effectiveness. This implies that 32.8% of the unexplained variations in tax compliance is accounted for by the other variables including tax attitude, cost of compliance, relative tax rate and enforcement efforts. The study findings are consistent with the findings of Mukasa (2011) who found out that tax knowledge and perceived tax fairness had a causal relationship with tax compliance. Tax knowledge was found to have a positive and significant relationship with tax compliance as well as perceived tax fairness. These findings imply that positive improvement of taxpayers' knowledge will greatly lead to an improved tax compliance. Results are also in line with Normala (2010) who conducted a study to examine the influence of tax education, as a proactive approach to enhance voluntary tax compliance, among taxpayers, in Malaysia and confirmed that an increase in tax knowledge would increase the level of voluntary tax compliance. The statistical findings, confirmed that there is a significant relationship between level of tax education and the level of the voluntary tax compliance.

Table 4.36: Model Summary for Tax Knowledge and Awareness

1 .820a 0.672 0.669 0.52162	justed R Square Std. Error of the Estimate	Adjı	R Square		R	odel	Mo
	0.669 0.52162		0.672	)a	.820a		1

a Predictors: (Constant), Knowledge

The overall model of significance is presented in table 4.37. An F statistic of 255.6341, P = 0.000 < 0.05 which indicated that the overall model was significant at critical value (0.05) since the reported p-value (0.000) was less than the critical value. This therefore means that the null hypothesis is rejected and concludes that there is a significant relationship between tax knowledge and awareness and tax compliance among investors in the Export Processing Zones in Kenya. The findings imply that tax knowledge and awareness was statistically significant in explaining tax compliance among investors in Export Processing Zones in Kenya. The findings imply that tax knowledge and awareness was statistically significant in explaining tax compliance among investors in Export Processing Zones in Kenya. The findings imply that tax knowledge and awareness was statistically significant in explaining tax compliance among investors in Export Processing Zones in Kenya. The study findings are consistent with the findings of Mukasa (2011) who found out that tax knowledge and perceived tax fairness had a causal relationship with tax compliance. Tax knowledge was found to have a positive and significant relationship with tax compliance as well as perceived tax fairness. These findings imply that positive improvement of taxpayers' knowledge will greatly lead to an improved tax compliance.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.554	1	69.554	255.6341	.000b
	Residual	34.010	125	0.272		
	Total	103.564	126			

Table 4.37: ANOVA for Tax Knowledge and Awareness

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Knowledge

The tax knowledge and awareness coefficients are presented in table 4.38. The results show that tax knowledge and awareness contributes significantly to the model since the p-value is less than 0.05. The findings imply that one positive unit change in tax knowledge and awareness effectiveness led to a change in tax compliance at the rate of 0.963. This confirms the positive effect of tax knowledge and awareness on tax compliance. The t-statistic and corresponding p-value were 15.989 and 0.000 respectively. Therefore, at P < 0.005 level of significance the null hypothesis (H<sub>0</sub>) is rejected and accepts the alternate hypotheses (H<sub>A</sub>) implying that tax knowledge and awareness has a significant influence on tax compliance among investors in the Export Processing Zones in Kenya. The fitted equation is as shown below

 $Y = 0.084 + 0.963X_1$ 

Variable	Beta	Std. Error	t	Sig.
Constant	0.084	0.215	0.391	0.696
Tax Knowledge and Awareness	0.963	0.060	15.989	0.000

The study findings are consistent with the findings of Mukasa (2011) who found out that tax knowledge and perceived tax fairness had a causal relationship with tax compliance. Tax knowledge was found to have a positive and significant relationship with tax compliance as well as perceived tax fairness. These findings imply that positive improvement of taxpayers' knowledge will greatly lead to an improved tax compliance. The findings further agree with those of Normala and Obid (2010) who conducted a study to examine the influence of tax education, as a proactive approach to enhance voluntary tax compliance, among taxpayers, in Malaysia and found out that taxpayers with high levels of knowledge on tax laws and regulations have a high level of voluntary tax compliance. This was also confirmed through the statistical findings on how the level of tax education affects the tax compliance level. Similarly, other studies have documented that a taxpayer's tax knowledge has a positive influence on the taxpayers' ability in understanding various tax laws and regulations (Singh, 2003; Eriksen & Fallan, 2006; Chipeta, 2002). Adequacy to tax legislation affects the tax knowledge of taxpayers. An obvious explanation that has been raised by researchers is that enhancement of tax knowledge will increase tax compliance. Furthermore, the findings are in support of Maseko (2014) who sought to understand the impact of tax knowledge on tax compliance behavior for SMEs in Zimbabwe and found out that unlike large sized corporations, small businesses face different business conditions, which make them endure a high tax compliance load.

# 4.9.2 Tax attitude and Tax Compliance

Regression analysis was conducted to empirically determine whether tax attitude was a significant determinant of tax compliance among investors in the Export Processing Zones in Kenya. Regression results in Table 4.39 indicate the goodness of fit for the regression between tax attitude and tax compliance was satisfactory. An R squared of 0.671 indicates that 67.1% of the variations in tax compliance are explained by the variations in tax attitude effectiveness. This implies that 32.9% of the unexplained variations in tax compliance is accounted for by the other variables including tax knowledge and awareness, cost of compliance, relative tax rate and enforcement efforts. The study findings are in support of Chan, Troutman and Bryan (2004) who found out that taxpayers' attitudes (fairness) had a positive relationship with tax compliance. The study findings are in tandem with Kibiwott (2013) who studied the determinants of Tax Compliance among Small and Medium Enterprises (SME) in Uasin-Gishu County and found out that the perceptions of SME operators about tax fairness, tax service quality and government spending priorities greatly affect their tax compliance decisions. Similarly, Magutu, Lumumba, Wanjohi and Mokoro (2010) in their study on taxpayers' attitudes and compliance behavior towards tax in Kenya concluded that majority of taxpayers viewed the Kenyan tax system as unfair. Some factors behind tax noncompliance were established to be; unfavourable and difficult to understand tax laws, high tax rates as well as peer influence. They concluded that there is a strong correlation between taxpayers' attitude and tax compliance in Kenya.

 Table 4.39: Model Summary for Tax Attitude

WIGHT	K	k Square	Adjusted R Square	Std. Error of the Estimate
1	.819a	0.671	0.669	0.52188

a Predictors: (Constant), Tax Attitude

The overall model of significance is presented in table 4.40. The regression model achieved a high degree of fit as reflected by an R<sup>2</sup> of 0.671 (F = 255.2542; P = 0.000 < 0.05). The relationship was significant at critical value (0.05) since the reported p-value (0.000) was less than the critical value. This means that the measures of tax attitude were significant at 95% confidence level that means that the null hypothesis is rejected and concludes that there is a significant relationship between tax attitude and tax compliance among investors in the Export Processing Zones in Kenya. The findings imply that tax attitude was statistically significant in explaining tax compliance among investors in Export Processing Zones in Kenya.

The study findings are in tandem with Kibiwott (2013) who studied the determinants of Tax Compliance among Small and Medium Enterprises (SME) in Uasin-Gishu County and found out that the perceptions of SME operators about tax fairness, tax service quality and government spending priorities greatly affect their tax compliance decisions. Similarly, Magutu, Lumumba, Wanjohi and Mokoro (2010) in their study on taxpayers' attitudes and compliance behavior towards tax in Kenya concluded that majority of taxpayers viewed the Kenyan tax system as unfair. Some factors behind tax noncompliance were established to be; unfavourable and difficult to understand tax laws, high tax rates as well as peer influence. They concluded that there is a strong correlation between taxpayers' attitude and tax compliance in Kenya.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	69.520	1	69.520	255.2542	0.000
Residual	34.044	125	0.272		
Total	103.564	126			

Table 4.40: ANOVA for Tax attitude

The tax knowledge coefficients are presented in table 4.41. The results show that tax attitude contributes significantly to the model since the p-value for the constant and gradient are less than 0.05. The findings imply that one positive unit change in tax attitude effectiveness led to a change in tax compliance at the rate of 1.023. This confirms the positive effect of tax attitude on tax compliance. The t-statistic and corresponding p-value were 15.989 and 0.000 respectively. The study findings are in line with Kibiwott (2013), who studied the determinants of Tax Compliance among Small and Medium Enterprises (SME) in Uasin-Gishu County and found out that the perceptions of SME operators about tax fairness, tax service quality and government spending priorities greatly affect their tax compliance decisions. The fitted equation is as shown below

 $Y = -0.58 + 1.023X_1$ 

Variable	Beta	Std. Error	t	Sig.
Constant	-0.580	0.256	-2.271	0.025
Tax Attitude	1.023	0.064	15.977	0.000

Table 4.41: Coefficients of Tax Attitude

Results are in agreement with those of Magutu, Lumumba, Wanjohi and Mokoro (2010) who in their study on taxpayers' attitudes and compliance behavior towards tax in Kenya concluded that majority of taxpayers viewed the Kenyan tax system as unfair. Some factors behind tax noncompliance were established to be; unfavourable and difficult to understand tax laws, high tax rates as well as peer influence. They concluded that there is a strong correlation between taxpayers' attitude and tax compliance in Kenya. Results agree with those of Ali and Sjursen (2011) who in their study titled "the factors affecting tax compliance attitude in Africa", found out that if

citizens are satisfied with the essential services provided by their governments, their attitude towards the tax system is always positive and they always strive to meet their tax obligations. However, if citizens do not get such essential services from the government and that they have to bribe to get such essential services, they will therefore see no need to pay taxes. Such taxpayers develop a negative attitude and will try to use all means possible to avoid paying taxes. The researchers also documented that, where individuals feel mistreated or discriminated against are less likely to have a tax compliant attitude in Tanzania and South Africa.

