# MODERATING ROLE OF PERCEIVED TAX FAIRNESS ON THE SELECTED DETERMINANTS OF EXCISE DUTY COMPLIANCE AMONG MANUFACTURING FIRMS IN THIKA TOWN KENYA

**BY**

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## DECLARATION

**Declaration by Candidate**

This project represents my original work and has not been submitted for any degree at any other institution. Reproduction of any section of this thesis is prohibited without obtaining prior permission from the author and/or Moi University.

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This research project has been submitted with our approval as University Supervisors.

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## DEDICATION

I dedicate this research to my cherished family and friends for their steadfast support throughout the study.

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## ABSTRACT

Adhering to excise duty is crucial for promoting social and economic progress, as it aids in reducing government fiscal deficits and debt while providing funding for infrastructure initiatives. The challenges faced by local manufacturing industries in adhering to regulations and fulfilling excise duty obligations pose significant obstacles for the government in securing adequate revenue. This phenomenon is consistently observable, yet it frequently garners less attention compared to direct taxes like income and corporate taxes. This investigation sought to explore the moderating influence of perceived tax fairness on the elements affecting excise duty compliance among manufacturers in Thika Town, Kiambu County, Kenya.The objective of the study was to evaluate how tax knowledge, peer influence, penalty rate, and probability of detection affect excise duty compliance among beverage manufacturers in Thika Town, Kiambu County, Kenya. The objective of the study was to investigate how perceived tax fairness moderates the factors that affect excise duty compliance among manufacturers located in Thika town, Kiambu County, Kenya. The study was grounded in economic deterrence theory, social exchange theory, and comparative treatment theory. The study utilized an explanatory research design. The unit of analysis was the individual employees in the manufacturing firms while the unit of observation are the registered manufacturing firms. The investigation focused on a sample of 124 manufacturing firms, engaging the head of finance, finance manager, and accountant from each organization, culminating in a total of 372 participants. Data was gathered using structured questionnaires. The investigation utilized correlation and hierarchical multiple regression analysis to clarify the relationships among the variables studied. The results demonstrate that tax knowledge ($\beta = -0.067$, $p < 0.05$), peer influence ($\beta = -0.056$, $p < 0.05$), penalty ($\beta = -0.068$, $p < 0.05$), and probability of detection ($\beta = -0.007$, $p < 0.05$) all have a negative and statistically significant effect on compliance with excise duty. The findings on moderation indicate that perceived tax fairness moderates the relationship between tax knowledge and excise duty compliance ($\beta = 0.017$, $p < 0.05$). Additionally, perceived tax fairness also moderates the relationship between peer influence and excise duty compliance ($\beta = 0.014$, $p < 0.05$) within manufacturing firms in Thika town, Kenya. Furthermore, the perception of tax fairness moderates the relationship between penalty rate and excise duty compliance ($\beta = 0.016$, $p < 0.05$), moreover, perceived tax fairness moderates the link between the probability of detection and excise duty compliance ($\beta = 0.002$, $p < 0.05$). The findings suggest that tax knowledge does not automatically lead to better compliance, pointing to a possible disenchantment with the tax system or its fundamental intricacies. This study finds that peer influence exerts a considerable negative impact, indicating that social dynamics can hinder compliance, causing firms to mirror the non-compliant behaviors of their counterparts. The findings recommends that firms can enhance compliance through structured training programs that emphasize lawful practices and the benefits of compliance. It is essential to establish programs that encourage compliance among firms by utilizing positive peer influence through the dissemination of success stories and shared experiences from compliant organizations. The study also recommends that policymakers should ensure that tax regulations are perceived as fair and just, potentially leading to improved compliance levels. This suggests that views on fairness may affect responses to tax policies and pressures. This study recommends that manufacturing firms develop targeted tax education interventions that inform and foster an understanding of the benefits of compliance and the collective advantages derived from tax contributions. The study recommends that tax authorities review and potentially adjust penalty rates to ensure fairness and proportionality, which may enhance perceived tax fairness and compliance.

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# CHAPTER ONE

# INTRODUCTION

## 1.0 Introduction

This chapter covers the introduction to the study, and the background in the global, regional, and local viewpoints. The problem statement, general objective, and specific objectives of the study are also discussed as well as the research hypotheses, significance, and the scope of the study.

## 1.1 background of the study

The management of national revenue heavily relies on taxation, making it a vital tool in both developed and developing countries (Tabandeh, Jusoh, Nor, & Zaidi, 2013). Taxation is pivotal for financing government expenditures and is deemed as the primary source of public finance. According to Saez (2004), taxes operate as a means of both raising money and transferring income from the rich to the less fortunate. Taxes are also imposed to support environmental and public health initiatives. For example, the implementation of some tariffs, like a cigarette sin tax, is intended to decrease cigarette usage in order to promote healthier lives and lessen the negative effects of cigarette smoke (Miskam, Noor, Omar, & Aziz, 2013).

Excise duty compliance among manufacturing firms is a critical aspect of tax regulation and fiscal policy in many countries. Excise duty is a form of indirect tax imposed on specific goods produced within a country, and it can significantly impact the pricing, production processes, and overall profitability of manufacturing firms. Maintaining excise duty compliance is essential for manufacturing firms to minimize financial risk and avoid legal issues. By understanding their obligations, investing in compliance infrastructure, and prioritizing proper training and audits, manufacturers can effectively manage their excise duty responsibilities. Excise tax, as an economic instrument, has four goals (Atkinson, 2016). Its first goal is to provide an alternative

source of government revenue. Compared to income tax, excise can generate significant additional revenue at low political and economic cost (Obiero, 2018). The second goal is the application of the benefit principle of taxation, whereby taxes are imposed on those who use the goods and services (that is, a 'user pays' principle). Further reasons for using excise to boost revenue include the high volume of sales and limited substitutability with other items that can provide the same utility (despite the high prices due to excise duty).

Many governments, countries, and rising economies use excise taxes as a major component of their economic policies. Mashiri and Sebele-Mpofu (2017) assert that excise taxes play a significant role in the accumulation of wealth and economic expansion in numerous developing nations. Kenya's government continues to rely heavily on excise taxes to generate money. Excise taxes have shown themselves to be a successful tool when the government wants to boost revenue in order to control budget imbalances. Furthermore, recent tax rate changes that take place outside of the regular government budget cycles have mostly targeted excisable goods like motor cars, fuels, cigarettes, alcohol, soft drinks, and bottled water (Ibraimi, 2018).

Excise duty, which is applied to both locally produced and imported items into Kenya, is one component of indirect taxes. It is a tool for influencing the behavior and consumption habits of the general public (Delipalla, 2009). The Excise Duty Act applies to products such as alcohol, cigarettes, cigars, four-wheel drive and multipurpose vehicles, and playing cards. The tax authorities will apply penalties, which are linked to fines or punishments, to taxpayers who are the focus of audits and investigations. Research on the impact of fines on tax non-compliance has produced conflicting results. Penalties and compliance with tax laws are strongly correlated, according to several academic scholars (Maciejovsky, Schwarzenberger, & Kirchler, 2012).

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According to Devos (2013), penalties and tax compliance are positively correlated. On the other hand, Slemrod's (2004) study suggests that the severity of penalties may dissuade taxpayers from accurately reporting their tax returns due to a greater inclination towards profit than loss.

The ongoing controversy around the effects of excise taxes on upscale or unhealthy food and beverage items and how they affect the financial performance of participating importers has been covered by Preece (2017). Andrejs et al. (2017) looked at how excise tax increases affected Latvian alcoholic beverage manufacturing companies' financial performance and discovered that they had a negative effect. There are both advantages and disadvantages for manufacturing companies when excise taxes are imposed and excessively shifted to the manufacturing sector, claim Caitlan and Walbeek (2016). Excise taxes, according to Pomaskow (2016), are a selectively applied levy on products and services that are primarily intended to generate significant government revenue with little in the way of administrative or compliance costs. Due to the low own-price elasticity of demand for a limited number of products manufactured by large firms, excise taxes are typically levied at high rates on these goods. Because of the

negligible impact of price changes on consumer purchases, high tax rates and stringent administrative controls can be implemented, generating substantial tax income.

Caitlan & Walbeek (2016) suggest that the installation and excessive transfer of excise duty onto the manufacturing sector may have both beneficial and negative consequences on manufacturing businesses. The financial performance of industrial enterprises listed on the Nigerian Stock Exchange is significantly influenced by excise tax planning, according to Ogundajo and Onakoya (2016). An analysis of the annual reports and financial statements of ten selected businesses from the twenty-eight listed in the consumer products category served as the basis for this. Nigerian companies have not fully utilized aggressive excise tax planning strategies such tax law incentives and thin capitalization, the study's findings indicate. According to Muriithi and Moyi (2015), the Kenya Revenue Authority's Customs and Excise Department is responsible for managing excise taxes in Kenya, which are levied in accordance with the Customs and Excise Act (Chapter 472).

Gatsi, Gadzo, and Kportorgbi (2013) emphasized the crucial role of the manufacturing sector in any economy, highlighting its significant impact on job creation and increased tax contributions. Kenya's Industrial sector relies heavily on manufacturing, as stated in the Kenya National Bureau of Statistics Economic Report (2017), which views it as a key driver of economic growth and a means of enhancing diversification. In a study by Linegar and Walbeek (2018) on the effects of excise tax rate increases on cigarette prices in South Africa, data from the National Treasury of South Africa's Budget Reviews was used to demonstrate that higher excise tax rates led to increased cigarette prices, impacting the producing firms as well. Furthermore, Chesire's (2018) research on the effects of excise taxes on the profitability of companies that manufacture cigarettes and alcohol and are listed on the Nairobi Securities Exchange specifically looked at

BAT and EABL. Using a descriptive research design and multiple regression analysis, the study found a negative correlation between profitability and excise tax using secondary data from financial statements and the NSE handbook. The independent variables were excise tax and the control variables were net profit and liquidity.

"Close friends," "spouses / significant others," "family members," and "current or potential employers" are examples of peer influence (Hanno & Violette, 1996). Previous study has yielded a variety of conclusions about the influence of peers on tax compliance. Peer influence is the effect that an individual's perception of the actions of others in a particular situation has on their own actions, whether that influence be positive or negative, according to O'Shaughnessy (2014). Previous research has shown conflicting findings about the relationship between peer influence and tax compliance. According to previous studies on tax compliance, taxpayers are more likely to evade taxes if they believe their peers are doing the same (Grasmick & Scott, 1982; Spicer & Becker, 1980).

Influencing compliance behavior requires an understanding of taxes. Specific information required for the importation process, such as tariff classification, value, origin restrictions, and customs facilitations, is included in customs-related tax knowledge. The processes involved in clearing goods are also included, and they may involve a number of organizations, including customs, port operators, port authorities, health departments, and agricultural departments. According to Kasipillai, Aripin, and Amran (2003), tax knowledge is the understanding of tax laws and regulations by taxpayers that serves to discourage non-compliance. Improving taxpayers' understanding will enable them to better understand the laws and tax structure of their home nations. Accurately declaring products for import, indicating tariff codes, comprehending tax rates, and navigating the goods entry procedure are all made possible by taxpayers with

adequate tax knowledge, which increases importers' compliance. Loo, Mckerchar, and Hansford (2009) discovered that tax knowledge significantly influences taxpayers' compliance behavior. Higher levels of tax knowledge can enhance compliance as individuals understand the regulations and consequences of non-compliance better. Moreover, compliance may be influenced by the behavior and attitudes of peers. If peers are compliant, individuals may feel social pressure to comply as well. A higher penalty rate may deter non-compliance; however, its effectiveness can depend on individual perceptions of risk and fairness. The perceived probability of being caught may also deter non-compliance, reinforcing the influence of penalties. The effectiveness of this factor may vary based on individual circumstances or beliefs. Perceived tax fairness can significantly affect how individuals respond to tax knowledge, peer influence, penalties, and detection probabilities(Ghani, Abd Hamid, Sanusi, & Shamsuddin, 2020). If individuals believe the tax system is fair, they may be more inclined to comply regardless of the penalty or detection risk. If perceived fairness is low, individuals may resist compliance despite high penalties and detection probabilities, viewing compliance as unjust. Conversely, strong beliefs in fairness can enhance the effectiveness of educational efforts and social influences. Including perceived tax fairness may clarify why some individuals comply while others do not, even in similar circumstances, providing a deeper understanding of compliance behavior (Musimenta, 2020).

Perceived tax fairness is rooted in equity theory, which posits that individuals assess their contributions (in this case, taxes paid) relative to the benefits they receive and the contributions of others (Castañeda, 2024). Thus, the perception of fairness in the tax system can significantly influence compliance behavior among firms. When firms perceive the excise tax as fair, they are more likely to comply, while perceptions of unfairness may lead to tax evasion or avoidance.

Numerous studies(Cansunar, 2021; Castañeda, 2024; Sebele-Mpofu, 2020) have indicated that perceived tax fairness directly impacts compliance behavior. For example, firms that perceive higher levels of fairness in the tax system report higher levels of voluntary compliance. By examining the moderator in tax compliance research, it becomes clear that perceived fairness can reshape how firms respond to the determinants of excise taxes.

Although prior research has shown conflicting results about the relationship between tax non-compliance and fairness, tax fairness is a significant factor in determining taxpayer compliance behavior. Taxpayers' attitudes and opinions of the tax system's fairness have a big impact on how compliant they are (Alabede, 2012). If taxpayers believe the tax system is unjust to them, they are more likely to engage in non-compliance behavior (Gilligan & Richardson, 2005). Furthermore, if taxpayers feel that the tax system is unfair, they are more likely to disobey tax laws and regulations (Spicer and Lundstedt, 1976). According to Porcano (1984), the ability of taxpayers to pay and the degree to which their wants are satisfied determine how fair the tax system is. Additionally, Richardson (2006) discovered that the fairness of the tax system and tax evasion were significantly correlated negatively. On the other hand, Murphy (2004) found that procedural justice had a direct and favorable effect on tax compliance. Verboon and van Dijke (2011) also observed a favorable correlation between tax compliance, deterrent, and procedural fairness. Excise taxes in Kenya are managed by the Customs and Excise Department of the Kenya Revenue Authority and are governed by the Customs and Excise Act (Chapter 472), as noted by Muriithi and Moyi (2017). Interestingly, the main excisable items in Kenya are motor cars, petrol, tobacco, alcohol, and soft drinks.

## 1.2 Statement of the problem

Taxation plays a crucial role in the development of any economy, and therefore, tax evasion has detrimental effects on the economy. It undermines government revenue collection and leads to inefficiencies in government spending, reducing the state's ability to raise domestic resources necessary for investments (OECD, 2016). Excise Duty is imposed on excisable goods and services, such as bottled water, juice, cigarettes, second-hand motor cars, and alcoholic beverages. Compliance with Excise Duty has been minimal, providing only 15% to the total income collected in Kenya. Domestic excise duty revenue for the 2021–2022 fiscal year was Ksh. 66.259 billion, which was 91.4% of the Ksh. 74.533 billion objectives but Ksh 8,274 billion short of it (KRA, 2022). KRA only collected Kshs.68.124 billion in the 2022–2023 fiscal year, falling short by Ksh 11.398 billion of the target of Kshs.79.522 billion (KRA, 2023). Concerns have been expressed about this, especially in light of the diminishing excise duty revenue from cigarettes. For instance, revenue was 12,221.16 million in 2020 and 11,759.14 million in 2021.
In 2022, the revenue further decreased to 11,757.73 million (Economic Survey, 2023).

Since excise duty compliance has a direct impact on government revenue and the state of the economy as a whole, it is a crucial issue for Kenyan manufacturing companies. However, a lot of businesses have trouble staying in compliance, which results in underreporting and large tax gaps. Even with defined rules and regulations, little is known about the elements that affect compliance. According to earlier studies, factors including tax expertise, peer pressure, penalty rates, and the likelihood of detection have a big impact on compliance behavior. However, there is a lack of research on the relationship between these variables and perceived tax fairness, which is a personal assessment of the justice and equality of the tax code. Several prior research (Habib, Wati, & Wardini, 2022; Harun, 2020; Kakui, 2023) have investigated the association between

selected determinants of excise duty on excise duty compliance , but the findings have been inconclusive.

The discrepancy in tax compliance might be partially caused by the firms' views of tax justice, which could moderate the effects of peer pressure, tax knowledge, penalty rates, and the chance of detection on compliance behavior. Because perceived fairness can affect a firm's attitude toward tax responsibilities and, in turn, its compliance actions, this interaction is critical. Given the diverse results noted in earlier empirical studies, it is essential to conduct further investigations to gather more evidence and clarify the relationship between the variables being examined. Furthermore, it was essential to carry out further tests to assess potential interaction effects. This study intends to close the gap in the empirical literature by examining this moderating role in the context of Thika town's manufacturing sector. Policymakers and other stakeholders working to improve tax compliance procedures and practices among these enterprises will benefit greatly from an understanding of the interactions between perceived tax fairness and important determinants of excise duty compliance.

### 1.3 General Objective

The general objective of this study was to assess the moderating role of perceived tax fairness on the selected determinants of excise duty compliance among manufacturing firms in Thika town in Kenya.

#### 1.3.1 Specific Objectives

The specific objectives that guided this study were:

1. To establish the effects of tax knowledge on excise duty compliance among manufacturing firms in Thika town in Kenya.

2. To establish the effects of peer influence on excise duty compliance among manufacturing firms in Thika town in Kenya
3. To examine the effects of penalty rate on excise duty compliance among manufacturing firms in Thika town in Kenya
4. To investigate the effects of the probability of detection on excise duty compliance among manufacturing firms in Thika town in Kenya
5. To determine the moderating role of perceived tax fairness on the relationship between tax knowledge and excise duty compliance behavior among manufacturing firms in Thika town in Kenya
6. To examine the moderating role of perceive tax fairness on the relationship between peer influence and excise duty compliance behavior among manufacturing firms in Thika town in Kenya
7. To evaluate the moderating role of perceive tax fairness on the relationship between penalty rate and excise duty compliance behavior among manufacturing firms in Thika town in Kenya
8. To establish the moderating role of perceived tax fairness on the relationship probability of detection and excise duty compliance behavior among manufacturing firms in Thika town in Kenya

### 1.4 Hypothesis

The study was guided by the following research hypotheses;

**$H_{O1}$**: Tax Knowledge has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya.

**$H_{O2}$**: Peer influence has no significant effect on excise duty compliance behavior among

manufacturing firms in Thika town in Kenya.

**$H_{O3}$**: Penalty Rate has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya.

**$H_{O4}$**: Probability of detection has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya.

**$H_{05a}$**: Perceived tax fairness has no significant moderating effect on the relationship between tax knowledge and excise duty compliance among manufacturers firms in Thika town in Kenya.

**$H_{05b}$**: Perceived tax fairness has no significant moderating effect on the relationship between peer influence and excise duty compliance among manufacturers firms in Thika town in Kenya.

**$H_{05c}$**: Perceived tax fairness has no significant moderating effect on the relationship between penalty rate and excise duty compliance among manufacturers firms in Thika town in Kenya.

**$H_{05d}$**: Perceived tax fairness has no significant moderating effect on the relationship between the probability of detection and excise duty compliance among manufacturers firms in Thika town in Kenya.

## 1.5 Significance of the Study

This study sought to establish the moderating effect of perceived tax fairness on the relationship between selected determinants of excise duty and excise duty compliance among manufacturing firms in Kenya. The results found out that tax knowledge, peer influence, penalty and probability of detection had a significant effect on compliance with excise duty. The findings on moderation indicated that perceived tax fairness moderates the relationship between tax knowledge, peer

influence, penalty rate , probability of detection and excise duty compliance. The research is beneficial to various stakeholders, including policymakers, management, and producers of alcoholic beverages. The Government of Kenya, via its legislative body, Parliament, enacts laws concerning excise duty on different excisable commodities and services, including alcoholic beverages. According to the study's findings, the government will be capable of formulating and implementing excise tax regulations that generate revenue for governmental initiatives and expenditures, while also ensuring the profitability of Kenyan alcoholic beverage manufacturers. This will be of significant relevance to the Kenyan economy.

The study will assist the government in formulating policies that can enhance compliance with excise duty among alcoholic beverage manufacturers in Kenya. The government would enhance excise tax revenue collection, facilitating the attainment of its Vision 2030 objectives. The study will contribute to the existing information base, providing academics and scholars with recommendations for additional investigation into excise duty compliance. Researchers and researchers will utilize the study as a reference point for any subsequent scholarly work or publication pertaining to excise duty.

The research holds significant value for a diverse array of stakeholders, including policymakers, management professionals, and manufacturers of alcoholic beverages. The Government of Kenya, through its legislative body, Parliament, formulates laws concerning excise duties applicable to various excisable goods and services, including alcoholic beverages. The insights derived from this study will enable the government to formulate and enforce excise duty laws and regulations that not only generate revenue for governmental projects and expenditures but

also ensure the profitability of alcoholic beverage manufacturers in Kenya. This is crucial for the overall health of the Kenyan economy.

### 1.6 Scope of the Study

The purpose of the study was to determine the moderating role of Perceived tax fairness on the selected determinants of excise duty compliance among manufacturers in Thika Town in Kiambu County, Kenya**.** The study was specifically looking into the effect of penalty rate, peer influence, probability of detection, and tax knowledge on excise duty compliance among manufacturers in Thika town in Kiambu Nairobi County, Kenya while the moderating variable was Perceived tax fairness. The study employed an explanatory research design. The study had 3 respondents from each of the 124 manufacturing companies in Thika town in Kiambu County making a total of 372 respondents. The study used a census survey, where all units from the population of interest were analyzed. Primary data was collected through structured questionnaires. To analyse the data, the study adopted correlation and multiple regression analysis to provide an understanding of the relationship between the variables in the study.

## CHAPTER TWO

## LITERATURE REVIEW

### 2.0 Introduction

This chapter presents a comprehensive review of the concepts of determinants of excise duty compliance, the concept of tax Knowledge, Peer influence, Penalty Rate and Probability of detection. The underpinning theories, empirical studies, and the conceptual framework.

## 2.2 Concept of Excise Duty Compliance

Excise duty compliance for citizens entails meeting duties pertaining to excisable products and services, including registration, timely payment of excise duty when required, accurate declarations through return filing, and compliance with other excise tax regulations (Kimungu & Kileva, 2007).

Excise taxes are targeted taxes that are applied to particular goods and services; they may be placed on a particular commodity, activity, privilege, occupation, sale, or manufacture, according to the OECD (2016). According to Due (2010), excise taxes are imposed on production rather than sales, covering services as well as the manufacturing or selling of domestic or imported commodities at a set or ad valorem rate, and they are subject to monetary or physical supervision.

In other jurisdictions, state and federal governments rely on excise duty as a vital source of funding for infrastructure, spending, and other significant initiatives. Because they are deemed non-essential, goods and services including gambling, entertainment, cigarettes, and alcohol are usually subject to excise duty. Excise duty is a major factor in lowering the demand and consumption of excisable goods and services by driving up their prices. For example, because gasoline use is closely related to highway travel and petroleum use, gasoline is taxed to fund the development of highway infrastructure. Certain goods and services that are considered damaging to consumers are subject to excise duty, which can provide substantial income without having a major effect on market dynamics.

Excise taxes, which contribute significantly to the country's budget and deter the purchase of specific goods and services, are a crucial component of indirect taxes in Kenya. In contrast to excisable services, which primarily comprise gambling, cellular phone services, money transfer

services, and petroleum products, these products include cigarettes, alcohol, tobacco, motor cars, plastic bags, and imported sugar confections.

Kenya's Excise Duty Act is amended frequently to enhance the way excise duty is administered and its rules are enforced. These revisions, which are implemented through yearly Finance Acts, are meant to fill in any gaps that may occur. The Excise Duty Act, for instance, was amended in 2023 by section 44 of the Finance Act 2023. Licensed producers of alcoholic beverages are now required by this modification to notify the KRA of excise duty within twenty-four hours after taking items out of a stockroom. Furthermore, a number of sanctions for failure to comply with the excise stamp requirements specified in the Excise Duty (Excisable Products Management System) Regulations, 2017 were added by section 43 of the Finance Act 2023.