# 4.9.3 Cost of Tax Compliance and Tax Compliance

Regression analysis was conducted to empirically determine whether cost of tax compliance was a significant determinant of tax compliance among investors in the Export Processing Zones in Kenya. Regression results in Table 4.42 indicate the goodness of fit for the regression between compliance cost and tax compliance was satisfactory. An R squared of 0.695 indicates that 69.5% of the variations in tax compliance are explained by the variations in the cost of tax compliance effectiveness. This implies that 30.5% of the unexplained variations in tax compliance is accounted for by the other variables including tax knowledge, tax attitude, relative tax rate and enforcement efforts. Results are in corroboration with Kemboi and Tarus (2012) who examined determinants of tax compliance in Kenya for a period between 2007 to 2009 using quarterly secondary data and indicated that factors like tax compliance cost, fines and penalties, perceived opportunity for tax evasion and tax knowledge and education are important determinants of tax compliance. Similarly, Olweny and Omondi (2011) investigated the effect of determinants of tax compliance on the firms listed at the Nairobi Securities Exchange, Kenya and found out that tax compliance costs and perceived opportunity for tax evasion affect tax compliance levels among firms. In addition, Mukabi (2014) who explored factors influencing turnover tax compliance using 56 respondents in the Kenya Revenue Authority Domestic Taxes Department in Nairobi County and found that the perceptions of taxpayers towards the tax system greatly determine the level of compliance for turnover tax. The findings also found out that other factors like cost of compliance and complicated tax systems

result into low levels of tax compliance. The study also established that increased tax knowledge had a significant effect on perceptions towards the tax system.

		v	I I	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834a	0.695	0.693	0.50245

 Table 4.42: Model Summary for Cost of Compliance

a Predictors: (Constant), Cost Compliance

The overall model of significance is presented in table 4.43. An F statistic of 285.2263, P = 0.000 < 0.05 which indicated that the overall model was significant at critical value (0.05) since the reported p-value (0.000) was less than the critical value. This therefore means that the null hypothesis is rejected and concludes that there is a significant relationship between cost of compliance and tax compliance among investors in the Export Processing Zones in Kenya. The study findings are in support of Olweny and Omondi (2011) who sought out to find out the effect of determinants of tax compliance on the firms listed at the Nairobi Securities Exchange, Kenya and found out that tax compliance cost and perceived opportunity for tax evasion affect tax compliance levels among firms.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	72.007	1	72.007	285.2263	0.000
Residual	31.557	125	0.252		
Total	103.564	126			

**Table 4.43: ANOVA for Compliance Cost** 

The tax knowledge and awareness coefficients are presented in table 4.44. The results show that the cost of compliance contributes significantly to the model since the p-value for the constant and gradient are less than 0.05. The findings imply that one positive unit change in the cost of compliance effectiveness led to a change in tax compliance at the rate of 0.756. This confirms the positive effect of compliance cost on tax compliance. The fitted equation is as shown below

 $Y = 0.445 + 0.756X_1$ 

Variable	Beta	Std. Error	t	Sig.
(Constant)	0.445	0.183	2.436	0.016
Cost of Compliance	0.756	0.045	16.889	0.000

**Table 4.44: Coefficients of Cost of Tax Compliance** 

Results are in corroboration with Kemboi and Tarus (2012) who examined determinants of tax compliance in Kenya for a period between 2007 to 2009 using quarterly secondary data and indicated that factors like tax compliance cost, fines and penalties, perceived opportunity for tax evasion and tax knowledge and education are important determinants of tax compliance. Similarly, Olweny and Omondi (2011) investigated the effect of determinants of tax compliance on the firms listed at the Nairobi Securities Exchange, Kenya and found out that tax compliance costs and perceived opportunity for tax evasion affect tax compliance levels among firms.. in addition, Mukabi (2014) who explored factors influencing turnover tax compliance using 56 respondents in the Kenya Revenue Authority Domestic Taxes Department in Nairobi County and found that the perceptions of taxpayers towards the tax system greatly determine the level of compliance for turnover tax. The findings also found out that other factors like cost of compliance and complicated tax systems result into low levels of tax compliance. The study also established that increased tax knowledge had a significant effect on perceptions towards the tax system.

# 4.9.4 Relative Tax Rate and Tax Compliance

Regression analysis was conducted to empirically determine whether relative tax rate was a significant determinant of tax compliance among investors in the Export Processing Zones in Kenya. Regression results in Table 4.45 indicate the goodness of fit for the regression between relative tax rate and tax compliance was satisfactory. An R squared of 0.736 indicates that 73.6% of the variations in tax compliance are explained by the variations in tax rate effectiveness. This implies that 26.4% of the unexplained variations in tax compliance is accounted for by the other variables including tax knowledge and awareness, tax attitude, cost of compliance and enforcement efforts. The study findings are in line with Musau (2015) who assessed factors influencing tax compliance among SMEs in Nairobi County and revealed that

when an individual perception about difficulties of evading taxes increases, the higher the likelihood of being tax compliant among SMEs in Nairobi County. The findings also revealed that those individuals who are satisfied with what the government is offering as public goods and service from taxes, have enough tax information; trust government officials in handling their taxes; and have the perception that if tax filing procedures are less complex, tax payers are likely to comply with tax payment.

The sentiments of the findings agree with those of Mutua (2012) and Kaldor (2006) who opined that a high relative tax rate was the main cause of tax evasion. Additionally, incentives to evade tax depend on the marginal rates of taxation because these govern the gains from evasion as a sum of the sum evaded. The other cause of tax evasion was the high personal income tax rates, which tend to influence taxpayers to evade tax. Too many and complicated rules and regulations imposed by the government tend to lead to tax evasion. Businesses quite often find it not profitable to do businesses as stipulated in the tax laws and regulations. Results also agree with Mungaya (2012) who asserted that other factors that influence tax evasion include the complexity of the tax system in use. If the tax system is simplified to the extent that most taxpayers can easily access and use, the taxpayers get encouraged to calculate, file returns and pay taxes due of them. In cases where the tax rates are high and the taxpayer's personal or disposable income is greatly impacted, the taxpayer will look at means and ways of reducing the payable tax.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.858a	0.736	0.734	0.46788

 Table 4.45: Model Summary for Relative Tax Rate

a Predictors: (Constant), Tax Rate

The overall model of significance is presented in table 4.46. The regression model achieved a high degree of fit as reflected by an R<sup>2</sup> of 0.736 (F = 348.086; P = 0.000 < 0.05). The relationship was significant at critical value (0.05) since the reported p-value (0.000) was less than the critical value. This means that the measures of tax rates were significant at 95% confidence level that the null hypothesis is rejected and concludes that there is a significant relationship between relative tax rate and tax

compliance among investors in the Export Processing Zones in Kenya. The findings imply that the relative tax rate was statistically significant in explaining tax compliance among investors in Export Processing Zones in Kenya. Results also agree with Mungaya (2012) who asserted that other factors that influence tax evasion include the complexity of the tax system in use. If the tax system is simplified to the extent that most taxpayers can easily access and use, the taxpayers get encouraged to calculate, file returns and pay taxes due of them. In cases where the tax rates are high and the taxpayer's personal or disposable income is greatly impacted, the taxpayer will look at means and ways of reducing the payable tax.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	76.200	1	76.200	348.086	.000b
Residual	27.364	125	0.219		
Total	103.564	126			