### 2.2.1. Tax Knowledge

Tax experts have differing interpretations of what is meant by "tax knowledge." The phrase's usage ranges from a one-dimensional interpretation to an umbrella term for various tax knowledge levels and types (Bornman & Ramutumbu, 2019). Consequently, it is contended that the concept of tax knowledge lacks precise definition in tax compliance research and is generally employed in a broad context, highlighting a gap in the literature. According to Waschmann and Bornman (2020), tax knowledge encompasses a comprehensive comprehension of the applicable laws and regulations, as well as a broad awareness of financial matters and the responsibilities associated with adhering to tax regulations.

Additionally, it is suggested that these three components, which are divided into three categories: procedural, legal, and general tax knowledge, could be included in a framework of tax knowledge (Mat Jusoh, Mansor, Abd Razak, & Wan Mohamad Noor, 2021). The public's comprehension of significant tax policy matters, such as progressive taxation, is insufficient.

Stewart (2022), referencing research from the United States and Britain, observed that extensive studies on public attitudes, perceptions, and understanding of taxes and tax policy consistently reveal a significant level of ignorance and confusion among the populace. In a tax system reliant on voluntary compliance, a comprehensive understanding of tax rules is crucial, especially for accurately assessing one's tax due (Slemrod, 2019). Recent studies in Malaysia (Ghani, Abd Hamid, Sanusi, & Shamsuddin, 2020; Mat Jusoh et al., 2021; Sritharan & Salawati, 2019) indicate that taxpayers' comprehension of taxation is the paramount determinant influencing their adherence to the self-assessment system.

### 2.2.2. Peer influence

Peer influence refers to the exertion of pressure by friends, relatives, business colleagues, and partnerships, which subsequently affects an individual's decision-making process (Laursen & Veenstra, 2021). In the context of this study, the term 'peer' is commonly used to refer to those who share a taxpayer's social circle, including family members, relatives, co-workers, and other acquaintances (Ogunfunmilayo, 2020). It can also be described as the influence of influential individuals on the tax compliance decisions of others, which shapes their views on whether to adhere to or avoid paying taxes (Abd Obaid, Ibrahim, & Mat Udin, 2020). According to Singh (2019), who are social psychologists, they offered an intellectual explanation that suggests when individuals' peers and close acquaintances avoid making a commitment, those who are close to them are more inclined to behave in a similar way. Moreover, individuals may be inclined to engage in illegal behavior when they witness their peers committing similar breaches (Davis et al., 2003). Peer groups exert a substantial impact on an individual's viewpoints, attitudes, and actions (Al Zeer, Alkhatib, & Alshrouf, 2019). According to Al-Rahamneh and Bidin (2022), if

taxpayers are significantly influenced by their peers, it would also impact their decisions, personal beliefs, and attitudes.

Kassa (2021) asserts that taxpayers' perceptions of the likelihood of tax evasion being accepted or rejected are influenced by their peers. Peer influence is identified as a significant factor affecting taxpayer behavior from a tax perspective (Taing & Chang, 2021). Peer influence significantly affects colleagues' tax behavior, as noted by Maseko in 2014. Consequently, when a taxpayer recognizes that other taxpayers are participating in tax evasion, they are more likely to abstain from filing a tax return. This is consistent with social influence theory. Kelman (1958) introduced the social influence theory, positing that individual behavior is shaped by external variables, both intentionally and unintentionally. The social influence theory is associated with the theory of social learning, originating from Bandura's (1977) notion that an individual's environment affects their behavior. Additionally, it underscores the importance of peer opinions and the extent of social influence on an individual's socialization, particularly in identifying tax evasion behavior (Sutinen and Kuperan 1999).

Previous studies demonstrate that peer influence significantly affects compliance decisions (Blanthorne & Kaplan, 2008; Bobek et al., 2007). Wenzel (2002) indicated that peer pressure had a notable impact on tax compliance behavior. It is crucial to consider peer influence when analyzing tax compliance behavior, as highlighted by Lefebvre et al. (2015). Prior studies on tax compliance behavior (Bobek et al., 2013; McGee et al., 2011; Tusubira & Nkote, 2013) have identified a correlation between peer influence and tax compliance. In contrast, numerous studies on tax compliance behavior have demonstrated a negative relationship between peer influence and tax compliance (Alon & Hageman, 2013; Palil et al., 2012).

### 2.2.3. Penalty Rate

A penalty is a form of punishment used by the tax authority to discourage taxpayers from not complying with the law. A tax penalty is a punitive measure imposed by tax legislation as a result of engaging in an activity that is prohibited or failing to carry out a required action, such as tardily filing a tax return or submitting returns that are erroneous or undervalued. According to Ladi and Henry (2015), tax authorities frequently use the penalty rate to find out how much a taxpayer who has not paid their taxes must pay in penalties. Tax penalties encourage taxpayers to voluntarily meet their tax obligations by serving as a deterrent (Yong, 2005).

Research by Erani & Meiliana (2016), Siamena, Sabijono, & Warongan (2017), and Siregar (2017) indicates that tax penalties, particularly fines, significantly influence taxpayer compliance. The respondents recognize that taxes are the primary source of government revenue necessary for addressing public needs, including the development of facilities and infrastructure, which contributes to a higher level of tax compliance in state funding. The systematic and structured application of tax penalties will improve compliance among corporate taxpayers. Tax penalties can be analyzed in relation to behavior influenced by external factors through the framework of attribution theory. Consequently, imposing fines as tax penalties serves as a crucial method for educating individuals who violate tax regulations. Increased financial penalties are likely to enhance taxpayer compliance with tax laws.

A study by Mohd Yusof, Lai, and Yap (2014) indicates no significant correlation between the frequency of tax penalties and tax non-compliance, consistent with Kamdar's findings from 1997. Sheikh Obid (2014) analyzes the influence of tax penalties on taxpayer compliance with tax regulations, concluding that the severity of penalties and the effectiveness of detection play significant roles in the prevalence of tax evasion. Sapiei and Kasipillai (2013) found no

significant correlation between the perceived effects of tax deterrence and non-compliance among corporate taxpayers.

The disparity in the final result can be attributed to taxpayers' propensity for risk-taking in compliance determination. The relatively minor penalties and fines imposed by the IRBM frequently lead taxpayers to neglect their compliance obligations.

### 2.2.4. Probability of Detection

According to tax law, the probability of detection refers to the likelihood that a person or entity would be caught and punished for breaking tax rules or regulations. Such behaviors may include purposefully hiding income, inflating deductions, or engaging in other forms of tax evasion. A number of factors, including the effectiveness of tax enforcement agencies, the use of technology and data analysis to identify discrepancies in tax returns, and the overall complexity of the tax system, affect the likelihood of detection. A higher chance of being caught can deter individuals and businesses from breaking tax laws.

By employing tactics like audits, investigations, information-sharing agreements between jurisdictions, and public awareness campaigns to inform people about the consequences of non-compliance, tax authorities most often seek to increase the probability of detection. By increasing the likelihood of identifying and punishing non-compliant behavior, tax authorities hope to increase voluntary compliance with tax laws.

An important factor in determining tax compliance is the discovery probability. The probability that the tax authorities would find instances of non-compliance by taxpayers and then take corrective action is known as the compliance in terms of probability of detection. According to Allingham and Sandmo (1972), when there is a high chance of being caught with tax fraud, people are more likely to record their income truthfully.

### 2.2.5. Concept of Tax Fairness

The government's main source of funding for infrastructure projects and other costs associated with social and economic development is taxation (Ndirangu, 2022). Since tax fairness is seen as a basic feature of an effective tax system (Wrede, 2014), it plays a critical role in influencing taxpayers' compliance behavior. According to Idrus (2024), tax fairness is a subjective concept that reflects taxpayers' opinions regarding a just and equitable allocation of tax obligations.

Scholars in the tax literature have extensively employed the equity theory of motivation, first proposed by Stacey Adam in 1963, to evaluate how taxpayers' compliance behavior is affected by their perception of fairness in relation to tax structures (Bin-Nashwan, Al-Hamedi, Marimuthu, and Al_Harethi, 2020). According to the equity theory, a person might become demotivated if they don't receive rewards that are fair, reasonable, and comparable to those of others performing at the same level (Jansen & Hlongwane, 2019).

Administrative fairness refers to the specific provisions of tax laws and the procedures that are carried out by tax authorities; personal equity often refers to the perception of taxpayers regarding the fairness of the tax system; retributive fairness focuses on the methods and consequences of sanctioning and punishing taxpayers who do not comply with regulations; horizontal fairness is the situation where individuals with similar socioeconomic origins are subject to an identical tax rate; vertical fairness means that individuals with different economic circumstances should contribute different amounts of payment; and general fairness (Susilawati & Rahayu, 2021).

## 2.3. Theoretical Review

### 2.3.1 Economic Deterrence Theory

This theory underscores incentives. The theory asserts that taxpayers, as amoral utility maximizers, yield to financial incentives that emphasize profit maximization and risk minimization regarding discovery. To optimize anticipated after-tax returns while accounting for risk, taxpayers evaluate several compliance strategies, including tax avoidance, the likelihood of detection, and the subsequent repercussions. Consequently, the proposition indicates that more stringent punishments for non-compliance are essential to promote adherence. Consequently, a hypothesized positive correlation exists between tax fines and tax compliance. An escalation in tax penalties would result in heightened tax compliance, and conversely, a reduction would diminish compliance. Tax compliance would increase with a rise in the tax penalty, and decrease conversely.

The concept suggests that rational taxpayers alone take economic concerns into account while making decisions. If they foresee that the expenses of evasion would surpass the advantages, they will adhere to compliance. Compliance is superfluous if the costs of evasion are inferior to the benefits. To mitigate tax evasion, it is adequate to increase the frequency of taxpayer audits and impose more severe penalties. This approach seems remarkably compelling in its straightforwardness. Nonetheless, no tax authority can consistently inspect every taxpayer and impose severe penalties. Prudent taxpayers may consider this and opt to persist in tax evasion. Moreover, actual instances of tax evasion are significantly lower than theoretical predictions, so undermining the concept.

Various socioeconomic and psychological factors, for instance, influence actual levels of tax compliance. Revenue agencies should be mandated to cease employing economic deterrence as their primary strategy and instead concentrate on understanding taxpayer behavior and providing incentives for tax compliance. The significance of tax penalties has not waned as a consequence.

We must employ them judiciously and in conjunction with other strategies and initiatives, notwithstanding their continued significance. Multiple factors, such as tax fines, affect taxpayer compliance. Risk aversion, opportunities, society and personal norms, fairness, trust, and economic factors serve as supplementary motivators (OECD, 2010). Consequently, it is unproductive to depend exclusively on tax penalties. Despite its complexity, comprehending taxpayer behavior is crucial for achieving optimal outcomes. The correlation between tax fines and tax compliance is similarly evident (OECD, 2010; Poppelwell et al., 2012).

### 2.3.2 Social Exchange Theory

A social contract between taxpayers and the government to trade accomplishments is linked to the social exchange theory in this study. Following the terms of tax laws and regulations, citizens are legally required to fulfill their responsibilities and gain protection of their rights as taxpayers (Umar et al., 2017). The economic relationship between the taxpayer and the government is based on the social exchange hypothesis. Taxpayer compliance will decline if the government does not provide sufficient public services (Lee et al., 2019).

The idea of social exchange is brought to life when elements like justice, high tax compliance costs, and corruption influence taxpayers' incentives to comply. Taxation is viewed as a mutually beneficial interaction between the government and its constituents by the social exchange theory of taxation. According to this theory, people voluntarily pay taxes in exchange for the advantages and services that the government provides. The social exchange theory's proponents contend that people voluntarily give the government their money in the hope of obtaining a variety of advantages in return. These advantages include social services, infrastructure, public goods, and security.

The theory of social exchange is brought to life when elements like justice, high tax compliance costs, and corruption influence taxpayers' incentives to comply. From this vantage point, taxes are seen as a reciprocal relationship between the people and their government. According to the hypothesis, people are more likely to abide by tax regulations when they believe that the returns they receive from their tax payments are reasonable and sufficient. However, taxpayers' willingness to fulfill their tax duties may decline if they believe that their contributions are not being used effectively or fairly distributed. The social exchange theory provides a useful framework for understanding the actions of taxpayers and their compliance with tax regulations. It highlights the significance of reciprocity and perceived fairness in the relationship between citizens and their government.

### 2.3.3 Comparative Treatment Theory

The significance of justice and fairness in the tax system is given top priority by the comparable treatment theory of taxation. According to this principle, different types of income or economic activity should be taxed uniformly, and people or businesses with similar characteristics should be subject to comparable taxation. This idea holds that people with comparable financial circumstances ought to pay the same amount in taxes. As a result, people with comparable incomes or businesses operating in the same sector need to pay comparable taxes. Additionally, the comparative treatment method encourages equitable taxation on dividends, capital gains, and wages, among other forms of income.

According to this hypothesis, people who believe the government treats them fairly behave more obediently than those who believe the government treats them unfairly. Kirchler et al. (2007) state that if taxpayers believe the system is fair, they are more inclined to comply since there is

mutual confidence between the government and the taxpayer. Its proponents argue that it increases equity and reduces opportunities for tax fraud and avoidance. Additionally, by encouraging consistency and equity in the tax code, it can increase taxpayer confidence.

Critics of the comparative treatment theory point out that achieving complete parity in taxes is difficult due to the complexity of various individual situations and economic variables. Additionally, they argue that certain forms of tax variation—like the application of income-level-based progressive tax rates—are necessary to achieve social fairness and wealth redistribution.

## 2.4. Empirical Review

### 2.4.1 Effects of Tax Knowledge on Excise Duty Compliance

Twum et al. (2020) examined the impact of various dimensions of tax knowledge on tax compliance in Ghana, utilizing small and medium-sized enterprises as their study subjects. Tax knowledge encompasses comprehension of one's rights and responsibilities regarding taxes, in addition to awareness of income derived from employment, business activities, and associated penalties. In the Nkawkaw Municipality, 130 managers of small and medium-sized enterprises (SMEs) in Ghana engaged in a tax education initiative conducted by the Ghana Revenue Authority. We employed structural equation modeling to analyze the data. The study's findings indicate a positive and significant correlation between tax compliance and the understanding of one's rights and obligations concerning taxes, employment income, and penalties. The study identifies awareness of penalties and knowledge of tax rights and obligations as the two primary factors affecting tax compliance in the SME sector. This study considers knowledge of business income essential for enabling SMEs to do self-assessments, notwithstanding a minimal association with tax compliance. To incentivize SMEs to fulfill their tax obligations,

self-assessment must be conducted. This study proposes utilizing tax education to enhance tax awareness and thereby increase compliance among SMEs in developing nations. The study contributes to the existing research on enhancing tax compliance among SMEs in Ghana through the use of tax knowledge.

Sithebe (2022) examines the relationship between tax compliance and tax knowledge within the context of the self-assessment system (SAS). The research utilized a quantitative methodology. The SMEs registered in Durban received questionnaires. The survey garnered responses from ninety-three individuals. Although the study reveals that the majority of respondents adhered to the guidelines, there remains a necessity to enhance the degree of compliance. Employing tax specialists and developing tax expertise through mentoring and training programs could help enhance the degree of tax compliance. Additionally, the findings showed that the majority of taxpayers knew a lot about value-added tax (VAT) and taxpayer duties, but not so much about payroll taxes and turnover tax.

One measure the government has utilized to ease the tax load on SMEs is the turnover tax. The majority of taxpayers are oblivious to the turnover tax, which exacerbates their ignorance. A lack of comprehension regarding payroll taxes adversely affects business operations, as employers are required to deduct payroll taxes from gross salaries to be remitted to SARS. Emmanuel, Olubose, and Kabiru (2023) investigated the influence of tax knowledge and compliance costs on tax compliance in small enterprises within the sachet water industry in the Ibarapa East local government council of Oyo State. This research utilized a descriptive survey methodology. The research population consists of all employees from the pure water factories within the selected local government councils of Oyo State. A total of 625 employees were administered the

questionnaire to collect data. Quantitative data was encoded in the Statistical Package for Social Sciences (SPSS) data editor to facilitate inferential inferences, while descriptive statistics, such as response frequencies, were employed to elucidate the outcomes of the investigation. The results demonstrated a strong positive correlation between tax compliance and tax knowledge among small business owners in Oyo State. Furthermore, compliance cost, tax knowledge, and the regulatory framework for small businesses significantly influenced tax compliance in the sachet water sector. This study indicates that a more comprehensive and nuanced approach is necessary to enhance tax compliance among small-scale firms, as evidenced by the sachet water manufacturers in Oyo State.

### 2.4.2 Effect of Peer Influence on Excise Duty Compliance

Alshira'h (2019) investigates how Jordanian small and medium-sized businesses' (SMEs') compliance with sales tax is affected by peer pressure. Prior research has looked at the effect of peer influence on income tax compliance, but it hasn't looked at the effect on SMEs' sales tax compliance. Thus, it is the first study to look at this interaction between SMEs in Jordan. Data was gathered from the study sample, which included 212 owner-managers of SMEs, using a questionnaire. Following that, PLS-SEM software was used to test the research hypothesis.

This study offers the first proof that Jordanian SMEs' sales tax compliance is negligibly impacted by social pressure. The findings are addressed along with the study's ramifications and recommendations for additional research. The study found that among Jordanian SMEs, peer pressure had no discernible impact on sales tax compliance.

Sales tax evasion among Jordanian SME owners and managers is examined experimentally by Al-Rahamneh and Bidin (2022) in relation to tax justice, peer pressure, and moral obligation.

Information from three parts of Jordan—the north, middle, and south—was gathered through a survey. SMEs in three industries (manufacturing, services, and commerce) were chosen as potential responders using random sampling.

Using Smart-PLS 3.0, 212 valid questionnaires that were obtained from the SMEs were examined. The findings showed that sales tax evasion behavior among SME owner-managers was significantly impacted negatively by moral obligation and tax fairness. Conversely, sales tax evasion behavior was positively and dramatically impacted by peer influence. Policymakers and tax officials should therefore take these aspects into account when creating measures to decrease tax evasion in Jordan, as this could enhance the nation's overall income collection. The results also add to the dearth of research on the importance of socio-psychological factors in preventing tax evasion by analyzing how moral obligation, peer pressure, and tax fairness affect sales tax evasion.

Abd Obaid et al. (2020) looked into how Yemeni manufacturing SMEs' tax compliance behavior was impacted by peer pressure, perceived corruption, and tax fairness. The socio-psychological theory, mainly the Fischer model, served as the foundation for the investigation. This study uses a questionnaire survey method. Owner-managers of the companies were the main respondents to the survey, which was distributed to 490 SMEs. 372 of the survey questions that were recovered were deemed suitable for additional examination. The Partial Least Squares (PLS) software and the structural equation model (SEM) technique were then used to assess the research hypotheses. The study's conclusions demonstrate a favorable and significant relationship between SMEs' tax compliance behavior peer pressure and tax fairness.

However, perception of corruption has an insignificant impact on tax compliance among However, the influence of corruption perception on Yemeni SMEs' tax compliance is negligible.

According to the study's findings, the government and tax authorities ought to revise and implement new tax laws and regulations that protect taxpayers' rights and reduce official corruption. It is necessary to raise SMEs' knowledge of the significance of filing taxes to the government. It is envisaged that by implementing these steps, the owner-managers of SMEs will increase their tax compliance, based on the study's findings.

### 2.4.3 Effects of Penalty Rate on Excise Duty Compliance

Rahmayanti and Prihatiningtias (2020) examine tax penalties, tax audits, taxpayers' understanding of corporate compliance, and the influence of taxpayers' desire to comply as a moderating variable in their interrelationship. Multiple Linear Regression and Moderated Regression Analysis are the analytical techniques utilized. The study's population comprises 142 corporate rate taxpayers employed by the North Banjarmasin Tax Office in 2019. Convenience sampling is utilized as the sampling method. The results indicate the positive impact of tax penalties, tax examinations, and taxpayer knowledge on corporate tax compliance. Nonetheless, the influence of fines, tax audits, and taxpayers' awareness of corporate compliance cannot be alleviated by mere adherence to regulations. This is due to company taxpayers recognizing the significance of taxes as a source of state revenue and the enforcement of tax audits and penalties in accordance with tax legislation. Given that SMEs have a higher propensity for tax non-compliance, as indicated by prior studies, Yunus and Ramli (2017) aimed to investigate the correlation between tax penalties and taxpayer compliance behavior. Regarding this, this study examines the components of tax penalties, which encompass the rate and punishment, taxpayer psychological behavior, and their knowledge and education levels. This study aims to ascertain the relationship between tax penalties and each element of tax compliance behavior. This research utilized a quantitative methodology to survey a chosen sample of Malaysian small and

medium-sized enterprises (SMEs). The results indicate that tax penalties substantially influence tax compliance behavior.

The study's findings indicate a significant association between tax compliance behavior and several components of tax penalties, encompassing rates and penalties, taxpayers' psychological behavior, and their education and awareness regarding tax penalties. This study elucidates to the tax administrator how tax penalties enhance tax compliance behavior in Malaysia. This study's results provide IRBM with a foundation to evaluate the existing tax penalty framework of the nation.

Oghuma (2018) examines the influence of tax audits and fines on the tax compliance frameworks of Nigerian businesses. Given that all levels of government depend on tax revenue to finance their projects, deliberations over audits are essential. Penalties and compliance are essential. A cross-sectional survey design was selected for the investigation. The study's population comprised all registered corporate taxpayers in Nigeria. This study selected 150 corporate taxpayers having tax data from Edo State. Stratified random sampling was employed to ascertain the sample size. The selected companies were sent with copies of the questionnaire.

The survey was revised by Palil's (2010) research. Ordinary Least Squares (OLS) regression was applied for model estimation utilizing Econometric Views (EViews) software to evaluate the effectiveness of the implemented measures. The findings indicated a positive and significant link between tax compliance and tax audits and fines. Enhancing tax penalties as a deterrent to noncompliance and increasing the frequency of tax audits is recommended to achieve effective tax compliance. The paper's conclusion suggests that corporate taxpayers should perceive their income tax payments as a means to promote a conducive business environment.

### 2.4.4 Effects of Probability of Detection on Excise Duty Compliance

Sinnasamy and Bidin (2017) examined the issue of excise duty non-compliance by analyzing the direct relationship and the probability of detection as moderating variables. Tax audits, tax knowledge, and peer pressure were employed as independent factors. The surveys were disseminated utilizing a disproportionate stratified simple random sampling method. A total of five hundred valid surveys were collected for analysis. Partial least squares were employed to analyze the data. The data analysis conducted across Malaysia revealed a substantial positive correlation among tax audits, tax expertise, and peer influence. Tax audits exhibit a significant negative correlation with tax competence, suggesting a considerable moderating effect between the two variables. The study's findings suggest that tax authorities can enhance tax revenues and foster taxpayer compliance.

Bidin, Sinnasamy, and Ismail (2016) developed a novel model for forecasting tax evasion concerning indirect taxes. It was founded on the deterrence theory associated with Fischer's framework. This model examines the potential causes of cigarette, alcohol, and foreign car smuggling, which leads to inadequate excise duty revenue as indirect taxes. A conceptual framework is established to highlight individuals who evade excise duties, incorporating audit rates, tax awareness, and corruption as the primary factors influencing non-compliance.

### 2.4.5 Moderating role of Perceived Tax Fairness on the determinants of Excise Duty Compliance

Saad (2011) performed a study on compliance behavior and perceptions of injustice. The study's assumptions were assessed using comprehensive telephone interviews done sequentially in both

nations and through questionnaire surveys featuring two scenarios. Thematic analysis and partial least squares were employed to analyze the survey and interview data, respectively. The findings indicate that New Zealand taxpayers exhibit more compliance, although Malaysian taxpayers see their income tax systems as considerably fairer.

Subjective norms constitute the second most significant factor, behind attitude toward compliance, in elucidating the compliance behavior of taxpayers in both nations. Perceptions of fairness, significantly shaped by tax expertise and the perceived intricacy of the tax system, also play a crucial role, particularly with the understanding of alternative incomes. This cross-cultural study demonstrates that despite the differences between the two countries analyzed. Al-Rahamneh and Bidin (2022) conducted a survey to gather data from the northern, central, and southern regions of Jordan. A random sample of SMEs from three sectors—manufacturing, services, and commerce—was chosen as potential respondents. Smart-PLS 3.0 was employed to analyze the 212 completed surveys obtained from the SMEs. The concepts of moral obligation and tax equity significantly influenced the sales tax evasion behavior of SME owner-managers negatively. Conversely, peer pressure substantially and positively influenced sales tax evasion behavior. Policymakers and tax officials must take these aspects into account when formulating methods to combat tax evasion to enhance Jordan's total revenue collection. The findings examine the influence of tax fairness, peer pressure, and moral obligation on sales tax evasion, contributing to the limited study on the significance of sociopsychological factors in mitigating tax evasion.

Al-Hamedi and Eissa (2023) conducted an empirical investigation into the influence of

individual taxpayers' perceptions of tax fairness—encompassing general fairness, tax rates, government benefits, attitudes towards the taxation of affluent individuals, and self-interest in government—on their compliance behavior in Yemen. The foundation and reasoning of our inquiry are predicated on the concept of equity. Data obtained from survey questionnaires were evaluated utilizing multiple regression analysis and additional statistical methods. Out of the 400 questionnaires distributed, 242 were deemed authentic. The findings indicate that overall justice, tax rate, government benefits, and self-interest are positively significant, however perceptions of the taxes imposed on the affluent and tax compliance are not.

This study concludes with theoretical implications and practical recommendations for the This study presents theoretical implications and practical recommendations for the Yemeni government aimed at enhancing tax collection. It emphasizes the need for the development and implementation of more equitable policies and strategies to increase tax compliance through the advancement of tax justice within the system. Furthermore, the Yemen Tax Authority ought to spearhead initiatives aimed at improving individual taxpayers' comprehension of tax matters to inspire and educate them. This paper identifies various limitations and proposes recommendations for future research in this domain.

## 2.5. Control Variables

### 2.5.1. Firm Size

Typically, larger firms may have more resources (financial, legal, and administrative) to ensure compliance with tax regulations. They often have dedicated tax departments and professional advisors, which can lead to higher compliance rates. However, larger firms may also engage in more sophisticated tax planning and avoidance strategies, which could complicate compliance.

Smaller firms may struggle with compliance due to limited resources and expertise. They often rely on external accounting services, which can sometimes lead to underreporting or misreporting due to a lack of understanding of tax regulations.

### 2.5.2. Turnover Sales

Firms with higher turnover (sales) may be under greater scrutiny from tax authorities due to the amount of tax they are expected to remit. This can incentivize such businesses to comply with excise tax regulations to avoid penalties and audits. Additionally, high turnover may correlate with better financial literacy and operational capabilities, leading to better compliance practices. Businesses with lower turnover may be less likely to prioritize tax compliance if they perceive the burden of regulation to be disproportionately high compared to their revenue. This could result in a higher likelihood of non-compliance or errors in reporting.

## 2.6. Summary of Research Gaps

Current research on tax compliance has primarily concentrated on the direct impacts of factors such tax knowledge, peer influence, penalty rates, and discovery probability. Nonetheless, there is inadequate examination of how perceived tax equity elucidates or intensifies these associations, particularly for excise duty compliance among manufacturing enterprises. This gap underlines the necessity for a comprehensive analysis of perceived tax fairness as a moderating variable. Global studies on tax compliance offer significant insights but frequently neglect regional particularities and cultural circumstances. Prior study may insufficiently examine the interaction of distinct aspects within Kenya's socio-economic and political context with perceived tax equity and excise duty adherence. The local conceptions of tax equity, shaped by

cultural norms and trust in government, necessitate targeted examination to accurately comprehend compliance practices.

A significant portion of the literature examines general taxpayer demographics without distinguishing across sectors. Research focusing on manufacturing enterprises, which are vital to the Kenyan economy and significantly affected by excise tariffs, is limited. Comprehending sector-specific issues and perspectives may produce varied compliance dynamics and insights. Researchers have recognized peer influence as a factor in compliance; however, its connection with perceived tax justice regarding excise duties remains underexplored. The influence of social norms and peer behaviors on compliance decisions about perceived fairness is a mostly unexamined topic in academic literature. Numerous studies employ a solely economic or regulatory framework to analyze tax compliance. Integrating behavioral concepts into perceived justice may provide new views on taxpayer behavior. Comprehending how perceptions of fairness may influence reactions to penalties or detection probabilities might improve the theoretical models of tax compliance.

Due to the evolving nature of tax policies, particularly in growing economies such as Kenya, there is a paucity of literature evaluating the impact of alterations in tax legislation and administration on perceived tax equity and, consequently, compliance. Examining this link may yield essential insights into the efficacy of policy actions aimed at improving compliance rates. Although theoretical frameworks regarding tax compliance are available, empirical evidence connecting perceived tax fairness to the specific factors influencing excise duty compliance is lacking. An empirical study examining these connections among manufacturing enterprises would address this gap and enhance the existing body of knowledge in tax compliance literature. This study aimed to address these gaps by examining the moderating effect of perceived tax

fairness on specific factors influencing excise duty compliance in Kenya's manufacturing sector. The research sought to enhance academic understanding and provide practical insights for policymakers aiming to improve tax compliance rates by exploring these neglected areas.

## 2.6. Conceptual Framework

A conceptual framework refers to a diagrammatic representation of the theorized interrelationships of the variables of a study. The conceptualization of variables in academic study is important because it forms the basis for testing hypotheses and coming up with generalizations in the findings of the study. Schindler (2022) asserts that researchers make hypotheses about the links between independent factors and dependent variables for their studies. Schindler (2022) define dependent variable as a variable that is measured, predicted, or otherwise monitored and is expected to be affected by manipulation of an independent variable. They also defined an independent variable as a variable that is manipulated by the researcher, and the manipulation causes an effect on the dependent variable. Whether qualitative or quantitative, a moderator variable is a variable that influences the direction of the relationship between an independent variable and a dependent variable, as well as the strength of the relationship (or both).

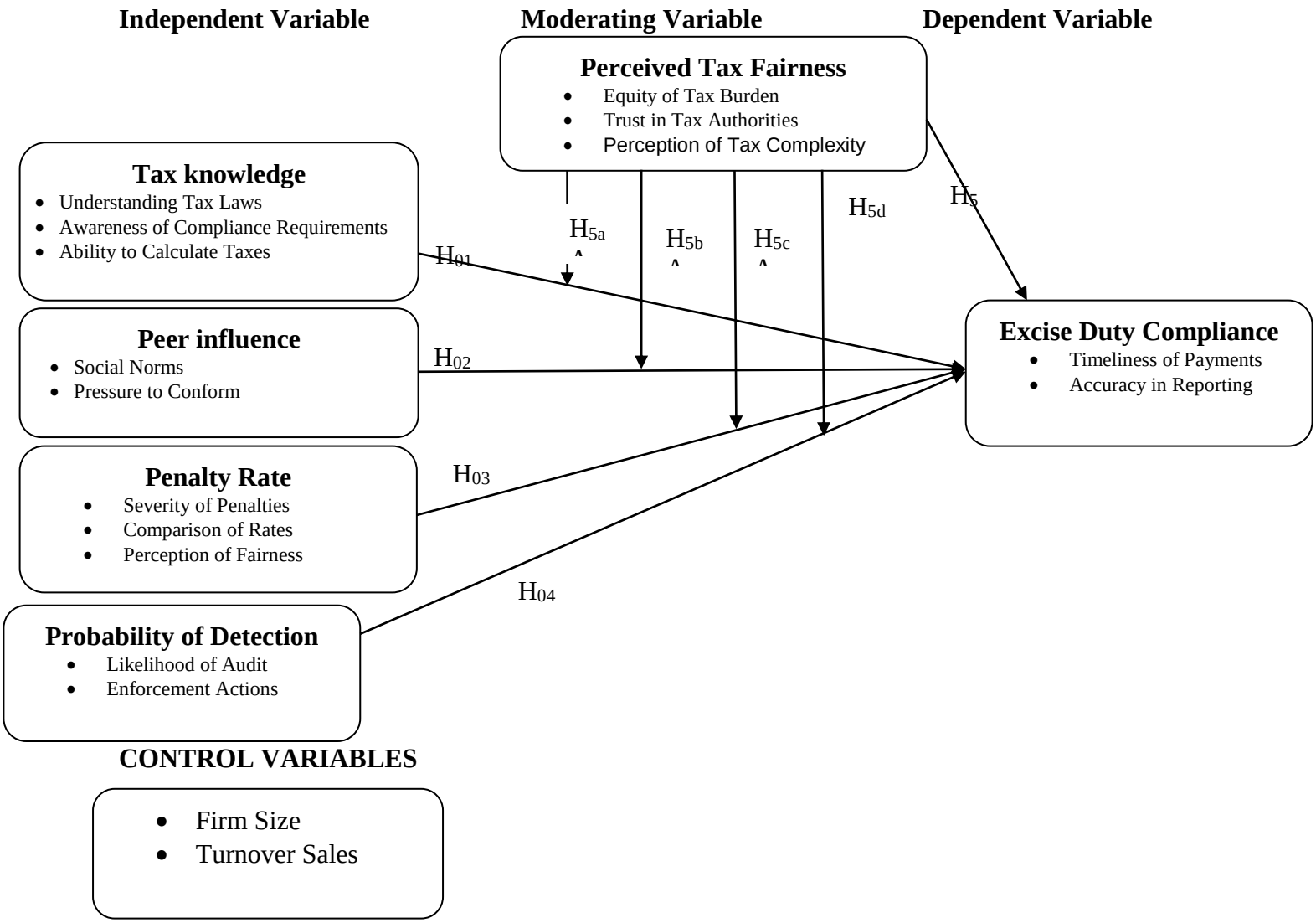


Figure 2. 1: Conceptual Framework Diagram of Study Variables

**Source:** Researcher's (**2024**).

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.0 Introduction

This chapter describes the research methods that were used in the study. The methodology outlines the research design, data gathering methods, sample methodologies, data analysis procedures, and ethical issues.

## 3.1 Research Design

According to Sileyew (2020), research design provides a framework for conducting research, aiding the researcher in formulating a strategy for data collection, analysis, interpretation, and presentation of findings derived from the study period. The specific strategy that a researcher selects or follows to conduct a given study more comprehensively and systematically is referred to as the research design. It also includes the methods for acquiring, computing, and assessing the information collected by the researcher.

This study employed an explanatory research methodology, enabling the researchers to examine the influence of perceived tax fairness on the relationship between tax compliance and other behaviors among industrial firms in Thika town, Kiambu County. The researcher collected the many opinions of taxpayers engaged in the digital economy with assistance. Utilizing this research methodology, the investigator successfully collected data from a randomly chosen sample of industrial enterprises located in the designated area of Thika County. The study technique facilitated the attainment of more reliable results from a broader sample of participants through random selection.

### 3.2 Target population

Bougie and Sekaran (2019) define target population as a comprehensive collection of individual case objects sharing common characteristics, to which researchers want to generalize the study's findings. An alternative definition of a population is the entire group of people, events, or intriguing items that the researcher wishes to examine. The manufacturing firms in Kiambu County constitute the unit of analysis. Employees of the manufacturing firms in Kiambu County made up the study's unit of observation. The Kenya National Bureau of Statistics (2022) reports that Thika town in Kiambu County had 124 manufacturing companies. In particular, the study population included representatives and staff from the tax departments of the 124 manufacturing companies located in Kiambu County. From each manufacturing company, 3 officers were purposely sampled, thus the head of finance, the finance officer, and the accountant. Since the involved the entire population of 372 respondents a census survey was employed in this study.

**Table 3.1: Target Population**

| **Categories** | **Population** |
|---|---|
| Head of Finance | 124 |
| Finance manager | 124 |
| Accountant | 124 |
| **Total** | **372** |

### 3.4 Data Types and Sources, Collection and Procedures

#### 3.4.1. Data Types and Sources

The study examined the moderating role of perceived tax fairness on the selected determinants of excise duty compliance of Thika manufacturing businesses using primary data. Primary data refers to the original information or first-hand knowledge that a researcher collects for a specific

purpose (Kotler et al., 2005). "The ultimate objective of conducting primary research is to learn about something new that can be confirmed by others and to eliminate own biases in the process," said Driscoll (2011).

Using questionnaires, primary data was gathered from the participants. According to Best & Kahn (2008), quantifiable data is obtained from closed-ended questions.

### 3.4.2. Data Collection Instruments

Primary data covering all study variables was gathered using a standardized questionnaire. A questionnaire comprises a set of inquiries with multiple possible answers for respondents. Kombo and Tromp (2006) state that a questionnaire is a type of research tool used to collect information from a sizable sample. Some questionnaires may incorporate open-ended questions that allow respondents to express their answers freely; others ensure that every participant receives the same questions in the same sequence, using identical phrasing and response options. A large number of questionnaires are made to collect data that has already been arranged, which explains this uniformity (Matthews & Ross, 2010). According to Kothari (2008), because questionnaires ask questions in the respondents' own words, they typically prevent the prejudice that can arise during interviews. Respondents are given adequate time to formulate thoughtful answers. A questionnaire is a valuable research tool for collecting participants' personal opinions. Furthermore, it provides an opportunity for participants to articulate their views on the issue at hand (Matthews & Ross, 2010). The questionnaire consisted of closed-ended questions specifically designed to meet particular objectives.

## 3.5 Data Collection Methods

Manufacturing firms located in Thika, Kiambu County, participated in the study by completing structured questionnaires, which served as a primary method for data collection. These surveys

were adapted and refined from previous research, specifically referencing works by Pali (2010), Tillahun and Yiedersal (2014), and Niway and Wondwossen (2016). The questionnaires utilized a five-point Likert scale, with the following values assigned: Strongly Agree (SA) = 5, Agree (A) = 4, Neutral (N) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. This scale was implemented to facilitate comprehension and minimize confusion for respondents while completing the survey. The investigation relied on primary data sources. According to Ajayi (2017), primary data refers to information originally gathered by the researcher. This type of data is unpublished and is considered to be more reliable, authentic, and objective

This study obtained data through the use of a structured questionnaire to manufacturing firms in the Thika town in Kiambu County.

**3.6 Data Collection Procedure**

Given the nature of the survey interaction, the researcher sought assistance from two research assistants who distributed the questionnaires (through drop and pick approach) to the respondents and thereafter did a follow-up to ensure they were completed. For those respondents who were not be available to attend to the physical questionnaire, the researcher provided an online questionnaire whereby they could fill in and returned it.

**3.7 Pilot Testing**

A crucial phase in the data collection process is pilot testing. Before disseminating the questionnaire to the intended audience, a pilot test was conducted on a selected sample of respondents to assess its validity and reliability. A small scale is typically employed to assess each process intended for the primary study. Pilot research typically necessitates a sample including a minimum of 10% of the population (Cooperation and Schindler, 2010; Mugenda & Mugenda, 2003). Meru County was chosen for pilot testing to prevent the same respondents from

participating in the identical survey. Meru County was chosen for the pilot because its shared traits with the research area, including a wide variety of manufacturing companies that enable a diverse representation of the sector. Furthermore, Meru County is a sensible option for piloting due to its close proximity to Thika. This lowers the expenses and logistical difficulties involved in carrying out exploratory research far from the primary study site. Results of the pilot study carried out among 37 respondents are presented in table below.

**Table 3.2: Reliability Analysis for Pilot Study**

| | Cronbach's Alpha | N of Items |
|---|---|---|
| Excise Duty Compliance | .814 | 5 |
| Tax Knowledge | .918 | 5 |
| Peer Influence | .830 | 5 |
| Penalty Rate | .705 | 6 |
| Probability Of Detection | .830 | 5 |
| Perceived Tax Fairness | .817 | 6 |

### 3.8 Reliability and Validity Testing

The legitimacy of any study depends on the reliability and validity of the research instruments. Creswell (2014) emphasizes that to ensure the reliability and generalizability of the results, data validation is necessary at every stage of the study to confirm and support validity and consistency. This study included both test-retest reliability, which is administering the same test to the same set of people twice, and reliability testing, which ensures that a measure is consistent by utilizing reliable instruments that yield consistent results under consistent conditions. concept validity was another method utilized in the study to assess if the instruments measured the theoretical concept they were intended to examine.

This was assessed through Factor Analysis, a statistical method that identifies underlying relationships between measured variables. Leveraging these reliability and validity tests helped ensure that the research instrument used in the study on manufacturing firm compliance were

both consistent and accurately measured the intended constructs. This, in turn, enhanced the credibility and generalizability of the study findings.

### 3.9 Data Analysis

Data analysis is the act of examining, purifying, transforming, and presenting data with the primary goal of providing insightful information and making recommendations, according to Etikan et al. (2016). Data analysis, according to Cooper and Schindler (2010), is the idea of data edition as well as the method of condensing the amount of data to a manageable size, then creating summaries, identifying trends, and using statistical tools. Editing, cleaning, and completeness coding were done on the acquired data for the study. Descriptive together with inferential statistics and ANOVA test were employed for analysis of the cleaned data.

A hierarchical multiple regression analysis was conducted on the research variables to ascertain the causal relationship between the independent and dependent variables.

### 3.10 Measurement of the Study Variables

The study utilized and modified established measures that have been employed and confirmed in prior research. Relevant literature was reviewed to generate appropriate scales for the constructs. All items in the questionnaire were assessed using a five-point Likert scale, where (1) indicated strong disagreement and (5) indicated strong agreement. The investigation utilized six items from Bobek et al. (2007) to assess the impact of peer influence. Gilligan and Richardson (2005) utilized seven items to assess tax fairness.

### 3.10.1. Dependent Variable

#### 3.10.1.1. Excise Duty Compliance

Compliance with excise duties is the study's dependent variable. Utilizing intervention yield—the extra tax income obtained following a compliance operation, like an audit—is one method of gauging excise duty compliance. This approach is well-established and simple to measure and validate. Excise taxes are used by governments to generate money, just like they are for other items like tobacco, gasoline, and automobiles (Azubike, 2017). Compared to other types of taxes, excise taxes are usually simpler to administer. Numerous justifications are offered for the use of excise taxes. Brown and Mazur (2018) claim that their ease of administration is one reason they are occasionally used. Since the majority of economic activity occurs outside of a structured market environment, it is challenging to administer broader-based taxes like income and general sales taxes (Mburugu & Mouni, 2016). (Kirchler & Wahl, 2010) served as the model for the products utilized to gauge excise duty compliance.

### 3.10.2. Independent Variable

#### 3.10.2.1. Tax Knowledge

Tax experts have differing interpretations of what is meant by "tax knowledge." According to Waschmann and Bornman (2020), tax knowledge encompasses both a more specialized grasp of tax-specific laws and regulations as well as elements of general fiscal awareness and an awareness of the procedures and obligations involved in becoming tax compliant. It is also suggested that these three components, which are divided into three categories: procedural, legal, and general tax knowledge, could be included in a framework of tax knowledge (Mat Jusoh, Mansor, Abd Razak, & Wan Mohamad Noor, 2021). Using research by Palil and Mustapha (2011) and Mukhis et al. (2015), the items to evaluate tax knowledge were created and modified.

#### 3.10.2.2. Peer Influence

An individual's decision-making process can be impacted by peer pressure, which is defined as pressure from friends, family, business associates, and partnerships (Laursen & Veenstra, 2021). The term "peer" is frequently used in this study to describe those who are part of a taxpayer's social circle, such as family members, relatives, coworkers, and other acquaintances (Ogunfunmilayo, 2020). It may also be defined as the impact of powerful people on other people's tax compliance choices, influencing their opinions about whether or not to pay taxes (Abd Obaid, Ibrahim, & Mat Udin, 2020). To assess peer influence, six items were used from Bobek et al. (2007).

#### 3.10.2.3. Penalty Rate

When a taxpayer violates tax regulations, such as by underreporting income, failing to submit a return on time, or failing to pay taxes due, an additional percentage may be applied to their tax responsibilities. This is known as the penalty rate. It is a form of punishment levied by tax laws for violating a law or for not carrying out a required action, including filing a tax return late or submitting returns that are erroneous or undervalued. According to Ladi and Henry (2015), tax authorities frequently use the penalty rate to find out how much a taxpayer who has not paid their taxes must pay in penalties.

#### 3.10.2.4. Probability of Detection

According to tax law, the probability of detection refers to the likelihood that a person or entity would be caught and punished for breaking tax rules or regulations. Such behaviors may include purposefully hiding income, inflating deductions, or engaging in other forms of tax evasion. Sinnasamy and Bidin's (2017) items have been changed and adapted for use in measuring this variable.

### 3.10.3. Moderating Variable

#### 3.10.3.1. Tax Fairness

Given that tax fairness is seen as a basic feature of an effective tax system (Wrede, 2014), it plays a critical role in influencing taxpayers' compliance behavior. Tax justice is a personal concept that reflects the opinions of taxpayers regarding a fair and appropriate allocation of tax liabilities (Idrus, 2024). To gauge tax fairness, seven items were taken from Gilligan and Richardson (2005)

### 3.10.4. Control Variables

This study controlled for the age of the firm and the size of the firm

#### 3.10.4.1. Firm Age

By determining the amount of time that has passed since the firm's founding, one can determine the age of the company (measured in years). The study will employ the same metrics as earlier research (Coad, 2018; Coad, Holm, Krafft, & Quatraro, 2018), where age was calculated as the number of years the company had been formed before the year of observation minus the company's founding date plus one.

#### 3.10.4.2. Firm Size

The natural log of the total firm assets was used to determine the business size under previous research (Lee, Upneja, Özdemir, & Sun, 2014; Rashidah & Ali, 2006). The number of employees was used in the study to calculate the firm size.