 Table 4.46: ANOVA for Tax Rate

The relative tax rate coefficients are presented in table 4.47. The results show that the relative tax rate significantly contributes to the model since the p-value for the constant and gradient are less than 0.05. The findings imply that one positive unit change in the relative tax rate effectiveness led to a change in tax compliance at the rate of 1.05. This confirms the positive effect of relative tax rate on tax compliance. The fitted equation is as shown below;

 $Y = -0.654 + 1.05X_1$ 

Variable	Beta	Std. Error	t	Sig.
Constant	-0.654	0.223	-2.931	0.004
Tax Rate	1.050	0.056	18.657	0.000

The study findings are in line with Musau (2015) who assessed factors influencing tax compliance among SMEs in Nairobi County and revealed that when an individual perception about difficulties of evading taxes increases, the higher the likelihood of being tax compliant among SMEs in Nairobi County. The findings also revealed that

those individuals who are satisfied with what the government is offering as public goods and service from taxes, have enough tax information; trust government officials in handling their taxes; and have the perception that if tax filing procedures are less complex, tax payers are likely to comply with tax payment. The sentiments of the findings agree with those of Mutua (2012) and Kaldor (2006) who opined that a high relative tax rate was the main cause of tax evasion. Additionally, incentives to evade tax depend on the marginal rates of taxation because these govern the gains from evasion as a sum of the sum evaded. The other cause of tax evasion was the high personal income tax rates, which tend to influence taxpayers to evade tax. Too many and complicated rules and regulations imposed by the government tend to lead to tax evasion. Businesses quite often find it not profitable to do businesses as stipulated in the tax laws and regulations.

Results also agree with Mungaya (2012) who asserted that other factors that influence tax evasion include the complexity of the tax system in use. If the tax system is simplified to the extent that most taxpayers can easily access and use, the taxpayers get encouraged to calculate, file returns and pay taxes due of them. In cases where the tax rates are high and the taxpayer's personal or disposable income is greatly impacted, the taxpayer will look at means and ways of reducing the payable tax.

# 4.9.5 Enforcement Efforts and Tax Compliance

Regression analysis was conducted to empirically determine whether enforcement efforts were a significant determinant of tax compliance among investors in the Export Processing Zones in Kenya. Regression results in Table 4.48 indicate the goodness of fit for the regression between enforcement efforts and tax compliance was satisfactory. An R squared of 0.273 indicates that 27.3% of the variations in tax compliance are explained by the variations in enforcement efforts effectiveness. This implies that 72.7% of the unexplained variations in tax compliance is accounted for by the other variables including tax knowledge and awareness, tax attitude, cost of compliance and relative tax rate. These results are in support of Normala and Obid (2004) who investigated reasons as to why taxpayers evade taxes and in what way the tax authorities can influence their compliance and showed that both the theoretical model (psychology model) of the tax compliance and the empirical evidence on penalty rate

and detection rate do have a significant effect on the tax compliance. However, their effectiveness may be greatly reduced in an economy, which is perceived to have an unfair tax administration and tax system. Torgler (2003) also found out that trust in legal systems and public officials positively impacted taxpayer compliance and the intrinsic motivation to pay taxes in transition economies.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.522a	0.273	0.267	0.77623

 Table 4.48: Model Summary for Enforcement Efforts

a Predictors: (Constant), Enforcement Efforts

The overall model of significance is presented in table 4.49. An F statistic of 46.88, P = 0.000 < 0.05 which indicated that the overall model was significant at critical value (0.05) since the reported p-value (0.000) was less than the critical value. This therefore means that the null hypothesis is rejected and concludes that there is a significant relationship between enforcement efforts and tax compliance among investors in the Export Processing Zones in Kenya. The findings imply that enforcement efforts were statistically significant in explaining tax compliance among investors in Export Processing Zones in Kenya.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	28.247	1	28.247	46.88	.000b
Residual	75.317	125	0.603		
Total	103.564	126			

 Table 4.49: ANOVA for Enforcement Efforts

The enforcement efforts coefficients are presented in table 4.50. The results show that enforcement efforts contributes significantly to the model since the p-value for the constant and gradient are less than 0.05. The findings imply that one positive unit change in enforcement efforts effectiveness led to a change in tax compliance at the rate of 1.05. This confirms the positive effect of enforcement efforts on tax compliance. The fitted equation is as shown below

 $Y = 1.378 + 0.604X_1$ 

Variable	Beta	Std. Error	t	Sig.
Constant	1.378	0.308	4.472	0.000
Enforcement Efforts	0.604	0.088	6.847	0.000

**Table 4.50: Coefficients of Enforcement Efforts** 

These results are in support of Normala and Obid (2004) who investigated reasons as to why taxpayers evade taxes and in what way the tax authorities can influence their compliance and showed that both the theoretical model (psychology model) of the tax compliance and the empirical evidence on penalty rate and detection rate do have a significant effect on the tax compliance. However, their effectiveness may be greatly reduced in an economy, which is perceived to have an unfair tax administration and tax system. Torgler (2003) also found out that trust in legal systems and public officials positively impacted taxpayer compliance and the intrinsic motivation to pay taxes in transition economies.

# **4.10 Moderation Tests**

This section provides results of analysis on the effect of the independent variable on the dependent variable after introducing a moderating variable. The independent variables; tax knowledge and awareness, tax attitude, cost of tax compliance, relative tax rate and enforcement efforts with annual turnover as the moderating variable. R square also referred to as coefficient of determination and significance tests were done to determine the effects of the predictor variables on the dependent variable. The R square and the overall significance of the model were analyzed before and after introducing the moderating variable on the independent variables. The introduction of the moderating variable introduces an interaction effect on the prediction strength of the independent variables over the dependent variable. The interaction effect may lead to either a stronger prediction power or weaker one on the independent variables over the dependent variable. In this study, the interaction effect was created by use of the product between the predictor variables and the moderating variable. The moderating effect against each independent variable was presented first and finally against all combined variables.

## 4.10.1 Tax Knowledge, Turnover and Tax Compliance

Table 4.51 shows the results of the R-square before involving the moderating variable (annual turnover) and after incorporating the moderating variable to the independent variables. The results indicate that annual turnover had a positive moderating effect on tax knowledge (R squared change of 0.021) which translates to 3.03% change in the R-square. Results show that after introducing the moderating variable (annual turnover) the R- square improved from 0.672 to 0.692 and was significant (0.000) since the R-square became stronger. This means annual turnover moderates tax knowledge positively and was statistically significant.

M o d el	R	R Square	Adjuste d R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.820a	0.672	0.669	0.52162	0.672	255.63 4	1	12 5	0.000
2	.832 b	0.692	0.688	0.5068	0.021	8.416	1	12 4	0.004

Table 4.51: Model Summary for Tax Knowledge and Annual Turnover

a Predictors: (Constant), Knowledge

b Predictors: (Constant), Knowledge, Knowledge, Turnover

The ANOVA results for tax knowledge with moderating variable in Table4.52 indicates that the model was significant with F=139.608 and p=0.000<0.05 meaning that tax knowledge and annual turnover had significant effect on tax compliance. However, the F statistics dropped significantly from 255.634 to 139.608 after introduction of the moderating variable.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.554	1	69.554	255.634	.000b
	Residual	34.01	125	0.272		
	Total	103.564	126			
2	Regression	71.715	2	35.858	139.608	.000c
	Residual	31.849	124	0.257		
	Total	103.564	126			

Table 4.52: ANOVA Test for Tax Knowledge with Moderating Variable

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Tax Knowledge

c Predictors: (Constant), Tax Knowledge, Tax Knowledge, Turnover

The regressed results are presented in table 4.53. The finding in table 4.53 shows that tax knowledge had coefficient of 0.819 and P value of 0.000, while the interaction term consisting of tax knowledge and annual turnover had coefficient of 0.035 and p-value of 0.004. This implies that the interactive terms are significant at P < 0.005. The results showed that the annual turnover triggers tax knowledge of the investors hence predicting tax compliance of EPZ investors but the significance weakens from 0.000 to 0.004.