**Table 3.3: Operationalization of Study Variables**

| Category | Variable | Operationalization | Measurement | Source |
|---|---|---|---|---|
| **Dependent variable** | **Excise Duty Compliance** | Additional tax revenue collected after a compliance activity | Likert Scale | Azubike, (2017)<br>Mburugu & Mouni, (2016)<br>Kirchler & Wahl, (2010) |

| | | | | |
|---|---|---|---|---|
| | **Tax Knowledge** | An understanding of the processes and responsibilities of being tax compliant; specific tax rules and legislation | Likert Scale | Wassermann & Bornman, 2020 (Mat Jusoh, Mansor, Abd Razak, & Wan Mohamad Noor, 2021) Palil & Mustapha (2011) Mukhis et al. (2015). |
| | **Peer Influence** | Those who share a taxpayer's social circle, including family members, relatives, co-workers, and other acquaintances | Likert Scale | (Laursen & Veenstra, 2021) (Ogunfunmilayo, 2020) Bobek et al. (2007) |
| | **Penalty Rate** | additional percentage that may be imposed on tax liabilities when a taxpayer fails to comply with tax laws | Likert Scale | (Ladi & Henry, 2015) Sinnasamy and Bidin (2017) |
| | **Probability of Detection** | The chance of an individual or organization being apprehended and sanctioned for non-compliance with tax laws or regulations. | | Sinnasamy and Bidin (2017) |
| **Moderating Variable** | **Tax Fairness** | leadership style where leaders rely on rewards and punishments to achieve optimal job performance | Likert Scale | (Wrede, 2014) (Idrus, 2024) Gilligan and Richardson (2005) |
| **Control Variable** | **Firm Age** | duration of time that has elapsed from the firm's inception | Interval Scale | (Coad, 2018; Coad, Holm, Krafft, & Quatraro, 2018 |
| | **Firm Size** | the number of employees | Interval Scale | (Lee, Upneja, Özdemir, & Sun, 2014; Rashidah & Ali, 2006 |

## 3.11 Analytical Models

The regression model of the study was as shown below:

Hierarchical multiple Regression model Specification

$Y_{t(i)}=\beta_0+ \beta_1 FA_1+ \beta_2 TS_2 +\varepsilon_t$…… 1

$Y_{t(i)}= \beta_0+ C +\beta_1 TK_{1t}+ \beta_2 PI_{2t} + \beta_3 PR_{3t} + \beta_4 PD_{4t} + \varepsilon_t$……..……**2**

$Y_{t(i)}= \beta_0+ C +\beta_1 TK_{1t}+ \beta_2 PI_{2t} + \beta_3 PR_{3t} + \beta_4 PD_{4t} + \beta_5 M + \varepsilon_t$…….…… **3**

$Y_{t(i)} = \beta_0+ C +\beta_1 TK_{1t}+ \beta_2 PI_{2t} + \beta_3 PR_{3t} + \beta_4 PD_{4t} + \beta_5 M + TK_{6t}*M+ \varepsilon_t$…….…… **4**

$Y_{t(i)} = \beta_0 + C + \beta_1 TK_{1t} + \beta_2 PI_{2t} + \beta_3 PR_{3t} + \beta_4 PD_{4t} + \beta_5 M + TK_{6t}*M + PI_{7t}*M + \varepsilon_t$ ……**5**

$Y_{t(i)} = \beta_0 + C + \beta_1 TK_{1t} + \beta_2 PI_{2t} + \beta_3 PR_{3t} + \beta_4 PD_{4t} + \beta_5 M + TK_{6t}*M + PI_{7t}*M + PR_{8t}*M + \varepsilon_{t..}$ ……**6**

$Y_{t(i)} \beta_0 + C + \beta_1 TK_{1t} + \beta_2 PI_{2t} + \beta_3 PR_{3t} + \beta_4 PD_{4t} + \beta_5 M + TK_{6t}*M + PI_{7t}*M + PR_{8t}*M + PD9_t*M$ $\varepsilon_t$……..……..……..**7**

Where: $y_{t(i)}Y$ = Excise duty compliance
$\alpha$ = Constant Term

$\beta_{1,2,3}…n$ = Beta coefficients

C= Control Variable (Firm Age and Turnover Sales)

TK= Tax knowledge
PI= Peer influence
PR= Penalty Rate
PD=Probability of detection
M is Perceive Tax fairness (Moderator variable)
$\varepsilon$ = Error terms

t = Time series

### 3.12. Conditions for Testing Moderation

The moderation analysis method can be used to examine the effects of a third variable, referred to as a moderating variable, on the connection between the predictor and dependent variables. Rather of attempting to demonstrate a cause-and-effect relationship between these additional variables, moderation examines the circumstances or timing of an effect (Chandra & Sharma, 2019). A moderating variable has the power to strengthen, weaken, or change the nature of a relationship. Moderation occurs when the existence of a moderating variable changes the direction or strength of the relationship between two variables.

There are three different types of moderation effects: antagonism, buffering, and enhancement. The impact of the predictor variables on the outcome variable would be amplified by increasing the moderator. Buffering is the process by which a rise in the moderator reduces the influence of

the predictor on the result. Last but not least, antagonistic moderation occurs when a rise in the moderator reverses the outcome's response to the prediction.

Baron and Kenny's (1986) testing moderation stages were used in this investigation. Determining the impact of independent variables on the dependent variable was the first stage. The moderating variable's impact on the dependent variable was then determined. The interaction terms between the moderating and independent factors were then calculated. Then, using the interaction term, moderating variable, and independent variables as predictors, a multiple regression model was built. The regression coefficient for the interaction terms demonstrated moderation. A significant coefficient indicated a significant moderating influence.

### 3.13 Diagnostic Tests

According to Lijmer et al. (1999), diagnostic tests are typically conducted in scientific research to experimentally ascertain the quantitative influence of study design restrictions of greater quantitative loading of diagnostic accuracy. To validate the study's findings, four diagnostic tests were conducted prior to data processing. Among the tests were the homoscedasticity, linearity, multicollinearity, and normalcy tests.

#### 3.13.1 Normality Test

The Shapiro-Wilk is the most effective and potent test to apply when doing a normalcy test, claim Razali & Wah (2011). Skewness, kurtosis, and a normalcy curve for graphical representation can also be employed. The data used in this study were tested using this test. If the test's p value is less than 0.05, it indicates that the data has significantly departed from its normal distribution. P values above 0.05 indicate that the data is regularly distributed.

### 3.13.2 Multicollinearity Test

Osborne and Waters (2014) asserted that multicollinearity increases the standard errors of significant variables, causing them to appear non-significant. Tolerance refers to the degree of variability in one independent variable that is minimally accounted for by another independent variable. A VIF value exceeding 10 indicates the presence of multicollinearity. A VIF value exceeding 10, along with a tolerance factor above 0.2, serves as the most reliable and precise method for assessing multicollinearity. A multicollinearity test will be performed to assess if the independent variables (IVs) are affected by multicollinearity, utilizing a Variance Inflation Factor (VIF) analysis.

### 3.13.3 Homoscedasticity Test

This technique relies on the important assumption that the residual or error term is distributed evenly over the graph. The analysis's findings could be skewed and lead to a blown statistical conclusion if this presumption is not true and the variance of errors from the regression line is not constant (Paper, 2016). When examining for homoscedasticity, a scatterplot of residuals versus anticipated values is best utilized. This study used the probability of chi square. As indicated by the p value >0.05, the homoscedasticity assumption was upheld.

### 3.13.4 Linearity Test

Given that many statistical techniques rely on the assumption that data is linear, testing for linearity is crucial. This happens when data is taken from a population where the variables of interest are linearly related. This means that tests for linearity must be conducted prior to the use of standard techniques such as linear regression (Geiger, Parthasarathy, Kuyel, Jin, & Chen, 2005). Examining linearity The linearity assumption is not broken when the p value of the divergence from the linearity test is greater than 0.05; if the p value is less than 0.05, the linearity assumption is broken.

### 3.14. Ethical Consideration

Ethics encompasses the moral principles and standards that govern individuals' conduct in societal interactions (Graham and Benett, 2005). Prior to data collection, introductory letters were secured from Moi University, along with a research permit from NACOSTI. The individual maintained integrity and honesty while ensuring the confidentiality of data provided by participants and their anonymity; all significant statements in the study were properly cited to prevent plagiarism.

# CHAPTER FOUR

# DATA ANALYSIS, PRESENTATION AND INTERPRETATION

## 4.0 Introduction

Chapter four outlines the findings derived from the methodology detailed in Chapter Three. The discussion includes the quantity of responses, the processes of data screening and cleaning, the demographic details of the respondents, the results of reliability and validity tests, the findings from factor analysis, the transformations applied to the data, the assumptions underlying the regression, correlation statistics, and hypothesis testing. This chapter provides an analysis and interpretation of the data.

## 4.1. Response Rate

The surveys were distributed to 272 respondents in total. The responders completed 270 questionnaires and sent them back. This was equivalent to a 96.42% response rate. As Nyamjom (2013) contends that a response rate of 96.42% was deemed exceptional and typical of the population, the response rate was deemed satisfactory. Upon scrutiny, however, 5 questionnaires were rejected for being incomplete as they were missing important responses. This left a total of 265 respondents considered valid for use. The response rate that was reached in the current study was high, which suggested that the response rate was extremely good. The researcher was able to reach out to most of the respondents with the help of the research assistants, and the surveys were self-administered by the researcher. This was the reason for the high success rate.

**Table 4. 1: Response Rate**

| | Count | Percentage |
|---|---|---|
| Issued | 272 | 100% |
| Returned | 270 | 99.64% |
| Rejected | 5 | 1.83% |
| **Total** | **265** | **100** |

**Source:** Research Data, (2024)

### 4.2. Analysis of Outliers

Finding and analyzing data points that differ significantly from the rest of the dataset is known as outlier analysis. A data point that substantially departs from the typical pattern or behavior of the data is called an outlier. Using the Mahalanobis distance test and case-wise diagnosis, outliers were found (Osborne & Overbay, 2019). The data must be checked for outliers because their presence would go against the study's normalcy assumption. Consequently, the study employed linear regression methods in SPSS to compute Mahalanobis' D2, subsequently deriving the Chi-square value. A case is designated as a multivariate outlier if its D2 probability falls below 0.001. The analysis revealed four (4) cases as notable outliers. The researcher thus excluded them from further study and proceeded with 261 cases.

**Table 4.2: Outlier Analysis Test**

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Mahal. Distance | .212 | 26.623 | 4.981 | 4.557 | 261 |

**Source:** Research Data, (2024)

### 4.2. Reliability and Validity of Instruments

#### 4.2.1. Reliability Analysis

Reliability is the degree to which a scale gives the same results when the measurements are taken multiple times. Pilot research was conducted to assess the questionnaire's reliability. Reliability evaluation ensures that all parts of the measurement record are consistent (Huck, 2007). Internal consistency is robust when the scale's elements cluster together (Huck, 2007). According to

Hamed (2016), Likert scales' level of internal consistency is assessed using the Cronbach Alpha coefficient. According to Robinson (2009) and Whitley (2002), a minimum internal coefficient of 0.70 is a commonly accepted benchmark.

**Table 4.3: Reliability Analysis**

| Variable | Cronbach's Alpha | N of Items |
|---|---|---|
| Excise Duty Compliance | .736 | 5 |
| Tax Knowledge | .795 | 5 |
| Peer Influence | .735 | 5 |
| Penalty Rate | .767 | 6 |
| Probability of Detection | .948 | 5 |
| Perceived Tax Fairness | .920 | 6 |

**Source: Field Data, 2024**

### 4.2.2. Factor Analysis

Factor analysis is a statistical method that condenses a collection of variables by identifying and extracting their shared characteristics into a reduced set of factors. It is also referred to as the data reduction technique. In the analysis of extensive variables, certain recurring patterns can be identified, referred to as factors.

Black and Babin (2019) assert that factor analysis investigates data patterns and reduces multiple variables into a more manageable and interpretable set of variables with similar characteristics. Factor analysis is a method used to reduce a large number of factors with multiple outcomes into a more manageable set, highlighting the underlying factors that affect the covariance among different observations (Kherif & Latypova, 2020). These variables represent essential concepts that cannot be sufficiently captured by a single variable. This technique is commonly utilized in census survey research, where responses to individual questions signify an outcome, given the interconnection among multiple questions. In factor analysis, eigenvalues quantify the total

variation explained by each factor. Kaiser (1974), as cited in Schreiber (2021), advises retaining only those factors with eigenvalues of one or higher.

Before performing variable reduction, it is crucial to evaluate the adequacy of the study sample, assessed through the Kaiser-Meyer-Olkin test (KMO). Variables with KMO values greater than 0.50 are considered sufficient for factor analysis, according to Kaiser (1974), indicating the sample's appropriateness for this technique. This study employed principal component analysis (PCA) as an appropriate method for data processing and dimensionality reduction. According to Hasan and Abdulazeez (2021), the objective of PCA is to extract pertinent information from data and to demonstrate the patterns of similarity among observations and variables.

Table 4.4 presents a KMO test statistic of 0.654 from the study. Kaiser (1974) indicated that KMO values exceeding 0.5 are statistically adequate. A score of 0.770 in this study suggests that the sampling was adequate. The Bartlett's test of sphericity, in conjunction with the KMO test, yielded a highly significant result, indicated by a statistic value of 7548.036, 496 degrees of freedom, and a p-value less than 0.05. The results of Bartlett's Test of Sphericity showed a p-value of 0.000, indicating a significant correlation among the components in the dataset. Kothari (2014) indicated that for the KMO test and Bartlett's test to be deemed acceptable, they must achieve a significance level below 0.05. Consequently, we can advance to additional analysis.

**Table 4.4: KMO and Bartlett's Test**

| Kaiser-Meyer-Olkin and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .770 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 7548.036 |
| | df | 496 |
| | Sig. | .000 |

**Source: Field Data, 2024**

Table 4.5 demonstrates that the factor analysis yielded eight components with eigenvalues over 1.0. Table 4.5 displays the factor loadings for each item across all variables, arranged by magnitude. The eigenvalues for each factor exceed 1.0, indicating that each factor explains more variance than a single variable. The eight components represent a cumulative variance of 77.02 percent of the shared variation among the 32 items. The findings validate validity of the instruments.

**Table 4. 5: Total Variance Explained**

| | Initial_Eigenvalues. | | | Extraction_Sum_of Squared Loadings. | | | Rotation_Sums of Squared Loadings. | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 7.957 | 24.865 | 24.865 | 7.957 | 24.865 | 24.865 | 5.843 | 18.261 | 18.261 |
| 2 | 4.621 | 14.440 | 39.305 | 4.621 | 14.440 | 39.305 | 4.241 | 13.254 | 31.515 |
| 3 | 3.710 | 11.594 | 50.899 | 3.710 | 11.594 | 50.899 | 3.110 | 9.719 | 41.234 |
| 4 | 2.722 | 8.507 | 59.406 | 2.722 | 8.507 | 59.406 | 2.728 | 8.524 | 49.757 |
| 5 | 1.718 | 5.368 | 64.774 | 1.718 | 5.368 | 64.774 | 2.674 | 8.357 | 58.115 |
| 6 | 1.489 | 4.654 | 69.427 | 1.489 | 4.654 | 69.427 | 2.667 | 8.333 | 66.448 |
| 7 | 1.261 | 3.939 | 73.367 | 1.261 | 3.939 | 73.367 | 1.771 | 5.536 | 71.984 |
| 8 | 1.169 | 3.654 | 77.020 | 1.169 | 3.654 | 77.020 | 1.612 | 5.036 | 77.020 |

Extraction Method: Principal Component Analysis.

**Source: Field Data, 2024**

The results of the rotated component matrix, obtained through Varimax rotation with Kaiser normalization, are presented in Table 4.6. The components were obtained using the principal component analysis extraction technique. The analysis omitted all loadings under 0.50, following Field's (2009) guidance. This is demonstrated in Table 4.6, which details the loadings of each variable across the components. The function of a rotated component matrix is to minimize the number of components that exhibit a substantial loading on the variables being analyzed.

**Table 4. 6: Rotated Component Matrix**

| | Components. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. |
| PTF5 | .875 | | | | | | | |
| PTF2 | .862 | | | | | | | |
| PTF4 | .838 | | | | | | | |
| PTF6 | .835 | | | | | | | |
| PTF1 | .786 | | | | | | | |
| PTF3 | .775 | | | | | | | |
| PI5 | .708 | | | | | | | |
| TK4 | .635 | | | | | | | |
| PI2 | .496 | | | | | | | |
| TK5 | .466 | | | | | | | |
| POD4 | | .946 | | | | | | |
| POD5 | | .934 | | | | | | |
| POD3 | | .932 | | | | | | |
| POD2 | | .833 | | | | | | |
| POD1 | | .832 | | | | | | |
| EDC2 | | | .865 | | | | | |
| EDC1 | | | .831 | | | | | |
| EDC4 | | | .802 | | | | | |
| EDC3 | | | .521 | | | | | |
| TK1 | | | | .847 | | | | |
| TK2 | | | | .844 | | | | |
| TK3 | | | | .737 | | | | |
| PR3 | | | | | .852 | | | |
| PR1 | | | | | .823 | | | |
| PR4 | | | | | .602 | | | |
| PR5 | | | | | .592 | | | |
| PI4 | | | | | | .854 | | |
| PI1 | | | | | | .813 | | |
| PI3 | | | | | | .793 | | |
| PR6 | | | | | | | .829 | |
| PR2 | | | | | | | .639 | |
| EDC5 | | | | | | | | .793 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 9 iterations.
**Source: Field Data, 2024**

### 4.3. Demographic Characteristics of Respondents

The demographics of respondents play a vital role in ensuring comprehensive data analysis, ensuring representation, and drawing meaningful conclusions from research outcomes. It enables the division of data into meaningful groupings. By gathering demographic information, it becomes possible to more precisely characterize study participants, thereby contextualizing the study results. Additionally, it provides context to the data, aiding in the comprehension of why specific trends or behaviors manifest. Incorporating demographic factors into research enhances the validity of the study by managing confounding variables that could affect the outcomes. This study focuses on the demographic characteristics of interest which include gender, age, educational qualification experience and volume of sales.

#### 4.3.1. Gender Distribution

Table 4.7 indicates the gender distribution of the respondents. It is a social construct that encompasses gender identity in form of one being either male or female. Majority of the respondents were male, and they accounted for 52.1 percent (n = 136) while 47.9 percent of the respondents were females (n = 125).

#### 4.3.2. Age of Respondents

With respect to age, the study's findings reveal that the majority of the respondents, accounting for 39.1% (n=102), fell between the age range of 36-45 years old. This was followed by respondents who were between 26 and 35 years old, representing 27.2% (n=71) of the total respondents. The next group of respondents consisted of individuals aged between 46 and 55 years old, with a total of 62 participants, accounting for 23.8% of the total respondents. The fourth group of respondents consisted of individuals aged above 56 years old (n =26), accounting for 10% of the total respondents.

### 4.3.3. Academic Qualification

The education level of respondents provides valuable insights into the knowledge, skills, and capabilities they possess. With respect to the level of education, the highest number of respondents representing 57.5% (n = 150) had undergraduate degree qualification. Further, those who had postgraduate master's qualification were (n = 44) representing the lowest percentage of 16.9% while those who had diploma qualification were (n=67) representing 25.7% of the respondents.

### 4.3.4. Number of Employees

The study findings revealed that the majority of the firms had over 15 employees as depicted by the number of respondents (n=222) representing 85.1% of the respondents. This was followed by firms that had 6 to 10 employees (n = 25) representing 9.6% of the respondents. Further, the third group of firms had between 11 to 15 employees (n = 25) representing 4.2% of the respondents. Finally, the last group of firms had between 1 and 5 employees (n = 3) representing 1.1% of the respondents.

### 4.3.5. Experience

Findings of the study indicated that majority of the respondents had accumulated experience of over 10 years as depicted by the number of respondents (n =71) representing 27.2% of the respondents. This was followed by those who had accumulated experience of between 5-7 Years (n =67) representing 25.7% of the respondents. Further, those that had worked for 8-10 Years were (n =61) representing 23.4% of the respondents. Those that had worked for between 2 and 4 years were (n =50) representing 19.2% of the respondents and those that had worked for less than two years were (n =13) representing 4.8% of the respondents.

### 4.3.6. Sales

Findings of the study indicated that majority of the respondents indicated that their firms had a sales volume of between 5,000,001 and 20,000,000 shillings as depicted by the number of respondents (n = 99) representing 36.7% of those who responded. This was followed by those who averred that their firms had a sales volume of between 20,000,001-40,000,000 shillings (n =67) representing 24.8% of the respondents. Further the study revealed that firms that had sales volume of between 1,000,001-5,000,000 shillings (n =46) representing 17% of the respondents Those that had sales between 40,000,001-50,000,000 were (n =38) representing 14.1% of the respondents and those firms that had less than 500,000 worth of sales were (n = 13) representing 4.8% of the respondents. Firms that had between 500,000-1,000,000 shillings worth of sales were as depicted by the respondents were (n =7) representing 2.6%.

**Table 4. 7: Demographic Characteristics of Respondents**

| | | Frequency | Percent |
|---|---|---|---|
| **Gender** | Male | 136 | 52.1 |
| | Female | 125 | 47.9 |
| | **Total** | **261** | **100.0** |
| **Age** | 26-35 Years | 71 | 27.2 |
| | 36-45 Years | 102 | 39.1 |
| | 46-55 Years | 62 | 23.8 |
| | Over 56 Years | 26 | 10.0 |
| | **Total** | **261** | **100.0** |
| **Qualification** | Degree | 150 | 57.5 |
| | Diploma | 67 | 25.7 |
| | Masters | 44 | 16.9 |
| | **Total** | **261** | **100.0** |
| **Employees** | 1-5 Employees | 3 | 1.1 |
| | 6-10 Employees | 25 | 9.6 |
| | 11-15 Employees | 11 | 4.2 |
| | Over 15 Employees | 222 | 85.1 |
| | **Total** | **261** | **100.0** |
| **Experience** | Less than 2 Years | 12 | 4.6 |
| | 2-4 Years | 50 | 19.2 |
| | 5-7 Years | 67 | 25.7 |

| | | | |
|---|---|---|---|
| | 8-10 Years | 61 | 23.4 |
| | Over 10 Years | 71 | 27.2 |
| | **Total** | **261** | **100.0** |
| **Sales** | Less than 500,000 | 13 | 4.8 |
| | 500,000-1,000,000 | 7 | 2.6 |
| | 1,000,001-5000000 | 46 | 17.0 |
| | 5,000,001-20,000,000 | 99 | 36.7 |
| | 20,000,001-40,000,000 | 67 | 24.8 |
| | 40,000,001-50,000,000 | 38 | 14.1 |
| | **Total** | **270** | **100.0** |

**Source: Field Data, 2024**

### 4.4. Cross-tabulation of Demographic Information against Study Variables

The research examined the relationship between employee demographics and the variables being analyzed. Demographic characteristics were cross-tabulated with the five variables that represent the independent, dependent, and moderating variables (Ng & Feldman, 2008). One Way Analysis of Variance (ANOVA) was utilized to determine the presence of significant differences in demographic characteristics.

The application of ANOVA assumes that each observation is independent and cannot be reused. The F-statistic was employed in the ANOVA analysis. The F-statistic is utilized to assess the significance of variation among demographic variables or research objectives in relation to study variables (Seltman, 2012). This study employed a one-way analysis of variance (ANOVA) F-statistic to assess statistically significant differences among the means of demographic characteristics (age, gender, and experience) and the study variables: gender, age, academic qualification, number of employees, experience and sales.

The t-test was employed to assess whether a significant difference exists between the means of gender and study variables. The T-test is utilized to compare the mean values of two data sets

and assess whether they originate from the same population (Seltman, 2012). The p-value represents the likelihood that the observed variation between variables is due to random chance. Therefore, demographic or research objective comparisons involving excise tax compliance with lower p-values indicate more significant variations (Seltman, 2012). Statistical significance is achieved when the p-value is less than or equal to 0.05, corresponding to a 95% confidence level.

### 4.4.1. Gender and Study Variables

The gender of the respondents was cross-tabulated with the study variables (tax knowledge, peer influence, penalty rate, probability of detection and perceived tax fairness. The results presented in Table 4.8 show that males had the highest mean in tax knowledge with a mean of M = 17.98 compared to the female gender which had a mean of 17.68. To find out if there is a significant difference between tax knowledge and respondents' gender, a one-way analysis of variance (ANOVA) was performed. The results showed that there was no statistically significant difference between tax knowledge and the respondents' gender ($F$ = 0.648, $\rho$= .422). This implied that tax knowledge was not dependent on respondents' gender.

Further, the study shows that females had the highest mean in peer influence with a mean of M = 15.85 compared to the male gender which had a mean of 15.14. To find out if there is a significant difference between peer influence and respondents' gender, a one-way analysis of variance (ANOVA) was performed. The results showed that there was a statistically significant difference between peer influence and the respondents' gender ($F$ = 3.901, $\rho$= .049). This showed that peer influence was dependent on respondents' gender.

The results showed that females had the highest mean in penalty rate with a mean of 17.41 as compared to the male gender with a mean of 16.49. To establish if there was a significant difference between penalty rate and respondents' gender, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the penalty rate and respondents' gender ($F = 8.094$, $p = 0.005$). This implied that penalty rate was dependent on respondents' gender.

Moreover, the results showed that females had the highest mean in probability of detection with a mean of 36.19 compared to male who had a mean of 35.83. To establish if there was a significant difference between probability of detection and respondents' gender, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically insignificant difference between the probability of detection and respondents' gender ($F = 0.032$, $p = 0.859$). This implied that probability of detection was not dependent on respondents' gender.

Finally, the results showed that male had the highest mean in perceived tax fairness with a mean of 46.11 as compared to female who had a mean of 44.14. To establish if there was a significant difference between perceived tax fairness and respondents' gender, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically insignificant difference between the perceived tax fairness and respondents' gender ($F = 0.666$, $p = 0.415$). This implied that probability of detection was not dependent on respondents' gender.

**Table 4. 8: Cross-Tabulation of Gender of Respondents and Study Variables**

| | | Mean | Std. Deviation | F | P-Value |
|---|---|---|---|---|---|
| **Tax Knowledge** | Male | 17.9875 | 3.20451 | .648 | .422 |
| | Female | 17.6804 | 2.93856 | | |
| **Peer Influence** | Male | 15.1415 | 2.62275 | 3.901 | .049 |
| | Female | 15.8508 | 3.17096 | | |
| **Penalty Rate** | Male | 16.4963 | 2.39280 | 8.094 | .005 |
| | Female | 17.4193 | 2.84371 | | |
| **Probability of Detection** | Male | 35.8342 | 16.62085 | .032 | .859 |
| | Female | 36.1982 | 16.38345 | | |
| **Perceived Tax Fairness** | Male | 46.1101 | 16.53514 | .666 | .415 |
| | Female | 44.1483 | 22.10250 | | |

### 4.4.2. Age of Respondents and Study Variables

The results presented in Table 4.9 show that respondents aged over 56 years had the highest mean in tax knowledge with a mean of M = 19.19 while respondents aged between 36-45 years which had a mean of M =17.39. To find out if there is a significant difference between tax knowledge and respondents' age, a one-way analysis of variance (ANOVA) was performed. The results showed that there was a statistically significant difference between tax knowledge and the respondents' age ($F$ = 3.889, $\rho$= *0*.010). This implied that tax knowledge was dependent on respondents' age.

Further, the study shows that respondents aged between 46-55 had the highest mean in peer influence with a mean of M = 16.80 while respondents aged between 36-45 had a mean of M = 14.85. To find out if there is a significant difference between peer influence and respondents' age, a one-way analysis of variance (ANOVA) was performed. The results showed that there was

a statistically significant difference between peer influence and the respondents' age ($F$ = 6.710, $\rho$= *0*.000). This showed that peer influence was dependent on respondents' age.

The results showed that respondents over the age of 56 years had the highest mean in penalty rate with a mean of M = 17.81 while respondents aged between 36-45 years had the lowest mean of M = 16.42. To establish if there was a significant difference between penalty rate and respondents' age, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the penalty rate and respondents' age (F = 2.682, p = 0.047). This implied that penalty rate was dependent on respondents' age.

Moreover, the results showed that respondents between the age of 36-45 years had the highest mean in probability of detection with a mean of 39.13 while respondents aged over 56 years had the lowest mean of 30.38. To establish if there was a significant difference between probability of detection and respondents' age, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically insignificant difference between the probability of detection and respondents' age (F = 2.594, p = 0.053). This implied that probability of detection was not dependent on respondents' age.

Finally, the results showed that respondents between the age of 36-45 had highest mean in perceived tax fairness with a mean of 49.82 while respondents aged over 56 years had the lowest mean of 31.79. To establish if there was a significant difference between perceived tax fairness and respondents' age, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the perceived tax fairness and

respondents' gender (F = 8.746, p = 0.000). This implied that the probability of detection was not dependent on respondents' age.

**Table 4. 9: Cross-Tabulation of Age of Respondents and Study Variables**

| Variable | Age | Mean | Std. Deviation | F | P-Value |
|---|---|---|---|---|---|
| **Tax Knowledge** | 26-36 | 17.4113 | 3.30262 | 3.889 | .010 |
| | 36-45 | 17.3985 | 2.52094 | | |
| | 46-55 | 18.4903 | 3.62976 | | |
| | Over 56 | 19.1962 | 2.42627 | | |
| **Peer Influence** | 26-36 | 15.1042 | 3.39599 | 6.710 | .000 |
| | 36-45 | 14.8588 | 2.15491 | | |
| | 46-55 | 16.8016 | 3.24500 | | |
| | Over 56 | 15.8038 | 2.27323 | | |
| **Penalty Rate** | 26-36 | 17.0428 | 3.26207 | 2.682 | .047 |
| | 36-45 | 16.4244 | 2.29406 | | |
| | 46-55 | 17.2977 | 2.60906 | | |
| | Over 56 | 17.8125 | 1.83236 | | |
| **Probability of Detection** | 26-36 | 35.1746 | 15.01439 | 2.594 | .053 |
| | 36-45 | 39.1331 | 19.15449 | | |
| | 46-55 | 34.1821 | 14.63671 | | |
| | Over 56 | 30.3832 | 10.21156 | | |
| **Perceived Tax Fairness** | 26-36 | 47.8942 | 21.01995 | 8.746 | .000 |
| | 36-45 | 49.8296 | 18.44884 | | |
| | 46-55 | 39.9971 | 14.63463 | | |
| | Over 56 | 31.7917 | 20.31173 | | |

### 4.4.3. Academic Qualification and Study Variables

The results presented in Table 4.11 show that respondents who had masters qualification had the highest mean in tax knowledge with a mean of M = 19.22 while respondents with diploma qualification had a mean of M = 16.23. To find out if there is a significant difference between tax knowledge and respondents' qualifications, a one-way analysis of variance (ANOVA) was performed. The results showed that there was a statistically significant difference between tax

knowledge and the respondents' qualifications ($F$ = 15.947, $\rho$= *0*.000). This implied that tax knowledge was dependent on respondents' academic qualification.

Further, the study shows that respondents who had masters qualification had the highest mean in peer influence with a mean of M = 16.00 while respondents with diploma qualification had the lowest mean of M = 14.73. To find out if there is a significant difference between peer influence and respondents' qualifications, a one-way analysis of variance (ANOVA) was performed. The results showed that there was a statistically significant difference between peer influence and the respondents' age ($F$ = 3.214, $\rho$= *0*.042). This showed that peer influence was dependent on respondents' academic qualifications.

The results showed that respondents who had masters qualification had the highest mean in penalty rate with a mean of M = 17.90 while respondents with diploma qualification had the lowest mean of M = 16.20. To establish if there was a significant difference between penalty rate and respondents' academic qualification, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the penalty rate and respondents' age (F = 5.726, p = 0.004). This implied that penalty rate was dependent on respondents' academic qualifications.

Moreover, the results showed that respondents who had degree qualification had the highest mean in penalty rate with a mean of M = 36.98 while respondents with masters qualification had the lowest mean of M = 34.57. To establish if there was a significant difference between probability of detection and respondents' academic qualification, a one-way analysis of variance

(ANOVA) was conducted. The results showed that there was a statistically insignificant difference between the probability of detection and respondents' academic qualifications (F = .620, p = 0.539). This implied that probability of detection was not dependent on respondents' academic qualifications.

Finally, the results showed that respondents that respondents who had degree qualification had the highest mean in perceived tax fairness with a mean of M = 48.99 while respondents with masters qualification had the lowest mean of M = 39.11. To establish if there was a significant difference between perceived tax fairness and respondents' academic qualifications, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the perceived tax fairness and respondents' academic qualifications (F = 7.266, p = 0.001). This implied that the probability of detection was dependent on respondents' academic qualifications.

**Table 4. 10: Cross-Tabulation of Respondents Academic Qualifications and Study Variables**

| | | Mean | Std. Deviation | F | P-Value |
|---|---|---|---|---|---|
| **Tax Knowledge** | Degree | 18.1520 | 2.87236 | 15.947 | .000 |
| | Diploma | 16.2358 | 2.18346 | | |
| | Masters | 19.2216 | 3.88264 | | |
| **Peer Influence** | Degree | 15.6587 | 2.44933 | 3.214 | .042 |
| | Diploma | 14.7396 | 2.77676 | | |
| | Masters | 16.0057 | 4.18127 | | |
| **Penalty Rate** | Degree | 16.9839 | 2.74776 | 5.726 | .004 |
| | Diploma | 16.2015 | 1.88949 | | |
| | Masters | 17.9053 | 3.02217 | | |
| **Probability of Detection** | Degree | 36.9852 | 18.28326 | .620 | .539 |
| | Diploma | 34.7616 | 15.46013 | | |

| | | | | | |
|---|---|---|---|---|---|
| | Masters | 34.5776 | 10.41767 | | |
| **Perceived Tax Fairness** | Degree | 48.9934 | 20.30088 | 7.266 | .001 |
| | Diploma | 40.5869 | 17.32834 | | |
| | Masters | 39.1177 | 16.21173 | | |

### 4.4.4. Respondents' Experience and Study Variables

The results presented in Table 4.12 show that respondents who had over 10 years of experience had the highest mean in tax knowledge with a mean of M = 19.07 while respondents with between 2-4 years of experience had a mean of M = 15.82. To find out if there is a significant difference between tax knowledge and respondents' experience, a one-way analysis of variance (ANOVA) was performed. The results showed that there was a statistically significant difference between tax knowledge and the respondents' experience ($F$ = 12.043, $\rho$= *0*.000). This implied that tax knowledge was dependent on respondents' academic qualification.

Further, the study shows that respondents who had over 10 years of experience had the highest mean in peer influence with a mean of M = 16.81 while respondents with between 2-4 years of experience had the lowest mean of M = 13.99. To find out if there is a significant difference between peer influence and respondents' experience, a one-way analysis of variance (ANOVA) was performed. The results showed that there was a statistically significant difference between peer influence and the respondents' experience ($F$ = 10.176, $\rho$= *0*.000). This showed that peer influence was dependent on respondents' experience.

The results showed that respondents who had between 8-10 years of experience had the highest mean in peer influence with a mean of M = 17.55 while respondents with between 2-4 years of experience had the lowest mean of M = 16.02. To establish if there was a significant difference

between penalty rate and respondents' experience, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the penalty rate and respondents' experience ($F = 3.434$, $p = 0.009$). This implied that penalty rate was dependent on respondents' experience.

Moreover, the results showed that respondents who had less than 2 years of experience had the highest mean in probability of detection with a mean of $M = 39.46$ while respondents with between 2-4 years of experience had the lowest mean of $M = 33.59$. To establish if there was a significant difference between probability of detection and respondents' exprience, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically insignificant difference between the probability of detection and respondents' experience ($F = 1.033$, $p = 0.391$). This implied that probability of detection was not dependent on respondents' experience.

Finally, the results showed that respondents that respondents who had less between 5-7 years of experience had the highest mean in perceived tax fairness with a mean of $M = 55.62$ while respondents with over 10 years of experience had the lowest mean of $M = 32.01$. To establish if there was a significant difference between perceived tax fairness and respondents' experience, a one-way analysis of variance (ANOVA) was conducted. The results showed that there was a statistically significant difference between the perceived tax fairness and respondents' experience ($F = 17.522$, $p = 0.000$). This implied that the probability of detection was dependent on respondents' experience.

**Table 4. 11: Cross-Tabulation of Respondents' Experience and Study Variables**

| | | Mean | Std. Deviation | F | P-Value |
|---|---|---|---|---|---|
| **Tax Knowledge** | Less than 2 Years | 16.8000 | 2.90298 | 12.043 | 0.000 |
| | 2-4 Years | 15.8200 | 2.47698 | | |
| | 5-7 Years | 17.3903 | 2.91966 | | |
| | 8-10 Years | 18.7639 | 2.70768 | | |
| | Over 10 Years | 19.0704 | 3.11047 | | |
| | Total | 17.8404 | 3.07796 | | |
| **Peer Influence** | Less than 2 Years | 15.3875 | 3.01369 | 10.176 | 0.000 |
| | 2-4 Years | 13.9980 | 2.57832 | | |
| | 5-7 Years | 14.6590 | 2.59557 | | |
| | 8-10 Years | 16.0623 | 2.88656 | | |
| | Over 10 Years | 16.8183 | 2.76476 | | |
| | Total | 15.4812 | 2.91430 | | |
| **Penalty Rate** | Less than 2 Years | 16.5417 | 2.30016 | 3.434 | 0.009 |
| | 2-4 Years | 16.0200 | 2.52569 | | |
| | 5-7 Years | 16.5964 | 2.47350 | | |
| | 8-10 Years | 17.5505 | 2.87461 | | |
| | Over 10 Years | 17.4489 | 2.58438 | | |
| | Total | 16.9384 | 2.65386 | | |
| **Probability of Detection** | Less than 2 Years | 39.4667 | 28.63452 | 1.033 | 0.391 |
| | 2-4 Years | 33.5940 | 12.28089 | | |
| | 5-7 Years | 34.2332 | 17.01737 | | |
| | 8-10 Years | 38.7600 | 18.35159 | | |
| | Over 10 Years | 36.4357 | 14.00826 | | |
| | Total | 36.0085 | 16.47685 | | |
| **Perceived Tax Fairness** | Less than 2 Years | 39.0156 | 16.06612 | 17.522 | 0.000 |
| | 2-4 Years | 48.9892 | 20.60996 | | |
| | 5-7 Years | 55.6228 | 17.49204 | | |
| | 8-10 Years | 47.0791 | 19.80324 | | |
| | Over 10 Years | 32.0185 | 11.55944 | | |
| | Total | 45.1705 | 19.38851 | | |

### 4.5. Descriptive Statistics of Study Variables

The principal aim of descriptive statistics is to furnish a succinct and lucid summary of the data, allowing humans to discern insights and understand patterns, trends, and distributions within the dataset. They are employed to infer characteristics of an entire population from a sample when just the sample is available. This section elucidates the descriptive outcomes about the variables under investigation, which were; Excise Duty Compliance; Tax Knowledge; Peer Influence; Penalty Rate; Probability of Detection, and Perceived Tax Fairness.

#### 4.5.1. Descriptive Statistics Results for Excise Duty Compliance

The dependent variable of the study was excise duty compliance. The participants were asked to indicate their degree of agreement with statements regarding excise duty compliance in the study area. Participants were instructed to evaluate their responses on a 1-5 Likert scale, with 1 representing "strongly disagree," 2 denoting "disagree," 3 signifying "undecided," 4 indicating "agree," and 5 reflecting "strongly agree," in relation to excise duty compliance. Table 4.12 displays the responses pertaining to this variable.

Table 4.8 presents the findings. The results indicate that the majority of respondents were in agreement that their firm file tax returns regularly correctly as depicted by the mean and standard deviation results (M = 4.59, SD = 0.493). Moreover, the respondents were in agreement that their firms file returns on time and as required by law (M = 4.58, SD = 0.495); that KRA has offered an enabling environment for tax filing (M = 4.00, SD = 0.704); that their firms declared the correct monthly income (M = 4.52, SD = 0.624) respectively. However, they were unsure or undecided that their firms file tax returns only to avoid penalties (M = 3.26, SD = 1.153). Overall, it can be deduced that the respondents were in agreement with regards to the items on

this variable as depicted by the aggregate mean of M =4.19 and a low standard deviation of SD = 0.694.

**Table 4. 12: Descriptive Statistics Results for Excise Duty Compliance**

| | Mean | Std. Deviation |
|---|---|---|
| Our firm file tax returns regularly | 4.59 | .493 |
| We submit returns punctually and following legal requirements | 4.58 | .495 |
| We submit returns punctually and in accordance with legal requirements. | 4.00 | .704 |
| Our company declares the correct monthly income | 4.52 | .624 |
| We file tax returns only to avoid penalties | 3.26 | 1.153 |
| **Excise Duty Compliance** | **4.19** | **0.694** |

**Source: Field Data, 2024**

### 4.5.2. Descriptive Statistics Results for Tax Knowledge

The initial independent variable in this study was tax knowledge, assessed through five items. Participants were instructed to assess their concurrence with statements pertaining to tax knowledge utilizing a 5-point Likert scale, with 1 denoting "Strongly disagree" and 5 indicating "Strongly agree." Table 4.13 displays the outcomes of the statements concerning tax knowledge.

Findings revealed that majority of respondents were in agreement that their firm was aware of the excise duty due date (M = 4.35, SD = 0.501). Moreover, it was established from the study findings that the respondents were in agreement that their firms were aware of penalties applicable on non-compliance with excise duty obligations (M = 4.30, SD = 0.489); that their firm was aware of their excise duty compliance obligations (M = 4.25, SD = 0.516); that their firms followed the excise duty laws so as to comply with the requirements (M = 4.12, SD = 0.486). However, the findings revealed that the respondents were undecided with regards to the statement that their firms easily understood the provisions of the Excise Duty Act, 2015 (M = 3.95, SD = 0.660). Overall, it can be deduced that the respondents were in agreement with

regards to the items on this variable as depicted by the aggregate mean of M =4.194 and a low standard deviation of SD = 0.530.

**Table 4.13: Descriptive Statistics Results for Tax Knowledge**

| | Mean | Std. Deviation |
|---|---|---|
| Our company is aware of the excise duty due date | 4.35 | .501 |
| Our company is aware of penalties applicable on non-compliance with excise duty obligations | 4.30 | .489 |
| Our company is aware of its excise duty compliance obligations | 4.25 | .516 |
| Our company easily understands the provisions of the Excise Duty Act, 2015 | 3.95 | .660 |
| We follow the excise duty laws so as to comply with the requirements | 4.12 | .486 |
| **Tax Knowledge** | **4.194** | **0.530** |

**Source: Field Data, 2024**

### 4.5.3. Descriptive Statistics Results for Peer Influence

The second independent variable for this study was peer influence assessed through 5 items. Respondents were instructed to assess their concurrence with statements pertaining to peer influence utilizing a 5-point Likert scale, with 1 denoting "Strongly disagree" and 5 indicating "Strongly agree." Table 4.14 displays the outcomes of the statements concerning peer influence.

Findings revealed that majority of respondents were in agreement that their firm culture influenced excise duty compliance practices (M = 4.02, SD = 0.614) and that compliance in matters of excise duty creates an enabling environment for their business (M = 4.24, SD = 0.758). However, it was established from the study findings that the respondents were undecided that their firms were at par with our competing firms in excise duty compliance (M = 3.24, SD = 0.881); and that their firm social network is key in excise duty compliance (M = 3.81, SD = 0.712). Moreover, the findings revealed that the respondents disagreed with regards to the statement that their firms have positive attitude towards excise duty laws (M = 2.93, SD =

01.237). Overall, it can be deduced that the respondents were neutral or undecided with regards to the items on this variable as depicted by the aggregate mean of M =3.65 and a low standard deviation of SD = 0.840.

**Table 4. 14: Descriptive Statistics Results for Peer Influence**

| | Mean | Std. Deviation |
|---|---|---|
| Our firm culture influenced excise duty compliance practices | 4.02 | .614 |
| We are at par with our competing firms in excise duty compliance | 3.24 | .881 |
| Our firm social network is key in excise duty compliance | 3.81 | .712 |
| We believe that compliance in matters of excise duty creates an enabling environment for our business. | 4.24 | .758 |
| We have positive attitude towards excise duty laws | 2.93 | 1.237 |
| **Peer Influence** | **3.65** | **0.840** |

**Source: Field Data, 2024**

### 4.5.4. Descriptive Statistics Results for Penalty Rate

The third independent variable for this study was penalty rate assessed through 5 items. Respondents were instructed to assess their concurrence with statements pertaining to penalty rate utilizing a 5-point Likert scale, with 1 denoting "Strongly disagree" and 5 indicating "Strongly agree." Table 4.15 displays the outcomes of the statements concerning penalty rate.

Findings revealed that majority of respondents were in agreement that the firm understood the laws guiding the payment of excise duty tax (M = 4.11, SD = 0.544); that the firms were aware of the penalty rate tax policy (M = 4.03, SD = 0.410); that understate income is punishable in tax laws (M = 4.08, SD = 0.278) and that the firms would pay their excise duty as required by the regulations (M = 4.15, SD = 0.435) respectively. However, they were undecided regarding the view that Kenyan tax laws are punitive to hardworking citizens (M = 3.80, SD = 0.964) and that tax penalties would appear to turn on what motivates taxpayers to comply with their tax obligations (M = 3.77, SD = 0.874). Overall, it can be deduced that the respondents were neutral

or undecided with regards to the items on this variable as depicted by the aggregate mean of M =3.99 and a low standard deviation of SD = 0.584.

**Table 4. 15: Descriptive Statistics Results for Penalty Rate**

| | Mean | Std. Deviation |
|---|---|---|
| We understand the laws guiding the payment of excise duty tax. | 4.11 | .544 |
| Kenyan tax laws are punitive to hardworking citizens | 3.80 | .964 |
| We are aware of the penalty rate tax policy | 4.03 | .410 |
| understate income is punishable in tax laws | 4.08 | .278 |
| we would pay our excise duty as required by the regulations | 4.15 | .435 |
| The imposition of tax penalties seems to hinge on the underlying motivations that drive taxpayers to fulfill their tax responsibilities. | 3.77 | .874 |
| **Penalty Rate** | **3.99** | **0.584** |

**Source: Field Data, 2024**

### 4.5.5. Descriptive Statistics Results for Probability of Detection

The fourth independent variable of this study was probability of detection assessed through 5 items. Respondents were instructed to assess their concurrence with statements pertaining to probability of detection utilizing a 5-point Likert scale, with 1 denoting "Strongly disagree" and 5 indicating "Strongly agree." Table 4.16 displays the outcomes of the statements concerning probability of detection. Accordingly, findings of the study revealed that respondents disagreed with the view that firms would be subjected to the accuracy penalty for any substantial understatement of income tax attributable (M = 3.85, SD = 0.946) and that firms' decision to oblige to the tax law relied on weighing the gains and losses of being caught and the level of punishment imposed (M = 3.49, SD = 0.935). However, they agreed with the views that firms rarely engage in incorrectly declaring our excise duty (M = 4.17, SD = 0.962); that firms have not avoided paying excise duty as required by the law of the land (M = 4.18, SD = 0.926) and that firms' corporate tax professionals don't engage in unethical tax behavior (M = 4.21, SD = 0.949). Overall, it can be deduced that the respondents were undecided with regards to the items

on this variable as depicted by the aggregate mean of M =3.98 and a low standard deviation of SD = 0.943.

**Table 4. 16: Descriptive Statistics Results for Probability of Detection**

| | Mean | Std. Deviation |
|---|---|---|
| We will face the accuracy penalty for any significant understatement of income tax attributable. | 3.85 | .946 |
| Our choice to comply with the tax law was based on evaluating the benefits and drawbacks of being discovered and the severity of the penalties involved. | 3.49 | .935 |
| We rarely engage in incorrectly declaring our excise duty | 4.17 | .962 |
| Our firm has not avoided paying excise duty as required by the law of the land | 4.18 | .926 |
| Our corporate tax professionals don't engage in unethical tax behavior | 4.21 | .949 |
| Valid N (listwise) | **3.98** | **0.943** |

**Source: Field Data, 2024**

### 4.5.6. Descriptive Statistics Results for Perceived Tax Fairness

Perceived fairness was the moderating variable in this study assessed using 6 items. Respondents were instructed to assess their concurrence with statements pertaining to perceived fairness utilizing a 5-point Likert scale, with 1 denoting "Strongly disagree" and 5 indicating "Strongly agree." Table 4.17 displays the outcomes of the statements concerning perceived fairness. Findings revealed that the respondents disagreed that KRA Treats everyone in the same manner (M = 2.93, SD = 1.377). Moreover, the findings revealed that the respondents were undecided regarding the view that KRA strengthens legal enforcement and penalties for firms (M = 3.22, SD = 1.226); that KRA Provide valuable information to taxpayers' (M = 3.84, SD = 0.931); that KRA develops simple and transparent tax collection systems (M = 3.75, SD = 1.033); that KRA builds trust and confidence with taxpayers' (M = 3.34, SD = 1.184) and that KRA develops simple and transparent tax collection systems (M = 3.77, SD = 0.966).