Table	4.53:	Regression	Coefficients	for	Tax	Knowledge	with	Moderating
Variat	ole							

Model		Uns Co	tandardized oefficients	Standardized Coefficients			
		В	Std. Error	Beta	t	Sig.	
1	(Constant)	0.084	0.215		0.391	0.696	
	Knowledge	0.963	0.06	0.82	15.989	0.000	
2	(Constant)	0.11	0.209		0.529	0.598	
	Knowledge	0.819	0.077	0.697	10.678	0.000	
	Knowledge Turnover	0.035	0.012	0.189	2.901	0.004	

a Dependent Variable: Tax Compliance

## 4.10.2 Tax Attitude, Turnover and Tax Compliance

Table 4.54 shows the results of the R-square before involving the moderating variable (annual turnover) and after incorporating the moderating variable to the independent variables. The results indicate that annual turnover had a positive moderating effect on tax attitude (R squared change of 0.01) which translates to 1.47% change in the R-square. Results show that after introducing the moderating variable (annual turnover) the R- square improved from 0.671 to 0.681 and was significant (0.000) since the R-square became stronger. This means annual turnover moderates tax attitude positively and was statistically significant.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change				
					R Square Change	F Change	df	1 df2	Sig. F Change
1	.819a	0.671	0.669	0.52188	0.671	255.25 4	1	125	0.000
2	.825b	0.681	0.676	0.51582	0.01	3.951	1	124	0.049

Table 4.54: Model Summary for Tax Attitude and Annual Turnover

a Predictors: (Constant), Tax Attitude

b Predictors: (Constant), Tax Attitude, Tax Attitude, Turnover

The ANOVA results for tax attitude with moderating variable in Table4.55 indicates that the model was significant with F=132.615 and p=0.000<0.05 meaning that tax attitude and annual turnover had significant effect on tax compliance. However, the F statistics dropped significantly from 255.254 to 132.615 after introduction of the moderating variable.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.52	1	69.52	255.254	.000b
	Residual	34.044	125	0.272		
	Total	103.564	126			
2	Regression	70.571	2	35.285	132.615	.000c
	Residual	32.993	124	0.266		
	Total	103.564	126			

 Table 4.55: ANOVA Test for Tax Attitude with Moderating Variable

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Tax Attitude

c Predictors: (Constant), Tax Attitude, Tax Attitude, Turnover

The regressed results are presented in table 4.56. The finding in table 4.56 shows that tax attitude had coefficient of 0.919 and P value of 0.000, while the interaction term consisting of tax attitude and annual turnover had coefficient of 0.022 and p-value of 0.049. This implies that the interactive terms are significant at P < 0.005. The results showed that the annual turnover triggers tax attitude of the investors hence predicting tax compliance of EPZ investors but the significance weakens from 0.000 to 0.049.

Model		Unstan Coeffi	ndardized cients Std.	Standardized Coefficients			
		В	Error	Beta	t	Sig.	
1	(Constant)	-0.58	0.256		-2.271	0.025	
	Tax Attitude	1.023	0.064	0.819	15.977	0.000	
		-					
2	(Constant)	0.509	0.255		-1.993	0.048	
	Tax Attitude	0.919	0.082	0.736	11.195	0.000	
	Tax Attitude,						
	Turnover	0.022	0.011	0.131	1.988	0.049	

a Dependent Variable: Tax Compliance

# 4.10.3 Cost of Compliance, Annual Turnover, Tax Compliance

Table 4.57 shows the results of the R-square before involving the moderating variable (annual turnover) and after incorporating the moderating variable to the independent variables. The results indicate that annual turnover had a positive moderating effect on cost of compliance with a slight change in the R-square. Results show that after

introducing the moderating variable (annual turnover) the R- square improved from 0.695 to 0.696 and was insignificant (0.684). This means annual turnover moderates cost of compliance positively however not statistically significant.

Model	R	R Squar e	Adjust ed R Squar e	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.834a	0.695	0.693	0.50245	0.695	285.2 26	1	12 5	0.000
2	.834b	0.696	0.691	0.50413	0.000	0.167	1	12 4	0.684

 Table 4.57: Model Summary for Cost of Compliance with Moderating Variable

a Predictors: (Constant), Cost of Tax

Compliance

b Predictors: (Constant), Cost of Tax Compliance, Cost of Tax

Compliance, Turnover

The ANOVA results for cost of compliance with moderating variable in Table 4.58 indicates that the model was significant with F=141.746 and p=0.000<0.05 meaning that cost of compliance and annual turnover had significant effect on tax compliance among EPZ investors in Kenya. However, the F statistics dropped significantly from 285.226 to 141.746 after introduction of the moderating variable. The findings imply that the high costs associated with tax process can affect tax compliance negatively. This means that the amount of annual turnover predicts tax compliance with regards to the cost incurred to file tax returns.

Mode		Sum of		Mean		
1		Squares	df	Square	F	Sig.
1	Regression	72.007	1	72.007	285.226	.000b
	Residual	31.557	125	0.252		
	Total	103.564	126			
2	Regression	72.05	2	36.025	141.746	.000c
	Residual	31.515	124	0.254		
	Total	103.564	126			

 Table 4.58: ANOVA Test for Cost of Compliance with Moderating Variable

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Cost of Compliance

c Predictors: (Constant), Cost of Compliance, Cost of Tax Compliance, Turnover

The regressed results are presented in table 4.59. The finding in table 4.59 shows that cost of compliance had coefficient of 0.735 and P value of 0.000, while the interaction term consisting of the product of cost of compliance and annual turnover had coefficient of 0.005 and p-value of 0.684. This implies that the interactive terms are not significant at P < 0.005. The results showed that annual turnover predict tax compliance among EPZ investors although not statistically significant.

	Unstandardized										
Model	Со	efficients	6	Standardized Coefficients							
		Std.									
		В	Error	Beta	t	Sig.					
1	(Constant)	0.445	0.183		2.436	0.016					
	Cost of Tax Compliance	0.756	0.045	0.834	16.889	0.000					
2	(Constant)	0.459	0.186		2.462	0.015					
	Cost of Tax Compliance	0.735	0.07	0.81	10.543	0.000					
	Cost of Tax Compliance,										
	Turnover	0.005	0.011	0.031	0.409	0.684					

 Table 4.59: Regression Coefficients for Cost of Compliance with Moderating

 Variable

#### 4.10.4 Relative Tax Rate, Annual Turnover, Tax Compliance

Table 4.60 shows the results of the R-square before involving the moderating variable (annual turnover) and after incorporating the moderating variable to the independent variables. The results indicate that annual turnover had a positive moderating effect on tax rate (R squared change of 0.003) which translates to 0.4% change in the R-square. Results show that after introducing the moderating variable (annual turnover) the R- square improved from 0.736 to 0.738 and was insignificant (0.269). This means annual turnover moderates tax rate positively however not statistically significant.

 Table 4.60: Model Summary for Tax Rate with Moderating Variable

Mode	el R	R Square	Adjuste d R Square	Std. Error of the Estimate	Change	Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.858a	0.736	0.734	0.46788	0.736 3	48.08 6	1	12 5	0.000
2	.859b	0.738	0.734	0.46744	0.003	1.234	1	12 4	0.269

a Predictors: (Constant), Tax Rate

b Predictors: (Constant), Tax Rate, Tax Rate, Turnover

The ANOVA results for tax rate with moderating variable in Table 4.61 indicates that the model was significant with F=174.986 and p=0.000<0.05 meaning that tax rate and annual turnover had significant effect on tax compliance among EPZ investors in Kenya. However, the F statistics dropped significantly from 348.086 to 174.986 after introduction of the moderating variable. The findings imply that the tax rates in Kenya, were inconsistently adjusted, increase in relative tax rates increased their tax burden and that high tax rates increased the prices of their goods and thus customers opted for cheaper goods.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.2	1	76.2	348.086	.000b
	Residual	27.364	125	0.219		
	Total	103.564	126			
2	Regression	76.47	2	38.235	174.986	.000c
	Residual	27.094	124	0.219		
	Total	103.564	126			

 Table 4.61: ANOVA Test for Tax Rate with Moderating Variable

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Tax Rate

c Predictors: (Constant), Tax Rate, Tax Rate, Turnover

The regressed results are presented in table 4.62. The finding in table 4.62 shows that tax rate had coefficient of 0.994 and P value of 0.000, while the interaction term consisting of the product of tax rate and annual turnover had coefficient of 0.012 and p-value of 0.269. This implies that the interactive terms are not significant at P < 0.005. The results showed that annual turnover predict tax compliance among EPZ investors although not statistically significant.