**Table 4. 17: Descriptive Statistics Results for Perceived Fairness**

| | Mean | Std. Deviation |
|---|---|---|
| Strengthening legal enforcement and penalties | 3.22 | 1.226 |
| Treats everyone in the same manner | 2.93 | 1.377 |
| Provide valuable information to taxpayers' | 3.84 | .931 |
| Create straightforward and clear systems for tax collection. | 3.75 | 1.033 |
| Establishing trust and confidence with taxpayers. | 3.34 | 1.184 |
| Create straightforward and clear systems for tax collection. | 3.77 | .966 |
| **Perceived Fairness** | **3.475** | **1.1195** |

**Source: Field Data, 2024**

### 4.6. Assumptions of Regression Model

Williams et al. (2019) emphasized the need of verifying that the data aligns with the underlying presumptions of the statistical methods applied in the research. To ensure objective, reliable, and effective estimations, the examiner must assess assumptions in order to assess the data features and choose the best model for the study. Misconceptions about the application of statistical tests, confidence intervals, and statistical power were found to be significantly prevalent (Greenacre et al., 2022). Therefore, it is wise to take a methodical approach while formulating conclusions in social research.

To determine the extent of agreement between the data and the regression assumptions, the study evaluated the assumptions. Inaccurate relationship estimates, dubious confidence ranges, and weakened significance tests can result from deviations from accepted assumptions (Osborne & Waters, 2019). According to Schmidt and Finan (2018), multiple regression is predicated on four assumptions: linearity, homoscedasticity, normality, and collinearity.

### 4.6.1. Normality Test

The term "normality" describes the normal distribution of a continuous variable's scores with respect to the mean. A normal distribution is anticipated for the residuals, also known as error terms, that arise from the difference between the independent and dependent variables' observed values. When assessing a normal distribution in data, skewness and kurtosis values must be examined in addition to graphical representations. The frequency histograms show the variables' comparatively normal distributions. According to Schmidt and Finan (2018), graphical methods by themselves are inadequate for assessing data distribution. They suggest using statistical methods and analyzing shape elements in the coefficients, such as kurtosis and skewness.

Every variable presented in table 4.14 of this study demonstrated skewness values that remained within the conventional limits of +3 or -3 standard deviations, as outlined by Hair et al. (2006). Analyze skewness statistics that fall outside of this range. The data displayed a spectrum of values spanning from 0.170 to 2.675. Tsagris and Pandis (2021) indicate that the existence of negative or positive skewness is acceptable provided it remains within the normal range.

Kurtosis serves as a statistical metric that assesses the extent of peakedness within a distribution. Positive kurtosis values suggest a distribution characterized by a distinct peak, while negative kurtosis values reflect a distribution that is comparatively flat. The field data reveals that the kurtosis ranges from -0.179 to 1.480. This indicates that the variables are contained within the range outlined in table 4.18. Tsagris and Pandis (2021) indicate that negative or positive skewness is only a concern when it deviates from the typical range.

**Table 4. 18: Test for Normality**

| | N | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| EDC | 261 | 4.2356 | .43857 | .170 | -.816 |
| TK | 261 | 17.8404 | 3.07796 | .555 | -.524 |
| PI | 261 | 15.4812 | 2.91430 | .719 | 1.088 |
| PR | 261 | 16.9384 | 2.65386 | .779 | .824 |
| POD | 261 | 36.0085 | 16.47685 | 2.675 | 1.480 |
| PTF | 261 | 45.1705 | 19.38851 | .714 | -.179 |
| Valid N (listwise) | 261 | | | | |

**Source: Field Data, 2024**

According to Hernandez (2021), data is deemed normal when its distribution adheres to a normal distribution for each individual item as well as for all linear combinations of those items. The normal distribution is defined by its symmetrical bell-shaped curve, featuring a mean (μ) of 0 and a variance ($\sigma$) of 1. Figure 4.1 illustrates the normal distribution of a quantity through a histogram representation. This illustrates the apparent ease of use under the assumption of a normal distribution, as represented by the bell-shaped curve.

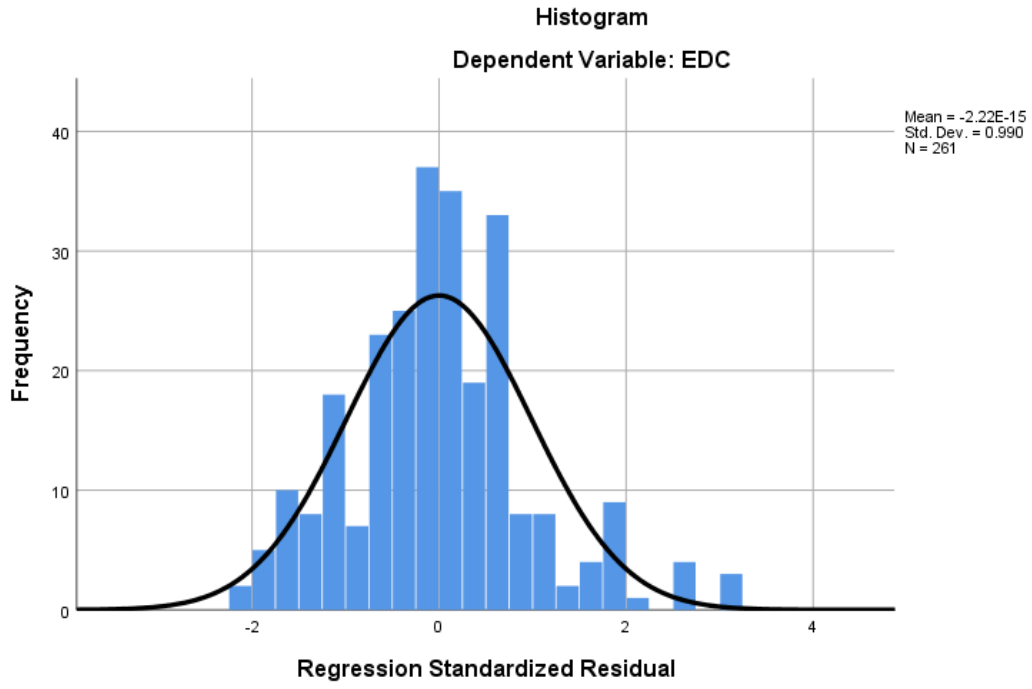


**Figure 4. 1: Normality Curve**

**Source: Field Data, 2024**

### 4.6.2. Linearity Test

It is essential that all independent variables in regression exhibit a linear relationship with the dependent variable. The linearity assumption in this study was evaluated through a visual inspection of the P-P plot of the scores, which was anticipated to align with a straight line. The coefficient of determination (R2) was calculated to assess linearity, as illustrated in Figure 4.2. Linear models generate predictions by establishing a straight line characterized by a constant slope, which illustrates the variation in the dependent variable corresponding to a consistent change in the independent variable.

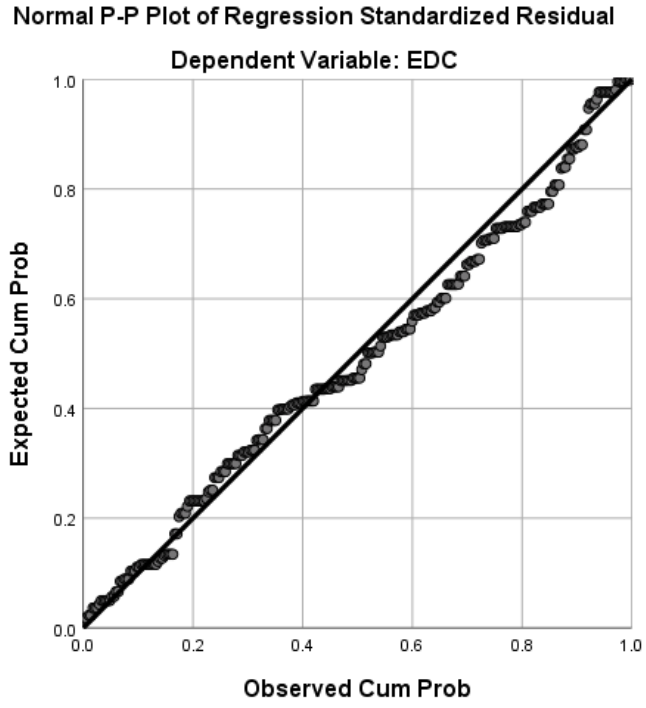


**Figure 4. 2: Linearity Curve**

**Source: Field Data, 2024**

### 4.6.3. Homoscedasticity Test

According to the assumption of homoscedasticity, the errors retain a constant variance across all independent variable levels (Osborne & Waters, 2019). Researchers assume that errors are evenly distributed across the variables (Keith, 2006). When all values of the predictor variable have a uniform distribution around the regression line, this becomes clear. The process for assessing homoscedasticity was described by Osborne and Waters (2002). It involves visualizing a plot that shows the standardized residuals in relation to the regression standardized projected values. They suggest using statistical methods and analyzing shape elements in the coefficients, such as kurtosis and skewness.

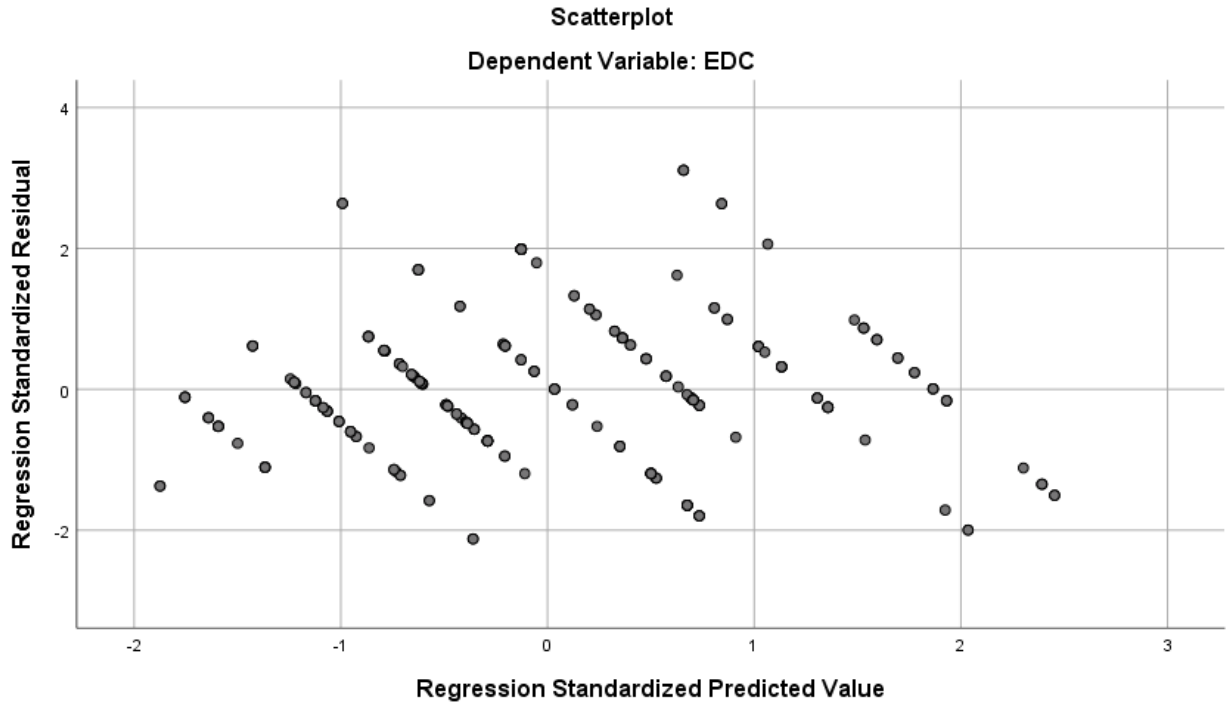


**Figure 4. 3: Scatter Plot**

**Source: Field Data, 2024**

### 4.6.4. Multicollinearity Test

Multicollinearity was assessed using the Variance Inflation Factor (VIF). This measure assesses how various factors affect the coefficient of determination. While values above 4 imply the presence of collinearity or multicollinearity, numbers above 10.0 generally indicate that the VIF is considerable (Cooper & Schindler, 2001). The VIF index in this study ranges from 1.051 to 2.932, while the tolerance value spans from 0.324 to 0. 951, as detailed in Table 4.19. This suggests that multicollinearity does not present a problem.

**Table 4. 19: Multicollinearity Test Results**

| Model | | Collinearity Statistics | |
|---|---|---|---|
| | | Tolerance | VIF |
| 1 | (Constant) | | |
| | TK | .341 | 2.932 |
| | PI | .396 | 2.527 |
| | PR | .324 | 3.088 |
| | POD | .951 | 1.051 |
| | PTF | .757 | 1.321 |

**Source: Field Data, 2024**

### 4.7. Correlation Analysis

Correlation analysis indicates the strength and extent of the relationship between variables. This research utilized Pearson pairwise correlation ($\rho$) as the analytical approach. The correlation coefficient ($\rho$) ranges from -1 to +1. A $\rho$ value of +1 signifies a perfect positive correlation between the variables, whereas a value of -1 indicates a perfect negative correlation. Values near zero indicate a weak correlation, whereas values markedly different from zero suggest a strong association. The results in Table 4.16 indicate that all variables analyzed in this study demonstrated a positive and statistically significant correlation with excise duty compliance.

A positive correlation was identified between tax knowledge and excise duty compliance (r = 0.865, p = 0.01). A significant positive correlation was found between excise duty compliance and peer influence (r = 0.668, p = 0.01), as well as with the penalty rate (r = 0.805, p = 0.01). The correlation between excise duty compliance and detection probability was significant (r = 0.276, p = 0.01). Furthermore, there was a positive correlation between perceptions of tax fairness and compliance levels (r = 0.322, p = 0.01). Table 4.20 presents the correlation matrix of the study variables.

**Table 4. 20: Correlation Analysis Results**

| | **EDC** | **TK** | **PI** | **PR** | **POD** | **PTF** |
|---|---|---|---|---|---|---|
| Excise Duty Compliance | 1 | | | | | |
| Tax Knowledge | .865** | 1 | | | | |
| Peer Influence | .668** | .667** | 1 | | | |
| Penalty Rate | .805** | .776** | .663** | 1 | | |
| Probability of Detection | .276** | .172** | .021 | .100 | 1 | |
| Perceived Tax Fairness | .322** | .127* | -.195** | .199** | .116 | 1 |

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

**Source: Field Data, 2024**

### 4.8. Regression Analysis

This investigation developed and examined six hypotheses utilizing a hierarchical regression model, enhancing the model by incorporating new variables. The investigation encompasses four hypotheses that focus on direct effects and an additional four hypotheses that examine moderating effects, all stemming from the objectives of the study.

### 4.8.1. Results of the Control Variables of the Study

Control factors enhance the internal validity of a study by mitigating the influence of confounding and other extraneous variables. The objective is to ensure that the effect of the independent variable on the dependent variable can be accurately evaluated without the interference of extraneous variables. Control variables are maintained at a constant level to prevent any impact on the results, facilitating a clear assessment of the relationship between the independent and dependent variables.

This study accounted for firm size (FS) and turnover sales (TS). Findings from Model 1 indicate the control variables. namely firm size and turnover sales, explained 36.8% of the variance in excise duty compliance. The coefficient of determination ($R^2$) is 0.368, the F statistic is 75.054, and the p-value is 0.000, corroborating this finding. The results suggested that the regression coefficient for firm size was positive and statistically significant ($\beta= 0.048$, $\rho<0.05$). The positive beta coefficient indicates that an increase in the number of employees correlates with an enhancement in excise duty compliance by 0.367 units. Furthermore, the study demonstrated that turnover sales exhibited a positive and statistically significant association with excise duty compliance ($\beta= 0.375$, $\rho<0.05$), indicating that an increase in turnover sales results in an increase in excise duty compliance by 0.028 units. The results of the control variables are displayed in Table 4.21.

**Table 4. 21: Regression Results of Control Variables**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.965 | .111 | | 26.742 | .000 |
| | Firm_Size | .048 | .007 | .367 | 6.975 | .000 |
| | Sales_Turnover | .028 | .004 | .375 | 7.138 | .000 |
| **Model Summary** | | | | | | |
| R | | | 0.606 | | | |
| R Square | | | 0.368 | | | |
| $R^2$ Change | | | 0.368 | | | |
| Std. Error of the Estimate | | | 0.35005 | | | |
| **Model Fit** | | | | | | |
| F change | | | 75.054 | | | |
| Sig. | | | 0.000 | | | |

**Source: Field Data, 2024**

### 4.8.2. Results of the Direct Effect of the Study

Model 2 showcases the results of the independent variables. The findings indicate that firm size exerted a positive and statistically significant influence ($\beta = 0.143$, $p < 0.05$) on excise duty compliance, while turnover sales also demonstrated a positive and statistically significant impact on tax compliance ($\beta = 0.060$, $p < 0.05$). The model explains 84.7% of the total variation in excise duty compliance, as demonstrated by an R2 value of 0.847. The findings are substantiated by a notable F value of 223.427 and a p-value of 0.000.

**Table 4. 22: Regression Results for Direct Effect**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 2 | (Constant) | 1.490 | .081 | | 18.474 | .000 |
| | Firm Size | .019 | .004 | .143 | 5.070 | .000 |
| | Sales Turnover | .005 | .002 | .060 | 2.024 | .044 |
| | TK | .064 | .006 | .447 | 9.963 | .000 |
| | PI | .013 | .006 | .087 | 2.375 | .018 |
| | PR | .052 | .007 | .318 | 7.598 | .000 |
| | POD | .004 | .001 | .145 | 5.639 | .000 |
| **Model Summary** | | | | | | |
| | R | | 0.917 | | | |
| | R Square | | 0.847 | | | |
| | $R^2$ Change | | 0.473 | | | |
| | Std. Error of the Estimate | | 0.17709 | | | |
| **Model Fit** | | | | | | |
| | F change | | 223.427 | | | |
| | Sig. | | 0.000 | | | |

**Source: Field Data, 2024**

### 4.8.3. Results of the Moderating Effect of Perceived Fairness

A series of hierarchical blocks was utilized to assess the moderating effect. The first model focused on the examination of control variables. Model 2 analyzed all four independent variables. We examined the function of perceived fairness as a moderator in model 3 to assess its impact on the model. A cross product of the moderator was computed with each independent variable. The analysis for models 4 to 7 included a systematic examination of the interaction terms between the moderator and each independent variable.

The inclusion of the moderator in the model is demonstrated in Model 3. The findings indicate that firm size exerted a positive and statistically significant influence ($\beta = 0.093$, $p < 0.05$) on excise duty compliance, while turnover sales also demonstrated a positive and statistically significant impact on tax compliance ($\beta = 0.057$, $p < 0.05$). The model explains 88.1% of the total

variation in excise duty compliance, as demonstrated by an R2 value of 0.881. The substantial F value of 267.490, along with a p-value of 0.000, supports this conclusion robustly.

**Table 4. 23: Regression Results for Moderating Variable**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 3 | (Constant) | 1.384 | .071 | | 19.542 | .000 |
| | Firm Size | .012 | .003 | .093 | 3.703 | .000 |
| | Sales Turnover | .004 | .002 | .057 | 2.201 | .029 |
| | TK | .062 | .006 | .433 | 11.152 | .000 |
| | PI | .036 | .005 | .236 | 6.635 | .000 |
| | PR | .033 | .006 | .200 | 5.220 | .000 |
| | POD | .004 | .001 | .134 | 5.992 | .000 |
| | PTF | .005 | .001 | .237 | 9.250 | .000 |
| **Model Summary** | | | | | | |
| | R | | 0.931 | | | |
| | R Square | | 0.881 | | | |
| | $R^2$ Change | | 0.040 | | | |
| | Std. Error of the Estimate | | 0.15339 | | | |
| **Model Fit** | | | | | | |
| | F change | | 267.490 | | | |
| | Sig. | | 0.000 | | | |

**Source: Field Data, 2024**

### 4.8.4. Results of the Interaction Effect of Tax Knowledge, Perceived Fairness and Excise Duty Compliance

Model 4 presents the findings regarding the initial interactions of perceived fairness in relation to the connection between tax knowledge and compliance with excise duty. This model demonstrates an R-value of 0.987 and a change in R2 of 0.040, with an F statistic of 1195.642 and a p-value of 0.000. This suggests that the first interaction accounts for 4.0% of the variance in excise duty compliance. The results concerning the controls in this model demonstrate that firm size exerted a positive and statistically significant influence ($\beta = 0.040$, $p < 0.05$) on excise

duty compliance, while turnover sales showed a positive yet statistically insignificant effect on tax compliance ($\beta = 0.013$, $p > 0.05$).

**Table 4. 24: Regression Results for Interaction effect of Perceived Fairness on the Relationship between Tax knowledge and Excise Duty Compliance**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 4 | (Constant) | 3.799 | .086 | | 44.014 | .000 |
| | Firm Size | .005 | .002 | .040 | 3.357 | .001 |
| | Sales Turnover | .001 | .001 | .013 | 1.107 | .269 |
| | TK | -.197 | .009 | -1.383 | -22.072 | .000 |
| | PI | .008 | .003 | .051 | 2.913 | .004 |
| | PR | .003 | .003 | .020 | 1.053 | .293 |
| | POD | .001 | .000 | .026 | 2.350 | .020 |
| | PTF | .001 | .000 | .052 | 3.855 | .000 |
| | TK*PTF | .047 | .002 | 2.205 | 30.275 | .000 |
| **Model Summary** | | | | | | |
| | R | | 0.987 | | | |
| | R Square | | 0.974 | | | |
| | $R^2$ Change | | 0.093 | | | |
| | Std. Error of the Estimate | | 0.07137 | | | |
| **Model Fit** | | | | | | |
| | F change | | 1195.642 | | | |
| | Sig. | | 0.000 | | | |

**Source: Field Data, 2024**

### 4.8.5. Results of the Interaction Effect of Peer Influence, Perceived Fairness and Excise Duty Compliance

Model 5 presents the findings regarding the initial interactions of perceived fairness in relation to peer influence and compliance with excise duty. This model demonstrates an R-value of 0.988 and a change in $R^2$ of 0.001, with an F statistic of 0.15339 and a p-value of 0.000. This suggests that the first interaction accounts for 4.0% of the variance in excise duty compliance. The results concerning the controls in this model suggest that firm size exhibited a positive and statistically significant effect ($\beta = 0.042$, $p < 0.05$) on excise duty compliance, while turnover sales

demonstrated a positive but statistically insignificant effect on tax compliance (β = 0.012, p > 0.05).

**Table 4. 25: Regression Results for Interaction Effect of Perceived Fairness on the Relationship between Peer Influence and Excise Duty Compliance**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 5 | (Constant) | 3.837 | .085 | | 44.949 | .000 |
| | Firm Size | .005 | .002 | .042 | 3.592 | .000 |
| | Sales Turnover | .001 | .001 | .012 | .977 | .330 |
| | TK | -.134 | .021 | -.938 | -6.411 | .000 |
| | PI | -.069 | .023 | -.457 | -2.998 | .003 |
| | PR | .001 | .003 | .008 | .424 | .672 |
| | POD | .001 | .000 | .025 | 2.356 | .019 |
| | PTF | .001 | .000 | .052 | 3.979 | .000 |
| | TK*PTF | .033 | .005 | 1.531 | 7.183 | .000 |
| | PI*PTF | .017 | .005 | .711 | 3.357 | .001 |
| **Model Summary** | | | | | | |
| | R | | 0.988 | | | |
| | R Square | | 0.975 | | | |
| | $R^2$ Change | | 0.001 | | | |
| | Std. Error of the Estimate | | 0.15339 | | | |
| **Model Fit** | | | | | | |
| | F change | | 267.490 | | | |
| | Sig. | | 0.000 | | | |

**Source: Field Data, 2024**

### 4.8.6. Results of the Interaction Effect of Penalty Rate, Perceived Fairness and Excise Duty Compliance

Model 6 presents the findings regarding the initial interactions of perceived fairness in relation to the connection between penalty rate and excise duty compliance. This model demonstrates an R value of 0.988 and a change in $R^2$ of 0.001, with an F statistic of 1015.226 and a p-value of 0.000. This suggests that the first interaction accounts for 4.0% of the variance in excise duty

compliance. The results concerning the controls in this model demonstrate that firm size exerted a positive and statistically significant influence (β = 0.040, p <0.05) on excise duty compliance, while turnover sales showed a positive but statistically insignificant effect on tax compliance (β = 0.010, p = >0.05).