Model		Unstandardiz	Standardized Coefficients			
		В	Std. Error	Beta	t	Sig.
1	(Constant)	-0.654	0.223		-2.931	0.004
	Tax Rate	1.05	0.056	0.858	18.657	0.000
2	(Constant)	-0.612	0.226		-2.706	0.008
	Tax Rate	0.994	0.075	0.812	13.173	0.000
	Tax Rate,	0.012	0.01	0.068	1 1 1 1	0 260
	Turnover	0.012	0.01	0.008	1.111	0.209

 Table 4.62: Regression Coefficients for Tax Rate with Moderating Variable

a Dependent Variable: Tax Compliance

#### 4.10.5 Enforcement Efforts, Annual Turnover, Tax Compliance

Table 4.63 shows the results of the R-square before involving the moderating variable (annual turnover) and after incorporating the moderating variable to the independent variables. The results indicate that annual turnover had a positive moderating effect on tax rate (R squared change of 0.006) which translates to 2.15% change in the R-square. Results show that after introducing the moderating variable (annual turnover) the R- square improved from 0.273 to 0.279 and was insignificant (0.316). This means annual turnover moderates enforcement efforts positively however not statistically significant.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.522 a	0.273	0.267	0.77623	0.273	46.88	1	12 5	0.000
2	.528 b	0.279	0.267	0.77618	0.006	1.016	1	12 4	0.316

Table 4.63: Model Summary for Enforcement Efforts with Moderating Variable

a Predictors: (Constant), Enforcement Efforts

b Predictors: (Constant), Enforcement Efforts, Enforcement Efforts, Turnover

The ANOVA results for tax rate with moderating variable in Table 4.64 indicates that the model was significant with F=23.951 and p=0.000<0.05 meaning that enforcement efforts and annual turnover had significant effect on tax compliance among EPZ investors in Kenya. However, the F statistics dropped significantly from 46.88 to 23.951 after introduction of the moderating variable. The findings imply that KRA enforcement methods were generally weak. Taxpayers evaded taxes through the payment of bribes to tax officials. Collusion with tax officials reduced the chances of being caught and penalized, thus low tax compliance.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.247	1	28.247	46.88	.000b
	Residual	75.317	125	0.603		
	Total	103.564	126			
2	Regression	28.859	2	14.43	23.951	.000c
	Residual	74.705	124	0.602		
	Total	103.564	126			

 Table 4.64: ANOVA Test for Enforcement Efforts with Moderating Variable

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Enforcement Efforts

c Predictors: (Constant), Enforcement Efforts, Enforcement Efforts, Turnover

The regressed results are presented in table 4.65. The finding in table 4.65 shows that enforcement efforts had coefficient of 0.496 and P value of 0.001, while the interaction term consisting of the product of enforcement efforts and annual turnover had coefficient of 0.021 and p-value of 0.316. This implies that the interactive terms are not significant at P < 0.005. The results showed that annual turnover predict tax compliance among EPZ investors although not statistically significant.

		Unsta	ndardized				
Model		Coeffi	cients	Standardized Coefficients			
			Std.				
		В	Error	Beta	t	Sig.	
1	(Constant)	1.378	0.308		4.472	0.000	
	Enforcement Efforts	0.604	0.088	0.522	6.847	0.000	
2	(Constant)	1.47	0.321		4.574	0.000	
	Enforcement Efforts	0.496	0.139	0.429	3.57	0.001	
	Enforcement Efforts,						
	Turnover	0.021	0.021	0.121	1.008	0.316	

 Table 4.65: Regression Coefficients for Enforcement Efforts with Moderating

 Variable

a Dependent Variable: Tax Compliance

# 4.10.6 Multivariate Regression

Table 4.66 shows the results of the R-square before involving the moderating variable (annual turnover) and after incorporating the moderating variable to the independent variables. The results indicate that annual turnover had a positive moderating effect on tax compliance factors (R squared change of 0.036) which translates to 4.28% change in the R-square. Results show that after introducing the moderating variable (annual turnover) the R- square improved from 0.806 to 0.842 and was significant (0.000) since the R-square became stronger. This means annual turnover moderates tax compliance factors positively and was statistically significant.

Model	R	R	Adjusted	Std.	Change Statistics				
		Square	R	Error of	R	F	df1	df2	Sig. F
			Square	the	Square	Change			Change
				Estimate	Change				
1	.898 <sup>a</sup>	.806	.798	.40737	.806	100.613	5	121	.000
2	.918 <sup>b</sup>	.842	.829	.37540	.036	5.297	5	116	.000

#### **Table 4.66: Overall Model Summary**

a. Predictors: (Constant), Enforcement Efforts, Knowledge and Awareness, Cost of Tax Compliance, Tax Attitude, Relative Tax Rate

b. Predictors: (Constant), Enforcement Efforts, Knowledge and Awareness, Cost of Tax Compliance, Tax Attitude, Relative Tax Rate, Tax Attitude, Turnover, Enforcement Efforts, Turnover, Cost of Tax Compliance, Turnover, Knowledge, Turnover, Tax Rate, Turnover

Table 4.67 provides ANOVA results. The ANOVA results for tax compliance determinants (tax knowledge and awareness, tax attitude, cost of compliance, relative tax rate and enforcement efforts) with moderating variable in Table 4.67 indicates that the model was significant with F=61.888 and p=0.000<0.05 meaning that the tax compliance determinants and an investor's annual turnover had significant effect on tax compliance among EPZ investors. A further test on the beta coefficient of the resulting model in Table 4.67 shows a significant change in the beta coefficients before

and after the introduction of the moderating variable. The model remained statistically significant with p value= 0.000 < 0.05.

Mod	el	Sum of	df	Mean	F	Sig.
		Squares		Square		
1	Regression	83.484	5	16.697	100.613	.000 <sup>b</sup>
	Residual	20.080	121	.166		
	Total	103.564	126			
2	Regression	87.217	10	8.722	61.888	.000 <sup>c</sup>
	Residual	16.347	116	.141		
	Total	103.564	126			

Table 4.67: Analysis of Variance (ANOVA)

a. Dependent Variable: Tax Compliance

b. Predictors: (Constant), Enforcement Efforts, Knowledge, Cost of Tax

Compliance, Tax Attitude, Relative Tax Rate

c. Predictors: (Constant), Enforcement Efforts, Knowledge and Awareness, Cost of Tax Compliance, Tax Attitude, Relative Tax Rate, Tax Attitude Turnover, Enforcement Efforts, Turnover, Cost of Tax Compliance, Turnover, Knowledge

and Awareness, Turnover, Relative Tax Rate, Turnover

In order to determine the significance of coefficients, Table 4.68 shows that the coefficients of the regression equations for both models. Model 1 indicates that the coefficient of tax compliance determinants was positive and significant.

Regression results in table 4.68 indicated that the relationship between tax knowledge and awareness and tax compliance was positive and significant (b1=0.23, p value, 0.033). This implies that an increase in tax knowledge and awareness effectiveness by 1 unit leads to improved tax compliance by 0.23 units. Results indicated that tax attitude had a positive and significant relationship with tax compliance (b1=0.227, p value, 0.049). This implies that an increase in tax attitude effectiveness by 1 unit leads to improve tax compliance by 0.227 units.

The results further indicated that the relationship between cost of tax compliance and tax compliance was positive and significant (b1=0.22, p value, 0.008). This implies that an increase in cost of compliance by 1 unit leads to improved tax compliance by 0.22 units. The results further indicated that the relationship between relative tax rate and tax compliance was positive and significant (b1=0.35, p value, 0.005). This implies that an increase in tax rate effectiveness by 1 unit leads to improved tax compliance by 0.35 units. Finally, the results indicated that the relationship between enforcement efforts and tax compliance was positive and significant (b1=0.108, p value, 0.048). This implies that an increase in enforcement efforts by 1 unit leads to improved tax compliance by 0.22 units.

In model 2 the coefficient of tax compliance determinants (tax knowledge and awareness, cost of tax compliance, relative tax rate and enforcement efforts) became negative and significant after moderation at 95% level of confidence except tax attitude. The Beta values for the tax knowledge variables was -0.059 and became insignificant with a p value of 0.539, while cost of tax compliance was negative and statistically significant with a beta value = -0.194 and p value = 0.011. The Relative Tax Rate was negative and statistically insignificant (beta coefficient -0.049 and p value of 0.643; enforcement efforts had a negative and significant impact with a beta value coefficient of -0.096 and p value of 0.043. Tax attitude had a positive and significant effect on tax compliance with beta coefficients of 0.374 and p value of 0.000. This is indicative that annual turnover moderated the relationship between tax compliance determinants and tax compliance among EPZ investors in Kenya. The findings imply that the annual turnover does not trigger the relationship between tax knowledge and tax compliance, relative tax rate and tax compliance. This is because the relative tax rate and tax knowledge awareness does not change with the annual turnover. However, cost of tax compliance and enforcement efforts varies with the annual turnover and thus if the turnover increases the cost of compliance and enforcement efforts also goes up hence an influence on tax compliance.