**Table 4. 26: Regression Results for Interaction effect of Perceived Fairness on the Relationship between Penalty Rate and Excise Duty Compliance**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 6 | (Constant) | 3.880 | .087 | | 44.812 | .000 |
| | Firm Size | .005 | .002 | .040 | 3.456 | .001 |
| | Sales Turnover | .001 | .001 | .010 | .845 | .399 |
| | TK | -.088 | .028 | -.619 | -3.125 | .002 |
| | PI | -.051 | .024 | -.337 | -2.115 | .035 |
| | PR | -.068 | .030 | -.413 | -2.298 | .022 |
| | POD | .001 | .000 | .029 | 2.726 | .007 |
| | PTF | .001 | .000 | .047 | 3.532 | .000 |
| | TK*PTF | .022 | .006 | 1.036 | 3.476 | .001 |
| | PI*PTF | .013 | .005 | .529 | 2.365 | .019 |
| | PR*PTF | .016 | .007 | .659 | 2.354 | .019 |
| **Model Summary** | | | | | | |
| | R | | 0.988 | | | |
| | R Square | | 0.976 | | | |
| | $R^2$ Change | | 0.001 | | | |
| | Std. Error of the Estimate | | 0.06934 | | | |
| **Model Fit** | | | | | | |
| | F change | | 1015.226 | | | |
| | Sig. | | 0.000 | | | |

**Source: Field Data, 2024**

### 4.10. Mod Graphs

A moderation effect can manifest in three ways: it may be antagonistic, where an increase in the moderator reverses the predictor's effect on the outcome, or it may be enhancing, where an increase in the moderator amplifies the predictor's effect on the outcome and it may buffer or

reduce the predictor's effect on the outcome (Hayes, 2013). For moderation to be established, three prerequisites need to be fulfilled. Initially, it is essential that there is significantly more variance accounted for by interaction rather than by the absence of it. The coefficient of the interaction term must be non-zero. The analysis of the simple slopes to explore the characteristics of the interaction begins with this straightforward slope for the interaction. Ultimately, a notable distinction is expected between the comprehensive models that incorporate the interaction and those that do not (Hayes, 2013). Previous studies suggest that graphically plotting the interaction effect of the moderator is the most effective method for assessing its characteristics (Jose, 2008; Aiken & West, 1991). Mod Graphs facilitate a clearer understanding of the complex interactions within the model.

### 4.8.7. Results of the Interaction Effect of Probability of Detection, Perceived Fairness and Excise Duty Compliance

Model 7 presents the findings regarding the initial interactions of perceived fairness in relation to the probability of detection and compliance with excise duty. This model demonstrates an enhanced R-value of 0.988 and a change in R2 of 0.001, with an F statistic of 1015.226 and a p-value of 0.000. This suggests that the initial interaction accounts for 4.0% of the variance in excise duty compliance. The results concerning the controls in this model reveal that firm size exerted a positive and statistically significant influence ($\beta = 0.038$, $p < 0.05$) on excise duty compliance, while turnover sales demonstrated a positive but statistically insignificant effect on tax compliance ($\beta = 0.008$, $p = >0.05$).

The findings indicate that tax knowledge ($\beta = -0.474$, $p = <0.05$) has a negative and significant impact on excise duty compliance, suggesting that an increase in tax knowledge corresponds to a decrease in compliance with excise duty obligations. Peer influence ($\beta = -0.370$, $p = <0.05$)

demonstrated a negative and statistically significant impact on excise duty compliance, indicating that an increase in peer influence corresponds to a decline in excise duty compliance. Furthermore, the penalty rate ($\beta$ = -0.412, p = <0.05) demonstrated a negative and statistically significant impact on excise duty compliance, indicating that an increase in the penalty rate results in a decrease in compliance. Conversely, the probability of detection ($\beta$ = -0.278, p = <0.05) exhibited a negative and statistically significant relationship with tax compliance, suggesting that an increase in perceived risk correlates with an increase in compliance levels. The first interaction effect regarding the moderating influence of perceived tax fairness on the relationship between tax knowledge and excise duty compliance was both positive and statistically significant ($\beta$ = 0.805, p = <0.05). This indicates that perceived tax fairness plays a moderating role in the relationship between tax knowledge and excise duty compliance. The second interaction effect revealed that the moderating influence of perceived tax fairness on the relationship between peer influence and excise duty compliance was positive and statistically significant ($\beta$ = 0.572, p = <0.05). This suggests that the perception of tax fairness plays a moderating role in the relationship between peer influence and compliance with excise duties. The third interaction effect demonstrated a positive and statistically significant moderating influence of perceived tax fairness on the relationship between penalty rate and excise duty compliance ($\beta$ = 0.677, p = <0.05). This indicates that the perception of tax fairness influences the connection between penalty rates and compliance with excise duties. The fourth interaction effect regarding the moderating influence of perceived tax fairness on the relationship between the probability of detection and excise duty compliance was found to be positive and statistically significant ($\beta$ = 0.332, p = <0.05). This indicates that perceived tax fairness plays a moderating

role in the relationship between the probability of detection and excise duty compliance. Table 4.27 presents the results of the final model that informed the conclusions drawn.

### 4.9. Hypothesis Testing

The primary aim of the study was to determine how tax knowledge influences excise duty compliance within manufacturing firms located in Thika town, Kenya. The hypothesis posited that perceived tax fairness does not significantly moderate the relationship between tax knowledge and excise duty compliance among manufacturing firms in Thika town, Kenya. The results presented in model 7 of table 4.21 indicate that tax knowledge ($\beta$ = -0.474, p = <0.05) exerted a negative and significant influence on excise duty compliance, suggesting that an increase in tax knowledge corresponds to a decline in excise duty compliance. The findings indicate that tax knowledge significantly influences compliance with excise duty.

Consistent with the findings of this study, Firmansyah and Putu (2018) indicate that higher tax knowledge tends to encourage compliance by increasing understanding of the regulations and the importance of fulfilling tax obligations. However, the negative influence observed in this study could suggest that tax knowledge may lead to greater awareness of loopholes or avoidance strategies, which could reduce compliance. According to Hutahuruk, Ridwan, Hairudin, Prayetno, and Renaldo (2024) tax knowledge can empower taxpayers, making them more likely to comply when they understand the benefits of contributing to public goods.

The second objective of the study was to determine how peer influence impacts excise duty compliance among manufacturing firms in Thika town, Kenya. The hypothesis posited that peer influence does not have a significant impact on excise duty compliance behavior among manufacturing firms in Thika town, Kenya. The results shown in model 7 of table 4.21 indicate that peer influence ($\beta$ = -0.370, p = <0.05) has a negative and significant impact on excise duty

compliance, suggesting that an increase in peer influence corresponds to a decrease in compliance with excise duty. It can be concluded that peer influence significantly impacted excise duty compliance. Empirical findings have shown that social norms and peer behaviors can negatively affect compliance by creating environments where tax evasion is normalized or deemed socially acceptable (Torgler, 2007). Individuals may align their behaviors with those of their peers, resulting in lower compliance rates if peers engage in evasion. On the other hand, Jimenez and Iyer (2016) have demonstrated that peer accountability and positive peer behaviors can enhance compliance. Those in a socially responsible group might inspire others to adhere to regulations and fulfil tax obligations.

The third objective of this study aimed to investigate the impact of penalty rates on excise duty compliance within manufacturing firms located in Thika town, Kenya. The hypothesis posited that the penalty rate does not significantly influence excise duty compliance behavior among manufacturing firms in Thika town, Kenya. The results indicated that the penalty rate significantly influenced compliance with excise duty ($\beta = -0.412$, $p = <0.05$). It can be concluded that the penalty rate significantly influenced excise duty compliance. The positive influence of penalty rates on compliance is well-documented in tax compliance literature. Research shows that higher penalties can deter tax evasion, as the cost of non-compliance outweighs potential benefits (Slemrod, 2019). Some studies such as Azmi and Daud (2024) challenge this view, suggesting that excessively high penalties may lead to resistance or strategic non-compliance, as individuals seek to mitigate risk rather than engage proactively with tax responsibilities.

The fourth objective of the study aimed to explore how the probability of detection influences excise duty compliance within manufacturing firms located in Thika town, Kenya. The hypothesis posited that the probability of detection does not significantly influence excise duty

compliance behavior. The results indicated that the likelihood of detection significantly influenced compliance with excise duty ($\beta$ = -0.278, p = <0.05). The findings indicate that the probability of detection significantly impacted excise duty compliance among manufacturing firms in Thika town, Kenya. Findings regarding the likelihood of detection align with the deterrence theory, indicating that higher chances of being caught for non-compliance bolster overall compliance rates (Ireland, 2020). Individuals who perceive a greater risk of audits or checks are generally more compliant. Contrarily, Gangl and Torgler (2020) suggests that when individuals perceive detection as certain, they may adopt more sophisticated evasion strategies rather than comply. These individuals may weigh the benefits of evasion against the perceived certainty of detection, potentially undermining compliance.

The fifth objective of this study aimed to investigate how perceived tax fairness influences the connection between tax knowledge and excise duty compliance behavior among manufacturing firms in Thika town, Kenya. The hypothesis posited that perceived tax fairness does not have a significant moderating effect on the relationship between tax knowledge and excise duty compliance among manufacturing firms in Thika town, Kenya. The results indicated that the perception of tax fairness influences the connection between tax knowledge and compliance with excise duties ($\beta$ = 0.805, p = <0.05). The findings suggest that the perception of tax fairness plays a moderating role in the relationship between tax knowledge and compliance with excise duties.

The sixth objective aimed to investigate how perceived tax fairness moderates the relationship between peer influence and excise duty compliance behavior among manufacturing firms in Thika town, Kenya. The hypothesis posited that perceived tax fairness does not significantly moderate the relationship between peer influence and excise duty compliance among manufacturing firms in Thika town, Kenya. The hypothesis posited that perceived tax fairness

does not significantly moderate the relationship between peer influence and excise duty compliance among manufacturing firms in Thika town, Kenya. The results indicated that the perception of tax fairness plays a moderating role in the relationship between peer influence and compliance with excise duties among manufacturing firms in Thika town, Kenya ($\beta = 0.572$, $p = <0.05$). This finding leads to the conclusion that the perception of tax fairness plays a moderating role in the relationship between peer influence and compliance with excise duties. The seventh objective of the study aimed to investigate how perceived tax fairness influences the relationship between penalty rates and excise duty compliance behavior among manufacturing firms in Thika town, Kenya. The research posited that the perception of tax fairness does not significantly moderate the relationship between penalty rates and excise duty compliance among manufacturing firms in Thika town, Kenya. The results indicated that the perception of tax fairness influences the connection between penalty rates and compliance with excise duties. The findings indicate that perceived tax fairness plays a moderating role in the relationship between penalty rate and excise duty compliance ($\beta = 0.677$, $p = <0.05$). The findings indicate that the perception of tax fairness plays a moderating role in the relationship between penalty rates and compliance with excise duties.

The eighth objective of the study aimed to investigate how perceived tax fairness influences the relationship between the likelihood of detection and compliance behavior regarding excise duty among manufacturing firms in Thika town, Kenya. The hypothesis posited that perceived tax fairness does not have a significant moderating effect on the relationship between the probability of detection and excise duty compliance among manufacturing firms in Thika town, Kenya. The results indicated that the perception of tax fairness influences the connection between the likelihood of detection and compliance with excise duties ($\beta = 0.332$, $p = <0.05$). The findings

indicate that the perception of tax fairness influences the connection between the likelihood of detection and compliance with excise duties.

**Table 4.27: Regression Results for Interaction effect of Perceived Fairness on the Relationship between Probability of Detection and Excise Duty Compliance**

| | **Model 1** β (p) | **Model 2** β (p) | **Model 3** β (p) | **Model 4** β (p) | **Model 5** β (p) | **Model 6** β (p) | **Model 7** β (p) |
|---|---|---|---|---|---|---|---|
| (Constant) | 2.965 (0.000)** | 1.49 (0.000)** | 1.384 (0.000)** | 3.799 (0.000)** | 3.837 (0.000)** | 3.88 (0.000)** | 3.88 (0.000)** |
| **Control Variable** | | | | | | | |
| Firm Size | 0.367 (0.000)** | 0.143 (0.000)** | 0.093 (0.000)** | 0.040 (0.000)** | 0.042 (0.000)** | 0.040 (0.000)** | .038 (0.000)** |
| Sales Turnover | 0.375 (0.000)** | 0.060 (0.044)** | 0.057 (0.029)** | 0.013 (0.269) | 0.012 (0.330) | 0.010 (0.399) | .008 (0.479) |
| **Main Effect** | | | | | | | |
| Tax Knowledge | | 0.447 (0.000)** | 0.433 (0.000)** | -1.383 (0.000)** | -0.938 (0.000)** | -0.619 (0.002)** | -0.474 (0.020)** |
| Peer Influence | | 0.087 (0.018)** | 0.236 (0.000)** | 0.051 (0.293) | -0.457 (0.003)** | -0.337 (0.035)** | -0.370 (0.020)** |
| Penalty Rate | | 0.318 (0.000)** | 0.200 (0.000)** | 0.020 (0.293) | 0.008 (0.672) | -0.413 (0.022)** | -0.412 (0.021)** |
| Probability of Detection | | 0.145 (0.000)** | 0.134 (0.000)** | 0.026 (0.000)** | 0.025 (0.000)** | 0.029 (0.000)** | -0.278 (0.000)** |
| **Moderator** | | | | | | | |
| Perceived Tax Fairness | | | 0.237 (0.000)** | 0.052 (0.000)** | 0.052 (0.000)** | 0.047 (0.000)** | 0.046 (0.001)** |
| **Interaction term** | | | | | | | |
| TK*PTF | | | | 2.205 (0.000)** | 1.531 (0.000)** | 1.036 (0.001)** | 0.805 (0.009)** |
| PI*PTF | | | | | 0.711 (0.001)** | 0.529 (0.019)** | 0.572 (0.010)** |
| PR*PTF | | | | | | 0.659 (0.019)** | 0.677 (0.015)** |
| POD*PTF | | | | | | | 0.332 (0.008)** |
| **Model Summary** | | | | | | | |
| **R** | **.606** | **.917** | **.939** | **.987** | **.988** | **.988** | **.988** |
| **R Square** | **0.368** | **0.841** | **0.881** | **0.974** | **0.975** | **0.976** | **0.977** |
| **Adjusted R Square** | **0.363** | **0.837** | **0.878** | **0.974** | **0.975** | **0.975** | **0.976** |
| **Std. Error of the Estimate** | **0.35005** | **0.17709** | **0.15339** | **0.07137** | **0.06996** | **0.06934** | **0.06849** |
| **Change Statistics** | | | | | | | |
| **R Square Change** | **0.368** | **0.473** | **0.04** | **0.093** | **0.001** | **0.001** | **0.001** |
| **F Change** | **75.054** | **188.515** | **85.562** | **916.582** | **11.272** | **5.544** | **7.242** |
| **df1** | **2** | **4** | **1** | **1** | **1** | **1** | **1** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **df2** | **258** | **254** | **253** | **252** | **251** | **250** | **249** |
| **Sig. F Change** | **0.000** | **0.000** | **0.000** | **0.000** | **0.001** | **0.019** | **0.008** |

### 4.10.1. Moderating Perceived Tax Fairness on Tax Knowledge and Excise Duty Compliance

The findings in figure 4.1 show that at low levels of tax knowledge, excise duty is high for firms with high perceived tax fairness and low for firms with low perceived tax fairness. As tax knowledge increases, excise duty compliance increases at a higher rate for firms with high perceived tax fairness as compared to firms with low perceived tax fairness as demonstrated by the steepness of the slope. The nature of moderation depicted in this graph is an enhancing moderation.

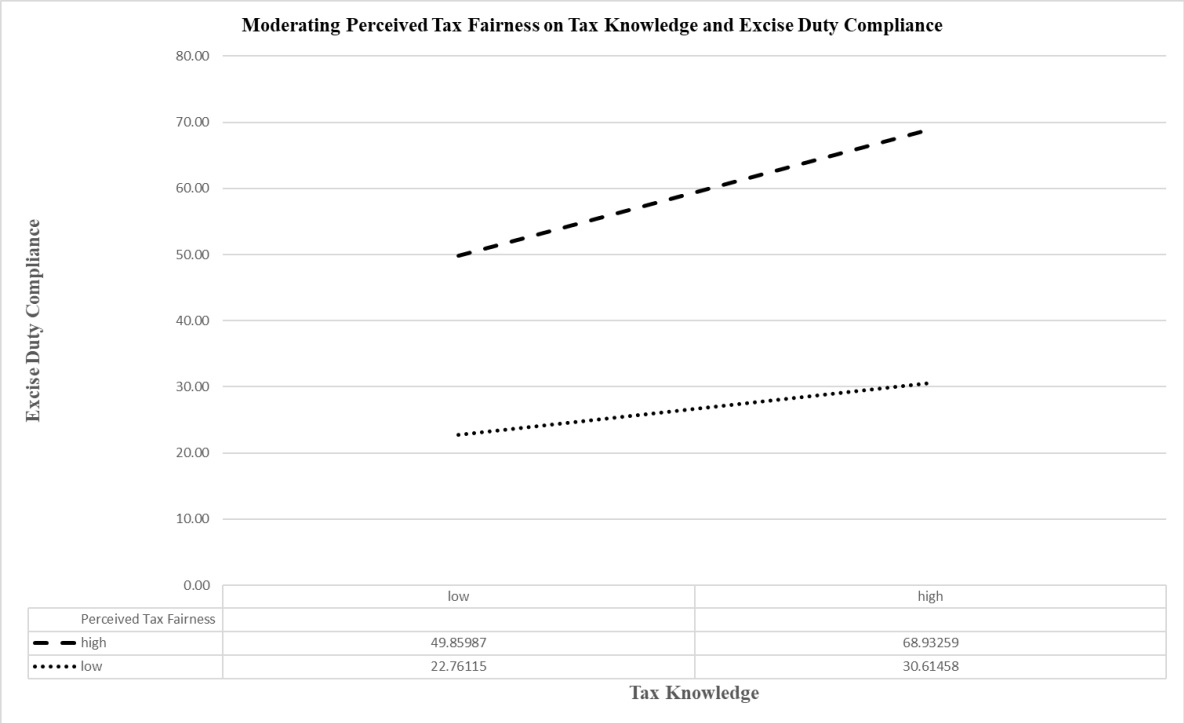


**Figure 4. 4: Moderating Perceived Tax Fairness on Tax Knowledge and Excise Duty Compliance**

### 4.10.2. Moderating Perceived Tax Fairness on Peer Influence and Excise Duty Compliance

The findings in figure 4.1 show that at low levels of peer influence, excise duty is high for firms with high perceived tax fairness and low for firms with low perceived tax fairness. As peer

influence increase, excise duty compliance increases at a higher rate for firms with high perceived tax fairness as compared to firms with low perceived tax fairness as demonstrated by the steepness of the slope. The nature of moderation depicted in this graph is an enhancing moderation.

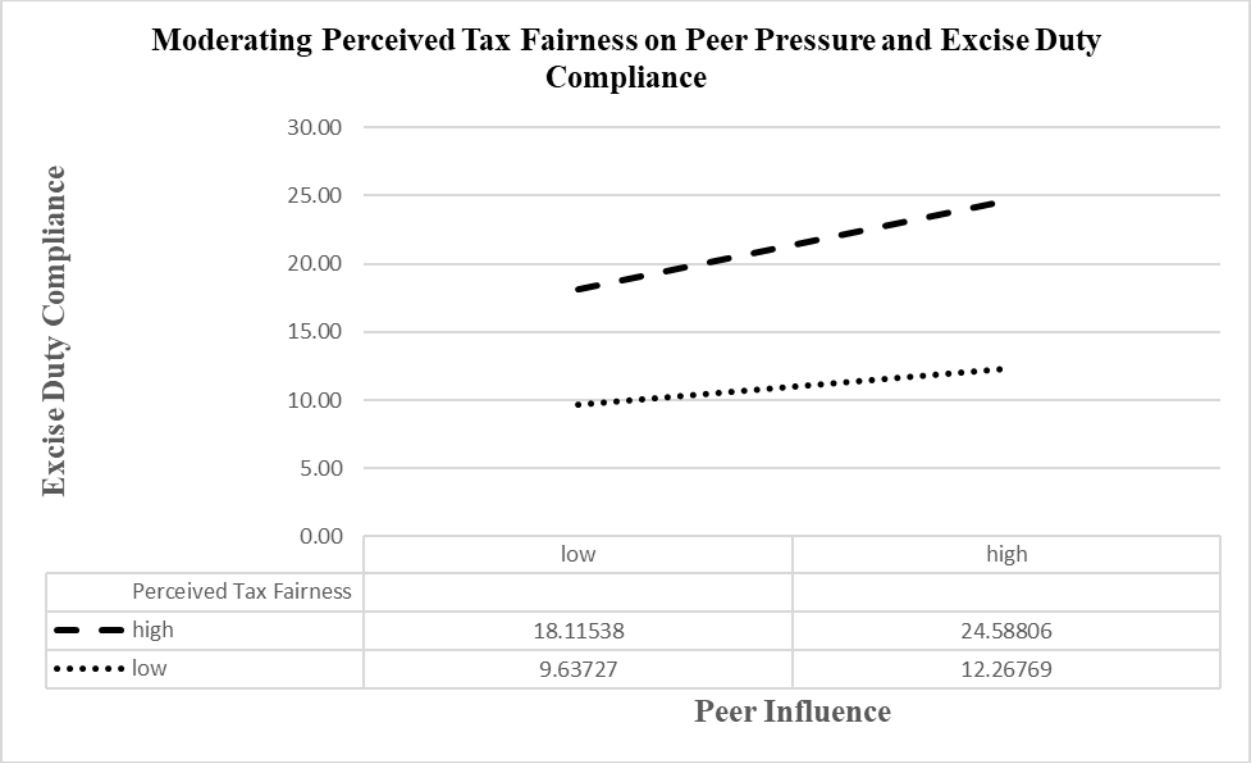


**Figure 4. 5: Moderating Perceived Tax Fairness on Peer Influence and Excise Duty Compliance**

### 4.10.3. Moderating Perceived Tax Fairness on Penalty Rate and Excise Duty Compliance

The findings in figure 4.1 show that at low levels of penalty rate, excise duty is high for firms with high perceived tax fairness and low for firms with low perceived tax fairness. As penalty rate increases, excise duty compliance increases at a higher rate for firms with high perceived tax fairness as compared to firms with low perceived tax fairness as demonstrated by the steepness of the slope. The nature of moderation depicted in this graph is an enhancing moderation.