Mo	del	Unstanda	ardized	Standardized	t	Sig.
		Coeffic	ients	Coefficients		
		D	Std.	Data		
		D	Error	Deta		
1	(Constant)	860	.231		-3.725	.000
	Knowledge and Awareness	.230	.107	.196	2.158	.033
	Tax Attitude	.227	.114	.182	1.993	.049
	Cost of Tax Compliance	.220	.082	.242	2.690	.008
	Relative Tax Rate	.350	.124	.286	2.828	.005
	Enforcement Efforts	.108	.054	.093	1.995	.048
2	(Constant)	848	.232		-3.653	.000
	Knowledge and Awareness	.483	.378	.411	1.277	.204
	Tax Attitude	-1.093	.398	875	-2.743	.007
	Cost of Tax Compliance	.905	.317	.998	2.860	.005
	Relative Tax Rate	.471	.436	.385	1.080	.282
	Enforcement Efforts	.466	.198	.403	2.355	.020
	Knowledge and Awareness, Turnover	059	.096	319	617	.539
	Tax Attitude, Turnover	.374	.101	2.208	3.711	.000
	Cost of Tax Compliance Turnover	194	.075	-1.297	-2.584	.011
	Relative Tax Rate, Turnover	049	.105	287	464	.643
	Enforcement Efforts, Turnover	096	.047	557	-2.043	.043

# **Table 4.68: Model Summary and Parameter Estimates**

a. Dependent Variable: Tax Compliance

 $\begin{aligned} \mathbf{Y} &= -0.860 + 0.230 \text{ KA} + 0.227 \text{TA} + 0.220 \text{CC} + 0.350 \text{RTR} + 0.108 \text{EE} \dots \dot{i} \\ \mathbf{Y} &= -0.848 + 0.483 \text{KA} - 1.093 \text{TA} + 0.905 \text{CC} + 0.471 \text{RTR} + 0.466 \text{EE} - 0.059 \text{KA}*\text{T} \\ &+ 0.374 \text{TA}*\text{T} - 0.194 \text{CC}*\text{T} - 0.049 \text{TR}*\text{T} - 0.096 \text{EE}*\text{T} \dots \dot{i} \dot{i} \end{aligned}$ 

# 4.10.7 Optimal Model

The optimal regression model estimated in the study therefore excluded tax knowledge\*turnover and relative tax rate\*turnover as they were found to be insignificant. The results presented in the Table 4.69thus indicated that tax knowledge\*turnover, cost of compliance\*turnover and enforcement effort\*turnover explained 82.4% of the variances in tax compliance as indicated by squared multiple correlation ( $\mathbb{R}^2$ ) of 0.824.

Model	R	R Square	Adjuste d R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.884a	0.781	0.776	0.42898	0.781	146.594	3	12 3	0.000
2	.908 b	0.824	0.815	0.39021	0.042	9.551	3	12 0	0.000

# Table 4.69: Model Summary of the Optimal Model

a Predictors: (Constant), Enforcement Efforts, Tax Attitude, Cost of Tax

# Compliance

b Predictors: (Constant), Enforcement Efforts, Tax Attitude, Cost of Tax Compliance, Tax Attitude, Turnover, Enforcement Efforts, Turnover, Cost of Tax Compliance, Turnover

Table 4.70 provides ANOVA results. The ANOVA results for tax compliance determinants (tax attitude, cost of compliance and enforcement efforts) with moderating variable in Table 4.70 indicates that the model was significant with F=93.359 and p=0.000<0.05 meaning that the tax compliance determinants and an investor's annual turnover had significant effect on tax compliance among EPZ investors. A further test on the beta coefficient of the resulting model in Table 4.71 shows a significant change in the beta coefficients before and after the introduction of

the moderating variable. The model remained statistically significant with p value= 0.000 < 0.05.

			Sum of			Mean		
Model			Squares	df		Square	F	Sig.
	1	Regression	80.93		3	26.977	146.594	.000b
		Residual	22.635		123	0.184		
		Total	103.564		126			
	2	Regression	85.292		6	14.215	93.359	.000c
		Residual	18.272		120	0.152		
		Total	103.564		126			

 Table 4.70: ANOVA (Optimal Model)

a Dependent Variable: Tax Compliance

b Predictors: (Constant), Enforcement Efforts, Tax Attitude, Cost of Tax

Compliance

c Predictors: (Constant), Enforcement Efforts, Tax Attitude, Cost of Tax

Compliance, Tax Attitude, Turnover, Enforcement Efforts, Turnover, Cost of Tax Compliance, Turnover

The regression analysis results of the optimal model presented in the Table 4.71 shows the effect of tax attitude\*turnover, cost of compliance\*turnover and enforcement efforts\*turnover on tax compliance.

The overall optimal Models of estimation therefore becomes;

Y = -0.695 + 0.5TA + 0.42CC + 0.149EE

Y = -0.749 - 0.674TA + 1.422CC + 0.423EE + 0.337TA\*T - 0.28CC\*T - 0.078EE\*T

Madal		Unsta	ndardized	Standardized			
Model		Coe	fficients	C	oefficient	S	
		В	Std. Error	Beta	t	Sig.	
1	(Constant)	-0.695	0.227		-3.057	0.003	
	Tax Attitude	0.5	0.085	0.401	5.873	0.000	
	Cost of Tax	0.42	0.062	0.462	677	0.000	
	Compliance		0.062	0.405	0.77	0.000	
	Enforcement Efforts	0.149	0.056	0.129	2.672	0.009	
2	(Constant)	-0.749	0.22		-3.4	0.001	
	Tax Attitude	-0.674	0.233	-0.54	-2.897	0.004	
	Cost of Tax	1 400	0.224	1567	6 0.92	0.000	
	Compliance	1.422	0.234	1.307	0.082	0.000	
	Enforcement Efforts	0.423	0.183	0.365	2.306	0.023	
	Tax Attitude, Turnover	0.337	0.063	1.992	5.346	0.000	
	Cost of Tax	0.28	0.061	1.070	1 502	0.000	
	Compliance, Turnover	-0.28	0.001	-1.8/9	-4.383	0.000	
	Enforcement Efforts,	0.079	0.042	0 451	1 014	0.072	
	Turnover	-0.078	0.043	-0.451	-1.814	0.072	

 Table 4.71: Regression Coefficients (Optimal Model)

a Dependent Variable: Tax Compliance

The findings indicate that tax attitude and cost of compliance remained significant with the interaction of moderation variable with a p value of 0.000. However, cost of tax compliance had a negative effect since it had a Beta value of -0.28. Enforcement efforts was negative and statistically insignificant (beta coefficient -0.078 and p value of 0.072).

# **CHAPTER FIVE**

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

# 5.1 Introduction

This chapter summarizes the findings of the study and draws conclusions, which form the basis of recommendations. It further provides suggestions for further studies in line with the shortcomings identified in the study. The conclusions as discussed are aligned to the six study objectives with their corresponding hypotheses.

#### 5.2 Summary of the Findings

The general objective of the study was to examine the determinants of tax compliance among Export Processing Zones investors in Kenya. The key finding was that the level of tax compliance among the Export Processing Zones investors in Kenya was still low. The study findings revealed that the respondents complied with tax payments due to fear of detection and punishment. The study also revealed that audits and penalties are measures used by tax authorities to enhance voluntary tax compliance.

# 5.2.1 Tax Knowledge, Awareness and Tax Compliance

The study sought to examine if tax knowledge and awareness has any significant influence on the tax compliance level among investors in the Export Processing Zones in Kenya. The study found out that a significant number of the EPZ investors put more emphasis on employee training geared at improving their tax knowledge and awareness, thus facilitating tax compliance. The study findings also revealed that tax knowledge and awareness was a major factor that influenced tax compliance among the EPZ investors. The majority of the respondents agreed that more emphasis on employees' training and empowerment was considered in their organizations. The study also realized that all the key staff who handled finance and tax matters had satisfactory knowledge on tax laws and regulations and are therefore able to make tax assessments, file returns and pay taxes due without any difficulties. They further agreed that all employees that handle tax matters attend regular sensitization
programmes organised by the tax authority. The respondents also felt that KRA website does not offer detailed information on various tax matters and procedures. The lack of detailed information leaves them without proper guidance making them reluctant to file returns resulting to low levels of tax compliance. Regression and correlation results indicated that there was a positive and significant relationship between tax knowledge, awareness and tax compliance among the Export Processing Zones investors in Kenya.

### 5.2.2 Tax Attitude and Tax Compliance

The second objective of the study was to assess if attitude towards the tax system influences tax compliance among investors in the Export Processing Zones in Kenya. The study findings revealed that the respondents' attitude towards the tax system influenced their tax compliance largely. The respondents had mixed reactions and attitudes towards tax compliance. Some investors felt that there was no need to pay taxes when it was being misused by individuals in government and at the same time they believed that it was their obligation to pay taxes as stipulated by the law. However, the respondents indicated that the tax system in place motivated them to voluntarily comply with their tax obligations.

They also felt that there was a lot that can be done on the tax systems to ease the work of preparation, filing and payment of taxes. They also agreed that the Kenya Revenue Authority had put in place enough measures to ensure that taxpayers are aware of their tax obligations and reparations of non-compliance. Regression and correlation results indicated that there was a positive and significant relationship between tax attitude and tax compliance among Export Processing Zones investors in Kenya.

#### 5.2.3 Cost of Tax Compliance and Tax Compliance

The third objective of the study was to establish the extent to which the cost of tax compliance influenced tax compliance among investors in the Export Processing Zones in Kenya. The study findings indicated that the cost of tax compliance influenced tax compliance to a great extent. This implies that the cost of tax compliance was a key determinant of tax compliance. The respondents agreed that there were high costs associated with tax compliance. They indicated that they hire

professionals to compute and file their tax returns. They were aware of the tax due dates that related to their businesses. They also indicated that tax compliance costs were always lower than penalty costs. Inferential statistics; regression and correlation results, indicated that there was a positive and significant relationship between cost of tax compliance and tax compliance among Export Processing Zones investors in Kenya.

#### 5.2.4 Relative Tax Rate and Tax Compliance

The fourth objective of the study was to determine the influence of the relative tax rates on tax compliance among investors in the Export Processing Zones in Kenya. The study findings indicated that relative tax rates had a positive influence on tax compliance among the investors in the Export Processing Zones in Kenya. This was supported by the descriptive statistics which indicated that the respondents were in agreement with the view that the relative tax rates in Kenya were fairly administered. The relative tax rates were also discriminatory in terms of individual incomes. Strict regulations by KRA increased their response to tax compliance while the introduction of the iTax system had helped simplify the tax filing burden. The respondents also felt that the tax rates in Kenya were inconsistently adjusted, increase in relative tax rates increased their tax burden and that high tax rates increased the prices of their goods and thus customers opted for cheaper goods. Regression and correlation results indicated that there was a positive and significant relationship between the relative tax rates and tax compliance among Export Processing Zones investors in Kenya.

#### 5.2.5 Enforcement Efforts and Tax Compliance

The fifth objective of the study was to evaluate the influence of enforcement efforts on tax compliance among investors in the Export Processing Zones in Kenya. The study findings demonstrated that enforcement instruments had a positive influence on tax compliance. The level of tax compliance had increased due to the fines charged if one does not comply. They also indicated that KRA carried out regular and prompt audits and that the benefits of tax avoidance and evasion outweighed the cost of paying taxes. However, some of the respondents felt that the KRA enforcement methods were generally weak. Taxpayers evaded taxes through the payment of bribes to tax officials. Collusion with tax officials reduced the chances of being caught and penalized, thus low tax compliance. Regression and correlation results indicated that that there was a positive and significant relationship between enforcement efforts and tax compliance among Export Processing Zones investors in Kenya.

### 5.2.6 Turnover Level and Tax Compliance

The sixth and final objective of the study was to find out if the turnover level had any moderating effect on tax compliance among investors in the Export Processing Zones in Kenya. From the results, it was demonstrated that annual turnover moderated the relationship between tax compliance determinants and tax compliance among EPZ investors in Kenya. The findings imply that the annual turnover does not trigger any relationship between tax knowledge and tax compliance. It does not have any moderating effect on the relative tax rate and attitude on towards the tax system. It was however realized that the cost of tax compliance and enforcement efforts varies with the annual turnover and thus if the turnover increases the cost of tax compliance and enforcement efforts also increases.

### 5.3 Conclusion

From the study findings, it was possible to conclude that tax compliance was influenced by different factors such as tax knowledge and awareness, tax attitude, cost of tax compliance, relative tax rates and enforcement efforts. The tax compliance level among the Export Processing Zones investors was still low. This was attributed to poor tax attitude from the respondents, high costs of tax compliance, high relative tax rates and weak enforcement efforts and systems.

### 5.3.1 Tax Knowledge, Awareness and Tax Compliance

Tax knowledge and awareness was found to be statistically significant in explaining tax compliance among Export Processing Zones investors in Kenya. The study findings revealed that tax knowledge and awareness has a very close relationship with taxpayers' ability to understand the laws and regulations of taxation, and their ability to comply with them. It was therefore possible to conclude that firms that had high tax knowledge and awareness had a high likelihood of complying voluntarily. The study also led to a conclusion that tax knowledge and awareness had a positive and significant relationship with tax compliance.

### 5.3.2 Tax Attitude and Tax Compliance

The study findings revealed that the respondent's attitude towards the tax system influenced tax compliance to a great extent. The study concludes that the tax attitude of taxpayers towards the tax system highly influenced their tax compliance level. This is because they linked their taxes to the public services offered by the government. Thus if an individual is not satisfied with the public services such as education, health, infrastructure among others, their compliance level will also be low and hence will look for means and ways to evade tax. On the other hand, those who were satisfied with the public services offered by the government, complied voluntarily since they were highly motivated to pay taxes. The Kenya Revenue Authority had put in place enough measures to ensure that taxpayers are aware of their tax obligations and reparations of noncompliance. This increased the taxpayers' compliance in the preparation, filing and payment of taxes. The tax compliance certificate issued by KRA also motivates individuals to ensure that they are always tax compliant for the award of the certificate. This certificate is a necessary requirement whenever government and financial services are sought.

### 5.3.3 Cost of Tax Compliance and Tax Compliance

The cost of tax compliance also played a key role in determining the level of compliance. The costs include both direct and indirect tax costs such as auditing costs, costs of hiring personnel and experts for the purposes of tax compliance. The study concludes that cost of tax compliance is statistically significant in explaining tax compliance. The findings imply that taxpayers will comply more when tax compliance costs are lower and tax systems adequately simplified.

### 5.3.4 Relative Tax Rate and Tax Compliance

The study findings indicated that relative tax rates had a positive influence on tax compliance among the Export Processing Zones investors. This led to the conclusion that tax rates in Kenya were fairly administered and that the introduction of the iTax system had reduced the tax burden of taxpayers thus increasing their tax compliance.

#### 5.3.5 Enforcement Efforts and Tax Compliance

The study findings demonstrated that tax enforcement instruments had a positive influence on tax compliance. The study indicates that the level of tax compliance had increased due to the fines charged if one does not comply and the regular and prompt audits carried out by the Kenya Revenue Authority. The enforcement instruments put in place have also led to the reduction of bribery to tax officials. This was as a result of the elimination of brokers due to the implementation of the simplified iTax system. The vigorous and continuous tax systems improvement by the Kenya Revenue Authority has also greatly assisted taxpayers in timely declarations of their business transactions and actual payments of taxes. The study concludes that enforcement efforts had a positive and significant influence on tax compliance among the Export Processing Zones investors.

#### 5.4 Recommendations

Based on the results, findings and conclusions, the following recommendations have been deciphered.

#### 5.4.1 Tax Knowledge, Awareness and Tax Compliance

Since tax knowledge and awareness was found to have a positive influence on tax compliance, the study recommends that the Kenya Revenue Authority should embark on public awareness campaigns to educate the public and investors on their role and responsibilities in taxation rather than approaching the matter from a legal obligation perspective. This will create a sense of responsibility in compliance rather than fear for non-compliance. Putting in place active customer oriented information desks as well as client feedback mechanisms is also necessary. Further, the Kenya Revenue Authority should put in more robust measures to educate the public and the investors in particular on the tax issues and policies through regular training programmes, workshops and seminars.

Although tax morale has strong affective components, education can still play a major role in maintaining and improving compliance. Knowledge and awareness increases taxpayers' sense of control of their tax situations as well as increased chances of filing accurate and timely returns. Consequently, knowledge can decrease feelings of frustration as well as decrease the actual amount of time a taxpayer spends on filing tax returns. Education is also a powerful tool for increasing taxpayer morale by strengthening feelings of identity, reciprocity, fairness and procedural justice.

#### 5.4.2 Tax Attitude and Tax Compliance

Tax attitude was found to be positively related with tax compliance among Export Processing Zones investors in Kenya. The study recommends that the government should put the taxes paid into correct use since taxpayers who are more satisfied with public service provision are more likely to support the Government's right to tax. For an improved understanding of tax compliance attitude and behavior in Kenya, there is need for a more thorough examination of the concept of fairness in the fiscal exchange; the contractual relationship between taxpayers and the Government. In this context, it is also relevant to analyze if and when user charges are to be preferred instead of general taxes to finance public services. Critical factors in this respect are citizens' perceptions about the role of the state, how the tax law is administered, perceptions about enforcement, government trustworthiness and impacts of payments to non-state actors on tax compliance. Furthermore, there is need for other studies focusing on fairness in tax collection and comparative treatments of taxpayers.