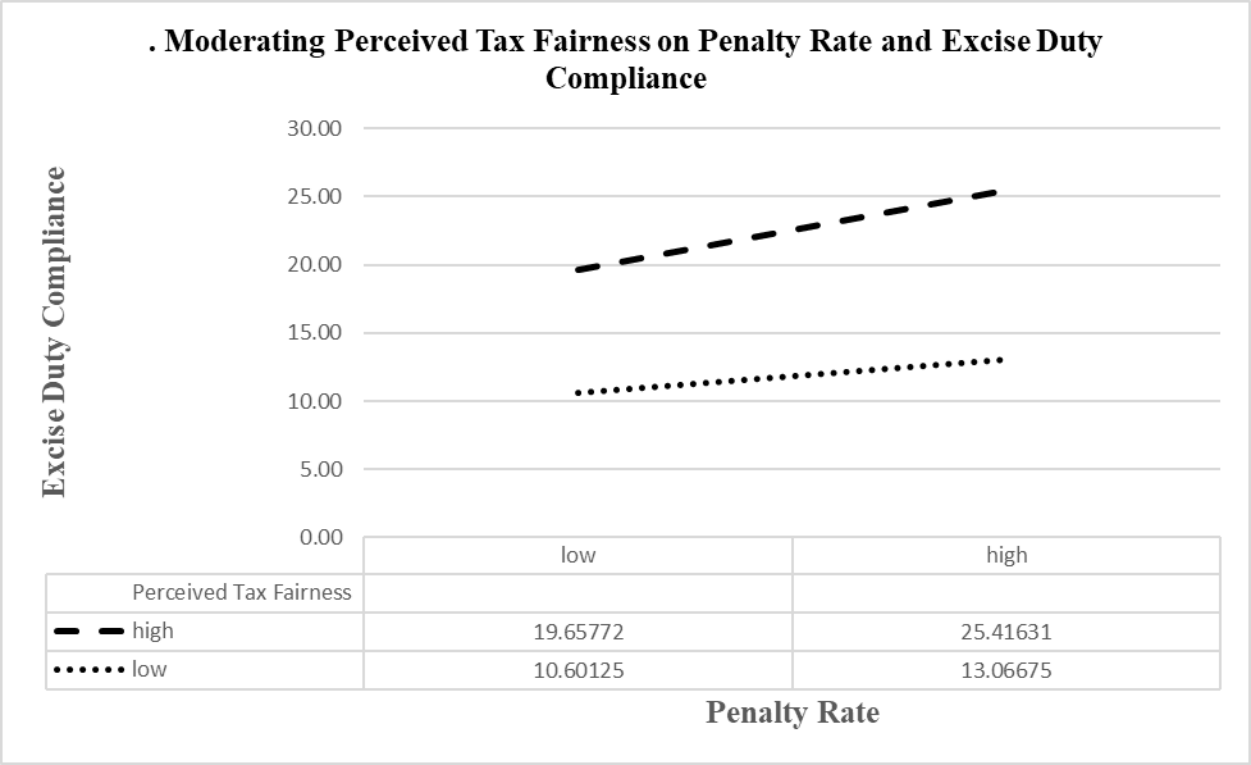


**Figure 4. 6: Moderating Perceived Tax Fairness on Penalty Rate and Excise Duty Compliance**

### 4.10.4. Moderating Perceived Tax Fairness Probability of Detection and Excise Duty Compliance

The findings in figure 4.1 show that at low levels of probability of detection, excise duty is high for firms with high perceived tax fairness and low for firms with low perceived tax fairness. As probability of detection increases, excise duty compliance increases at a higher rate for firms with high perceived tax fairness as compared to firms with low perceived tax fairness as demonstrated by the steepness of the slope. The nature of moderation depicted in this graph is an enhancing moderation.

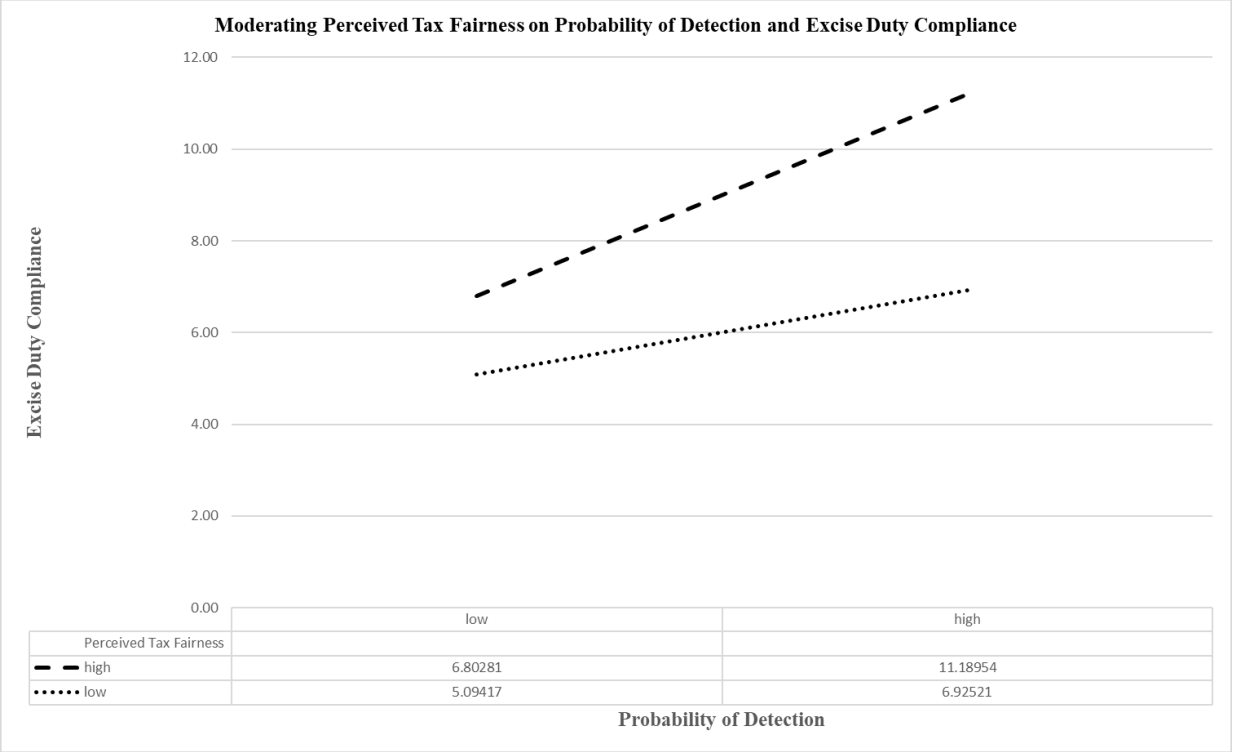


**Figure 4. 7: Moderating Perceived Tax Fairness Probability of Detection and Excise Duty Compliance**

### 4.11. Summary of Hypotheses Testing Results

The data displayed in Table 4.24 below provides a concise overview of the numerous and hierarchical regression models. The table displays the values of R2 and Δ in R2 for both the main and interaction effects, together with the choice about the proposed hypothesis, as presented in Table 4.28.

**Table 4. 28: Summary of Hypotheses Testing Results**

| Hypothesis formulated | | Beta | p-values | Decision |
|---|---|---|---|---|
| **Main Effect** | | | | |
| $H_{O1:}$ | Tax Knowledge has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya. | -.474 | **0**.020 | Reject |
| $H_{O2:}$ | Peer influence has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya. | -.370 | **0**.020 | Reject |
| $H_{O3:}$ | Penalty Rate has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya. | -.412 | **0**.021 | Reject |
| $H_{O3:}$ | Penalty Rate has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya. | -.278 | **0**.016 | Reject |
| **Moderation-Tax Fairness** | | | | |
| $H_{o4a}$ | Perceived tax fairness has no significant moderating effect on the relationship between tax knowledge and excise duty compliance among manufacturers firms in Thika town in Kenya. | .805 | **0**.009 | Reject |
| $H_{o4b}$ | Perceived tax fairness has no significant moderating effect on the relationship between peer influence and excise duty compliance among manufacturers firms in Thika town in Kenya. | .572 | **0**.010 | Reject |
| $H_{o4c}$ | Perceived tax fairness has no significant moderating effect on the relationship between penalty rate and excise duty compliance among manufacturers firms in Thika town in Kenya. | .677 | **0**.015 | Reject . |
| $H_{o4d}$ | Perceived tax fairness has no significant moderating effect on the relationship between the probability of detection and excise duty compliance among manufacturers firms in Thika town in Kenya. | .332 | **0**.008 | Reject |

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1. Introduction

This chapter provides a concise overview of the study's findings, aligned with the defined objectives and hypotheses of the research. The conclusion derived from the study's findings is presented, along with recommendations and guidance for future investigations into the moderating influence of perceived tax fairness on the chosen factors affecting excise duty compliance among manufacturing firms in Thika town, Kenya.

## 5.2. Summary of findings

The study sought to investigate the effect of perceived tax equity on the determinants influencing excise duty compliance among industrial enterprises in Thika town, Kenya. The inquiry formulated a conceptual framework for this argument and empirically validated it in accordance with the specified objectives. The specific objectives were to ascertain the impact of tax knowledge on excise duty compliance among manufacturing firms in Thika town, Kenya; to evaluate the influence of peer pressure on excise duty compliance among manufacturing firms in Thika town, Kenya; to analyze the effect of penalty rates on excise duty compliance among manufacturing firms in Thika town, Kenya; and to explore the impact of detection probability on excise duty compliance among manufacturing firms in Thika town, Kenya. The study aimed to ascertain the moderating influence of perceived tax fairness on the above indicated independent variables and tax compliance within manufacturing enterprises in Thika town, Kenya.

The explanatory research design was chosen to explore the causal relationships between the researched variables in this study. The primary data was gathered via questionnaires. Descriptive

statistics, including mean, standard deviation, frequency, and percentage, alongside inferential statistics, such as correlation and regression analyses, were employed to do further study on the acquired data. The main aim of the preliminary inquiry was to identify the characteristics of the participants and to provide a description of their responses about the variables being examined. The assumptions of normality, linearity, and multicollinearity for the variables under examination were evaluated using a series of experimental techniques. Subsequently, hypotheses were evaluated to enhance comprehension of the specific aims established in the study. The research was grounded in the social exchange theory, economic deterrence theory, and comparative treatment theory. A control was conducted for the firm's size and sales turnover. Supplementary summaries of the investigation's findings are presented in alignment with the study's specific objectives.

### 5.2.1. Effect of Tax Knowledge on Excise Duty Compliance

The first objective of the study sought to establish the effects of tax knowledge on excise duty compliance among manufacturing firms in Thika town in Kenya. It was hypothesized that perceived tax fairness has no significant moderating effect on the relationship between tax knowledge and excise duty compliance among manufacturers firms in Thika town in Kenya. Findings presented revealed that tax knowledge ($\beta$ = -0.474, p = <0.05) had a negative and significant effect on excise duty compliance implying that a unit increase in tax knowledge leads to a decrease in excise duty compliance. It is therefore concluded that tax knowledge had a significant effect of excise duty compliance.

### 5.2.2. Effect of Peer Influence on Excise Duty Compliance

The second objective of the study was to establish the effects of peer influence on excise duty compliance among manufacturing firms in Thika town in Kenya. It was hypothesized that peer influence has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya. Findings presented revealed that peer influence ($\beta$ = -0.370, p = <0.05) had a negative and significant effect on excise duty compliance implying that a unit increase in peer influence leads to a decrease in excise duty compliance. It is therefore concluded that peer influence had a significant effect of excise duty compliance.

### 5.2.3. Effect of Penalty Rate on Excise Duty Compliance

The third objective of this study sought to examine the effects of penalty rate on excise duty compliance among manufacturing firms in Thika town in Kenya. It was hypothesized that penalty rate has no significant effect on excise duty compliance behavior among manufacturing firms in Thika town in Kenya. Findings revealed that penalty rate had a statistically significant effect on excise duty compliance ($\beta$ = -0.412, p = <0.05). Thus, it can be concluded that penalty rate had a significant effect on excise duty compliance.

### 5.2.4. Effect of Probability of Detection on Excise Duty Compliance

The fourth objective of the study sought to investigate the effects of the probability of detection on excise duty compliance among manufacturing firms in Thika town in Kenya. It was hypothesized that probability of detection has no significant effect on excise duty compliance behavior. Findings revealed that probability of detection had a significant effect on excise duty compliance ($\beta$ = -0.278, p = <0.05). It is thus concluded that probability of detection had an influence on excise duty compliance. among manufacturing firms in Thika town in Kenya.

### 5.2.5. Moderating Perceived Tax Fairness on Tax Knowledge and Excise Duty Compliance

The fifth objective of this study sought to determine the moderating role of perceived tax fairness on the relationship between tax knowledge and excise duty compliance behavior among manufacturing firms in Thika town in Kenya. It was hypothesized that Perceived tax fairness has no significant moderating effect on the relationship between tax knowledge and excise duty compliance among manufacturers firms in Thika town in Kenya. Findings revealed that perceived tax fairness moderates the relationship between tax knowledge and excise duty compliance ($\beta = 0.805$, $p = <0.05$). It can therefore be concluded that perceived tax fairness moderates the relationship between tax knowledge and excise duty compliance.

### 5.2.6. Moderating Perceived Tax Fairness on Peer Influence and Excise Duty Compliance

The sixth objective sought to examine the moderating role of perceive tax fairness on the relationship between peer influence and excise duty compliance behavior among manufacturing firms in Thika town in Kenya. It was hypothesized that perceived tax fairness has no significant moderating effect on the relationship between peer influence and excise duty compliance among manufacturers firms in Thika town in Kenya. It was hypothesized that perceived tax fairness has no significant moderating effect on the relationship between peer influence and excise duty compliance among manufacturers firms in Thika town in Kenya. Findings revealed that perceived tax fairness moderates the relationship between peer influence and excise duty compliance among manufacturers firms in Thika town in Kenya ($\beta = 0.572$, $p = <0.05$). Based on this finding it is concluded that perceived tax fairness moderates the relationship between peer influence and excise duty compliance.

### 5.2.7. Moderating Perceived Tax Fairness on Penalty Rate and Excise Duty Compliance

The seventh objective of the study sought to examine the moderating role of perceive tax fairness on the relationship between penalty rate and excise duty compliance behavior among manufacturing firms in Thika town in Kenya. The study hypothesized that perceived tax fairness has no significant moderating effect on the relationship between penalty rate and excise duty compliance among manufacturers firms in Thika town in Kenya. Findings revealed that perceived tax fairness moderates the relationship between penalty rate and excise duty compliance. It is thus concluded that perceived tax fairness moderates the relationship between penalty rate and excise duty compliance ($\beta = 0.677$, $p = <0.05$). It is thus concluded that perceived tax fairness moderates the relationship between penalty rate and excise duty compliance.

### 5.2.8. Moderating Perceived Tax Fairness Probability of Detection and Excise Duty Compliance

The eighth objective of the study sought to determine the moderating role of perceived tax fairness on the relationship between probability of detection and excise duty compliance behavior among manufacturing firms in Thika town in Kenya. It was hypothesized that perceived tax fairness has no significant moderating effect on the relationship between the probability of detection and excise duty compliance among manufacturers firms in Thika town in Kenya. Findings revealed that perceived tax fairness moderates the relationship between probability of detection and excise duty compliance ($\beta = 0.332$, $p = <0.05$). It is concluded that perceived tax fairness moderates the relationship between probability of detection and excise duty compliance.

## 5.3. Conclusion of the Study

The purpose of this study was to determine whether or not perceived tax fairness plays a moderating influence on the identified drivers of excise duty compliance among industrial enterprises in Thika town, Kenya. Within this section, the contributions that this study makes to knowledge, theory, policy, and practice, as well as future research directions, are highlighted.

The study concludes by highlighting a paradox where increased tax knowledge does not lead to better compliance, suggesting possible disillusionment with the tax system or its complexity.

It is the conclusion of this study that the significant negative effect of peer influence indicates that social factors may hinder compliance, where firms might align with non-compliant behaviors of their peers.

The findings reinforce the notion that higher penalties and the likelihood of detection significantly motivate compliance behaviors. Perceived tax fairness is crucial, as it moderates several relationships affecting excise duty compliance. This suggests that fairness perceptions can shape responses to tax regulations and pressures.

## 5.4. Recommendations of the Study

This study recommends that manufacturing firms should develop targeted tax education interventions that not only inform but also cultivate an understanding of the benefits of compliance and the collective good stemming from tax contributions. Further, they should implement programs to promote compliance among firms, leveraging positive peer pressure through success stories and shared experiences of compliant firms.

Moreover, the study recommends that tax authorities should review and possibly recalibrate penalty rates to ensure they are fair and proportional, which could help in enhancing perceived

tax fairness and compliance. Finally, the study recommends that tax authorities should strengthen mechanisms for detecting non-compliance, which can help in creating a deterrent effect and reinforce the significance of penalties.

### 5.4.1. Theoretical Contribution

This study adds to the literature by illustrating how perceived tax fairness is not just an isolated construct but a significant moderator in the relationship between compliance and its determinants. Moreover, the findings contribute to the understanding of behavioral economics in tax compliance, showing the interplay between knowledge, social influence, and perceptions of fairness.

The findings that peer influence has a negative effect on excise duty compliance suggest that firms may perceive non-compliance behaviors as more beneficial if peers disregard regulations. If firms observe that peers do not face consequences for non-compliance, they may be less inclined to comply themselves. Perceived tax fairness further informs the social exchange, as fair treatment by tax authorities can enhance the motivation for compliance, providing a sense of reciprocity. The study's findings highlight that penalty rates and the probability of detection significantly affect excise duty compliance. If firms perceive high penalties and a strong likelihood of being caught as deterrents to non-compliance, this aligns well with economic deterrence theory. This suggests that tax authorities should maintain stringent enforcement measures to raise the perceived costs of non-compliance. The moderating role of perceived tax fairness mirrors comparative treatment theory, as it implies that firms' compliance levels are affected by how fairly they perceive they are treated compared to peers. If firms feel they are being taxed unfairly or treated inequitably in relation to others, their motivation to comply may

decrease. This is especially pertinent in understanding peer influence, where firms may judge the fairness of tax policies based on their observations of peer compliance behaviors.

### 5.4.2. Managerial Contribution

Firms can enhance compliance through structured training programs that emphasize lawful practices and the benefits of compliance. Creating a culture that values tax compliance and fairness can lead to better organizational practices and behaviors among employees.

### 5.4.3. Policy Recommendations

Policymakers should ensure that tax regulations are perceived as fair and just, potentially leading to improved compliance levels. Involving the business community in conversations about tax policy can lead to better understanding and foster perceptions of fairness.

## 5.5. Suggestions for Future Study

Expanding the investigation to additional regions or countries may either confirm or contest the results presented in this study. This study suggests that future investigations should undertake longitudinal studies to monitor changes in compliance behaviors as perceptions of fairness develop over time. Additionally, subsequent investigations might examine the moderating influence of perceived tax fairness across various contexts or industries to enhance the generalizability of the findings. It is essential to employ qualitative methodologies, such as interviews and focus groups, to obtain a more profound understanding of the factors contributing to the negative relationships identified in the study.

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# APPENDICES

## APPENDIX I: LETTER OF INTRODUCTION

Dear respondent,

I am currently enrolled at the Kenya School of Revenue Administration, where I am undertaking a study focused on the moderating role of perceived tax fairness in relation to the selected determinants of excise duty compliance among manufacturing firms in Thika Town, Kenya. This investigation aims to inform alcoholic beverage producers, policymakers, and the broader community regarding the subject matter at hand. Your participation in this study is greatly valued, and I kindly request your cooperation in answering all the questions in the attached questionnaire as thoroughly, accurately, and truthfully as you can. The data collected will be utilized solely for scholarly endeavors and will be handled with the highest level of confidentiality and integrity. I appreciate your willingness to participate and contribute to the success of this study.

Yours sincerely,

……..

**STEPHEN MIGWI WACHIRA**

## APPENDIX II: QUESTIONNAIRE

### Section A: PERSONAL BACKGROUND

Please answer the questions as fully, thoroughly, and honestly as possible. Tick (√) one response as appropriate or fill the area provided.

Please respond to all questions by checking the boxes or filling in the spaces provided.

1. Gender Male [ ] Female [ ]
2. Age Bracket [ ] 26-36 years [ ] 36-45 years [ ] 46-55 years [ ]over 56 years
3. Academic Qualification [ ] Degree [ ] Diploma [ ] Masters [ ] Phd
4. What is the size of the business in terms of employees?
   0-5 ( ) 6-10 ( ) 11-15 ( ) over 15 ( )
5. What is the duration of your operation or tenure with the company, measured in years?
   Less than 2 ( ) 2-4 ( ) 5-7 ( ) 8-10 ( ) Over 10 ( )
6. What is the sales level of your business per month?
   [ ] Less than 500,000/-
   [ ] 500,000/- to 1000,000/-
   [ ] 1000,001/- to 5000,000/-
   [ ] 5,000,001/- to 20,000,000/-
   [ ] 20,000,001/- to 40,000,000/-
   [ ] 40,000,001/- to 50,000,000/-
   [ ] Over 50,000,000/-

**Section B:**

**EXCISE DUTY COMPLIANCE**

Please specify your degree of agreement with the following statement where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Select the appropriate options

| | **Statement** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|---|
| 1 | Our firm file tax returns regularly | | | | | |
| 2 | We submit returns punctually and following legal requirements | | | | | |
| 3 | We submit returns punctually and in accordance with legal requirements. | | | | | |
| 4 | Our company declares the correct monthly income | | | | | |
| 5 | We file tax returns only to avoid penalties | | | | | |

**TAX KNOWLEDGE**

Please specify your degree of agreement with the following statement where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Select the appropriate

| | **Statement** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|---|
| 1 | Our company is aware of the excise duty due date | | | | | |
| 2 | Our company is aware of penalties applicable on non-compliance with excise duty obligations | | | | | |
| 3 | Our company is aware of its excise duty compliance obligations | | | | | |
| 4 | Our company easily understands the provisions of the Excise Duty Act, 2015 | | | | | |
| 5 | We follow the excise duty laws so as to comply with the requirements | | | | | |

options

**PEER INFLUENCE**

Please specify your degree of agreement with the following statement where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Select the appropriate options

| | **Statement** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|---|
| 1 | Our firm culture influenced excise duty compliance practices | | | | | |
| 2 | We are at par with our competing firms in excise duty compliance | | | | | |
| 3 | Our firm social network is key in excise duty compliance | | | | | |
| 4 | We believe that compliance in matters of excise duty creates an enabling environment for our business. | | | | | |
| 5 | We have positive attitude towards excise duty laws | | | | | |

**PENALTY RATE**

Please specify your degree of agreement with the following statement where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Select the appropriate options

| | **Statement** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|---|
| 1 | We understand the laws guiding the payment of excise duty tax. | | | | | |
| 2 | Kenyan tax laws are punitive to hardworking citizens | | | | | |
| 3 | We are aware of the penalty rate tax policy | | | | | |
| 4 | understate income is punishable in tax laws | | | | | |
| 5 | we would pay our excise duty as required by the regulations | | | | | |
| 6 | The imposition of tax penalties seems to hinge on the underlying motivations that drive taxpayers to fulfill their tax responsibilities. | | | | | |

**PROBABILITY OF DETECTION**

Please specify your degree of agreement with the following statement where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Select the appropriate options

| | **Statement** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|---|
| 1 | We will face the accuracy penalty for any significant understatement of income tax attributable. | | | | | |
| 2 | Our choice to comply with the tax law was based on evaluating the benefits and drawbacks of being discovered and the severity of the penalties involved. | | | | | |
| 3 | We rarely engage in incorrectly declaring our excise duty | | | | | |
| 4 | Our firm has not avoided paying excise duty as required by the law of the land | | | | | |
| 5 | Our corporate tax professionals don't engage in unethical tax behavior | | | | | |

**PERCEIVED TAX FAIRNESS**

Please specify your degree of agreement with the following statement where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Select the appropriate options

| **Statement** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Strengthening legal enforcement and penalties | | | | | |
| Treats everyone in the same manner | | | | | |
| Provide valuable information to taxpayers' | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Create straightforward and clear systems for tax collection. | | | | | |
| Establishing trust and confidence with taxpayers. | | | | | |
| Create straightforward and clear systems for tax collection. | | | | | |