### 5.4.3 Cost of Tax Compliance and Tax Compliance

Respondents also confirmed to incur costs in engaging the services of tax agents and tax professionals to handle tax filing issues. This cost is normally a burden to the firms. The government needs to actively engage business enterprises in sensitization meetings on proper record keeping geared towards simplified tax preparations, returns filing as well as tax payments. As such, evaluation of procedural elements geared at growing levels of tax compliance should be explored. Taxpayers should also be sensitized on basic tax calculations to reduce the indirect costs associated with tax compliance.

#### 5.4.4 Relative Tax Rate and Tax Compliance

Relative tax rate had a positive and significant relationship with tax compliance. If traders think that the tax rate is on the higher side, and is not comparable to their incomes, they will tend to find avenues to evade the tax. This has a direct relationship on the compliance level of the taxpayers. The moment traders are not appreciative of the uses of their tax, they will find means and ways to evade and avoid it. These factors will also be worsened by the perception of the traders that some of their colleagues are free riding. The government should ensure that the tax rates are retained at a favourable level. This will discourage investors from engaging in tax evasion due to high personal income tax rates as well as many and complicated rules and regulations imposed by the government. The government should also introduce tax incentives to improve and enhance tax compliance. Tax incentives should not only be used to encourage tax compliance by tax evaders but it is equally important to reward the compliant taxpayers. Rewarding compliant taxpayers will encourage their trade partners to be compliant as well.

### 5.4.5 Enforcement Efforts and Tax Compliance

The study established that enforcement efforts had a positive impact on tax compliance levels among investors. The study recommends that governments need to provide more tax compliance incentives to complement the existing enforcement instruments. Loopholes that allow corruption to thrive should be sealed. This will increase taxpayer confidence in the use of their taxes, thus encouraging them to be tax compliant. Tax authorities should also continually vet their tax officials to help weed out the corrupt officials. Taxpayers should be continuously profiled and databases kept for easy of reference whenever noncompliant cases are noted. Collaboration with partner government as well as integrity agencies should be key in ensuring that all tax evaders and their accomplices are dealt with according to the laid down laws and regulations. Legal and prosecution processes for tax offenders should be well monitored and facilitated to ensure justice is served to the tax authorities and taxpayers.

### 5.5 Areas of Further Research

This study focused on the Export Processing Zones investors in Kenya. It is therefore the researcher's view that further studies be done on other Non-EPZ firms especially those under Government incentive programmes and compare their results with those of this study. It is also imperative to undertake similar studies on other countries running Export Processing Zones programmes. This kind of studies should also be carried out on firms operating under the newly introduced Special Economic Zones programme and comparisons made on the two schemes.

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### **APPENDICES**

# **Appendix I: Questionnaire**

Instructions: This questionnaire seeks to collect data on the various aspects of the study and will only be used for study purposes. Kindly respond to all the questions honestly and to the best of your knowledge.

## SECTION I: BASIC INFORMATION

What is your annual turnover in Ksh?

Below 50 million	( )
51-100 million	( )
101-150 million	( )
151-200 million	( )
Over 200 million	( )

# SECTION 2: FACTORS AFFECTING TAX COMPLIANCE

# **Tax Compliance**

Please indicate on the scale provided below by marking the extent to which you agree with the following statements: Very Great Extent=5, Great Extent=4, Moderate Extent =3, Small Extent=2, Not at all=1.

		1	2	3	4	5
No	Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
1	We comply with tax payments because we fear being detected and penalized.					
2	Audits and penalties influence our tax compliance.					
3	Our tax compliance is influenced by social and personal norms					
4	The rules in the constitution influence our tax morale.					
5	Political party's affiliation increases our tax compliance.					
6	Non-compliance to taxes influences our tax morale and compliance.					
7	Tax payment influences economic development in our country.					
8	We ensure that our organisation is tax compliant at all times.					

## Tax Knowledge and Awareness

Please indicate on the scale provided below by ticking the extent to which you agree with the following statements on challenges experienced when accessing information on taxation: Very Great Extent=5, Great Extent=4, Moderate Extent =3, Small Extent=2, Not at all=1.

		1	2	3	4	5
No	Statement	Not at all	Small Extent	Moderate extent	Great Extent	Very Great Extent
1	Our accounts/finance staff are knowledgeable and aware of tax laws and procedures.					
2	Our accounts/finance staff have been trained on tax issues.					
3	KRA website lacks enough information on various tax procedures hence low tax compliance.					
4	Our fear of paying taxes is influenced by conflicting tax information from different sources.					
5	Our staff often attend refresher courses and seminars organised by KRA.					

# Tax Attitude

Please indicate on the scale provided below by ticking the extent to which you agree with the following statements: Very Great Extent=5, Great Extent=4, Moderate Extent =3, Small Extent=2, Not at All=1.

		1	2	3	4	5
No	Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
1	I believe it is our obligation as a citizens to pay taxes as stipulated by the Law/Government.					
2	The tax system in place motivates us to voluntarily comply with our tax obligations.					
3	I see no point of paying taxes when it is being misused by individuals in government.					
4	I feel that a lot that can be done on our tax systems to ease the preparation, filing of returns and payment of taxes.					
5	I feel that we can pay taxes in all obligations without being followed.					
6	K.R.A has put in place enough measures to ensure that taxpayers know of their tax obligations and reparations of noncompliance.					

# **Cost of Tax Compliance**

1. On average, what is your monthly cost of preparing, filing returns and paying taxes.

 Below Ksh 10,000
 ( )

 Between Ksh 10,001 and Ksh 50,000
 ( )

 Between Ksh 50,001 and Ksh 100,000
 ( )

 Over Ksh 100,000
 ( )

2. Which of the following expenses constitute the highest tax compliance cost?

Cost of employing professional staff	(	)
Book Keeping	(	)
Software and Internet	(	)

3. Please indicate on the scale provided below by ticking the extent to which you agree with the following statements: Very Great Extent=5, Great Extent=4, Moderate Extent =3, Small Extent=2, Not at all=1.

		1	2	3	4	5
No	Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
1	We feel that there is a lot that can be done on our tax systems to ease the preparation, filing and payment of taxes.					
2	K.R.A has put in place enough measures to ensure that taxpayers know of their tax obligations and reparations of non-compliance.					
3	We are able to correctly calculate the taxes due and payable by ourselves.					
4	We hire professionals to compute and file of our tax returns.					
5	There are high costs associated with Tax compliance.					
6	We are aware of the tax due dates that relate to our business.					
7	Tax compliance costs are always lower than penalty costs.					

# **Relative Tax Rate**

Please indicate on the scale provided below by ticking the extent to which you agree with the following statements: Great Extent=5, Great Extent=4, Moderate Extent=3, Small Extent=2, Not at All=1

		1	2	3	4	5
No	Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
1	The tax rates in Kenya are fair.					
2	The Kenyan Tax Rates are higher compared to those of other countries.					
3	Tax Rates in Kenya are inconsistently adjusted.					
4	Increase in tax rates increases our tax burden.					
5	Strict regulations by KRA increases our response to tax compliance.					
6	The introduction of the iTax system has helped reduce the tax preparation, filing and payment burden.					
7	High tax rates increase the prices of our goods and thus customers opt for cheaper goods.					

### **Enforcement Efforts**

1. Has your company ever paid any penalties for tax non-compliance?

Yes No

2. If yes in 1 above; What was the percentage of the penalty raised compared to the principal tax

5%	(	)	
10%	(	)	
15%	(	)	
20%	(	)	
Over 20%	(	)	

Please indicate on the scale provided below by ticking the extent to which you agree with the following statements: Great Extent=5, Great Extent=4, Moderate Extent =3, Small Extent=2, Not at All=1.

		1	2	3	4	5
No	Statement	Not at all	Small Extent	Moderate Extent	Great Extent	Very Great Extent
1	Fines, influence the levels of tax compliance.					
2	KRA carries out regular and prompt audits.					
3	The benefits of tax avoidance and evasion outweigh the cost of paying taxes.					
4	The KRA enforcement methods are generally weak.					
5	PenaltiesarefairlyadministeredinKenyauponfailure to comply.					
6	Taxpayers evade taxes as a result of strict penalties.					
7	Payment of bribes to tax officials reduces the chances of being penalized.					

# Thank you for your time and participation.